YAMAHA

PSR-A3

Owner's Manual

YAMAHA
YAMAHA CORPORATION

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Congratulations!

You are the proud owner of a fine electronic keyboard. The Yamaha PSR-A3 PortaTone combines the most advanced AWM tone generation technology with state-of-the-art digital electronics and features to give you stunning sound quality with maximum musical enjoyment. A new large graphic display and easy-to-use interface also greatly enhance the operability of this advanced instrument.

In order to make the most of your PortaTone's features and extensive performance potential, we urge you to read the manual thoroughly while trying out the various features described. Keep the manual in a safe place for later reference.

Important Features

- 160 outstanding voices with nine percussion kits.
- A Voice Set function automatically selects appropriate voice parameters whenever a voice is selected.
- 140 accompaniment styles, each with independent intro, main A and B, 4 fill-ins, and ending sections.
- Advanced auto-accompaniment technology gives you fully-orchestrated accompaniment to back up what you play on the keyboard.
- Large multi-function LCD display panel makes it easy to select and edit parameters.
- One Touch Setting feature instantly provides you with four types of registration settings, all of which match to the selected accompaniment style.
- Digital Effects — Reverb, Chorus and DSP, let you freely create a variety of different sonic environments.
- Minus One, and Repeat functions are ideal for learning new songs and polishing your keyboard technique.
- Song recording feature lets you record two melody tracks with an accompaniment track.
- With the Multi Pads, you can play and record a number of short rhythmic and melodic sequences, to add a spice to your performance.
- Registration Memory saves 128 your favorite panel settings for instant recall when needed.
- Arabic Scale instantly allows you to play arabic music.
- Optional Yamaha Music Cartridges can be plugged in for enjoyable automated performance, keyboard practice, and extra accompaniment styles.
- MIDI compatibility and a range of MIDI functions make the PSR-A3 useful in a range of advanced MIDI music systems.
- Built-in amplifier and speaker system delivers top-quality sound without the need for external equipment.

Contents

.....Taking Care of Your PortaTone .....

Your PortaTone will give you years of playing pleasure if you follow the simple rules given below:

■ Location

Do not expose the instrument to the following conditions to avoid deformation, discoloration, or more serious damage.

- Direct sunlight (e.g. near a window).
- High temperatures (e.g. near a heat source, outside, or in a car during the daytime).
- Excessive humidity.
- Excessive dust.
- Strong vibration.

■ Power Supply

- Turn the power switch OFF when the instrument is not in use.
- An AC adaptor, if used (the PSR-A3 runs from either batteries or an optional AC adaptor), should be unplugged from the AC outlet if the instrument is not to be used for an extended period of time.
- Unplug the AC adaptor during electric storms.
- Avoid plugging the AC adaptor into the same AC outlet as appliances with high power consumption, such as electric heaters or ovens. Also avoid using multi-plug adaptors since these can result in reduced sound quality, operation errors, and possibly damage.

■ Turn Power OFF When Making Connections

- To avoid damage to the instrument and other devices to which it is connected, turn the power switches of all related devices OFF prior to connecting or disconnecting MIDI cables.

■ Handling and Transport

- Never apply excessive force to the controls, connectors or other parts of the instrument.
- Always unplug cables by gripping the plug firmly, not by pulling on the cable.
- Disconnect all cables before moving the instrument.
- Physical shocks caused by dropping, bumping, or placing heavy objects on the instrument can result in scratches and more serious damage.

■ Cleaning

- Clean the cabinet and panel with a dry soft cloth.
- A slightly damp cloth may be used to remove stubborn grime and dirt.
- Never use cleaners such as alcohol or thinner.
- Avoid placing vinyl objects on top of the instrument (vinyl can stick to and discolor the surface).

■ Electrical Interference

- This instrument contains digital circuitry and may cause interference if placed too close to radio or television receivers. If this occurs, move the instrument further away from the affected equipment.

■ Data Backup

- Internal data (registration memory, user song, user pad and scale memory data) will be retained in memory even if the power switch is turned OFF as long as an AC power adaptor is connected or batteries are installed.

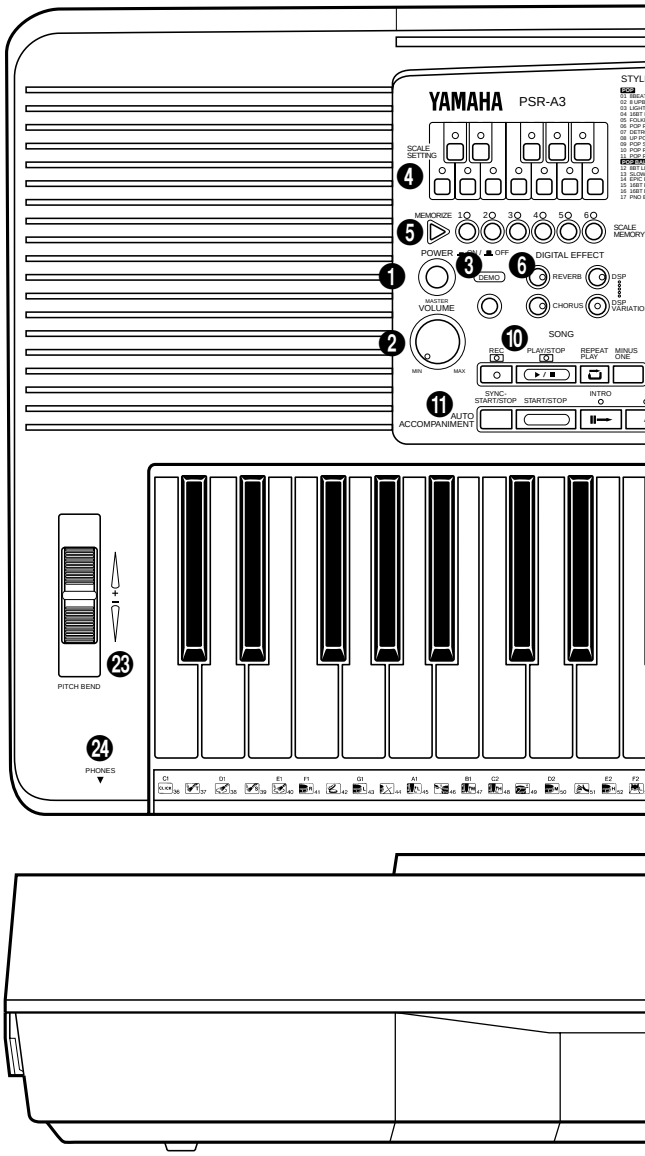
■ Service and Modification

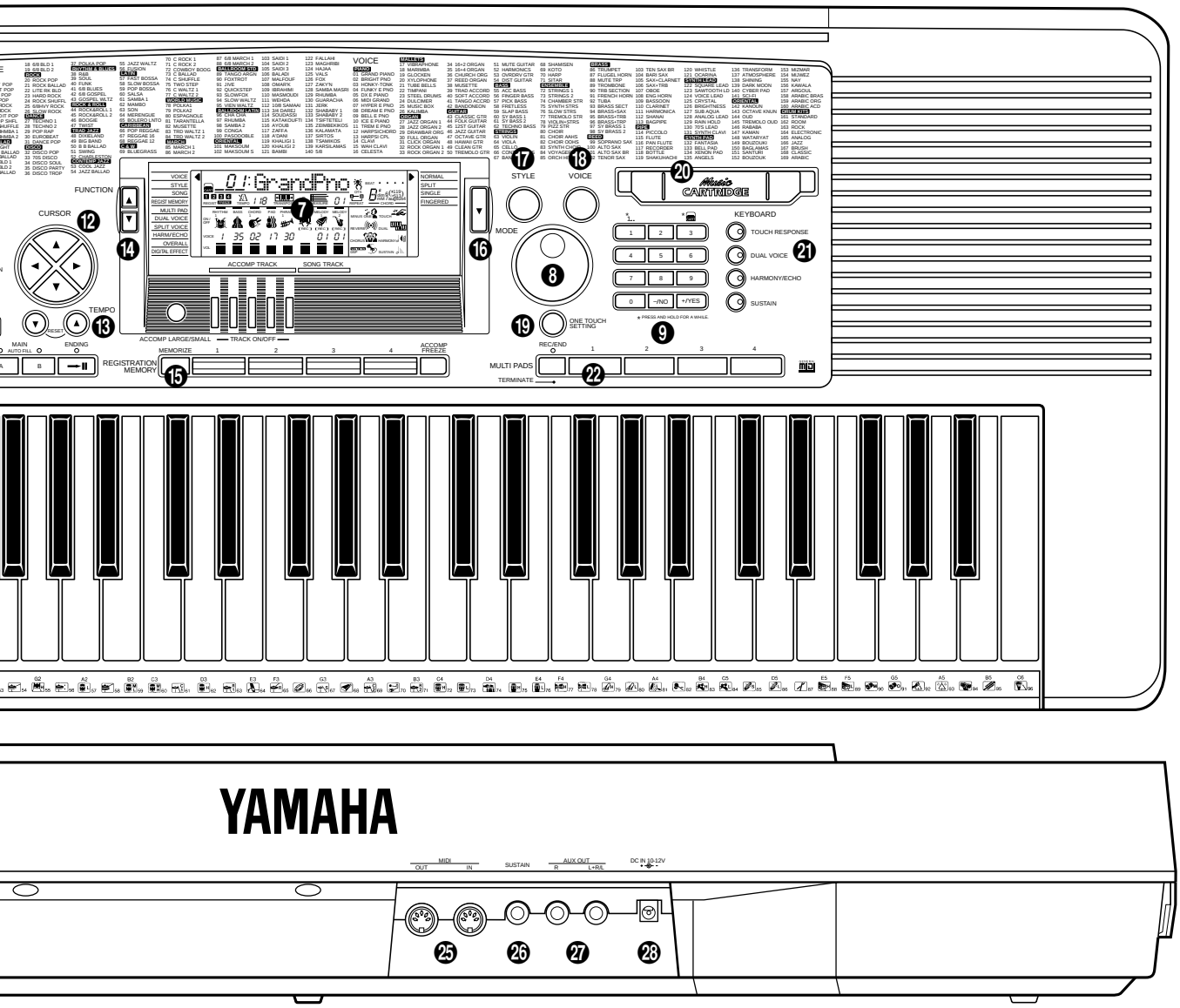
- The PSR-A3 contains no user serviceable parts. Opening it or tampering with it in anyway can lead to irreparable damage and possibly electric shock. Refer all servicing to qualified YAMAHA personnel.

YAMAHA is not responsible for damage caused by improper handling or operation.

Panel Controls

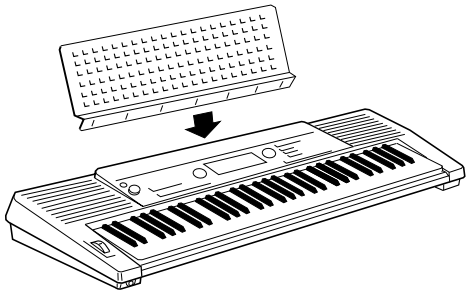
■ Top Panel Controls





■ Rear Panel Controls

The Music Stand



The PSR-A3 is supplied with a music stand that can be attached to the instrument by inserting it into the slot at the rear of the control panel.

Setting Up

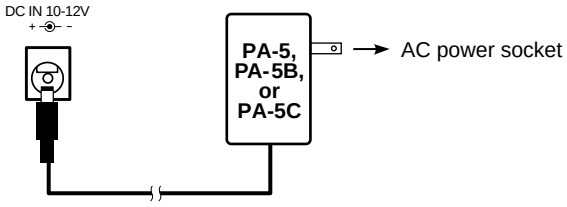
This section contains information about setting up your PSR-A3 and preparing to play. Be sure to go through this section carefully before using your PSR-A3.

Power Supply

Your PSR-A3 will run either from batteries or an optional power adaptor. Follow the instructions below according to the power source you intend to use.

■ Using An Optional AC Power Adaptor

Plug the DC output cable from an optional Yamaha PA-5, PA-5B, or PA-5C AC Power Adaptor into the **DC IN** jack on the rear panel of the PSR-A3, then plug the Power Adaptor (or the AC cable of the Power Adaptor) into a convenient wall AC power socket. The internal batteries are automatically disconnected when an AC Power Adaptor is used.



CAUTION

- ***Never interrupt the power supply (e.g. remove the batteries or unplug the AC adaptor) during any PSR-A3 record operation! Doing so can result in a loss of data.***

CAUTION

- ***Use ONLY a Yamaha PA-5, PA-5B, or PA-5C AC Power Adaptor to power your instrument from the AC mains. The use of other adaptors may result in irreparable damage to both the adaptor and the PSR-A3.***

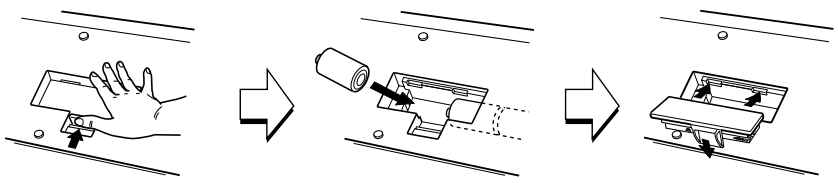
■ Using Batteries

For battery operation the PSR-A3 requires six 1.5V SUM-1, "D" size, R-20 or equivalent batteries.

When the batteries need to be replaced "Btry Low" will appear on the display. Also the volume may be reduced, the sound may be distorted, and other problems may occur. When this happens, turn the power OFF and either replace the batteries or connect an AC adaptor.

Replace the batteries as follows:

1. Open the battery compartment cover located on the instrument's bottom panel.
2. Insert the six new 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.

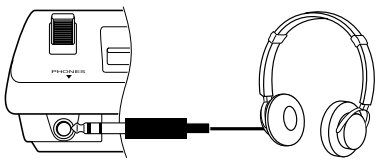


CAUTION

- ***When the batteries run down, replace them with a complete set of six new batteries. NEVER mix old and new batteries.***
- ***Do not use different kinds of batteries (e.g. alkaline and manganese) at the same time.***
- ***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.***

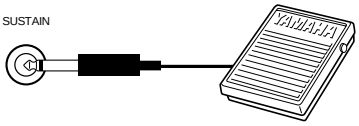
Connections

■ The PHONES Jack



A standard pair of stereo headphones can be plugged in here for private practice or late-night playing. The internal stereo speaker system is automatically shut off when a pair of headphones is plugged into the **PHONES** jack.

■ SUSTAIN Jack

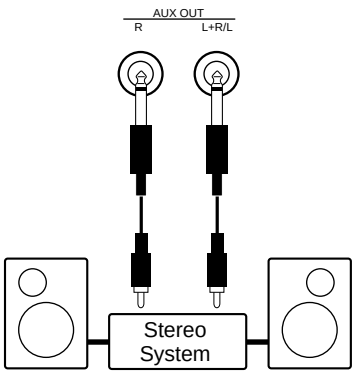


An optional Yamaha FC4 or FC5 footswitch can be plugged into the rear-panel **SUSTAIN** jack for sustain control. The footswitch functions like the damper pedal on a piano — press for sustain, release for normal sound.

NOTES

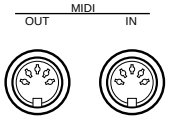
- *Be sure that you do not press the pedal while turning the power ON. If you do, the ON/OFF status of the footswitch will be reversed.*

■ AUX OUT R and L+R/L Jack



The **AUX OUT R** and **L+R/L** jacks deliver the output of the PSR-A3 for connection to an external amplifier, mixing console, PA system, or recording equipment. If you will be connecting the PSR-A3 to a monophonic sound system, use only the **L+R/L** jack. When a plug is inserted into the **L+R/L** jack only, the left- and right-channel signals are combined and delivered via the **L+R/L** jack so you don't lose any of the instrument's sound.

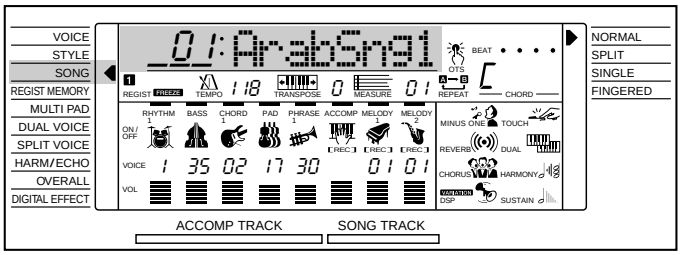
■ MIDI IN and OUT Connectors



The **MIDI IN** connector receives MIDI data from an external MIDI device (such as a MIDI sequencer) which can be used to control the PSR-A3. The **MIDI OUT** connector transmits MIDI data generated by the PSR-A3 (e.g. note and velocity data produced by playing the keyboard). More details on MIDI are provided on page 75.

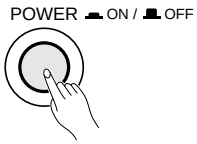
The Demonstration

Once you've set up your PSR-A3, try listening to the pre-programmed demonstration songs — they'll give you a good idea of what the PSR-A3 can do! A total of 29 demo songs are provided — songs 01 through 04 play arabic demonstration songs, songs 05 through 21 demonstrate several of the instrument's voices and songs 22 through 29 demonstrate a range of accompaniment styles.



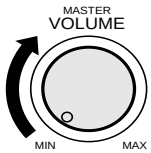
1 Switch ON

Turn the power ON by pressing the **[POWER]** switch.



2 Set an Initial Volume Level

Turn the **[MASTER VOLUME]** control up (clockwise) about a quarter-turn from its minimum position. You can re-adjust the **[MASTER VOLUME]** control for the most comfortable overall volume level after playback begins.

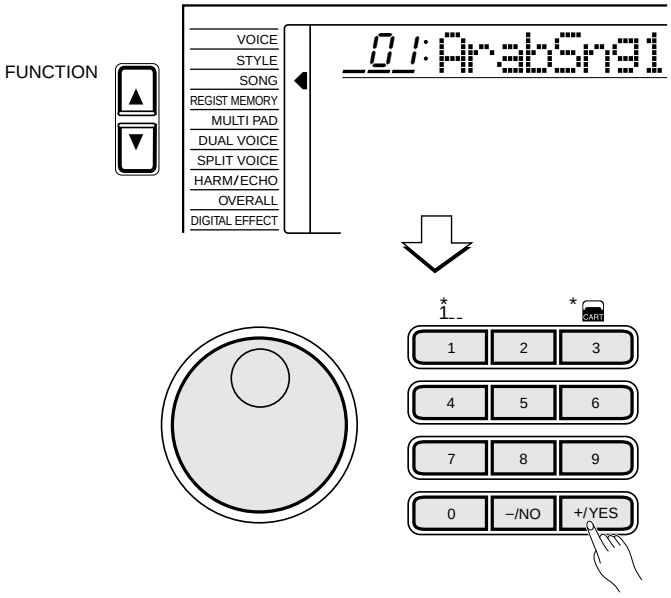


3 Press the [DEMO] Button

Press the **[DEMO]** button to start demo playback. The PSR-A3 SONG function will automatically be selected and the number and name of the first demo song will appear on the top line of the display and the SONG **[PLAY/STOP]** indicator will light. The demo will begin playing automatically. The demo songs will play in sequence, and the sequence will repeat until stopped.

4 Skip to the Beginning Of a Different Demo Song

While the demonstration is playing you can select any of the 29 demo songs by using the **[–/NO]** and **[+/YES]** buttons, the number buttons or the data dial. Playback will skip to the beginning of the selected song.



5 Exit When Done

Press the **[DEMO]** button, the SONG **[PLAY/STOP]** button, or the AUTO ACCOMPANIMENT **[START/STOP]** button to stop demo playback, then press the **[VOICE]** button to exit from the SONG function and return to the normal play-mode display when you've finished playing the demo songs.

NOTES

- *You can play along on the PSR-A3 keyboard while the demonstration is playing.*
- *The volume bars of the song tracks at the bottom of the display will move in response to the data in each track while the demo plays.*
- *About the demo songs created by the PSR-A3 internal accompaniment styles:*
  - ** Chord names will appear on the display and the volume bars of the accomp tracks will move in response to the data in each track, while the demo plays.*
  - ** Harmony effect (see page 20) can be applied when playing along with the chord progression of the song.*

NOTES

- *When you stop the demo songs played in sequence and start again by pressing the [PLAY/STOP] button, the selected song will play and stop automatically when the selected song playback has ended.*

Basic Display Operation

The PSR-A3 LCD panel is a large multi-function type that simultaneously displays and provides access to a number of important parameters. Basic operation of the display as well as the CURSOR, FUNCTION, MODE, and NUMBER buttons, and the meaning of the icons which appear in the display, are summarized briefly below.

The Cursor Buttons

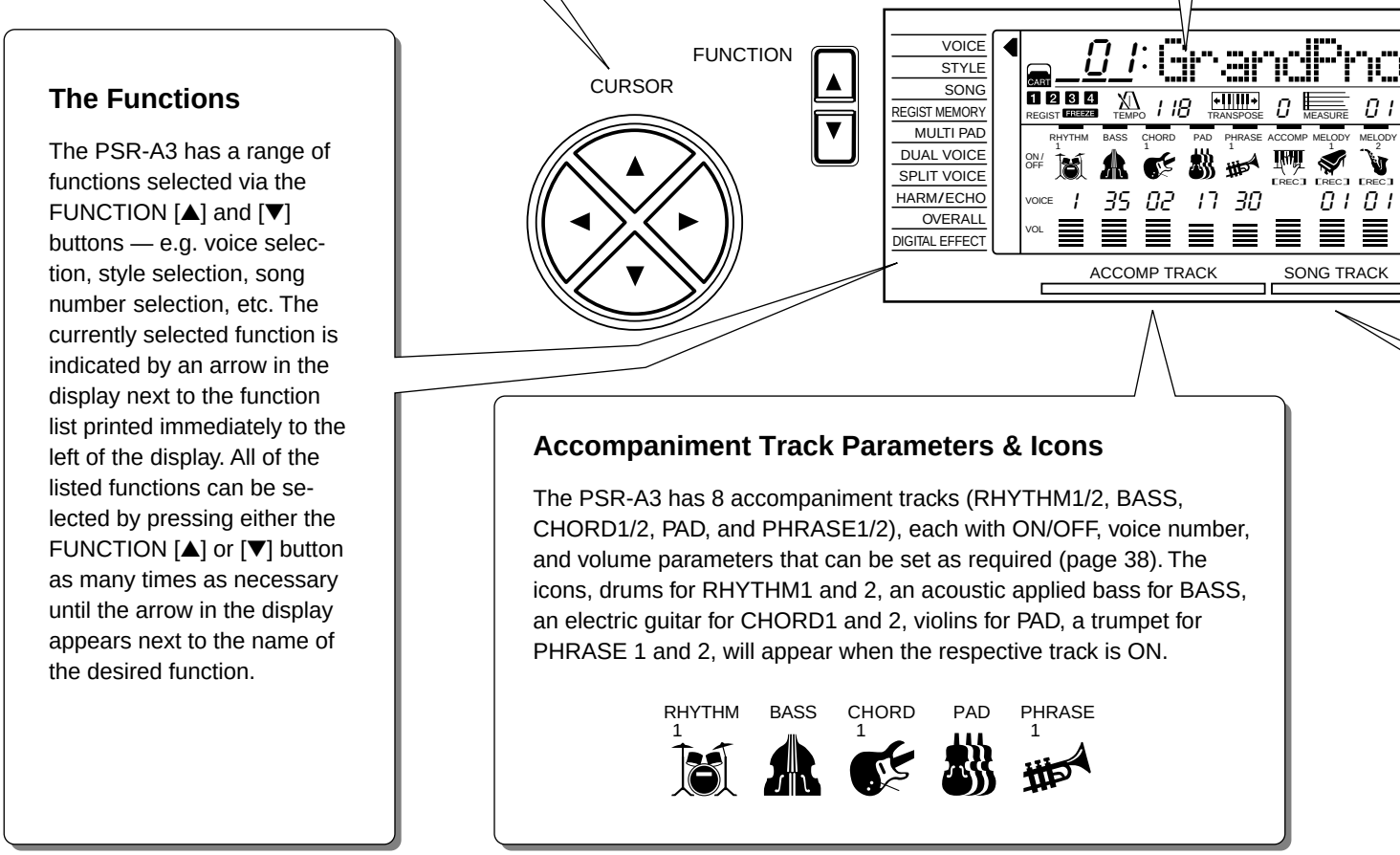
The CURSOR buttons are used to select the various parameters which appear in the display. Depending on the selected parameter, the "cursor" may appear as an underline, or the selected icon or value may simply flash. Each CURSOR button moves the cursor in the corresponding direction. The [▲] and [▼] CURSOR buttons are also used to select functions within the function groups selected by the FUNCTION buttons in some cases.

Parameter Icons

CART (Cartridge)
Appears when a Music Cartridge song, style, or registration memory is selected (page 64).

BEAT
Flashes at the current tempo and indicates the current beat during accompaniment and song playback. (page 36)

OTS (One Touch Setting)
Appears when the ONE TOUCH SETTING feature is engaged (page 42).



The Functions

The PSR-A3 has a range of functions selected via the FUNCTION [▲] and [▼] buttons — e.g. voice selection, style selection, song number selection, etc. The currently selected function is indicated by an arrow in the display next to the function list printed immediately to the left of the display. All of the listed functions can be selected by pressing either the FUNCTION [▲] or [▼] button as many times as necessary until the arrow in the display appears next to the name of the desired function.

Accompaniment Track Parameters & Icons

The PSR-A3 has 8 accompaniment tracks (RHYTHM1/2, BASS, CHORD1/2, PAD, and PHRASE1/2), each with ON/OFF, voice number, and volume parameters that can be set as required (page 38). The icons, drums for RHYTHM1 and 2, an acoustic applied bass for BASS, an electric guitar for CHORD1 and 2, violins for PAD, a trumpet for PHRASE 1 and 2, will appear when the respective track is ON.

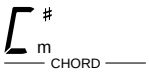
REGIST (Registration Memory)
Indicates the currently selected REGISTRATION MEMORY number (page 49).

TEMPO
Shows the current tempo of accompaniment/song playback (page 34).

TRANSPOSE
The current transpose value (page 23).

MEASURE
Indicates the current measure number during song recording and playback (page 57).

REPEAT
Indicates the “A” and “B” repeat points when programming a repeat section (page 69).



CHORD
Indicates the current chord name during accompaniment/ song playback (page36).

The Modes

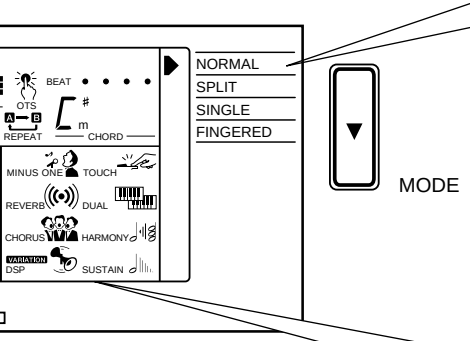
The MODE button to the right of the display selects one of the PSR-A3’s four operational modes: NORMAL, SPLIT, SINGLE, and FINGERED. The currently selected mode is indicated by an arrow in the display next to the mode list printed immediately to the right of the display. All of the listed modes can be selected by pressing the MODE button as many times as necessary until the arrow in the display appears next to the name of the desired mode.

NORMAL: The normal play mode (page 12).

SPLIT: The split-keyboard mode in which different voices can be played by the left and right hands (page 15).

SINGLE: The single-finger accompaniment mode which allows fully-orchestrated accompaniment to be produced by specifying chords using only one, two or three fingers (page 31).

FINGERED: The fingered accompaniment mode in which fully-orchestrated accompaniment is produced according to chords you play on the keyboard (page 31).



Song Track Parameters & Icons

Like the accompaniment tracks, each of the 3 song tracks has ON/OFF, voice number (MELODY tracks), and volume parameters that can be set as required (page 50). Each track has its own icon which appears when the track is ON.

Feature On/Off Icons

MINUS ONE
Appears when the MINUS ONE feature is ON (page 68).

REVERB
Appears when the REVERB EFFECT is ON (page 24).

CHORUS
Appears when the CHORUS EFFECT is ON (page 24).

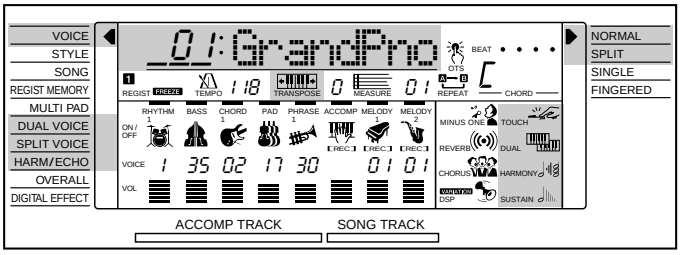
DSP
Appears when the DSP EFFECT is ON (page 24).

TOUCH (Touch Response)
Appears when the TOUCH RESPONSE is ON (page 17).

DUAL (Dual Voice)
Appears when the DUAL VOICE feature is ON (page 17).

HARMONY
Appears when the HARMONY/ECHO is ON (page 20).

SUSTAIN
Appears when the SUSTAIN is ON (page 22).

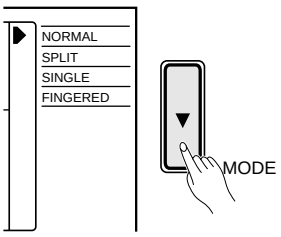


Selecting & Playing Voices

The PSR-A3 has 160 outstanding "pitched" voices (voice numbers 01 through 160) and 9 percussion kits (numbers 161 through 169) that you can select and play on the keyboard. It includes 19 oriental voices and 1 arabic percussion kit.

1 Select the NORMAL Mode

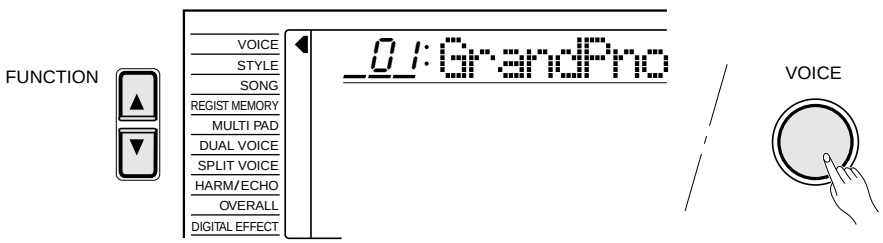
If you want to play a single voice over the entire range of the PSR-A3 keyboard, you'll need to select the NORMAL mode. To do this, press the **[MODE]** button to the right of the display as many times as necessary until the arrow in the display appears next to "NORMAL" in the mode list to the right of the display. The other modes will be described later in this manual.



2 Select the VOICE Function

Before you select a voice to play, the PSR-A3 voice function must be selected. The simplest way to do this is to press the **[VOICE]** button. This immediately selects the VOICE function no matter what function was previously selected.

An alternative method is to press the **[FUNCTION]** button to the left of the display as many times as necessary until the arrowhead in the display appears next to "VOICE" in the function list to the left of the display.



NOTES

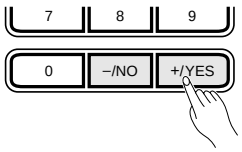
- *"Kybd Vol" function (see page 71) in the OVERALL function group can be quickly selected by pressing and holding the [VOICE] button.*

3 Select a Voice

The PSR-A3 has 169 voices that can be selected by using either the **[–/NO]** and **[+/YES]** buttons, the number buttons or the data dial. The voices are listed in the VOICE list printed at the top of the instrument's control panel. The number and name of the currently selected voice appears on the top line of the display panel while the VOICE function is selected.

● The [–/NO] and [+/YES] Buttons

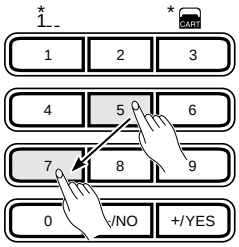
When the VOICE function is selected these buttons step up or down through the PSR-A3's voices. Press either button briefly to step to the next voice in the corresponding direction, or hold the button to scroll rapidly through the voices in the corresponding direction.



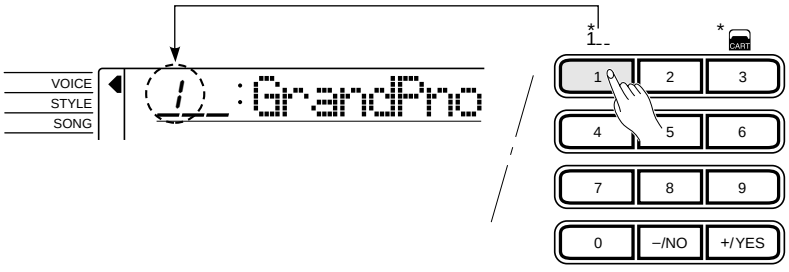
● The Number Buttons

The number buttons can be used to directly enter the number of the desired voice, thereby immediately selecting that voice without having to step through a number of other voices.

Two-digit voice numbers (i.e. "01" through "99") are selected simply by entering the two digits in sequence — e.g. to select voice number "57", briefly press the **[5]** buttons and then the **[7]** button.



Three-digit voice numbers (i.e. "100" through "169") are entered by first pressing and holding the **[1]** button until "1" appears in the hundreds position on the display, then press the remaining two digits in sequence.



NOTES

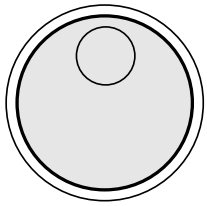
- *Voice numbers 170~171 exclusively can be used as the dual voice — see page 19.*

NOTES

- *Whenever you select a new voice, the appropriate voice-related parameters for that voice will be set automatically. This is the PSR-A3 Voice Set function. The Voice Set function can be turned OFF if not required — page 73.*
- *The stereo pan position of the voice can be set via the "Pan" function in the OVERALL function group — see page 72.*

● The Data Dial

This is undoubtedly the easiest way to select a voice. Simply rotate the dial clockwise to increment or counter-clockwise to decrement.



NOTES

- *The optimum octave settings (OVERALL function: octave = 0) are set to the keyboard for each voice (except for keyboard percussion).*

4 Play & Adjust Volume

You can now play the selected voice on the PSR-A3 keyboard. Use the **[MASTER VOLUME]** control to adjust the overall volume level.

NOTES

- *The keyboard volume can be adjusted independently from the accompaniment volume via the "Kybd Vol" function in the OVERALL function group — see page 71. "Kybd Vol" function can be quickly selected by pressing and holding the [VOICE] button.*

■ Keyboard Percussion

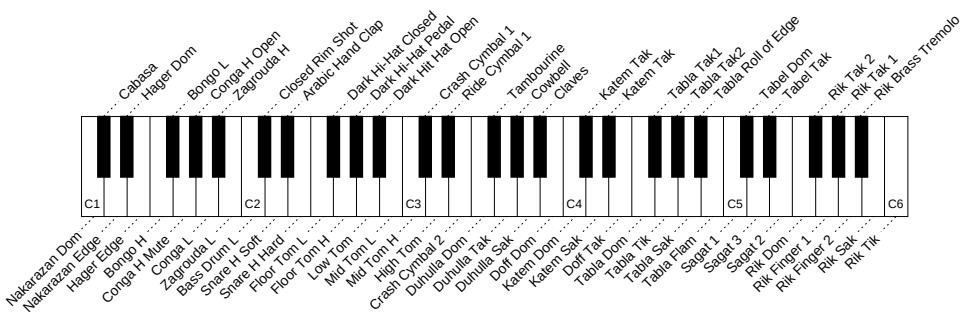
When one of the nine PERCUSSION KIT voices are selected — voice numbers 161 through 169 — you can play drums and percussion instruments on the keyboard.

● The Percussion Kits

161	Standard Kit
162	Room Kit
163	Rock Kit
164	Electronic Kit
165	Analog Kit

166	Jazz Kit
167	Brush Kit
168	Classic Kit
169	Arabic Kit (Panel Arabic Kit)

169: Arabic Kit (Panel Arabic Kit)



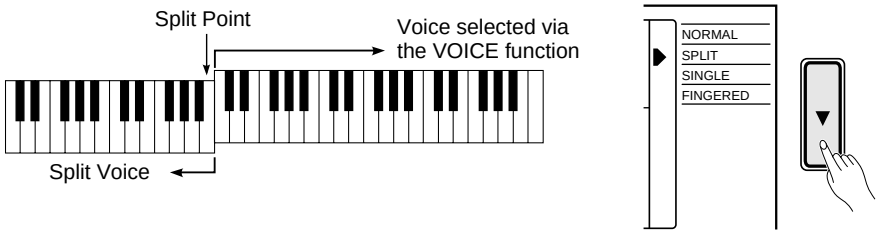
NOTES

- *The drums and percussion instruments played by the various keys for voice number 161: Standard Kit are marked by symbols below the keys.*
- *The Harmony/Echo and Dual functions (pages 20 and 17) cannot be turned ON while a keyboard percussion voice is selected, and will automatically be turned OFF if a keyboard percussion voice is selected while they are ON.*
- *The Transpose and Scale Tuning parameters (page 23 and 43) have no effect on the keyboard percussion voices.*
- *See page 93 for a complete listing of the keyboard percussion drum instrument assignments.*
- *The PSR-A3 has two Arabic Kits (Panel Arabic Kit and GM Arabic Kit). The illustration shown to the left is Panel Arabic Kit which you normally play on the keyboard. See page 93 for more information on Panel Arabic Kit and GM Arabic Kit.*

The Split Mode

The SPLIT mode lets you play different voices with the left and right hands. You could, for example, play bass with the left hand while playing piano with the right. The right-hand voice is the keyboard voice you select in the normal way (page 12), and the left hand voice is selected via the SPLIT VOICE function, described below. The "split point" is initially set at B2 (note number 59), but it can be set at any key on the keyboard.

The SPLIT mode is engaged by pressing the **[MODE]** button so that the arrow in the display appears next to "SPLIT" in the mode list to the right of the display.



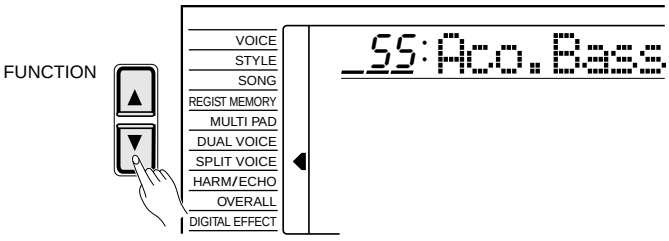
NOTES

- *The SPLIT mode and DUAL VOICE feature (page 17) can be used together. In this case the dual voice plays simultaneously with the right-hand voice only.*

Changing the Split Voice & Related Parameters

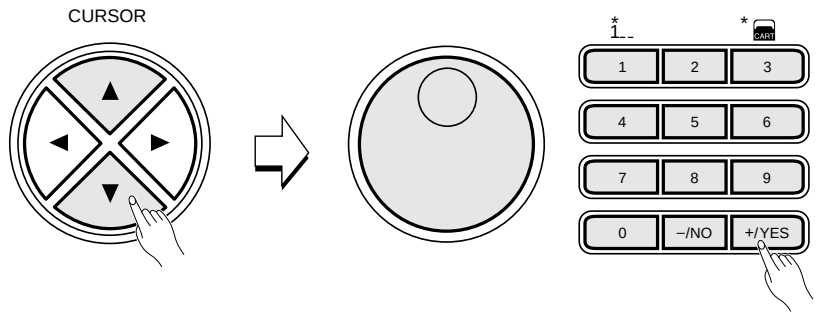
1 Select the SPLIT VOICE Function

Press the **[FUNCTION]** button to the left of the display as many times as necessary until the arrowhead in the display appears next to "SPLIT VOICE" in the function list to the left of the display.



2 Select the Function and Set As Required

Use the cursor **[▲]** and **[▼]** buttons to select the desired function, and then the **[–/NO]** and **[+/YES]** buttons, the number buttons or the data dial to set as required (the name of the selected function and its current setting appear on the top line of the display).



Function	Description
Split Voice	The split voice can be changed as required while the number and name of the current split voice appear on the top line of the display.
S.Volume	Sets the volume of the split voice so you can create the optimum blend with the right-hand voice. The volume range is from “00” (no sound) to “127” (maximum split voice volume).
S.Octave	Shifts the pitch of the split voice up or down one or two octaves. “–1” is down one octave, “–2” is down two octaves; “+1” and “+2” are up one and two octaves, respectively.
S.RevLvl	Sets the reverb send level for the split voice. The reverb send level determines the amount of signals input to the reverb effect. The level range is from “00” (no effect) to “127” (maximum effect).
S.ChoLvl	Sets the chorus send level for the split voice. The chorus send level determines the amount of signals input to the chorus effect. The level range is from “00” (no effect) to “127” (maximum effect).
S.Pan	Positions the split voice in the stereo sound field. The pan range is from “–7” to “+7”. “–7” is full left and “+7” is full right.
S.Split	Sets the keyboard split point — i.e. the key that separates the left- and right-hand voices (the split-point key is included in the left-hand section of the keyboard). Simply press the key you want to assign as the split point. The key number of the key you press will appear to the left of “S.Split” on the top line of the display. You can also use the [–/NO] and [+/YES] buttons, the number buttons or the data dial to enter the split point key number. The lowest key on the keyboard (C1) is key number “36”, middle C (C3) is “60”, and the highest key (C6) is 96. The split point can be set at any key number from 00 through 127, allowing the split point to be set outside the range of the PSR-A3 keyboard for MIDI applications. The default split point is 59 (B2).

3 Exit

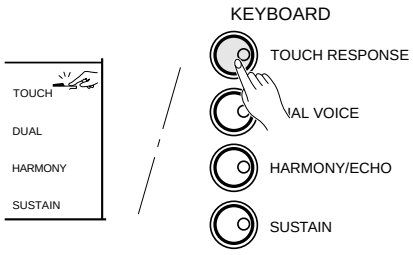
Press the **[VOICE]** button or select a different function to exit from the SPLIT VOICE function.

NOTES

- *If the Voice Set function is ON (page 73), the Split Voice parameters will change automatically whenever a different keyboard voice is selected.*
- *The selected Split Voice parameter can be reset to its default value by simultaneously pressing the [–/NO] and [+/YES] buttons.*
- *Negative values with “S.Octave” and “S.Pan” parameters can be entered by pressing the number buttons while holding the [–/NO] button.*
- *Reverb return level and chorus return level can be changed via the “RevRtnLv” and “ChoRtnLv” function in the DIGITAL EFFECT function — see pages 25 and 27.*

Touch Response

This function turns the touch response of the keyboard ON or OFF. Use the KEYBOARD **[TOUCH RESPONSE]** button to turn TOUCH RESPONSE ON or OFF as required. The touch-response icon will appear next to "TOUCH" in the display when TOUCH RESPONSE is turned ON. The actual touch response sensitivity of the keyboard can be adjusted via the "TouchSns" function in the OVERALL function group (page 73). When OFF (i.e. when the touch-response icon is not showing) the same volume is produced no matter how hard you play on the keyboard. Touch response can be turned OFF to produce a more realistic effect with voices that normally do not have touch response: e.g. organ and harpsichord.



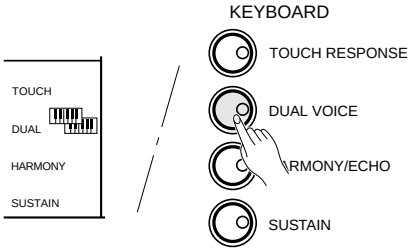
NOTES

- *Touch Response is turned ON whenever the power switch is turned ON.*
- *The "TouchSns" function in the OVERALL function group can be quickly selected by pressing and holding the [TOUCH RESPONSE] button.*

Dual Voice

When the DUAL VOICE feature is engaged you can play two voices simultaneously across the entire keyboard — the keyboard voice you select in the normal way (page 12), and a "dual" voice selected via the DUAL VOICE function.

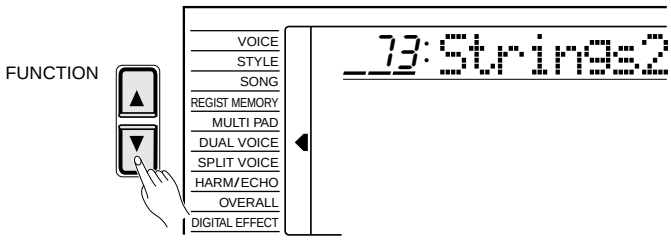
The DUAL VOICE feature is turned ON and OFF by pressing the **[DUAL VOICE]** button. The dual-voice icon (overlapping keyboards) will appear next to "DUAL" in the display when DUAL VOICE is turned ON.



Changing the Dual Voice & Related Parameters

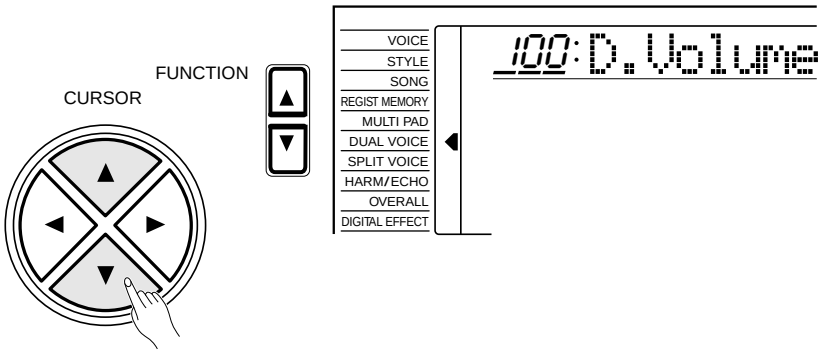
1 Select the DUAL VOICE Function

Press the **[FUNCTION]** button to the left of the display as many times as necessary until the arrowhead in the display appears next to "DUAL VOICE" in the function list to the left of the display.



2 Select the Function and Set As Required

Use the cursor **[▲]** and **[▼]** buttons to select the desired function, and then the **[–/NO]** and **[+/YES]** buttons, the number buttons or the data dial to set as required (the name of the selected function and its current setting appear on the top line of the display).



NOTES

- *"DUAL VOICE" function can be quickly selected by pressing and holding the [DUAL VOICE] button.*

Function	Description
Dual Voice	The dual voice can be changed as required while the number and name of the current dual voice appear on the top line of the display. The PSR-A3 has 162 (voice number 01~160 and 170~171) dual voices. Voice numbers 170~171 exclusively can be used as the dual voice.
D.Volume	Sets the volume of the dual voice so you can create the optimum blend with the main keyboard voice. The volume range is from “00” (no sound) to “127” (maximum dual voice volume).
D.Octave	Shifts the pitch of the dual voice up or down one or two octaves. “–1” is down one octave, “–2” is down two octaves; “+1” and “+2” are up one and two octaves, respectively. The original octave of the dual voice is determined by the “Octave” function in the OVERALL function group — page 71.
D.RevLvl	Sets the reverb send level for the dual voice. The reverb send level determines the amount of signals input to the reverb effect. The level range is “00” (no effect) to “127” (maximum effect).
D.ChoLvl	Sets the chorus send level for the dual voice. The chorus send level determines the amount of signals input to the chorus effect. The level range is “00” (no effect) to “127” (maximum effect).
D.Pan	Positions the dual voice in the stereo sound field. The pan range is from “–7” to +”7". “–7” is full left and “+7” is full right.

3 Exit

Press the **[VOICE]** button or select a different function to exit from the DUAL VOICE function.

NOTES

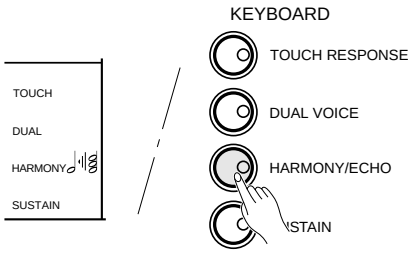
- *If the Voice Set function is ON (page 73), the Dual Voice parameters will change automatically whenever a different voice is selected via the VOICE function.*
- *Keyboard percussion voices cannot be used as the dual voice.*
- *The selected Dual Voice parameter can be reset to its default value by simultaneously pressing the [–/NO] and [+/YES] buttons.*
- *The octave of the main and dual voices can be changed via the “Octave” function in the OVERALL function group — page 71.*
- *Negative values with “D.Octave” and “D.Pan” parameters can be entered by pressing the number buttons while holding the [–/NO] button.*
- *Reverb return level and chorus return level can be changed via the “RevRtnLv” and “ChoRtnLv” functions, respectively, in the DIGITAL EFFECT function — see pages 25 and 27.*

Harmony/Echo

The harmony effect (01~10) automatically adds appropriate harmony notes to the melody line you play on the keyboard. The harmony effect is derived from the chords you play on the left hand parts.

The echo effect (11~22) adds delay-based effects to the right hand melody parts.

Press the **[HARMONY/ECHO]** button to turn the HARMONY/ECHO effect ON or OFF. When HARMONY/ECHO is turned ON, the harmony icon will appear next to "HARMONY" in the display.



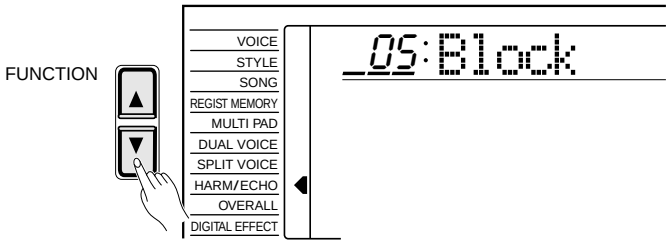
NOTES

- *Harmony/Echo effect can not be turned ON when a keyboard percussion kit is selected for the Voice.*
- *Harmony can not be used when the Auto Accompaniment Chord Cancel function (page 32) is in use.*
- *Harmony does not apply in the NORMAL mode.*
- *Harmony can be used in the SPLIT mode as well as in the SINGLE and FINGERED modes.*
- *The Harmony/Echo effect can not be turned ON when the FINGERED FULL mode (page 33) is in use and will automatically be turned OFF when the FINGERED FULL mode is selected.*

Selecting a Harmony/Echo Type

1 Select the Harmony/Echo Function

Press the **[FUNCTION]** button to the left of the display as many times as necessary until the arrowhead in the display appears next to "HARM/ECHO" in the function list to the left of the display.



You can also enter the HARM/ECHO function by pressing and holding the **[HARMONY/ECHO]** button until the arrow jumps to the "HARM/ECHO" position and the current harmony/echo name appears in the display.

2 Select a Harmony/Echo Type

Use the **[–/NO]** and **[+/YES]** buttons, the number buttons or the data dial to select one of the available harmony/echo types (listed below).

● The Harmony (01~10) / Echo (11~22) Types

Type	Description	
01: Duet	This harmony type produces a duophonic melody with the second voice below the melody line.	
02: 1+5	A parallel voice is produced a fifth above the melody voice.	
03: Country	Similar to Duet, but the second voice is above the melody line.	
04: Trio	This harmony type generates two voices in addition to the melody voice.	
05: Block	Three or four notes are added to the melody to produce four or five-note chords.	
06: 4WayClose1	Three harmony notes are generated to produce a four-note chord.	
07: 4WayClose2	Similar to the preceding type, but depending on the chords played this type will sometimes produce a more colorful sound.	
08: 4WayOpen	Four-note chords with open voice (large intervals between the notes). The result is a very “open” sound. Since the harmony notes can be as much as two octaves below the melody, avoid playing in the lower registers.	
09: Octave	One note is added an octave below the melody.	
10: Strum	The notes and assignments are the same as in the Block type, but the notes are arpeggiated.	
11: Echo1/4	This type creates quarter-note delayed repeats.	
12: Echo1/6	This type creates quarter-note triplet delayed repeats.	
13: Echo1/8	This type creates 8th-note delayed repeats.	
14: Echo1/12	This type creates 8th-note triplet delayed repeats.	

NOTES

- *If the VOICE SET function is ON (page 73), the harmony/echo type will change automatically whenever a different voice is selected via the VOICE function.*
- *The harmony/echo type can be reset to its default by simultaneously pressing the [–/NO] and [+/YES] buttons.*

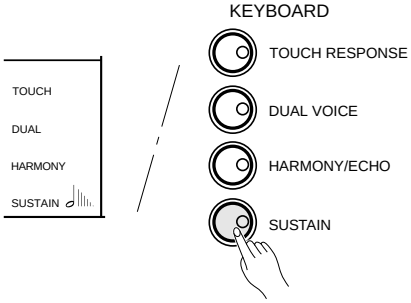
Type	Description	
15: Tremolo1/8	This type creates 8th-note tremolos.	
16: Tremolo1/12	This type creates 8th-note triplet tremolos.	
17: Tremolo1/16	This type creates 16th-note tremolos.	
18: Tremolo1/32	This type creates 32nd-note tremolos.	
19: Trill1/12	This type creates 8th-note triplet trilled repeats.	
20: Trill1/16	This type creates 16th-note trilled repeats.	
21: Trill1/24	This type creates 16th-note triplet trilled repeats.	
22: Trill1/32	This type creates 32nd-note trilled repeats.	

3 Exit

Press the **[VOICE]** button or select a different function to exit from the HARM/ECHO function.

Sustain

When the Sustain feature is ON (the sustain icon will appear next to "SUSTAIN" in the display), all notes played on the keyboard have a longer sustain. Press the **[SUSTAIN]** button to turn the SUSTAIN effect ON or OFF.



NOTES

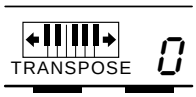
- *Sustain does not apply to some voices.*

Transposition

This functions allow the overall pitch of the PSR-A3 to be transposed up or down by a maximum of one octave in semitone increments.

1 Move the Cursor to the Transpose Value

Use the **CURSOR** buttons to select the number to the right of the keyboard icon labelled “TRANSPOSE” on the display (the number will flash when selected).

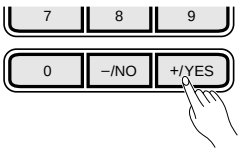


NOTES

- *Press the [–/NO] and [+/YES] buttons simultaneously to instantly reset the transpose value to “0”.*
- *The new transpose value will apply from the next note played.*

2 Set the Transposition As Required

Use the **[–/NO]** and **[+/YES]** buttons, the number buttons or the data dial to set the desired degree of transposition. The transpose range is from –12 to +12, allowing a maximum upward or downward transposition of 1-octave. A setting of “0” produces the normal pitch.



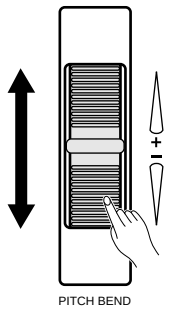
NOTES

- *Negative values can be entered by pressing the number buttons while holding the [–/NO] button.*

Pitch Bend

The **PITCH BEND** wheel to the left of the keyboard allows the pitch of notes played on the keyboard to be bend up or down - roll the wheel away from you to bend up, and toward you to bend down.

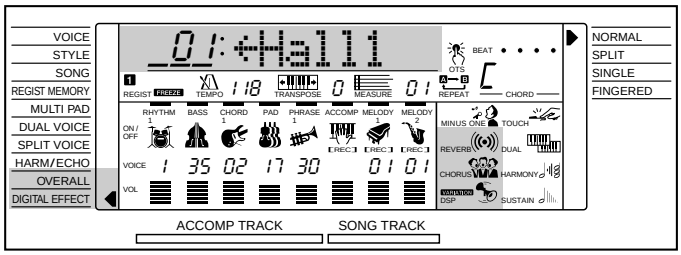
The actual pitch bend range can be adjusted via the “PBRange” function in the OVERALL function group (page 74).



PITCH BEND

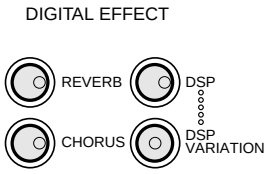
Digital Effects

The PSR-A3 provides a variety of Digital Effects-12 Reverb Effects, 9 Chorus Effects and 45 DSP Effects- which are specially tailored and make your performance perfect.



Using the Digital Effects

The PSR-A3 has three types of digital effects — Reverb, Chorus and DSP— that can be turned ON or OFF by pressing the **[REVERB]** button, **[CHORUS]** button and **[DSP]** button respectively. DSP effect has a set of variations which can be accessed by using the **[DSP VARIATION]** button (ON/OFF). Each icon will appear in the display when the effects are turned ON.



NOTES

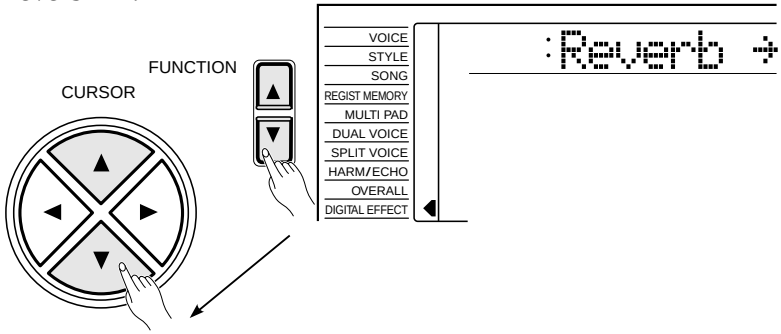
- *Pressing the [REVERB], [CHORUS] or [DSP] button turns ON/OFF the respective effect for the VOICE function voice.*
- *If the Voice Set function (page 73) is ON, the Reverb/Chorus/DSP VARIATION ON/OFF status will automatically be determined, while DSP will be turned ON whenever a different voice is selected via the VOICE function.*

Changing the Reverb Effect

Selecting the Reverb Effect Type

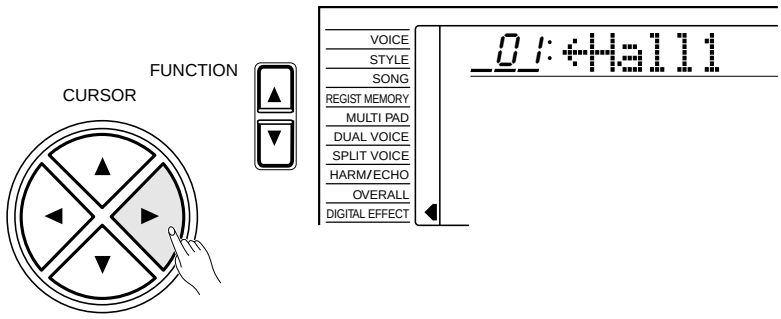
1 Select the Reverb Type Function

Press the **[FUNCTION]** button to the left of the display as many times as necessary until the arrowhead in the display appears next to "DIGITAL EFFECT" in the function list to the left of the display, and use the cursor [▲] and [▼] buttons to select the Reverb Type function, "Reverb →".



2 Select the Reverb Type

Use the cursor [▶] button to enter the Reverb Type function and then select one of the 13 reverb types using the **[–/NO]** and **[+/YES]** buttons, the number buttons or the data dial. The name of the selected reverb type appears on the top line of the display.



You can also enter the Reverb Type function by pressing and holding the **[REVERB]** button until the arrow jumps to the "DIGITAL EFFECT" position and the current reverb type name appears in the display.

3 Exit

Press the **[VOICE]** button or select a different function to exit from the DIGITAL EFFECT function.

NOTES

- *See page 83 for a complete listing of the reverb types.*
- *The reverb type can be reset to its default by simultaneously pressing the [–/NO] and [+/YES] buttons.*
- *You can return to the previous display, "Reverb→", by pressing the cursor [◀] button, and choose the CHORUS or DSP effect.*
- *The Reverb type will change automatically whenever a different style is selected.*
- *If you want to disable the reverb effect for all the data excepting VOICE function voice, select OFF in the Type selection.*

The Reverb Types

01~04	Hall 1~4
05~08	Room 1~4
09, 10	Stage 1, 2
11, 12	Plate 1, 2
13	OFF

Setting the Reverb Return Level

The reverb return level determines the amount of "wet" (affected) signals output to the amplifier.

1 Select the Reverb Return Level Function

Press the **[FUNCTION]** button to the left of the display as many times as necessary until the arrowhead in the display appears next to "DIGITAL EFFECT" in the function list to the left of the display, and use the cursor [▲] and [▼] buttons to select the Reverb Return Level function.

2 Set the Reverb Return Level

Use the **[–/NO]** and **[+/YES]** buttons, the number buttons or the data dial to set the desired reverb return level. The range is from "00" to "127".

3 Exit

Press the **[VOICE]** button or select a different function to exit from the DIGITAL EFFECT function.

NOTES

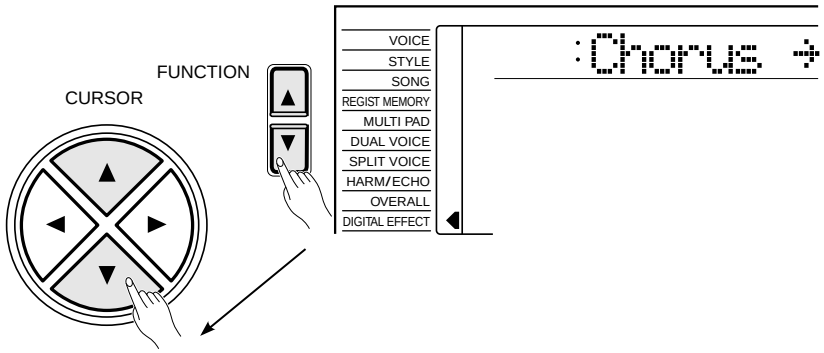
- *See page 82 for more details on the Digital Effects.*
- *The reverb return level designated here affects the entire setting, while the reverb send level can be applied to the voice selected via the VOICE function, the split voice and the dual voice separately via the "RevLevel" in the OVERALL function group, the "S.RevLvl" in the SPLIT VOICE function and the "D.RevLvl" in the DUAL VOICE function (see pages 72, 16 and 19).*
- *The default reverb return level = 64 can be recalled instantly by pressing both the [–/NO] and [+/YES] buttons simultaneously.*

Changing the Chorus Effect

Selecting the Chorus Effect Type

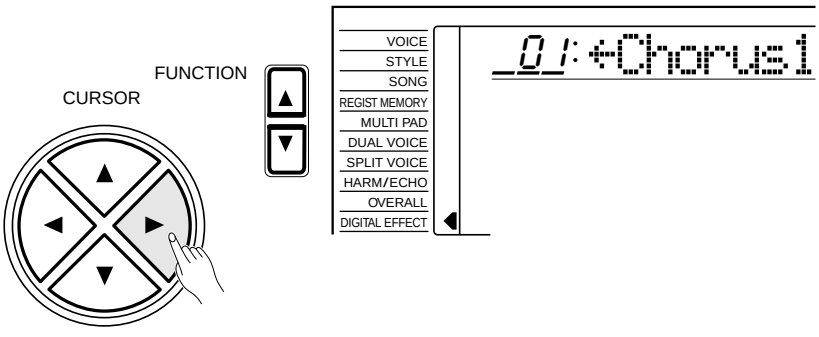
1 Select the Chorus Type Function

Press the **[FUNCTION]** button to the left of the display as many times as necessary until the arrowhead in the display appears next to "DIGITAL EFFECT" in the function list to the left of the display, and use the cursor [▲] and [▼] buttons to select the Chorus Type function, "Chorus →".



2 Select the Chorus Type

Use the cursor [▶] button to enter the Chorus Type function and then select one of the 10 chorus types using the **[–/NO]** and **[+/YES]** buttons, the number buttons or the data dial. The name of the selected chorus type appears on the top line of the display.



You can also enter the Chorus Type function by pressing and holding the **[CHORUS]** button until the arrow jumps to the "DIGITAL EFFECT" position and the current chorus type name appears in the display.

NOTES

- *See page 83 for a complete listing of the chorus types.*
- *The chorus type will change automatically whenever a different style is selected.*
- *You can return to the previous display, "Chorus→", by pressing the cursor [◀] button, and choose the REVERB or DSP effect.*
- *The chorus type can be reset to its default by simultaneously pressing the [–/NO] and [+/YES] buttons.*
- *If you want to disable the chorus effect for all the data excepting VOICE function voice, select OFF in the Type selection.*

The Chorus Types

01~05	Chorus 1~5
06~09	Flanger 1~4
10	OFF

3 Exit

Press the **[VOICE]** button or select a different function to exit from the DIGITAL EFFECT function.

Setting the Chorus Return Level

The chorus return level determines the amount of "wet" (affected) signals output to the amplifier.

1 Select the Chorus Return Level Function

Press the **[FUNCTION]** button to the left of the display as many times as necessary until the arrowhead in the display appears next to "DIGITAL EFFECT" in the function list to the left of the display, and use the cursor [▲] and [▼] buttons to select the Chorus Return Level function.

2 Set the Chorus Return Level

Use the **[–/NO]** and **[+/YES]** buttons, the number buttons or the data dial to set the desired chorus return level. The range is from "00" to "127".

3 Exit

Press the **[VOICE]** button or select a different function to exit from the DIGITAL EFFECT function.

NOTES

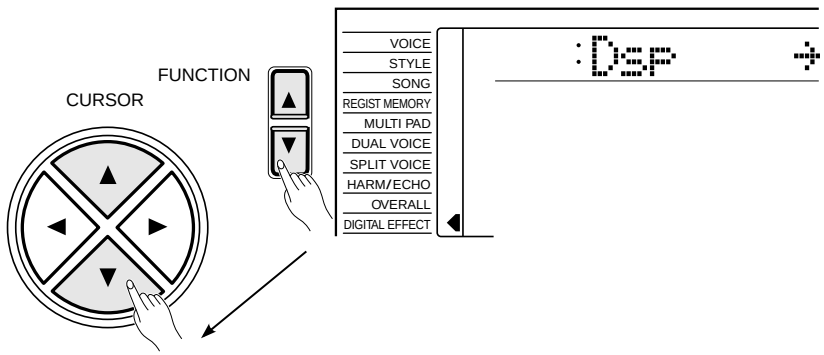
- *See page 82 for more details on the Digital Effects.*
- *The chorus return level designated here affects the entire setting, while the chorus send level can be applied to the voice selected via the VOICE function, the split voice and the dual voice separately via the "ChoLevel" in the OVERALL function group, the "S.ChoLvl" in the SPLIT VOICE function and the "D.ChoLvl" in the DUAL VOICE function (see pages 72, 16 and 19).*
- *The default chorus return level = 64 can be recalled instantly by pressing both the [–/NO] and [+/YES] buttons simultaneously.*

Changing the DSP Effect

Selecting the DSP Effect Type

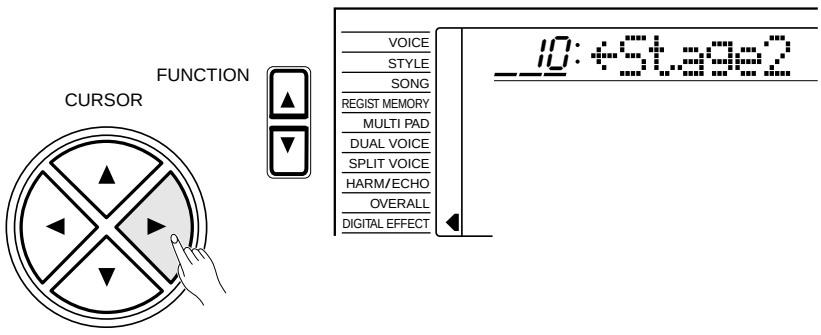
1 Select the DSP Type Function

Press the **[FUNCTION]** button to the left of the display as many times as necessary until the arrowhead in the display appears next to "DIGITAL EFFECT" in the function list to the left of the display, and use the cursor [▲] and [▼] buttons to select the DSP Type function, "Dsp →".



2 Select the DSP Type

Use the cursor [▶] button to enter theDSP Type function and then select one of the 46 DSP types using the **[–/NO]** and **[+/YES]** buttons, the number buttons or the data dial. The name of the selected DSP type appears on the top line of the display.



The DSP Types

01~04	Hall 1~4
05~08	Room 1~4
09, 10	Stage 1, 2
11, 12	Plate 1, 2
13, 14	Early Reflection 1, 2
15	Gate Reverb
16	Reverse Gate
17~21	Chorus 1~5
22~25	Flanger 1~4
26	Symphonic
27	Phaser
28~32	Rotary Speaker 1~5
33, 34	Tremolo 1, 2
35	Guitar Tremolo
36	Auto Pan
37	Auto Wah
38	Delay L, C, R
39	Delay L, R
40	Echo
41	Cross Delay
42	Distortion Hard
43	Distortion Soft
44	EQ Disco
45	EQ Telephone
46	OFF

NOTES

- *See page 83 for a complete listing of the DSP types.*
- *The DSP type can be reset to its default by simultaneously pressing the [–/NO] and [+/YES] buttons.*
- *If the Voice Set function is ON (page 73) the DSP type will change automatically whenever a different voice is selected via the VOICE function.*
- *When the Rotary Speaker 1~5 is selected, the [DSP VARIATION] button (ON/OFF) will switch the speed of the rotating speaker between fast (ON) and slow (OFF).*
- *You can return to the previous display, "Dsp→", by pressing the cursor [◀] button, and choose the REVERB or CHORUS effect.*
- *If you want to disable the DSP effect for all the data excepting VOICE function voice, select OFF in the Type selection.*

Each DSP effect has its own variation. Press the **[DSP VARIATION]** button to ON to activate each variation.

You can also enter the DSP Type function by pressing and holding the **[DSP]** button until the arrow jumps to the "DIGITAL EFFECT" position and the current DSP type name appears in the display.

3 Exit

Press the **[VOICE]** button or select a different function to exit from the DIGITAL EFFECT function.

Setting the DSP Return Level

The DSP return level determines the amount of "wet" (affected) signals output to the amplifier.

1 Select the DSP Return Level Function

Press the **[FUNCTION]** button to the left of the display as many times as necessary until the arrowhead in the display appears next to "DIGITAL EFFECT" in the function list to the left of the display, and use the cursor [▲] and [▼] buttons to select the DSP Return Level function.

2 Set the DSP Return Level

Use the **[–/NO]** and **[+/YES]** buttons, the number buttons or the data dial to set the desired DSP return level. The range is from "00" to "127". The DSP send level can be adjusted via the "DspLevel" function in the OVER-ALL function group-see page 72.

3 Exit

Press the **[VOICE]** button or select a different function to exit from the DIGITAL EFFECT function.

NOTES

- *See page 82 for more details on the Digital Effects.*
- *The DSP return level can not be changed for the insertion DSP types (see page 82). In this case, "- - -" will appear on the display.*
- *The default DSP return level = 64 can be recalled instantly by pressing both the [–/NO] and [+/YES] buttons simultaneously.*

Using Auto Accompaniment

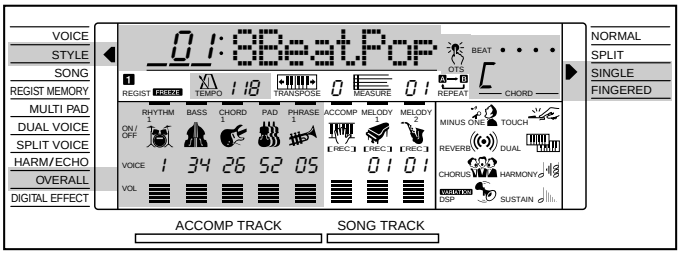
The PSR-A3 has 140 (including 40 oriental styles) different accompaniment "styles" that can be used to provide fully-orchestrated or rhythm-only accompaniment. The PSR-A3's sophisticated Auto Accompaniment system can provide automated bass and chord backing that is perfectly matched to the selected accompaniment style.

NOTES

- *The maximum number of notes that can be played simultaneously on the PSR-A3 keyboard is reduced when the Accompaniment is used.*

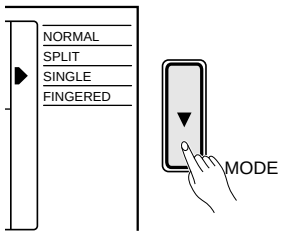
About the PSR-A3 Styles

The styles are created with the "Style File Format", Yamaha's original auto-accompaniment format which has evolved through years of development and refinement. Style File Format allows you to use exceptionally high quality accompaniments with a variety of chord types through its unique conversion system. Style File Format styles, based on GM system level 1, can be played with the GM compatible tone generator. In addition to the internal styles, the optional music cartridges let you use different high quality styles created with the Style File Format.



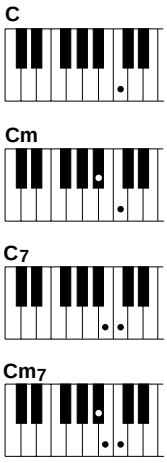
1 Select the SINGLE or FINGERED Accompaniment Mode

Press the **[MODE]** button to the right of the display as many times as necessary until the arrow in the display appears next to "SINGLE" or "FINGERED" in the mode list to the right of the display. If you select the "SINGLE" mode, accompaniment chords are played as follows:



● SINGLE FINGER ACCOMPANIMENT

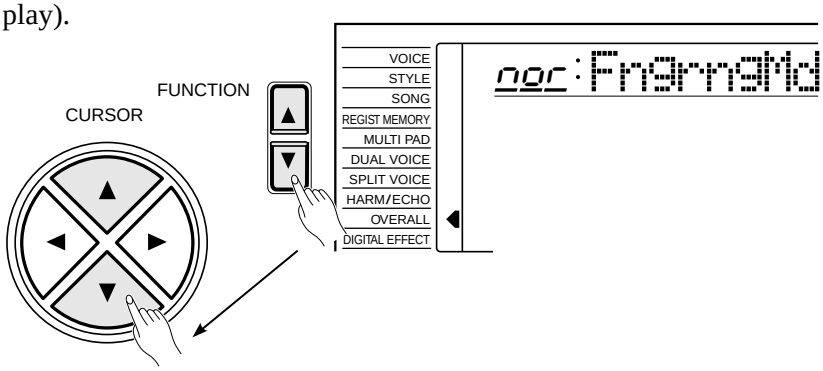
Single-finger accompaniment makes it simple to produce beautifully orchestrated accompaniment using major, seventh, minor and minor-seventh chords by pressing a minimum number of keys on the left-hand section of the keyboard. The abbreviated chord fingerings described below are used:



- For a major chord, press the root key only.
- For a minor chord, simultaneously press the root key and a black key to its left.
- For a seventh chord, simultaneously press the root key and a white key to its left.
- For a minor-seventh chord, simultaneously press the root key and both a white and black key to its left.

2 If the FINGERED Mode is Selected, Select the Desired Fingering Mode

The PSR-A3 has three fingering modes for fingered accompaniment — Normal, Bass and Full. The NORMAL mode is automatically selected whenever the power is initially turned ON. To select a different fingering mode first select the OVERALL functions by pressing the **[FUNCTION]** button to the left of the display as many times as necessary until the arrowhead in the display appears next to "OVERALL" in the function list to the left of the display. "FngrngMd" should appear on the top line of the display (if a different OVERALL function is selected, press the cursor **[▲]** or **[▼]** button as many times as necessary until "FngrngMd" appears). Then use the **[–/NO]** and **[+/YES]** buttons and the data dial to select the desired fingering mode (the mode abbreviation appears to the left of "FngrngMd" on the display).

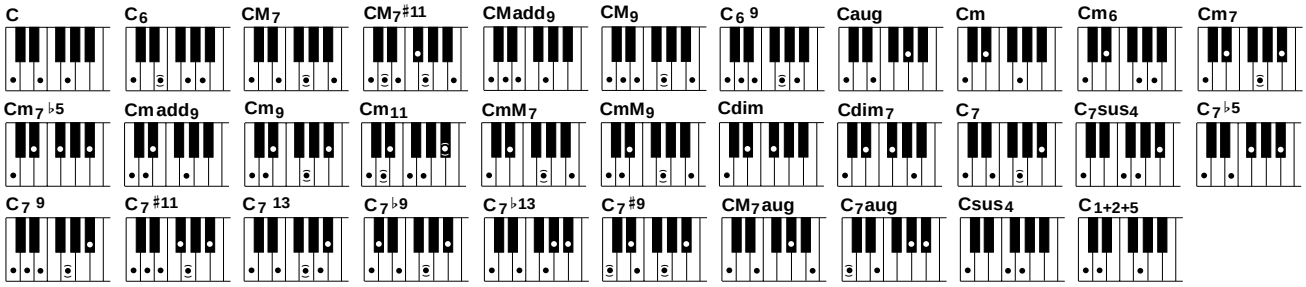


The Normal ("nor"), Bass ("bAS") and Full ("Full") fingering modes function as follows:

● NORMAL

This is the default FINGERED accompaniment mode. The NORMAL mode lets you finger your own chords on the left-hand section of the keyboard (i.e. all keys to the left of and including the split-point key — normally 59 while the PSR-A3 supplies appropriately orchestrated rhythm, bass, and chord accompaniment in the selected style.
The FINGERED mode will accept the chord types listed below (notes in parentheses may be omitted).

Example for "C" chords



Chord Name/[Abbreviation]	Normal Voicing
Major [M]	1-3-5
Major sixth [6]	1-(3)-5-6
Major seventh [M7]	1-3-(5)-7
Major seventh sharp eleventh [M7♯11]	1-(2)-3-♯4-(5)-7
Major add ninth [Madd9]	1-2-3-5
Major ninth [M9]	1-2-3-(5)-7
Major sixth add ninth [6 9]	1-2-3-(5)-6
Augmented [aug]	1-3-♯5
Minor [m]	1-♭3-5
Minor sixth [m6]	1-♭3-5-6
Minor seventh [m7]	1-♭3-(5)-♭7
Minor seventh flatted fifth [m7♭5]	1-♭3-♭5-♭7
Minor add ninth [madd9]	1-2-♭3-5
Minor ninth [m9]	1-2-♭3-(5)-♭7
Minor eleventh [m11]	1-(2)-♭3-4-5-(♭7)
Minor major seventh [mM7]	1-♭3-(5)-7
Minor major ninth [mM9]	1-2-♭3-(5)-7
Diminished [dim]	1-♭3-♭5
Diminished seventh [dim7]	1-♭3-♭5-6
Seventh [7]	1-3-(5)-♭7
Seventh suspended fourth [7sus4]	1-4-5-♭7
Seventh flatted fifth [7♭5]	1-3-♭5-♭7
Seventh ninth [7 9]	1-2-3-(5)-♭7
Seventh sharp eleventh [7♯11]	1-2-3-♯4-(5)-♭7 or 1-(2)-3-♯4-5-♭7
Seventh thirteenth [7 13]	1-3-(5)-6-♭7 or 2-3-5-6-♭7
Seventh flatted ninth [7♭9]	1-♭2-3-(5)-♭7
Seventh flatted thirteenth [7♭13]	1-3-5-♭6-♭7
Seventh sharp ninth [7♯9]	(1)-♯2-3-(5)-♭7
Major seventh augmented [M7aug]	1-3-♯5-7
Seventh augmented [7aug]	(1)-3-♯5-♭7
Suspended fourth [sus4]	1-4-5
One plus two plus five [1+2+5]	1-2-5

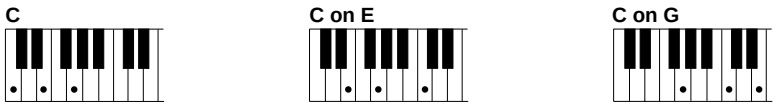
Chord (C)	Display
C	C
C6	C6
CM7	CM7
CM7♯11	CM7(♯11)
CMadd9	CM(9)
CM9	CM7(9)
C6 9	C6(9)
Caug	Caug
Cm	Cm
Cm6	Cm6
Cm7	Cm7
Cm7♭5	Cm7♭5
Cmadd9	Cm(9)
Cm9	Cm7(9)
Cm11	Cm7(11)
CmM7	CmM7
CmM9	CmM7(9)
Cdim	Cdim
Cdim7	Cdim7
C7	C7
C7sus4	C7sus4
C7♭5	C7♭5
C7 9	C7(9)
C7♯11	C7(♯11)
C7 13	C7(13)
C7♭9	C7(♭9)
C7♭13	C7(♭13)
C7♯9	C7(♯9)
CM7aug	CM7aug
C7aug	C7aug
Csus4	Csus4
C1+2+5	C

NOTES

- *If you play any three adjacent keys (including black keys), the chord sound will be cancelled and only the rhythm instruments will continue playing (CHORD CANCEL function).*
- *An octave (1+8) produces accompaniment based only on the root.*
- *A perfect fifth (1+5) produces accompaniment based only on the root and fifth which can be used with many major and minor chords.*
- *The chord fingerings listed are all in "root" position, but other inversions can be used — with the following exceptions:*
  - ** 6 chords are only recognized in root position. All other inversions are interpreted as m7.*
  - ** 6 9 chords are only recognized in root position. All other inversions are interpreted as m11.*
  - ** m6 chords are only recognized in root position. All other inversions are interpreted as m7♭5.*
  - ** 1+2+5 chords are only recognized in root position. All other inversions are interpreted as sus4.*
  - ** With aug and dim7 chords the lowest note played is assumed to be the root.*
  - ** With 7♯11 and 7♭5 chords the lowest note played is assumed to be the root or ♭7.*

● BASS

This is essentially the same as the NORMAL mode, above, except that the lowest note played in the auto accompaniment section of the keyboard will be played by the bass part rather than the chord root.



● FULL

In this mode the PSR-A3 automatically differentiates between left-hand chords and right-hand melody, no matter where they are played on the keyboard. Right-hand chords with a left-hand bass line — single or octave — are also recognized. In the former case left-hand chords are recognized and accompaniment is produced in the same way as in the NORMAL mode, in the latter case the right-hand chords are recognized in the same way but the accompaniment bass line will be based on the left-hand bass line you play. This means you can play in just about any style anywhere on the keyboard, and the PSR-A3 will automatically produce appropriate accompaniment.

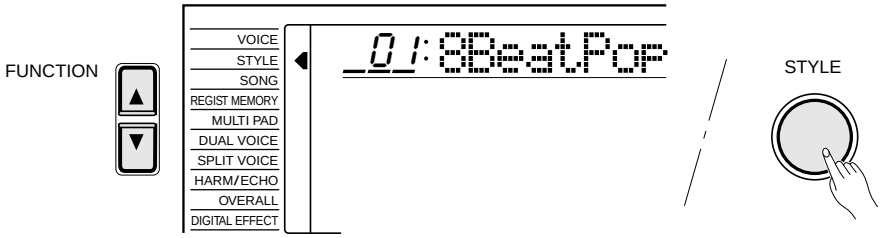
NOTES

- *A single note one octave lower than the lowest note of the chord is recognized as a bass note, and a single note eleven notes higher is recognized as a melody note.*
- *The Harmony/Echo feature (page 20) has no effect in the FULL mode.*

3 Select the Style Function

Press the **[STYLE]** button to directly select the STYLE function.

Another way to do this is to press the **[FUNCTION]** button to the left of the display as many times as necessary until the arrowhead in the display appears next to “STYLE” in the function list to the left of the display.



NOTES

- *The “AcompVol” function in the OVERALL function group can be quickly selected by pressing and holding the [STYLE] button.*

4 Select a Style

The PSR-A3 has 140 styles that can be selected by using either the **[–/NO]** and **[+/YES]** buttons, the number buttons or the data dial (these controls function in the same way as for voice selection — see page 12). The styles are listed in the STYLE list printed at the top of the instrument's control panel. The number and name of the currently selected style appears on the top line of the display while the STYLE function is selected.

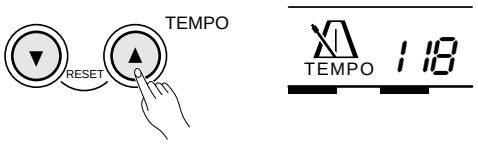
NOTES

- *See page 65 for details on selecting cartridge styles.*

5 Set the Tempo

When you select a different style while the accompaniment is not playing, the "default" tempo for that style is also selected, and the tempo is displayed to the right of the metronome icon "TEMPO" in quarter-note beats per minute. If the accompaniment is playing and the One Touch Setting function is OFF (page 42), the same tempo is maintained even if you select a different style.

You can change the tempo to any value between 32 and 280 beats per minute, however, by using TEMPO **[▲]** and **[▼]** buttons. Press either button briefly to decrement or increment the tempo value by one, or hold the button for continuous decrementing or incrementing. The default tempo for the selected style can be recalled at any time by pressing both the TEMPO **[▲]** and **[▼]** buttons simultaneously.



You can also use the **CURSOR** buttons to select the tempo value in the display, and then use the **[–/NO]** and **[+/YES]** buttons, the number buttons or the data dial to set the tempo value as required. In this case the **[–/NO]** and **[+/YES]** buttons can be pressed simultaneously to recall the default tempo. This can be done either before the accompaniment is started or while it is playing.

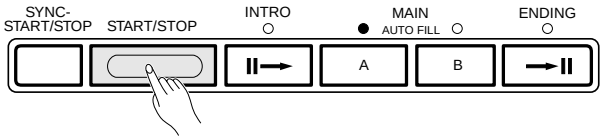
NOTES

- *In this case, three-digit numbers (i.e. "100" through "280") are entered by first pressing and holding the [1] or [2] button until "1" or "2" appears in the hundreds position on the display, then pressing the remaining two digits in sequence.*

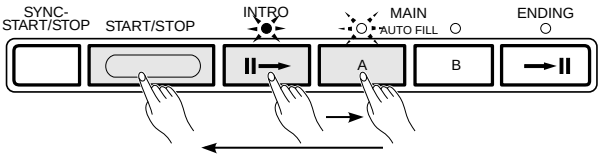
6 Start the Accompaniment

There are several ways to start the accompaniment:

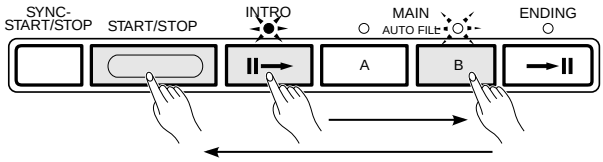
- **Straight start:**
  Press the **[START/STOP]** button. The rhythm will begin playing immediately without bass and chord accompaniment. The currently selected MAIN **[A]** or **[B]** section will play.



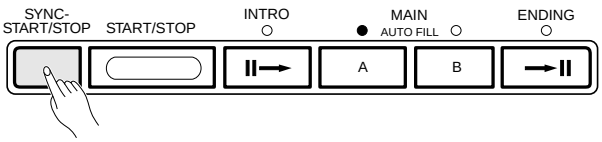
- **Start with an introduction followed by the MAIN A section:**
  Press the **[INTRO]** button so that its indicator lights, press the MAIN **[A]** button (not necessary if its indicator is already flashing), then press **[START/STOP]** button.



- **Start with an introduction followed by the MAIN B section:**
  Press the **[INTRO]** button so that its indicator lights, press the MAIN **[B]** button (not necessary if its indicator is already flashing), then press **[START/STOP]** button.



- **Synchronized start:**
  Any of the above start types can be synchronized to the first note or chord played on the left-hand section of the keyboard (i.e. keys to the left of and including the split-point key — normally 59) by first pressing the **[SYNC-START/STOP]** button.



NOTES

- *It is possible to select the MAIN A or B section prior to a straight start — refer to "8. Select the MAIN A and B Sections as Required," below.*

NOTES

- *The [INTRO] button can be used to select the INTRO section even while the accompaniment is playing.*

NOTES

- *If you press the [SYNC-START/STOP] button while the accompaniment is playing, the accompaniment will stop and the synchro start mode will be engaged.*
- *The accompaniment split point can be changed via the "AccSpPnt" function in the OVERALL function group — see page 41.*

Pressing the **[SYNC-START/STOP]** button alone causes a straight start to occur when the first note or chord is played. Press the **[SYNC-START/STOP]** button and then the appropriate **[INTRO]** and **[MAIN]** buttons for a synchronized introduction start. The BEAT display will flash at the current tempo when a synchronized start mode has been selected.

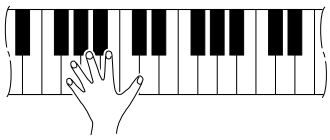
The synchro start mode can be disengaged prior to actually starting the accompaniment by pressing the **[SYNC-START/STOP]** button a second time.

NOTES

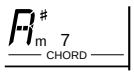
- *If you press and hold the [SYNC-START/STOP] button the "InitSnd?" function will be selected — see page 78.*

7 Play On the Auto-accompaniment Section Of the Keyboard

As soon as you play any fingering that the PSR-A3 can "recognize" on the left-hand section of the keyboard (or anywhere on the keyboard if the FULL fingering mode is selected), the PSR-A3 will automatically begin to play the appropriate bass line and chord parts along with the selected style. The accompaniment will continue playing even if you release the keys.

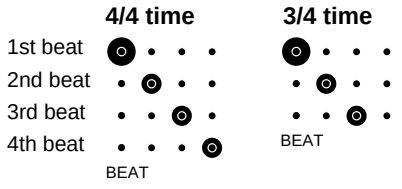


The chord name recognized will be shown above "CHORD" in the display.



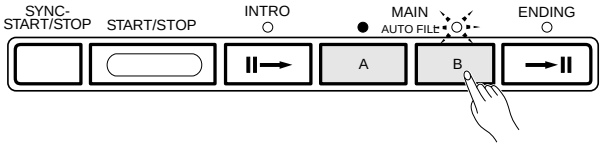
● The Beat Indicator

The four dots of the BEAT display provide a visual indication of the selected tempo and beat as shown below.



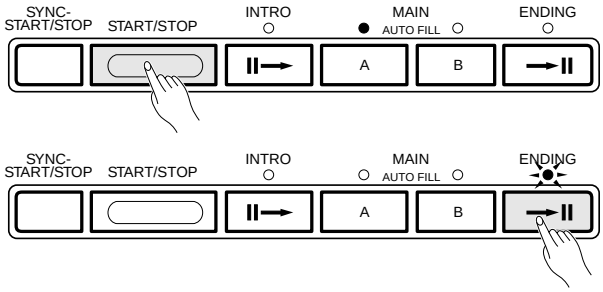
8 Select the MAIN A and B Sections as Required

The MAIN A and MAIN B sections can be selected at any time during playback by pressing the corresponding button. Whenever you press the MAIN **[A]** or **[B]** button during playback, the PSR-A3 will generate an appropriate "fill-in" (one of four types) which will smoothly connect the current section to the selected section — even if it is the same section. For example, if you press the MAIN **[A]** button while the MAIN A section is playing, a fill-in will be produced, then the MAIN A section will continue playing. When you select a different section, the fill-in will begin immediately and the new section will actually begin playing from the top of the next measure unless the MAIN **[A]** or **[B]** button is pressed during the last beat of the measure, in which case the fill-in will begin from the first beat of the next measure.



9 Stop the Accompaniment

The accompaniment can be stopped at any time by pressing the **[START/STOP]** button. Press the **[ENDING]** button if you want to go to the ending section and then stop. The ending section will begin from the top of the next measure.



NOTES

- *Some INTRO and ENDING sections have their own chord progressions which play in the current accompaniment key.*
- *If the MAIN [A] or [B] button is pressed while the ENDING section is playing, an appropriate fill-in will be played, followed by a return to the MAIN A or B section.*
- *The accompaniment volume can be adjusted independently of the main keyboard volume via the "AcompVol" function in the OVERALL function group — see page 73.*

■ The Stop Accompaniment Function

While the SINGLE or FINGERED mode is selected chords played in the Auto Accompaniment section of the keyboard are also detected and played by the PSR-A3 Auto Accompaniment system when the accompaniment is stopped (except when the FULL FINGERED mode is engaged). In this case the bass note and chord voices are selected automatically.

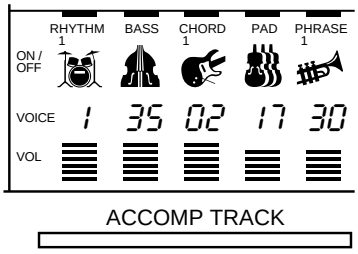
Accompaniment Track Control

The PSR-A3 has eight accompaniment tracks — RHYTHM 1/2, BASS, CHORD 1/2, PAD, and PHRASE 1/2 — that you can control to modify the "orchestration" and therefore the overall sound of the accompaniment. When the power switch is turned ON or an accompaniment style is selected, RHYTHM 1, CHORD 1 and PHRASE 1 tracks appear on the display. RHYTHM 2, CHORD 2 and PHRASE 2 tracks can be selected by moving the cursor **[◀]** or **[▶]** button from track to track when the cursor is located at one of the track icons. If the RHYTHM 1 track is selected and the cursor is moved once to the right, for example, the cursor will not actually move but "RHYTHM 2" will appear in place of "RHYTHM 1" and the parameters for the RHYTHM 2 track can be changed as required. The same applies to the CHORD 1 and 2, and PHRASE 1 and 2 tracks.

NOTES

- *The icons for all tracks that contain data in any section will appear whenever an accompaniment style is selected.*

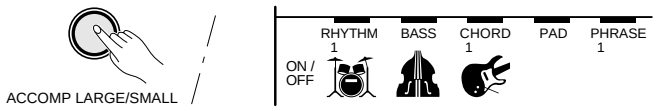
● What's in the Tracks



RHYTHM 1&2	Both these tracks provide the drum and/or percussion sounds.
BASS	The BASS track always plays a bass line, but the voice will change to fit the selected style … acoustic bass, synth bass, tuba, etc.
CHORD 1&2	Both these tracks provide the rhythmic chordal accompaniment required by each style. You'll find guitar, piano, and other chordal instruments here.
PAD	This track plays long chords where necessary, using sustained instruments such as strings, organ, choir.
PHRASE 1&2	This is where the musical embellishments reside. The PHRASE tracks are used for punchy brass stabs, arpeggiated chords, and other extras that make the accompaniment more interesting.

■ Large/Small Accompaniment

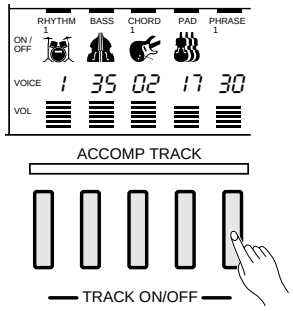
The simplest form of accompaniment track control is provided by the **[ACCOMP LARGE/SMALL]** button. This button alternately turns the appropriate track (s) ON and OFF, thereby changing the number of parts in the accompaniment. When the LARGE accompaniment is selected and accompaniment tracks are ON, their respective icons will appear in the appropriate positions in the display. When the SMALL accompaniment is selected, some tracks for that style will be turned OFF and their respective icons will disappear.



■ Muting Individual Tracks

The PSR-A3 Auto Accompaniment system includes five Track buttons which allow you to control the accompaniment arrangement in real time. The accompaniment tracks can be turned OFF (muted) or ON by pressing the corresponding TRACK buttons. The track icon will disappear when a track is muted.

For example, PHRASE 1 and 2 tracks are turned ON or OFF at the same time by pressing the PHRASE track button. The same applies to the RHYTHM 1 and 2, and CHORD 1 and 2 tracks.



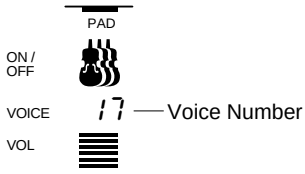
Individual accompaniment tracks can also be turned OFF (muted) or ON by using the cursor buttons to select the icon of the target track (the icon and track name will flash), and then using the **[–/NO]** and **[+/YES]** buttons or the data dial to turn the track OFF or ON, respectively. In this way, RHYTHM 1 and RHYTHM 2 tracks can be independently turned OFF or ON. The same applies to the CHORD 1 and 2, and PHRASE 1 and 2 tracks.

NOTES

- *The LARGE accompaniment is always selected whenever a new style is selected.*
- *Please note that the tracks used depend on the selected style and all the tracks are not always active even when the LARGE accompaniment is selected.*

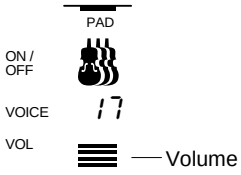
■ Changing Accompaniment Track Voices

You can change the voice used for each track by moving the cursor buttons to select the voice number of the target track (the voice number will flash), and then using the **[–/NO]** and **[+/YES]** buttons, the number buttons or the data dial to select the desired voice number. Please note that the GM voices are used for the accompaniment instead of the panel voices. Therefore, voice numbers of the accompaniment tracks are different from the ones for the PSR-A3 panel voices. Refer to the GM Voice List (see page 91) for the GM voice numbers and names. Only the numbers from 1 through 9 can be selected for the RHYTHM tracks. In this case, the numbers from 1 through 9 correspond to the PERCUSSION KIT numbers 129 through 137. Voice numbers 01 through 137 can be selected for all other tracks.



■ Adjusting Accompaniment Track Volume

The volume of each accompaniment track can be adjusted to produce the ideal "mix" between tracks. Use the cursor buttons to select the volume bar of the target track (the volume bar will flash), and then use the **[–/NO]** and **[+/YES]** buttons and the data dial to set the maximum volume of the track as required. The shorter the bar, the lower the volume. During playback the top segment of each volume bar will remain at the maximum volume level, while the lower bars will move according to the amount of activity in each track.



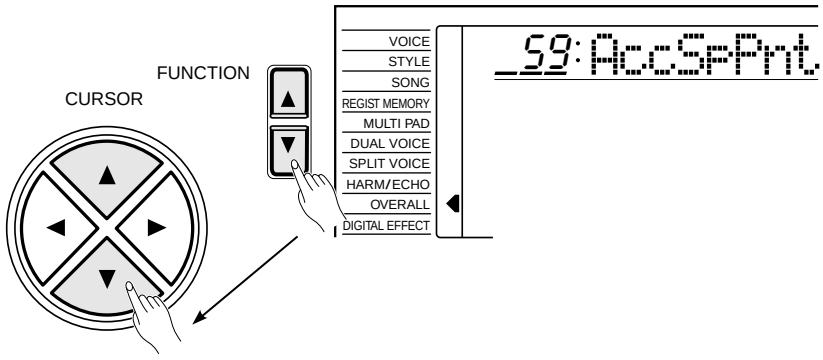
NOTES

- *When a different style number is selected, all accompaniment track parameters will be reset to their initial values. Use the REGISTRATION MEMORY — page 47 — if you want to store a particular set of settings for instant recall when needed.*
- *After changing the voice or volume, the [–/NO] and [+/YES] buttons can be pressed simultaneously to reset the initial values.*
- *The track data changed applies to all sections.*
- *Muting individual tracks, changing accompaniment track voices and adjusting accompaniment track volume cannot be executed during song recording.*

Changing the Accompaniment Split Point

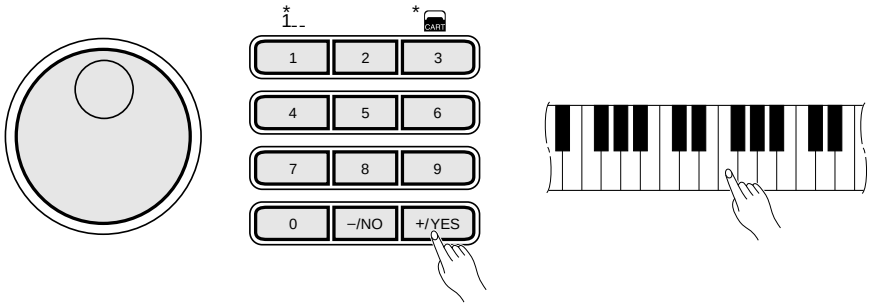
1 Select the Accompaniment Split Point Function

Press the **[FUNCTION]** button to the left of the display as many times as necessary until the arrowhead in the display appears next to "OVERALL" in the function list to the left of the display. Then use the cursor **[▲]** and **[▼]** buttons to select the "AccSpPnt" function from within the OVERALL function list.



2 Set As Required

Simply press the key you want to assign as the split point. The key number of the key you press will appear to the left of "AccSpPnt" on the top line of the display. You can also use the **[–/NO]** and **[+/YES]** buttons, the number buttons or the data dial to enter the split point key number. The lowest key on the keyboard (C1) is key number "36", middle C (C3) is "60", and the highest key (C6) is "96". The split point can be set at any key number from 00 through 127, allowing the split point to be set outside the range of the PSR-A3 keyboard for MIDI applications.



3 Exit

Press the **[VOICE]** button or select a different function to exit from the OVERALL functions.

NOTES

- *The split point key becomes the highest key in the Auto Accompaniment section of the keyboard.*
- *The default split point (59) can be instantly recalled by pressing the [–/NO] and [+/YES] buttons at the same time.*

One Touch Setting

One Touch Setting lets you instantly select the appropriate panel settings suitable for the current style. Each style (140 styles) contains four variations. This means that you can freely use 560 different panel settings. The One Touch Setting feature automatically sets the following parameters:

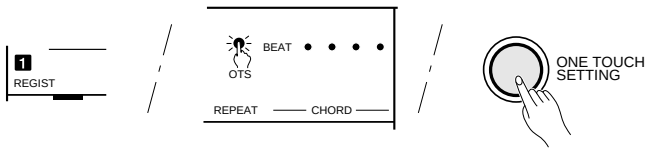
One Touch Setting Parameter List

- Voice number
- Octave
- Pan
- Dual Voice (Voice number, volume, octave, reverb level, chorus level, pan)
- Dual ON/OFF
- Split Voice (Voice number, volume, octave, reverb level, chorus level, pan, split point=59)
- Keyboard volume
- Reverb level
- Chorus level
- DSP level
- Harmony/Echo ON/OFF, type
- DSP type
- Sustain (Panel) ON/OFF
- Reverb ON/OFF
- Chorus ON/OFF
- DSP ON/OFF
- DSP variation ON/OFF
- Multi Pad Kit number
- Style parameters=default
- Synchro start=ON
- Accomp volume=100
- Accomp split point=59
- Accomp large/small=large
- Tempo=Default (for the currently selected style)
- Main A/B section

1 Turn On the One Touch Setting

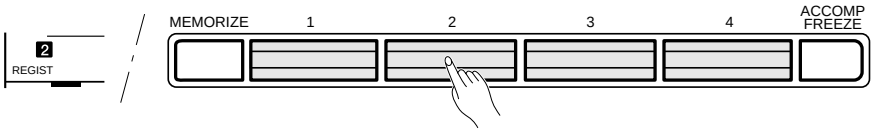
Press the **[ONE TOUCH SETTING]** button so that the "OTS" icon appears next to the BEAT display and number "1 " (type1) appears above "REGIST" on the display. The panel settings, with the type1 selected, suitable for the currently selected style are automatically set up for you to play.

The BEAT indicator dots flash at the tempo and synchro start mode is engaged.



2 Select another Type

Press one of the REGISTRATION MEMORY buttons **[2]**~**[4]** to select another type. The corresponding One Touch Setting number appears above "REGIST" in the display, and the display changes to the one for the selected type.



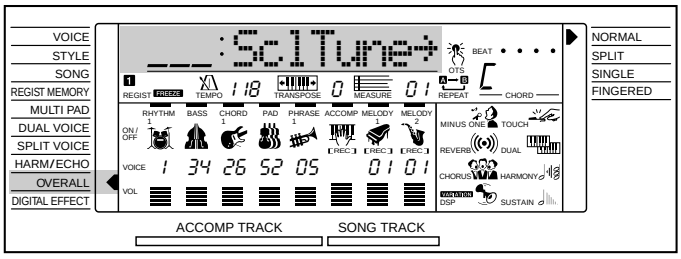
One Touch Setting can be turned OFF by pressing the **[ONE TOUCH SETTING]** button a second time so that the "OTS" icon disappears from the display.

NOTES

- *If the One Touch Setting is turned ON when the NORMAL or SPLIT mode is selected, the FINGERED mode is automatically selected.*
- *You can create your original setting by editing the One Touch Setting data and store it into the Registration Memory — see page 47.*
- *"No OTS" will appear on the display if the optional cartridge styles have no one touch setting data.*

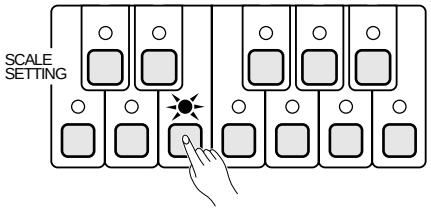
Using Arabic Scales

The PSR-A3's Arabic Scale feature lets you simply and easily raise or lower the pitch of the specific note(s) and create your own scale (arabic scale). You can change the scale settings at any time- even when you are playing. The PSR-A3 is capable of registering 6 scale settings so that you can memorize your own setting and recall it whenever you want to use.



Setting an Arabic Scale

The **[SCALE SETTING]** buttons, located at the top left side of the panel, simulate an one-octave keyboard (C through B). Pressing each button turns ON and OFF the "Scale Setting" feature of the specific note. The "Scale Setting" feature affects all the notes having the same note name in all the register. When set to ON (the indicator above the selected button is lit), you can play on the keyboard in the arabic scale. The default scale setting (tuning) for each note is –50 cents. You can also adjust the scale tuning by 1 cent as follows.



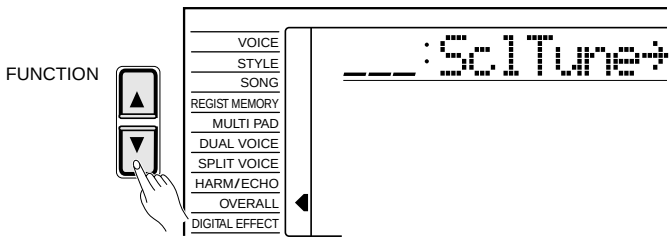
NOTES

- *The Scale Setting function is always turned OFF, whenever the power switch is turned ON.*
- *Pressing one of the [SCALE SETTING] buttons to ON always sets the tuning to –50 cents (default value).*
- *The song and multi pad playback are tuned by pressing the [SCALE SETTING] button to ON.*
- *The [SCALE SETTING] indicator will light or go out according to the song playback data.*
- *Any scale setting changes including the ones in the song playback data will take effect at the appropriate times.*
- *The Scale Setting function has no effect on the keyboard percussion voices (see page 14).*
- *It may take some time to process the scale setting change when recording/playing a song or playing an accompaniment.*

Adjusting the Scale Tuning

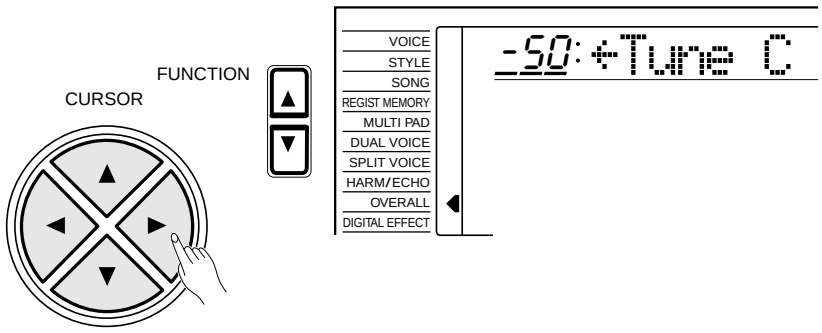
1 Select the Scale Tuning Function

Press the **[FUNCTION]** button to the left of the display as many times as necessary until the arrowhead in the display appears next to "OVERALL" in the function list to the left of the display and use the cursor **[▲]** and **[▼]** buttons to select "SclTune→", the Scale Tuning function.



2 Select a Note to Set the Tuning

Use the cursor **[▶]** button to enter the Scale Tuning function and then select one of the notes using the cursor **[▲]** and **[▼]** buttons (the selected note name appears on the top line of the display).



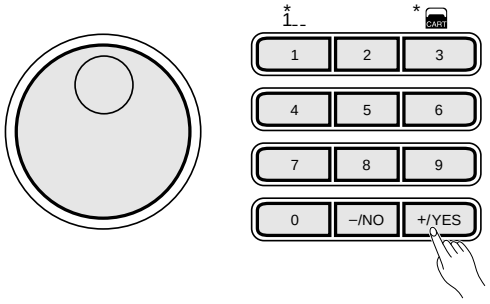
You can also enter the Scale Tuning function by pressing and holding one of the **[SCALE SETTING]** button until the arrowhead jumps to the OVERALL position and the current scale tuning of the specific note appears on the display.

NOTES

- *You can return to the previous display "SclTune→" by pressing the cursor [◀] button.*

3 Adjust the Scale Tuning

Use the **[–/NO]** and **[+/YES]** buttons, the number buttons or the data dial to adjust the desired tuning. The tuning range is from "–64" to "63" cents (one cent is one hundredth of a semitone).



If you want to keep the adjusted scale tunings, be sure to store it into the Scale Memory (see page 45) before turning the **[SCALE SETTING]** button to OFF.

NOTES

- *Press the [–/NO] and [+/YES] buttons simultaneously to instantly reset the scale tuning to "00".*
- *If the scale is tuned to the value other than 00 (not regular scale), the indicator of the [SCALE SETTING] button corresponding to the note will be lit.*

4 Exit

Press the **[VOICE]** button or select a different function to exit from the OVERALL function.

Registering the Scale Settings

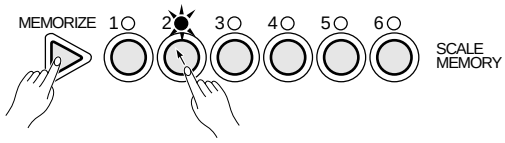
1 Set Up the Scale Settings as Required

Make the desired scale settings. The following settings are memorized by the Scale Memory function:

- Scale Tuning
- Scale Setting ON/OFF

2 Register the Settings

While holding the **[MEMORIZE]** button, press one of the SCALE MEMORY buttons. Any data that was previously in the selected location is erased and replaced by the new settings. The indicator of the selected button will light to indicate that the data has been stored.



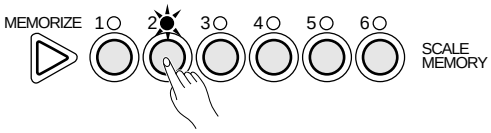
NOTES

- *The Scale Memory data is retained in memory even when the power switch is turned OFF, as long as the batteries are installed or the AC adaptor is connected.*
- *All OFF scale settings (regular scale) can also be memorized.*

Recall the Scale Settings

The scale settings stored to a SCALE MEMORY button can be recalled at any time simply by pressing the appropriate button.

The indicator of the selected button will flash as soon as any change is made to the scale settings. A flashing SCALE MEMORY indicator therefore indicates that the current scale settings do not correspond to those stored in the SCALE MEMORY.



The scale memory function can be turned OFF by pressing the **[SCALE MEMORY]** button which indicator is lit, so that the indicator goes out and PSR-A3 returns to the regular scale setting.

NOTES

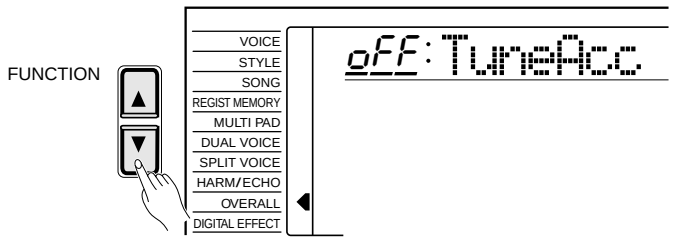
- *The stored scale settings can be recalled again by pressing the [SCALE MEMORY] button which indicator is flashing.*

Accompaniment Scale Tuning

The Scale Setting feature of the specific note for the accompaniment can also be turned ON by pressing the **[SCALE SETTING]** button. If you want to change the tuning of the accompaniment with playing the tuned melody, turn the Accompaniment Scale Tuning to ON in the OVERALL function group.

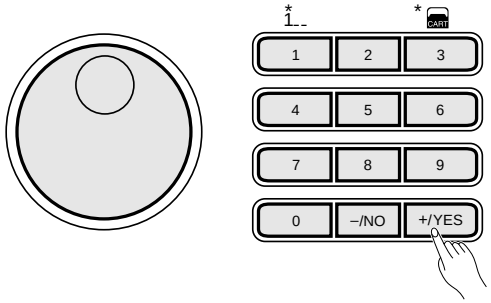
1 Select the Accompaniment Scale Tuning Function

Press the **[FUNCTION]** button to the left of the display as many times as necessary until the arrowhead in the display appears next to "OVERALL" in the function list to the left of the display and use the cursor **[▲]** and **[▼]** buttons to select "TuneAcc", the Accompaniment Scale Tuning function.



2 Turn the Accompaniment Scale Tuning ON/OFF

Use the **[–/NO]** and **[+/YES]** buttons or the data dial to turn the Accompaniment Scale Tuning OFF or ON. The tuned accompaniment will be played when turned ON.



3 Exit

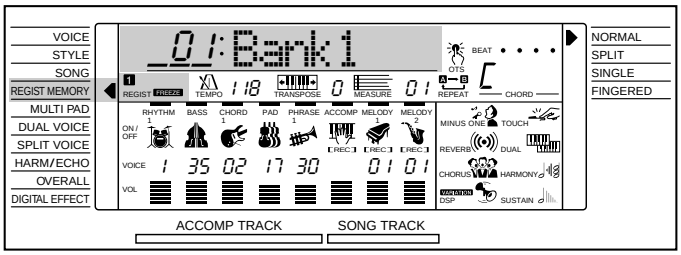
Press the **[VOICE]** button or select a different function to exit from the OVERALL function.

NOTES

- *The Accompaniment Scale Tuning function is always turned OFF, whenever the power switch is turned ON.*
- *When the Accompaniment Scale Tuning is turned ON, the base note and chord voices for the Stop Accompaniment function (see page 37) are also tuned.*

1 2 3 4 Registration Memory

The PSR-A3 Registration Memory feature can be used to memorize 128 complete control-panel setups (32 banks, 4 setups each) that you can recall whenever needed.



Registering the Panel Settings

1 Set Up the Controls as Required

Make the desired control settings. The following settings are memorized by the Registration Memory function:

● Data Stored By the Registration Memory

VOICE PARAMETERS

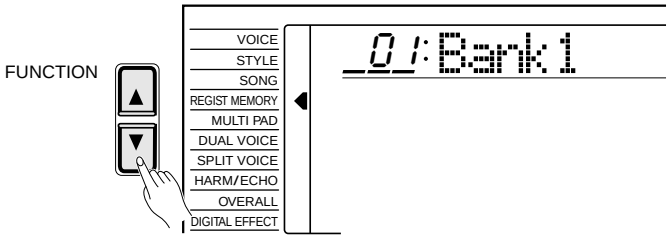
- Voice number
- Keyboard volume
- Octave
- Pan
- Split voice (Voice number, volume, octave, reverb level, chorus level, pan, split point)
- Dual voice (Voice number, volume, octave, reverb level, chorus level, pan)
- Dual voice ON/OFF
- Touch response ON/OFF, sensitivity
- Harmony/Echo ON/OFF, type
- DSP ON/OFF, DSP (type, return level)
- DSP variation ON/OFF
- Reverb ON/OFF
- Chorus ON/OFF
- Sustain (Panel) ON/OFF
- Reverb Level
- Chorus Level
- DSP Level
- Pitch Bend Range

ACCOMPANIMENT PARAMETERS

- Mode (NORMAL/SPLIT/SINGLE/FINGERED)
- Style number (includes cartridge styles)
- Tempo
- Split point (Accomp)
- Fingering mode
- Accompaniment volume
- Track data (Track ON/OFF, voice, volume)
- Main A/B section
- Transpose
- Multi Pad Kit number
- Reverb (type, return level)
- Chorus (type, return level)

2 Select a Registration Bank (if necessary)

Any of the 32 Registration Memory banks can be selected via the REGIST MEMORY function. Use the **[FUNCTION]** buttons to move the arrowhead next to "REGIST MEMORY" in the function list to the left of the display, then use the **[–/NO]** and **[+/YES]** buttons, the number buttons or the data dial to select the desired Registration Memory bank (01 through 32).

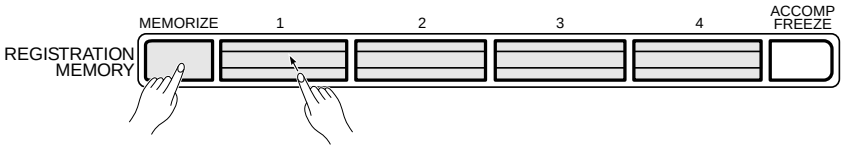


NOTES

- *The REGIST MEMORY function can be quickly selected by pressing and holding the [MEMORIZE] button.*

3 Register the Settings

While holding the **[MEMORIZE]** button, press one of the REGISTRATION MEMORY buttons. Any data that was previously in the selected location is erased and replaced by the new settings. The corresponding Registration Memory number will appear above "REGIST" in the display.



NOTES

- *Please note that anytime you store to a REGISTRATION MEMORY button, all settings previously stored in that button will be erased and replaced by the new settings.*

● Enter a New Name for the Registration Bank

If you want to enter a descriptive name for easier identification, enter your original Registration Bank name, this is recommended.

Use the cursor **[▶]** button to move the cursor to the first (left most) character of the Registration Bank name in the display. A Registration Bank name can consist of up to 8 characters. The position of the character you want to enter or change can be selected by moving the cursor.

Using the **[–/NO]** and **[+/YES]** buttons or the data dial, enter the desired character listed below. The number buttons can also be used to enter the number. If you want to insert an underline character at the cursor position, press the cursor **[▲]** button. If you want to delete a character at the cursor position, press the cursor **[▼]** button. When you've finished entering the Registration Bank name, move the cursor to the position other than the Registration Bank name so that the newly entered Registration Bank name will be memorized.

NOTES

- *The Registration Memory data including it's name is retained in memory even when the power switch is turned OFF, as long as the batteries are installed or the AC adaptor is connected.*

Character List

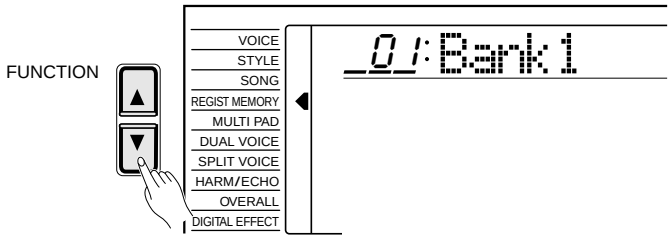
```
ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz
0123456789–
```

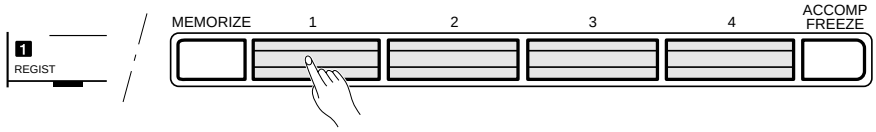
Recall the Registered Panel Settings

Simply select the appropriate bank as described above, then press the desired REGISTRATION MEMORY button at any time to recall the memorized settings. The corresponding Registration Memory number will appear above "REGIST" in the display, and the appropriate setting changes will appear in the display.

The indicator of the selected REGISTRATION MEMORY will flash as soon as any change is made to the panel settings. In other words, if the REGISTRATION MEMORY indicator is flashing, the current panel settings are different from those stored in the memory.

No REGISTRATION MEMORY indicator will be showing when the PSR-A3 is turned ON or a bank is selected.



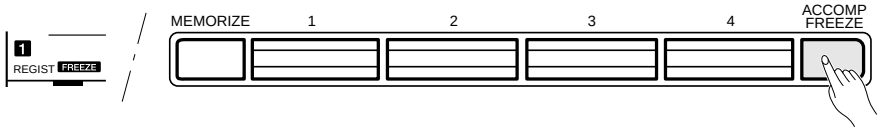


NOTES

- *Music Cartridge registration settings can be recalled in the same way — see page 67.*
- *If the Accomp Freeze function is ON when a REGISTRATION MEMORY is recalled, the registration number will flash.*
- *Registration bank 01 can be instantly recalled by simultaneously pressing the [–/NO] and [+/YES] buttons.*
- *When the One Touch Setting is ON, registration memory data can not be recalled.*

The Accomp Freeze Function

When the ACCOMP FREEZE function is engaged, the accompaniment parameters listed above will not be changed when a REGISTRATION MEMORY is recalled. This allows you to recall different REGISTRATION MEMORY settings while using Auto Accompaniment, without suddenly disturbing the flow of the accompaniment. The ACCOMP FREEZE function is turned ON and OFF by pressing the **[ACCOMP FREEZE]** button. The "FREEZE" indicator appears in the "REGIST" area in the display when it is turned ON.



NOTES

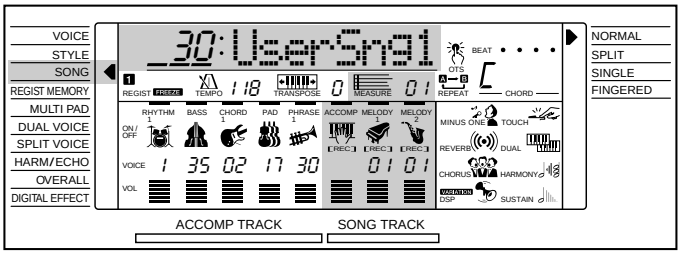
- *Accomp Freeze remains ON even if a different registration bank is selected.*
- *When you recall the REGISTRATION MEMORY settings while song recording or playback, only the voice parameter settings can be recalled even if the ACCOMP FREEZE function is turned OFF.*

Song Recording

The PSR-A3 SONG TRACKS allows you to record and play back complete songs including chord sequences created using the Auto Accompaniment feature and a melody line you play on the keyboard. The SONG TRACKS include one ACCOMP track and two MELODY tracks.
The PSR-A3 can retain up to 8 complete songs in internal memory, and these can be selected and played back simply by selecting the appropriate SONG. The song numbers 30 through 37 are the area for your own creation (user songs).

NOTES

- *Material recorded on the SONG TRACKs is retained in memory even when the POWER switch is turned OFF if batteries are present or an AC adaptor is connected.*
- *The recorded data will be lost if the power is turned OFF, the AC adaptor is unplugged, or the batteries fail during recording.*
- *For 8 songs, up to approximately 4200 notes in the MELODY tracks, or 2100 chords in the ACCOMP tracks can be recorded.*



Recording a Melody Track

The SONG MELODY tracks record the following operations and data:

- Note ON/OFF
- Velocity
- Voice number
- Octave
- Pan
- Dual voice ON/OFF
- Dual Voice (voice number, volume, octave, reverb level, chorus level, pan)
- Keyboard volume*
- Pitch Bend
- Pitch Bend Range*
- Reverb Level
- Chorus Level
- DSP Level (MELODY 1 track only)
- Harmony/Echo ON/OFF, type
- Reverb ON/OFF
- Chorus ON/OFF
- DSP ON/OFF, DSP type (MELODY 1 track only)
- DSP variation ON/OFF (MELODY 1 track only)
- Sustain (Panel) ON/OFF (Sustain pedal ON/OFF)
- Scale Setting ON/OFF
- Scale Tuning
- (Tempo signature common to melody & accomp tracks)*

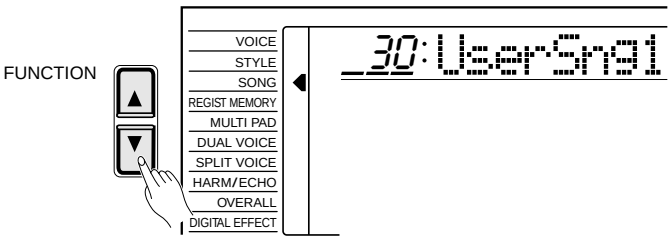
* *Recorded only at the beginning of a song; changes cannot be made during recording.*

NOTES

- *The Scale Setting ON/OFF status and Scale Tuning data in the latest recorded melody track will take effect in the song.*

1 Select a SONG Number

If necessary, use the **[FUNCTION]** buttons to select the SONG function, and then the **[–/NO]** and **[+/YES]** buttons, the number buttons or the data dial to select the SONG number (user song numbers “30”~“37”) to which you want to record.



2 Select a Voice and Set the Voice Parameters

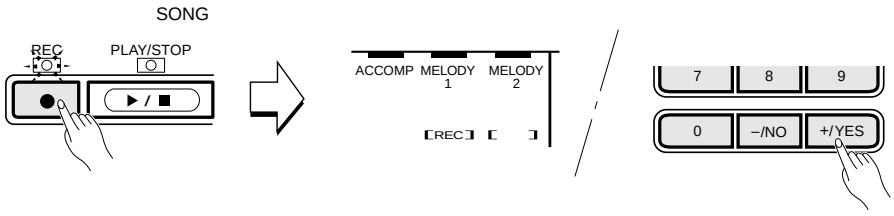
Select the voice you want to record with, and set the digital effects and other parameters as required.

NOTES

- *You cannot record in the SPLIT mode — the NORMAL mode will automatically be selected when the SONG record ready mode is engaged.*

3 Engage the MELODY Track Record Ready Mode

Press the SONG **[REC]** button. The **[REC]** indicator will flash, and “REC” will appear in the MELODY 1 track position on the display indicating that the PSR-A3 is ready to record. Flashing square brackets in both the MELODY 1 and MELODY 2 track positions indicate that either track can be selected for recording at this point — use the **[–/NO]** and **[+/YES]** buttons or the data dial to select the MELODY track to be recorded (“REC” appears in the selected track position).



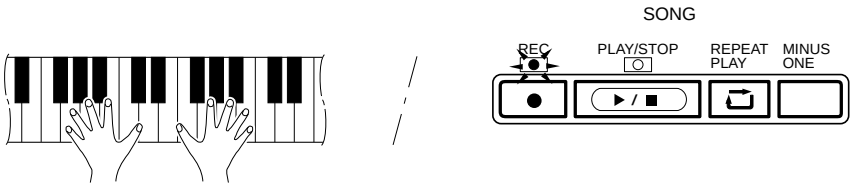
The BEAT indicator dots flash at the current tempo. If the “Metronom” function in the OVERALL function group is turned ON, the metronome will also begin to sound at the currently selected tempo (page 74).

NOTES

- *If a previously-recorded SONG ACCOMP. track is ON (the SONG ACCOMP track icon is showing), it can be monitored while recording a MELODY track. If you don’t want to hear the ACCOMP track while recording, move the cursor to the ACCOMP track icon and press the [–/NO] button to turn it OFF.*
- *If a non-user song number is selected when the record ready mode is engaged, user song number 30 will automatically be selected.*
- *The melody track volume is the current Keyboard Volume setting — see page 71.*
- *Only one melody track can be recorded at a time.*
- *The record-ready mode of the MELODY track can be disengaged by pressing the [REC] button.*
- *When the record-ready mode is engaged, the measure number will compulsorily be reset to “01”.*

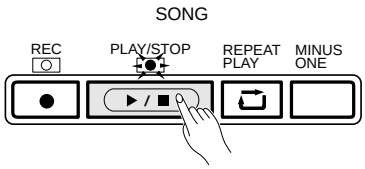
4 Record

Recording will begin as soon as you play a note on the keyboard or press the SONG **[PLAY/STOP]** button, and the BEAT indicator dots will begin to indicate the current beat as in the Auto Accompaniment mode. The MEASURE parameter will also show the current measure number. The **[REC]** indicator lights continuously once recording has started.



5 Stop Recording

Stop recording by pressing the SONG **[PLAY/STOP]** button. The **[REC]** indicator will go out and the MEASURE number on the display will return to "01".



The melody track voice number and volume settings will appear on the display.

NOTES

- *Whenever you record using the SONG MEMORY, any previously recorded material in the same track will be erased.*
- *If you start recording by pressing the [PLAY/STOP] button, nothing will be recorded until you begin playing on the keyboard.*
- *Melody Track data can be cleared by pressing the [PLAY/STOP] button to start recording and stop it without playing the keyboard (Melody Track Data Clear).*
- *Recording is carried out in 1-measure increments. If you stop recording in the middle of a measure, rests will automatically be recorded until the end of that measure.*
- *If the SONG MEMORY becomes full while recording, "Full" will appear on the display and recording will stop.*
- *If you want to re-record the Melody track which "Full" was shown on the display during recording, execute "Melody Track Data Clear" operation (see above) before recording.*
- *Only VOICE function voice numbers are shown in the melody track displays (dual voice numbers are not shown).*

Recording Accompaniment With or Without a Melody

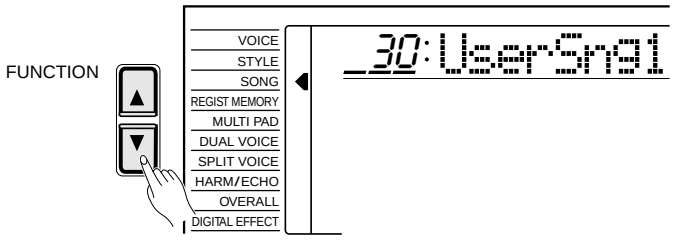
The SONG ACCOMP track records the following operations and data:

- Section changes
- Style number* (includes cartridge styles)
- Accompaniment track changes* (track ON/OFF, voice number, volume)
- Accompaniment volume*
- Chord changes, timing
- Reverb type
- Chorus type

** Recorded only at the beginning of a song; changes cannot be made during recording.*

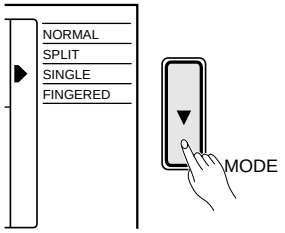
1 Select a SONG Number

If necessary, use the **[FUNCTION]** buttons to select the SONG function, and then the **[–/NO]** and **[+/YES]** buttons, the number buttons or the data dial to select the SONG number (user song numbers "30"~"37") to which you want to record.



2 Select the SINGLE or FINGERED Mode and a Style

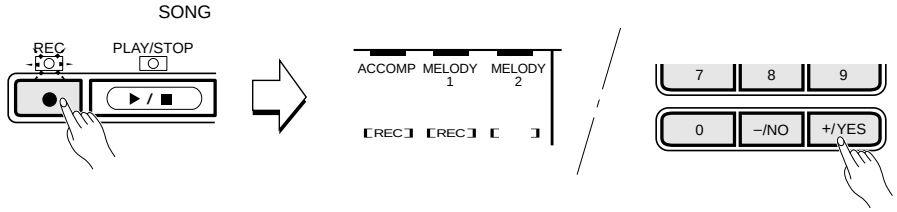
Select the SINGLE or FINGERED mode (page 31) and an accompaniment style that is appropriate for the type of music you want to record. Also select the FINGERED fingering mode you want to use, if necessary.



3 Engage the ACCOMP/MELODY Track Record Ready Mode

Press the SONG **[REC]** button. The **[REC]** indicator will flash, and "REC" will appear in the ACCOMP and MELODY 1 track positions on the display indicating that the PSR-A3 is ready to record. Flashing square brackets in both the MELODY 1 and MELODY 2 track positions indicate that either track can be selected for recording at this point — use the **[–/NO]** and **[+/YES]** buttons or the data dial to select the MELODY track to be recorded, or none if you only want to record the ACCOMP track ("REC" appears in the selected track position).

The BEAT indicator dots flash at the current tempo. If the "Metronom" function in the OVERALL function group is turned ON, the metronome will also begin to sound at the currently selected tempo (page 74).

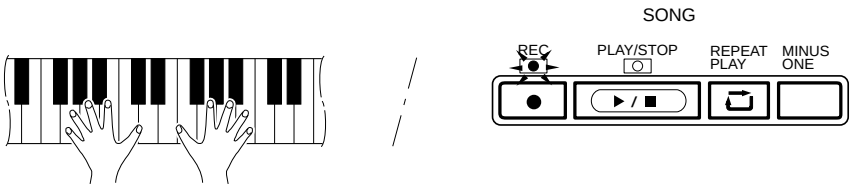


NOTES

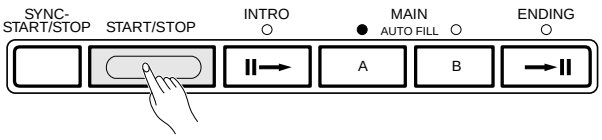
- *If a previously-recorded MELODY track is turned ON (its icon is showing), it can be monitored while recording. If you don't want to hear the previous track while recording, move the cursor to the corresponding track icon and press the [–/NO] button to turn it OFF.*
- *The accompaniment track volume is the current Accompaniment Volume setting — see page 73.*
- *When the record-ready mode is engaged, the measure number will compulsorily be reset to "01".*

4 Record

Recording will begin as soon as you play a chord on the Auto Accompaniment section of the keyboard. If you've selected the MELODY track to record with the ACCOMP track, a right-hand note will also start the recording process. The **[REC]** indicator lights continuously once recording has started.



Recording can also be started by pressing the ACCOMPANIMENT CONTROL **[START/STOP]** button. In this case only the rhythm will begin without bass and chord accompaniment until you play the first chord on the Auto Accompaniment section of the keyboard.



NOTES

- *Whenever you record using the SONG MEMORY, any previously recorded material in the same track will be erased.*
- *If the SONG MEMORY becomes full while recording, "Full" will appear on the display and recording will stop.*
- *Recording is carried out in 1-measure increments. If you stop recording in the middle of a measure, rests will automatically be recorded until the end of that measure.*
- *If you start the ACCOMP track recording by pressing the [PLAY/STOP] button, no chord data will be recorded until you begin playing on the keyboard.*

Play the required chords in the Auto Accompaniment section of the keyboard. If you've also selected the MELODY track to be recorded, play the melody on the right-hand section of the keyboard. The MEASURE number on the display will increment as recording progresses.

5 Stop Recording

Stop recording by pressing the SONG **[PLAY/STOP]** button, the AUTO ACCOMPANIMENT **[START/STOP]** button, or stop with an ending by pressing the AUTO ACCOMPANIMENT **[ENDING]** button. The **[REC]** button indicator will go out and the MEASURE number on the display will return to "01".

The ACCOMP track volume setting will appear on the display.

● Enter a New Name for the Song

If you want to enter a descriptive name for the user songs numbered 30 through 37, enter your original Song name, this is recommended.

Use the cursor **[▶]** button to move the cursor to the first (left most) character of the Song name in the display. A Song name can consist of up to 8 characters. The position of the character you want to enter or change can be selected by moving the cursor.

Using the **[–/NO]** and **[+/YES]** buttons or the data dial, enter the desired character listed below. The number buttons can also be used to enter the number. If you want to insert an underline character at the cursor position, press the cursor **[▲]** button. If you want to delete a character at the cursor position, press the cursor **[▼]** button. When you've finished entering the Song name, move the cursor to the position other than the Song name so that the newly entered Song name will be memorized.

Character List

```
ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz
0123456789–
```

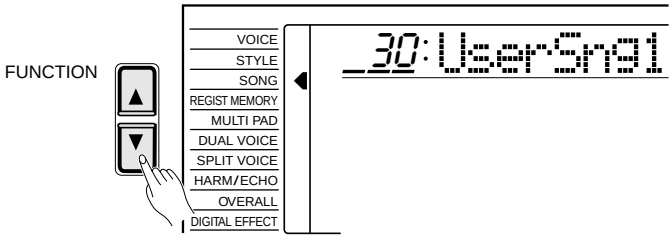
NOTES

- *The Song data including it's name is retained in memory even when the power switch is turned OFF, as long as the batteries are installed or the AC adaptor is connected.*

Accompaniment and Melody Playback

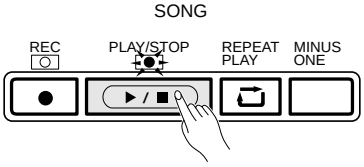
1 Select a SONG Number

If necessary, use the **[FUNCTION]** buttons to select the SONG function, and then the **[–/NO]** and **[+/YES]** buttons, the number buttons or the data dial to select the SONG number (user song numbers "30"~"37") containing the song you want to play.



2 Start Playback

Playback will begin as soon as the SONG **[PLAY/STOP]** button is pressed. You can turn the ACCOMP and MELODY tracks ON and OFF during playback as required.



3 Play Along If You Like

Play along on the keyboard if you like. You can also change the tempo during playback.

4 Stop Playback

Accompaniment and melody playback will stop automatically when all recorded data has been played back. You can also stop playback at any time by pressing the SONG **[PLAY/STOP]** button.

NOTES

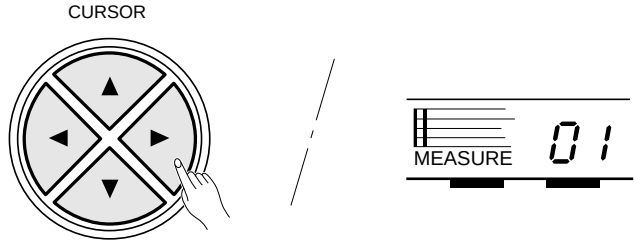
- *You can also start playback from any specified measure (see page 57).*
- *Individual tracks can be turned OFF (muted) or ON by using the cursor buttons to select the icon of the target track (the icon and track name will flash), and then using the [–/NO] and [+/YES] buttons or the data dial to turn the track OFF or ON, respectively. The track icon will disappear when a track is muted.*
- *The NORMAL mode is automatically selected when SONG playback is started.*
- *Voice and volume data can be rewritten during playback — see "Voice & Volume Rewrite", below.*
- *When the song playback is stopped, the DSP type will compulsorily be changed according to the currently selected voice and the reverb and chorus types will be changed according to the currently selected style.*

Play from a Specified Measure

You can start SONG playback from any specified measure, as long as the specified measure is within the range of measures that has already been recorded:

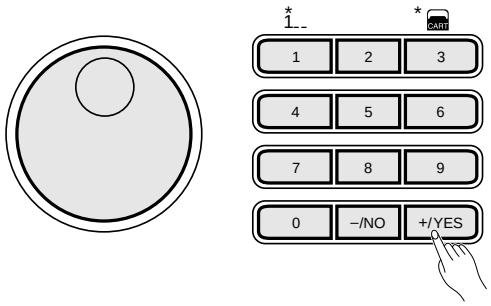
1 Select the MEASURE Parameter

While no recording or playback is in progress, use the CURSOR buttons to select the MEASURE parameter in the display.



2 Enter the Desired Measure Number

Use the **[–/NO]** and **[+/YES]** buttons, the number buttons or the data dial to enter the desired measure number.



3 Start Playback

You can now start playback from the specified measure number.

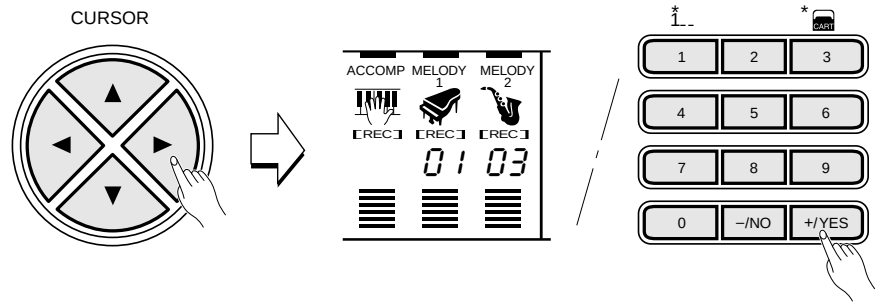
NOTES

- *Three-digit numbers are entered by first pressing and holding the [1] or [2] button until "1" or "2" appears in the hundreds position on the display, then pressing the remaining two digits in sequence.*

■ Voice & Volume Rewrite

You can rewrite the last recorded voice change in any individual track during playback by using the cursor buttons to select the voice number of the target track (the voice number will flash), and then using the number buttons, the **[–/NO]** and **[+/YES]** buttons or the data dial to select the desired voice number. The data will actually be rewritten when the **[PLAY/STOP]** button is pressed or the end of the song is reached or the next voice change is encountered in the recorded data. The original voice number can be recalled before it is actually rewritten by simultaneously pressing the **[–/NO]** and **[+/YES]** buttons. Any other voice changes included in the recorded track data will take effect at the appropriate times.

The volume of each track can be rewritten during playback in the same way. Use the cursor buttons to select the volume bar of the target track (the volume bar will flash), and then use the **[–/NO]** and **[+/YES]** buttons or the data dial to set the maximum volume of the track as required. The shorter the bar, the lower the volume. The data will actually be rewritten when the **[PLAY/STOP]** button is pressed or the end of the song is reached. The original volume can be recalled before it is actually rewritten by simultaneously pressing the **[–/NO]** and **[+/YES]** buttons. The new volume data is written only at the beginning of the track and affects the entire track.

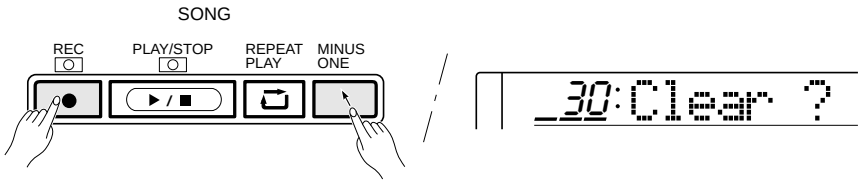


NOTES

- *The dual voice will change automatically when a melody track voice is changed.*
- *Voice and volume data can only be rewritten in songs you have recorded yourself.*

■ Clearing the SONG TRACKS

All data in the ACCOMP, MELODY 1 and MELODY 2 tracks of the currently selected song can be completely erased by first pressing the **[MINUS ONE]** button while holding the **[REC]** button, and then press the **[+/YES]** button in response to the "Clear?" confirmation prompt on the display (press **[–/NO]** if you decide not to erase the data).



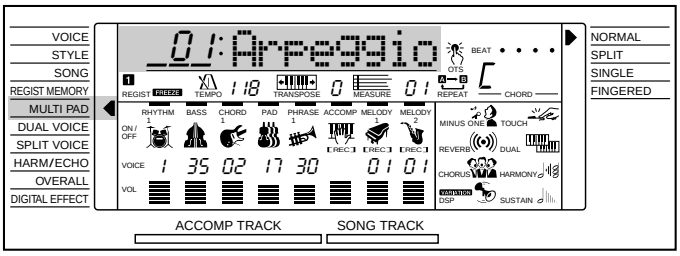
NOTES

- *Only songs you have recorded yourself can be cleared.*
- *If a non-user song number is selected when the song-clear mode is engaged, user song number 30 will automatically be selected.*

The Multi Pads

The PSR-A3 MULTI PADS can be used to play 144 short pre-recorded rhythmic and melodic sequences, that can be used to add impact and variety to your keyboard performances. Some of the pad phrases simply play back as programmed, while others are "chord match" types which are automatically transposed to match chords played using the PSR-A3 Auto Accompaniment feature.

The PSR-A3 MULTI PADS can also be used to record 16 short rhythmic or melodic sequences, percussion fill-ins, or single percussion sounds that can be played at any time simply by pressing the appropriate pad. The multi pad kit numbers 37 through 40 are the area for your own creation (user pad kits).

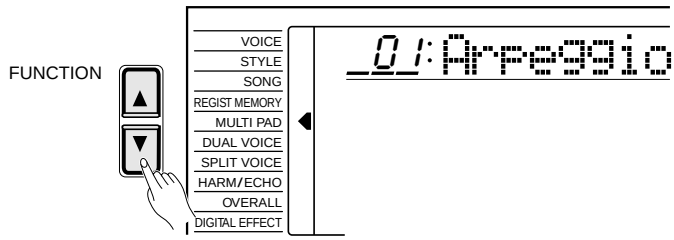


Playing the MULTI PADS

The PSR-A3 has 36 multi pad kits, each containing a complete set of 4 MULTI PAD phrases — 144 phrases in all. Before using the MULTI PADS, select the MULTI PAD kit containing the phrases you want to use as follows:

1 Select the MULTI PAD Function

To select a multi pad kit, first select the MULTI PAD function by pressing one of the **[FUNCTION]** buttons until the arrowhead in the display appears next to "MULTI PAD" in the function list to the left of the display.

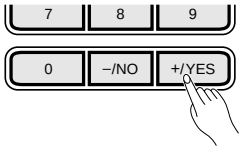


NOTES

- *See page 60 for a complete listing of the Multi Pad assingnments.*
- *The MULTI PAD function can be quickly selected by pressing and holding the [REC/END] button.*

2 Select a Multi Pad Kit Number

Use the **[–/NO]** and **[+/YES]** buttons, the number buttons or the data dial to select one of the 36 available multi pad kits.



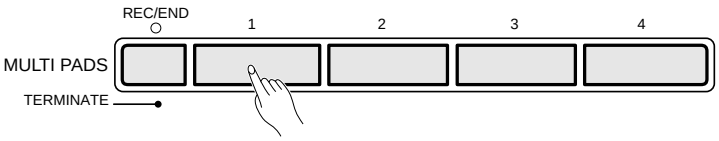
3 Play the Multi Pad

Simply tap any of the MULTI PADS at any time to play back the corresponding phrase. MULTI PAD playback begins as soon as the button is pressed. You can even play two, three, or four MULTI PADS at the same time. Also, you can create "retriggered sample" effects by repeatedly pressing a pad before its contents are completely played back.

The MULTI PAD voices are independent from the voices you have currently selected for keyboard performance. You could, for example, play piano on the keyboard while a MULTI PAD plays a brass chord stab.

When a "chord match" type MULTI PAD phrase is played, the phrase will be automatically transposed to match chords played using the PSR-A3 Auto-accompaniment feature.

MULTI PAD playback can be terminated by pressing the MULTI PADS **[TERMINATE]** button.



NOTES

- *MULTI PAD playback speed is determined by the current TEMPO setting.*

● The Multi Pad Kits

Kit	Chord Match			
	Pad 1	Pad 2	Pad 3	Pad 4
01 Arpeggio	○	○	○	○
02 Brass Hit	○	○	○	○
03 Synth Arpeggio	○	○	○	○
04 Pianist	○	○	○	○
05 Fanfare	–	–	–	○
06 Synth SFX	○	○	○	○
07 Wet Synth	○	○	○	○
08 Synth Sound	○	○	○	○
09 Human Vox	○	○	○	○
10 Twinkle	○	○	○	○
11 Open Air	–	–	–	–
12 Guitar Play	○	○	○	○
13 Drum Flam1	–	–	–	–
14 Drum Flam2	–	–	–	–
15 Drum Kit	–	–	–	–
16 Conga & Vibraslap	–	–	–	–
17 Timbales	–	–	–	–
18 Latin Percussion1	–	–	–	–

Kit	Chord Match			
	Pad 1	Pad 2	Pad 3	Pad 4
19 Rock Drum	–	–	–	–
20 Latin Percussion2	–	–	–	–
21 Drum Fill	–	–	–	–
22 Arabic Percussion	–	–	–	–
23 Ashgan1	○	○	○	○
24 Ashgan1	○	○	○	○
25 Blow it	○	○	○	○
26 Chords	○	○	○	○
27 Duhulla	–	–	–	–
28 Finale	○	○	○	–
29 Guitar Chords	○	○	○	○
30 Mazamir	○	–	○	○
31 Belly Dance	–	–	–	–
32 Rik	–	–	–	–
33 Stage & Handclap	–	–	–	–
34 Rakassni	–	–	–	–
35 Tabel	–	–	–	–
36 Tabla	–	–	–	–

Recording the MULTI PADS

The MULTI PADS record the following data:

- Note ON/OFF
- Velocity
- Voice number
- Octave
- Pan
- Dual voice ON/OFF, Dual voice (voice number, volume, octave, reverb level, chorus level, pan)
- Keyboard volume*
- Reverb Level
- Chorus Level
- Harmony/Echo ON/OFF, type
- Reverb ON/OFF
- Chorus ON/OFF
- Pitch Bend
- Pitch Bend Range*
- Sustain (Panel) ON/OFF (Sustain pedal ON/OFF)

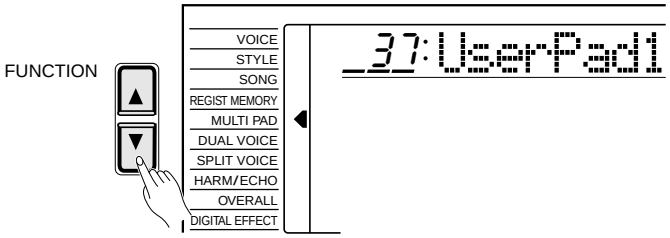
** Recorded only at the beginning of a phrase; changes cannot be made during recording.*

NOTES

- *Material recorded on the MULTI PADS (user pad data) is retained in memory even when the POWER switch is turned OFF if batteries are present or an AC adaptor is connected.*
- *The recorded data will be lost if the power is turned OFF, the AC adaptor is unplugged, or the batteries fail during recording.*
- *Up to approximately 800 notes (for 4 User Pad Kits) can be recorded in the PSR-A3.*

1 Select the MULTI PAD Function

To select a multi pad kit, first select the MULTI PAD function by pressing one of the FUNCTION buttons until the indicator in the display appears next to "MULTI PAD" in the function list to the left of the display.

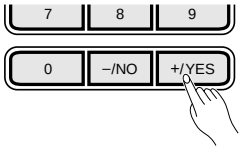


NOTES

- *The MULTI PAD function can be quickly selected by pressing and holding the [REC/END] button.*

2 Select a Multi Pad Kit Number

Use the **[–/NO]** and **[+/YES]** buttons, the number buttons or the data dial to select one of the 4 available multi pad kits (user pad kit numbers "37"~ "40").



3 Select a Voice and Other Parameters

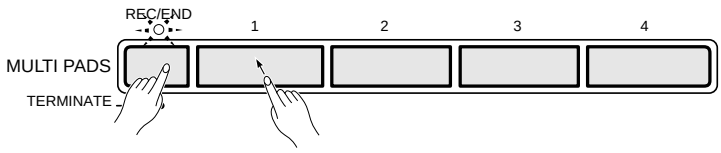
Select a voice and related parameters you want to record on the MULTI PADS. You might also want to set a tempo that will be easy to record at.

If you select a pitched voice to record, the data will automatically be transposed to match the chords played by the Auto Accompaniment feature ("chord match").

4 Engage the MULTI PAD Record Ready Mode

Press one of the MULTI PAD buttons - **[1]** through **[4]** - while holding the **[REC/END]** button. The **[REC/END]** indicator will flash to indicate that the record ready mode is engaged.

The four dots of the BEAT display flash at the current tempo. If the "Metronom" function in the OVERALL function group is turned ON, the metronome will begin to sound at the currently selected tempo.



NOTES

- *You cannot record in the SPLIT/ SINGLE/FINGERED mode - the NORMAL mode will automatically be selected when the MULTI PAD record ready mode is engaged.*
- *If a non-user multi pad kit number is selected when the record ready mode is engaged, user multi pad kit number 37 will automatically be selected.*
- *The recorded multi pad volume depends on the current Keyboard Volume setting — see page 71.*
- *[DSP] button is disabled when the MULTI PAD is in record ready mode and record mode. Also, DSP will automatically be turned OFF when the MULTI PAD record ready mode is engaged.*

5 Record

Play a short sequence. The **[REC/END]** indicator will light during recording, and the BEAT indicator dots will indicate the current beat.

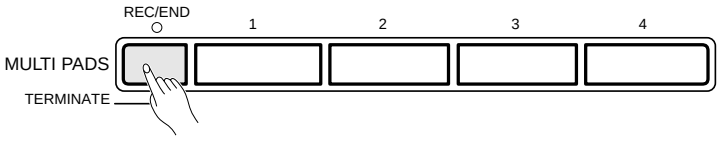
If you want to play back the recorded data as the "chord match" type, record all the phrases on CM7. The sound will be properly transposed when used with the Auto Accompaniment feature.

NOTES

- *Whenever you record to a MULTI PAD, all previous data in the same pad will be completely erased and replaced by the new material.*
- *If the MULTI PAD memory becomes full while recording, "Full" will appear on the display and recording will stop.*

6 Stop Recording

Stop recording by pressing the **[REC/END]** button. The **[REC/END]** button indicator will go out.



7 Play the Multi Pads

Tap any of the MULTI PADS. Your recorded data will be played in exactly the same way as the preset data.

● Enter a New Name for the Multi Pad Kit

If you want to enter a descriptive name for the user pad kit numbered 37 through 40, enter your original Multi Pad Kit name, this is recommended.

Use the cursor **[▶]** button to move the cursor to the first (left most) character of the Multi Pad Kit name in the display. A Multi Pad Kit name can consist of up to 8 characters. The position of the character you want to enter or change can be selected by moving the cursor.

Using the **[–/NO]** and **[+/YES]** buttons or the data dial, enter the desired character listed below. The number buttons can also be used to enter the number. If you want to insert an underline character at the cursor position, press the cursor **[▲]** button. If you want to delete a character at the cursor position, press the cursor **[▼]** button. When you've finished entering the Multi Pad Kit name, move the cursor to the position other than the Multi Pad Kit name so that the newly entered Multi Pad Kit name will be memorized.

Character List

```
ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz
0123456789–
```

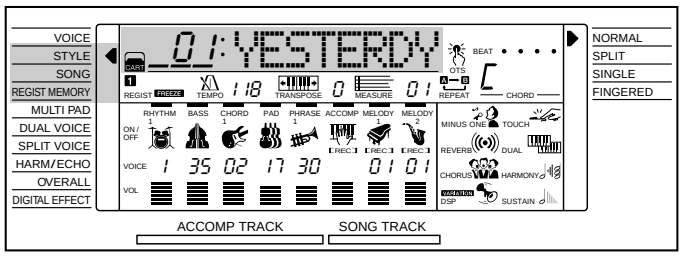
NOTES

- *The user pad kit data including it's name is retained in memory even when the power switch is turned OFF, as long as the batteries are installed or the AC adaptor is connected..*

CART

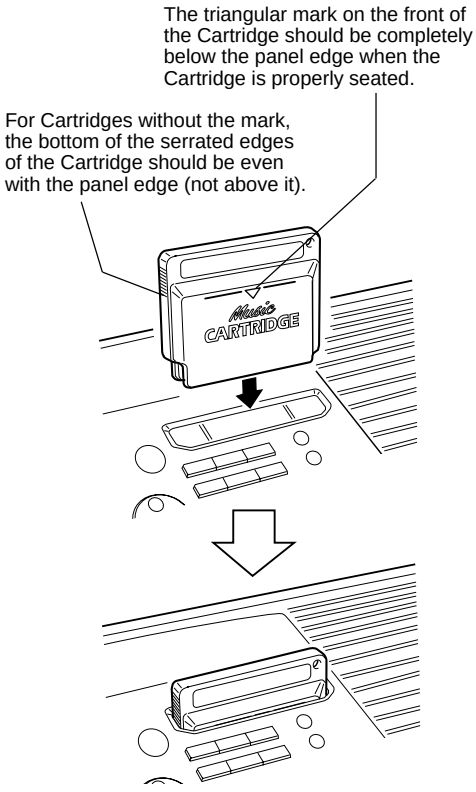
Using Music Cartridges

The PSR-A3 features a cartridge slot which accepts pre-programmed Yamaha Music Cartridges containing style, song and/or registration data. One sample Music Cartridge is supplied with the PSR-A3. Others are available from your Yamaha dealer.



■ Inserting a Music Cartridge

With the power OFF, insert the Music Cartridge into the cartridge slot as shown, and press down firmly until the Cartridge is seated properly (as shown in the illustration). The Cartridge is shaped so that it will only fit in the slot one way - don't try to force it in the wrong way. Turn the power back ON again after inserting.



■ Music Cartridge Handling Precautions

- Do not leave Music Cartridges in locations which are subject to excessive heat or humidity.
- Do not drop Music Cartridges or subject them to strong shock.
- Do not disassemble Music Cartridges.
- Do not directly touch the Music Cartridge's electrical contacts. Persistently touching it may cause to break electrical contacts or generate static electricity. Static electric charges can cause loss of data and unreliable operation.
- Do not insert objects or cartridges other than Yamaha Music Cartridges in the PortaTone cartridge slot. Doing so can result in serious damage to the instrument.
- Never attempt to insert or remove a cartridge when the power switch is ON. Doing so can result in loss of the PSR-A3 memory data (song data/registration memory data/multi pad data) or complete lack of control.
- The Music Cartridge data may not be selected or played back correctly, if the electrical contacts on the Music Cartridge are affected with dust. If this happens, insert and remove the Music Cartridge several times. This may solve the problem. If the problem still happens, wipe and clean the electrical contacts on the Music Cartridge with a dry soft cloth.

NOTES

- *Be sure to insert the applicable Music Cartridge when you recall the registration settings based on the cartridge data or playback the song based on the cartridge data. Otherwise, "No Cart (Cartridge)" or "WrongCrt (Cartridge)" will appear on the display.*

Cartridge Accompaniment Styles

The Music Cartridge supplied with the PSR-A3 provides an extra 8 accompaniment styles that can be used in the same way as the internal accompaniment styles.

Selecting Cartridge Styles

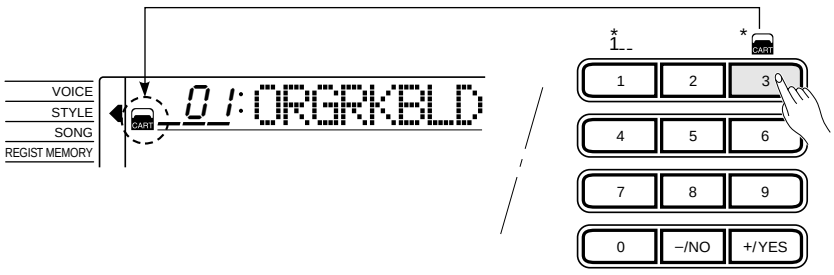
1 Select the Style Function

Press the **[STYLE]** button to directly select the STYLE function, or press the **[FUNCTION]** button to the left of the display as many times as necessary until the arrowhead in the display appears next to "STYLE" in the function list to the left of the display.

2 Select and Use a Cartridge Style

To select a cartridge style, first press and hold the number **[3]** button (below the cartridge icon on the panel) until the cartridge icon appears to the left of the style name in the display, then enter the number of the cartridge style you want to select via the number buttons in the normal way (2 digits). The cartridge styles can also be selected by using the **[–/NO]** and **[+/YES]** buttons or the data dial to go beyond the highest or lowest internal style numbers — e.g. pressing the **[+/YES]** button while internal style number 140 is selected will select cartridge style number 01 (the cartridge icon will appear).

The cartridge styles are used in exactly the same way as the internal accompaniment styles (page 34).



NOTES

- *"No OTS" will appear on the display if the optional cartridge styles have no one touch setting data.*

● **Different Number of Sections**

Some cartridge styles, for example, have A and B intro and ending sections as well as A and B main sections. In such a case, if the **[INTRO]** and MAIN **[A]** buttons are pressed in order to start the accompaniment with an introduction and then go to the main A section, the intro A section will play. If the **[INTRO]** and MAIN **[B]** buttons are pressed, the intro B section will play. A similar situation applies to endings: if the main A or B section is playing and the **[ENDING]** button is pressed, the ending A or B section will play accordingly.

Cartridge Songs

Using Yamaha Music Cartridges (the one supplied with the PSR-A3 includes 8 songs, others are available from your Yamaha dealer), the PSR-A3 will let you enjoy listening to automated performances, or function as your "private music tutor," allowing you to practice various parts of a piece while the others are played automatically.

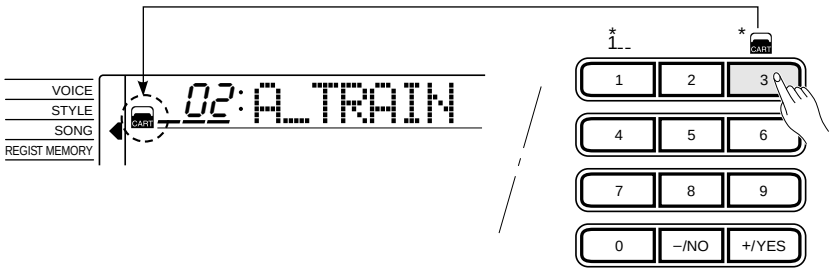
Cartridge Song Playback

1 Select the SONG Function

Use the FUNCTION **[▲]** and **[▼]** buttons to select the SONG function.

2 Select a Cartridge Song Number

To select a cartridge song, first press and hold the number **[3]** button (below the cartridge icon on the panel) until the cartridge icon appears to the left of the song name in the display, then enter the number of the cartridge song you want to select via the number buttons in the normal way. The cartridge songs can also be selected by using the **[–/NO]** and **[+/YES]** buttons or the data dial to go beyond the highest or lowest internal song numbers — e.g. pressing the **[+/YES]** button while internal song number 37 is selected will select cartridge song number 01 (the cartridge icon will appear).



3 Start Playback

Playback will begin as soon as the SONG **[PLAY/STOP]** button is pressed.

Playback can be stopped at any time by pressing the SONG **[PLAY/STOP]** button.

NOTES

- *Playback can be started from any measure — page 57.*
- *The volume bars of the song tracks at the bottom of the display will move in response to the data in each track while the cartridge song plays.*
- *About the cartridge songs created by the cartridge accompaniment styles:*
  - ** Chord names will appear on the display and the volume bars of the accomp tracks will move in response to the data in each track, while the cartridge song plays.*
  - ** Harmony effect (see page 20) can be applied when playing along with the chord progression of the song.*
- *The playback tempo can be changed freely as required.*
- *Cartridge song track voice and volume data cannot be rewritten.*

Cartridge Registration Presets

The Music Cartridge supplied with the PSR-A3 provides 8 banks of preset registration settings (8 banks x 4 registration memories = 32 total) that provide a number of useful registration setups (refer to page 47 for details on the registration memory).

Selecting Cartridge Registration

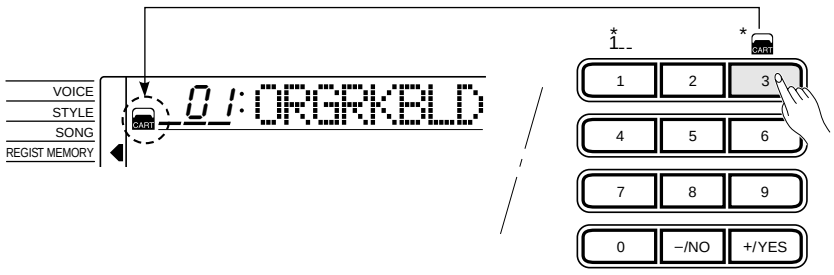
1 Select the Regist Memory Function

Press either of the **[FUNCTION]** buttons to the left of the display as many times as necessary until the arrowhead in the display appears next to "REGIST MEMORY" in the function list to the left of the display.

2 Select and Use a Cartridge Registration

To select a cartridge registration memory, first press and hold the number **[3]** button (below the cartridge icon on the panel) until the cartridge icon appears to the left of the registration bank number in the display, then enter the number of the bank you want to select via the number buttons in the normal way (page 47). The cartridge registration memories can also be selected by using the **[–/NO]** and **[+/YES]** buttons or the data dial to go beyond the highest or lowest internal bank numbers — e.g. pressing the **[+/YES]** button while internal bank number 32 is selected will select cartridge registration bank number 01 (the cartridge icon will appear).

The individual cartridge registration memories are recalled via the REGISTRATION MEMORY buttons and used in exactly the same way as the internal registration memories (page 49).

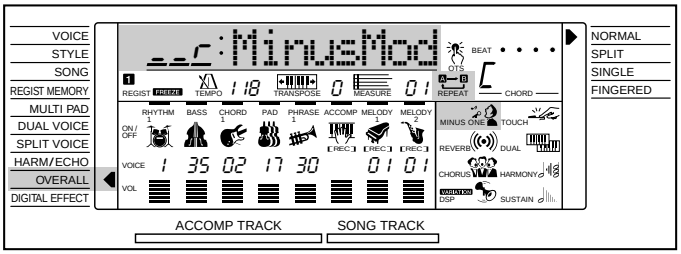


NOTES

- *Original data cannot be stored in the cartridge registration memory.*
- *The voices recalled by a cartridge registration are not the PSR-A3 panel voices but the GM voices. When you select a cartridge registration, GM voices will be used. As a result, the voice number "- - -" and GM voice name will appear on the display. The GM voices can also be played on the keyboard and can be recorded to the SONG MEMORY or the MULTI PADS.*

Practice Features

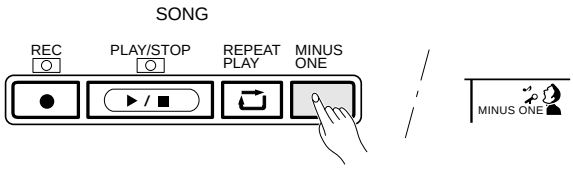
The PSR-A3 includes two features that can be a great aid in learning to play and practicing on the keyboard.



The Minus One Mode

When the Minus One mode is engaged, the left-hand, right-hand, or both keyboard parts of a song — internal demo or Music Cartridge — are turned OFF so you can practice them on the PSR-A3 keyboard. The "MinusMod" function in the OVERALL function group determines which part or parts are turned OFF when the Minus One mode is engaged.

To turn the Minus One function ON, thus cancelling the specified parts, press the **[MINUS ONE]** button. The MINUS ONE icon will appear in the display when the Minus One function is engaged.

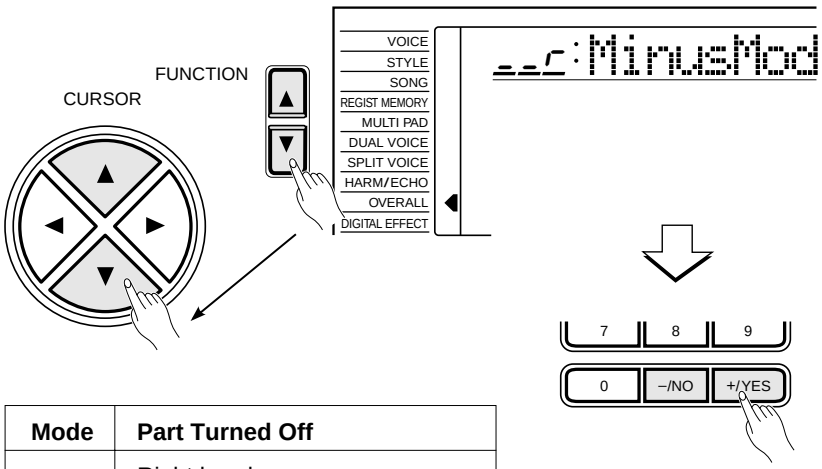


■ Specifying the Parts To Be Turned On or Off

To specify the right-hand, left-hand, or both parts to be turned OFF when the Minus One mode is engaged, first select the OVERALL functions by pressing either of the **[FUNCTION]** buttons to the left of the display as many times as necessary until the arrowhead in the display appears next to "OVERALL" in the function list to the left of the display. Then use the cursor **[▲]** and **[▼]** buttons to locate the "MinusMod" function. Finally use the **[–/NO]** and **[+/YES]** buttons or the data dial to select the desired Minus One mode.

NOTES

- *See page 74 for information on using the Minus One mode with the specified channel.*
- *With songs you record yourself, the MELODY 1 track corresponds to the right-hand part and the MELODY 2 track is the left-hand part.*
- *"MinusMod" function in the OVERALL function group can be quickly selected by pressing and holding the [MINUS ONE] button.*
- *"_ _ r" (Right hand) is selected whenever the power switch is turned ON.*

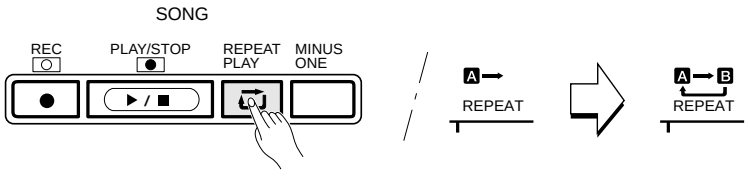


Mode	Part Turned Off
_ _ r	Right hand.
l _ _	Left hand.
l _ r	Left and right hands.

Repeat Play

This function allows you to specify any section of a song — cartridge or internal — for continuous repeat playback.

While the song is playing, press the **[REPEAT PLAY]** button once at the beginning of the section to be repeated (the "A" repeat icon will appear on the display) and again at the end of the section to be repeated (the "B" repeat icon will appear). Repeat playback will begin automatically from the A point as soon as the B point has been specified, and will continue until either the **[REPEAT PLAY]** button is pressed again to cancel the repeat function, or until song playback is stopped.



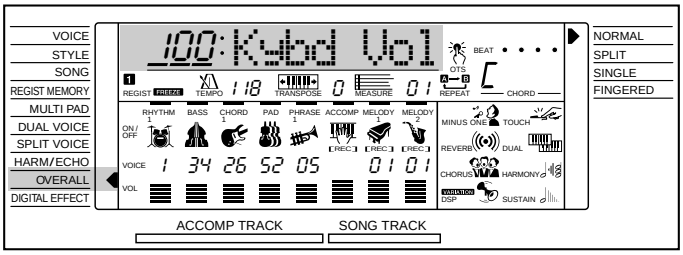
It is also possible to specify the repeat section while playback is stopped. First use the MEASURE parameter to specify the A point, then press the **[REPEAT PLAY]** button. Next specify the B measure number and press **[REPEAT PLAY]** again. The specified A-B section will play repeatedly when the **[PLAY/STOP]** button is pressed.

NOTES

- *When only the A point is specified, playback will repeat from the A point to the end of the song.*
- *If you specify, for example, measure number 8 for A point and measure number 2 for B point, playback will repeat from measure number 2 to 8.*
- *The end point B tempo or your manually adjusted tempo will be used during repeat playback.*

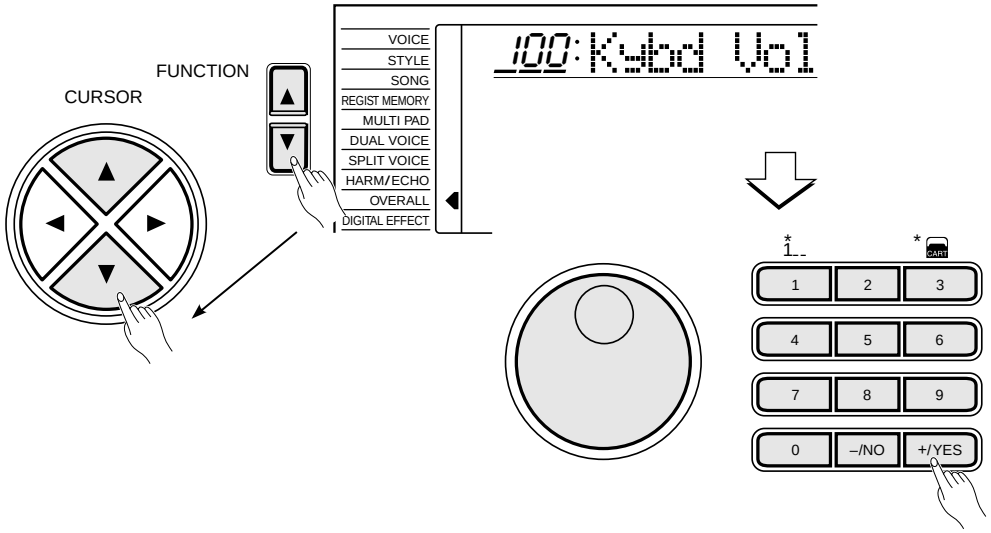
Overall Functions

Some of the functions in the OVERALL function group have already been described in appropriate sections of this manual. Others will be introduced for the first time in this section. Refer to the chart below for the page numbers on which each function is described. The chart also lists the full name of each function, the abbreviated name which appears on the display, and the available settings or range of settings. Ranges are indicated by two or more values separated by ellipses (…).



Function	Display	Settings	Page
Keyboard Volume	Kybd Vol	00 … 127	71
Octave	Octave	–2 … 0 … 2	71
Reverb Level	RevLevel	00 … 127	72
Chorus Level	ChoLevel	00 … 127	72
DSP Level	DspLevel	00 … 127	72
Pan	Pan	–7 … 0 … 7	72
Voice Set	VoiceSet	oFF, on	73
Fingering	FngrngMd	nor, bAS, Full	31
Accompaniment Volume	AcompVol	00 … 127	73
Accompaniment Split Point	AccSpPnt	00 … 127	41
Touch Sensitivity	TouchSns	00 … 127	73
Minus-one Mode	MinusMod	__ r, L __, L _ r	68
Minus-one Right-hand Channel	MinusChR	01 … 16	74
Minus-one Left-hand Channel	MinusChL	01 … 16	74
Pitch Bend Range	PBRange	01 … 12	74
Metronome	Metronom	oFF, on	74
Tuning	Tuning	–100 … 100	74
Scale Tuning	SclTune	–64 … 63	43
Accompaniment Scale Tuning	TuneAcc	oFF, on	46
Remote Channel	RemoteCh	oFF, 01 … 16	76
Keyboard Out	KybdOut	oFF, on	77
Song Out	SongOut	oFF, on	77
Accompaniment Out	AcompOut	oFF, on	77
Local Control	Local	oFF, on	78
External Clock	ExtClock	oFF, on	78
Initial Data Send	InitSnd?	None	78
Bulk Data Send	BulkSnd?	None	79

To access an OVERALL function press either of the **[FUNCTION]** buttons to the left of the display as many times as necessary until the arrowhead in the display appears next to "OVERALL" in the function list to the left of the display. Then use the cursor **[▲]** and **[▼]** buttons to select the desired function from within the OVERALL function list. Once the function has been selected, use the **[–/NO]** and **[+/YES]** buttons or the data dial (or number buttons, where applicable) to set the function as required.



General Functions

■ Keyboard Volume

Sets the volume of the keyboard sound (including dual and split voices) in relation to the accompaniment and song playback sound. The range is from "00" to "127". A setting of "00" produces no sound. "127" produces maximum volume.

NOTES

- *"Kybd Vol" function can be quickly selected by pressing and holding the [VOICE] button.*
- *The default setting=100 can be recalled by pressing the [-/NO] and [+/YES] buttons simultaneously.*

■ Octave

Shifts the right-hand keyboard voice (including the dual voice) up or down by one or two octaves. "–1" is down one octave, "–2" is down two octaves; "+1" and "+2" are up one and two octaves, respectively.

NOTES

- *Negative values can be entered by pressing the number buttons while holding the [–/NO] button.*
- *The default setting=0 can be recalled by pressing the [-/NO] and [+/YES] buttons simultaneously.*

■ Reverb Level

Sets the reverb send level for the voice selected via the VOICE function. The reverb send level determines the amount of signals input to the reverb effect. The range is from “00” to “127”. The reverb return level can be adjusted via the “RevRtnLv” function in the DIGITAL EFFECT function see page 25.

NOTES

- *See page 82 for more details on the Digital Effects.*
- *The default setting can be recalled by pressing the [-/NO] and [+/YES] buttons simultaneously.*
- *If the Voice Set function is ON (page 73), the Reverb Level will change automatically whenever a different voice is selected via the VOICE function.*

■ Chorus Level

Sets the chorus send level for the voice selected via the VOICE function. The chorus send level determines the amount of signals input to the chorus effect. The range is from “00” to “127”. The chorus return level can be adjusted via the “ChoRtnLv” function in the DIGITAL EFFECT function see page 27.

NOTES

- *See page 82 for more details on the Digital Effects.*
- *The default setting can be recalled by pressing the [–/NO] and [+/YES] buttons simultaneously.*
- *If the Voice Set function is ON (page 73), the Chorus Level will change automatically whenever a different voice is selected via the VOICE function.*

■ DSP Level

Sets the DSP send level for the voice selected via the VOICE function. The DSP send level determines the amount of signals input to the DSP effect. The range is from “00” to “127”. The DSP return level can be adjusted via the “DspRtnLv” function in the DIGITAL EFFECT function see page 29.

NOTES

- *See page 82 for more details on the Digital Effects.*
- *The defalut setting can be recalled by pressing the [–/NO] and [+/YES] buttons simultaneously.*
- *If the Voice Set function is ON (page 73), the DSP Level will change automatically whenever a different voice is selected via the VOICE function.*
- *The DSP send level cannot be changed for the insertion DSP types (see page 82). In this case, “- - -” will appear on the display.*

■ Pan

Sets the stereo pan position of the right-hand keyboard voice (selected in the VOICE function). The pan range is from “–7” (full left) to “+7” (full right).

NOTES

- *If the Voice Set function is ON, the pan setting = 0 will be selected automatically whenever a different voice is selected via the VOICE function.*
- *The defalut setting can be recalled by pressing the [–/NO] and [+/YES] buttons simultaneously.*
- *Negative values can be entered by pressing the number buttons while holding the [–/NO] button.*

■ Voice Set

The VOICE SET feature brings out the best in each individual voice by automatically setting a range of important voice-related parameters whenever a voice is selected. The parameters that may be set by the VOICE SET feature are listed below. This function lets you turn VOICE SET ON or OFF, as required. The Voice Set function is turned ON whenever the power switch is turned ON.

- Pan=0
- Reverb Level
- Chorus Level
- DSP Level
- Dual voice (voice number, volume, octave, reverb level, chorus level, pan=0)
- Split voice (voice number, volume, octave, reverb level, chorus level, pan)
- Harmony/Echo type
- DSP type
- Reverb ON/OFF
- Chorus ON/OFF
- DSP=ON
- DSP variation ON/OFF

■ Accompaniment Volume

Sets the volume of the accompaniment sound in relation to the keyboard and song melody track sound. The range is from “00” to “127”. A setting of “00” produces no sound. “127” produces maximum volume.

NOTES

- *The “AccompVol” function can be quickly selected by pressing and holding the [STYLE] button.*
- *The default setting=100 can be recalled by pressing the [–/NO] and [+/YES] buttons simultaneously.*

■ Touch Sensitivity

This function sets the keyboard touch sensitivity when the TOUCH RESPONSE function (page 17) is ON. The range is from “00” to “127”. The higher the value the higher the sensitivity.

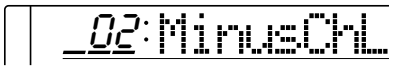
NOTES

- *The default setting=100 can be recalled by pressing the [–/NO] and [+/YES] button simultaneously.*
- *The “TouchSns” function can be quickly selected by pressing and holding the [TOUCH RESPONSE] button.*

■ Minus-one Right/Left-hand Channel

You can practice the specific part (in the Minus One mode) by selecting the demo/cartridge song you want to practice and by assigning the appropriate channel to the desired part.

Any channel —1 through 16 — can be selected. The default setting “01” for the right-hand channel, “02” for the left-hand channel recalled by pressing the **[–/NO]** and **[+/YES]** buttons simultaneously.



NOTES

- *The channel for the specific part will automatically be selected if the selected song contains the Minus-one(Right-/Left-hand) channel settings. In this case, “- - -” will appear on the display and you can not change it.*
- *Regardless of the Minus-one channel settings, with songs you record yourself, the MELODY 1 track corresponds to the right-hand part and the MELODY 2 track is the left-hand part. While playing songs you record yourself, “- - -” will appear on the display and you cannot change the Minus-One channel settings.*

■ Pitch Bend Range

Sets the pitch bend range. The pitch bend range value is displayed in semitone (“01” through “12” i.e. one octave).

NOTES

- *The default pitch bend range=02 can be instantly recalled by pressing the [–/NO] and [+/YES] buttons simultaneously.*

■ Metronome

Turns the metronome function ON or OFF. The metronome will sound during accompaniment/song playback and song/multi pad recording when turned ON.

NOTES

- *The metronome function is turned OFF whenever the power switch is turned ON.*
- *While playing demo songs in sequence, the metronome function cannot be used.*

■ Tuning

Sets the pitch of the PSR-A3 to match other instruments. Tuning can be accomplished over a ±100 cent range (that’s 200 cents total, or a tone). The tuning range is from “–100” to “+100”. “00” is the “normal” tuning value.

NOTES

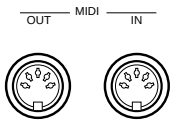
- *The normal tuning value=00 can be recalled instantly by pressing both the [–/NO] and [+/YES] buttons simultaneously.*

MIDI Functions

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.

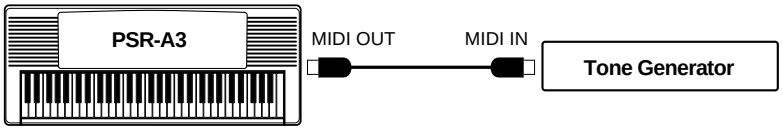
● The MIDI Connectors

The **MIDI IN** connector receives MIDI data from an external MIDI device which can be used to control the PSR-A3. The **MIDI OUT** connector transmits MIDI data generated by the PSR-A3 (e.g. note and velocity data produced by playing the keyboard).



● Simple MIDI Control

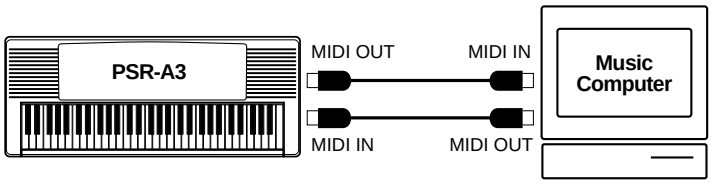
Most MIDI keyboards (including the PSR-A3, of course) transmit note and velocity (touch response) information via the **MIDI OUT** connector whenever a note is played on the keyboard. If the **MIDI OUT** connector is connected to the **MIDI IN** connector of a second keyboard (synthesizer, etc.) or a 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 PSR-A3 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 PSR-A3.



The PSR-A3 is capable of receiving the same MIDI data, so a second MIDI keyboard connected to the PSR-A3 **MIDI IN** connector can be used to remotely play the PSR-A3 and select voices as required.

● MIDI Sequence Recording

Although the PSR-A3 features a built-in "sequencer" (the SONG recorder is a type of sequencer), the same type of musical information transfer described above can be used for more sophisticated MIDI sequence recording using an external sequencer or music computer. A MIDI sequence recorder or music computer can be used to "record" MIDI data received from a PSR-A3, for example. When the recorded data is played back, the PSR-A3 automatically "plays" the recorded performance in precise detail.



NOTES

- *Never use MIDI cables longer than about 15 meters. Cables longer than this can pick up noise which can cause data errors.*

■ Remote Channel

Sets the MIDI channel on which data from a remote keyboard will be received. Any of the standard MIDI channels — 1 through 16 — can be specified. The remote keyboard must be set up to transmit on the specified remote channel, and the keyboard's **MIDI OUT** connector must be connected to the PSR-A3 **MIDI IN** connector via a standard MIDI cable. Refer to the "MIDI Implementation Chart" section (page 94) for technical details. When set to OFF data is received on all 16 MIDI channels. The default setting — OFF — can be recalled by pressing the **[–/NO]** and **[+/YES]** buttons simultaneously.

NOTES

- *Remote Channel is automatically turned OFF when a MIDI "GM ON" message is received.*
- *The Remote channel setting is retained in memory even when the power switch is turned OFF, as long as batteries are installed or an AC adaptor is connected.*

■ Keyboard Out

Determines whether keyboard data will or will not be transmitted via the **MIDI OUT** connector. Keyboard data is transmitted when this function is turned ON (default). When set to ON the keyboard data is transmitted on the following MIDI channels:

Voice	Channel
Right-hand main voice	1
Dual voice	11
Left-hand voice (Split voice)	2

NOTES

- *Keyboard Out setting is retained in memory even when the power switch is turned OFF, as long as batteries are installed or an AC adaptor is connected.*

■ Song Out

Determines whether song data (Melody track/s only) will or will not be transmitted via the **MIDI OUT** connector. Song data is transmitted when this function is turned ON. The default setting is OFF. When set to ON the song data is transmitted on the following MIDI channels:

Track/voice	Channel
Melody 1/main voice	13
Melody 1/dual voice	14
Melody 2/main voice	15
Melody 2/dual voice	16

NOTES

- *Song Out setting is retained in memory even when the power switch is turned OFF, as long as batteries are installed or an AC adaptor is connected.*
- *Only the user song you recorded can be transmitted.*
- *If you want to transmit all the song data (including Accomp track), set "Song Out" and "Accompaniment Out" to ON.*

■ Accompaniment Out

Determines whether auto-accompaniment data will or will not be transmitted via the **MIDI OUT** connector. Accompaniment data is transmitted when this function is turned ON. The default setting is OFF. When set to ON the accompaniment data is transmitted on the following MIDI channels:

Track	Channel
Rhythm 1	9
Rhythm 2	10
Bass	3
Chord 1	4
Chord 2	5
Pad	6
Phrase 1	7
Phrase 2	8

NOTES

- *Accompaniment Out setting is retained in memory even when the power switch is turned OFF, as long as batteries are installed or an AC adaptor is connected.*

■ Local Control

"Local Control" refers to the fact that, normally, the PSR-A3 keyboard controls the 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 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 can respond to MIDI information received via the **MIDI IN** connector. This means that while an external MIDI sequencer, for example, plays the PSR-A3 internal voices, an external tone generator can be played from the PSR-A3 keyboard. The default Local Control setting is ON.

■ External Clock

Reception of an external MIDI clock signal can be enabled or disabled as required. When disabled (OFF), all of the time-based functions (Auto Accompaniment, SONG recording and playback, etc.) are controlled by its own internal clock. When MIDI clock reception is enabled (ON), however, all timing is controlled by an external MIDI clock signal received via the **MIDI IN** terminal. The default setting is OFF.

NOTES

- *If the External Clock function is turned ON but the external clock signal is interrupted for more than 400 milliseconds, the internal clock is re-selected automatically.*
- *External Clock setting is retained in memory even when the power switch is turned OFF, as long as batteries are installed or an AC adaptor is connected.*
- *When the External Clock is turned ON, the song recording/playback will be controlled by the external device.*

■ Initial Data Send

Transmits all current panel settings to a MIDI data storage device before actually recording your performance. With the "InitSnd?" function selected, press the **[+/YES]** button to start transmission. When the data has been transmitted, "End" will appear momentarily on the display and return to the "InitSnd?".

NOTES

- *The song data will not be played back correctly, if the panel settings for the song has not been recorded in advance. To record the panel settings to an external device, engage the external device in the record mode and execute the Initial Data Send operation.*
- *The "InitSnd?" function can be quickly selected by pressing and holding the [SYNC-START/STOP] button.*

■ Bulk Data Send

This function causes the contents of the registration, song, multi pad and scale data to be transmitted via the **MIDI OUT** connector. This data can be saved to memory or disk via a MIDI sequence recorder or MIDI data recorder, and then reloaded when required. The bulk data can also be sent directly to a second PSR-A3.

To send the bulk data select the "BulkSnd?" function, then press the **[+/YES]** button. "Sure?" will appear on the display. Press the **[+/YES]** again to begin transmission of the bulk data. "BkSnd:Sg" (song data), "BkSnd:Pd" (multi pad data), "BkSnd:Rg" (registration data) and then "BkSnd:Sl" (scale data) will appear on the display during transmission. When the data has been transmitted, "End" will appear momentarily on the display and return to the "BulkSnd?"

NOTES

- *A bulk dump transmission can be stopped at any time by pressing the [–/NO] button.*
- *No other operations can be performed during bulk dump transmission.*

■ Receiving Bulk Data

The PSR-A3 will automatically receive compatible bulk data from an external MIDI device as long as no style playback or song recording/playback operation is in progress. "BkRcv:Sg" (song data), "BkRcv:Pd" (multi pad data), "BkRcv:Rg" (registration data), and then "BkRcv:Sl" (scale data) will appear on the display during reception. When the data has been received, "End" will appear momentarily on the display and return to the previously selected display.

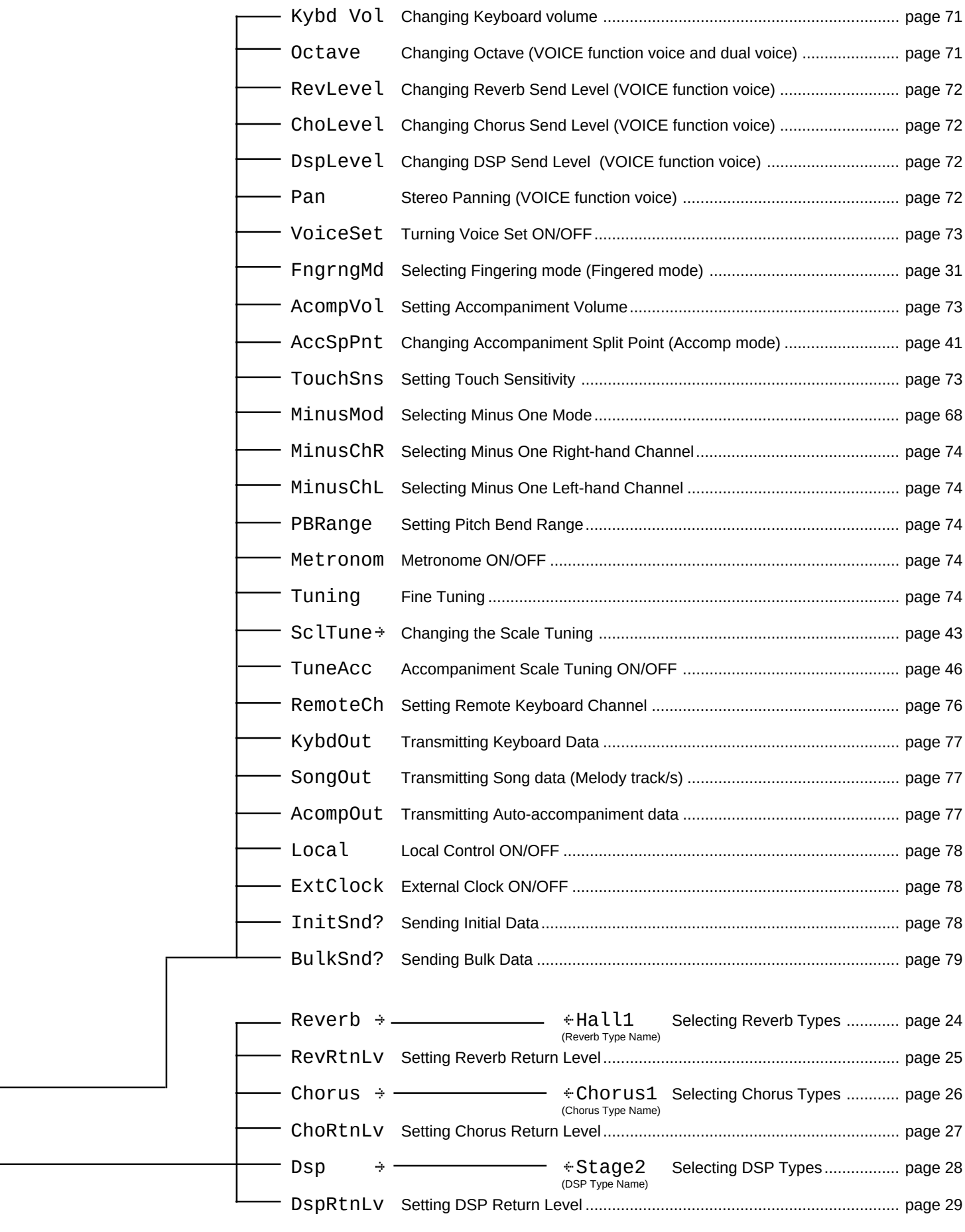
NOTES

- *No other operations can be performed during bulk dump reception.*
- *If an error occurs during bulk data reception, "BkRcvErr" and then "MemClrSg", "MemClrPd", "MemClrRg", or "MemClrSl" will appear on the display indicating that any of the song, multi pad, registration memory, and scale memory data has been cleared.*
- *When a bulk dump is received, the received data replaces any data that was previously in the PSR-A3 memory.*

Appendix: PSR-A3 Function Tree

FUNCTION

	Display	Description	
VOICE	`GrandPno` (Voice Name)	Selecting Voices	page 12
STYLE	`8BeatPop` (Style Name)	Selecting Accompaniment Styles	page 33
SONG	`ArabSng1` (Song Name)	Selecting Songs	page 51
REGIST MEMORY	`Bank1`	Selecting Registration Banks	page 47
MULTI PAD	`Arpeggio` (Multi Pad Kit Name)	Selecting Multi Pad Kits	page 59
DUAL VOICE	`Strings2` (Dual Voice Name)	Selecting Dual Voices	page 18
	`D.Volume`	Changing Dual Voice Volume	page 18
	`D.Octave`	Changing Dual Voice Octave	page 18
	`D.RevLvl`	Changing Dual Voice Reverb Send Level	page 18
	`D.ChoLvl`	Changing Dual Voice Chorus Send Level	page 18
	`D.Pan`	Changing Dual Voice Panning	page 18
SPLIT VOICE	`Aco.Bass` (Split Voice Name)	Selecting Split Voices	page 15
	`S.Volume`	Changing Split Voice Volume	page 15
	`S.Octave`	Changing Split Voice Octave	page 15
	`S.RevLvl`	Changing Split Voice Reverb Send Level	page 15
	`S.ChoLvl`	Changing Split Voice Chorus Send Level	page 15
	`S.Pan`	Changing Split Voice Panning	page 15
	`S.Split`	Changing Split Point (Split mode)	page 15
HARMONY/ECHO	`Block` (Harmony/Echo Type Name)	Selecting Harmony/Echo types	page 20
OVERALL			
DIGITAL EFFECT			


Kybd Vol Changing Keyboard volume page 71
Octave Changing Octave (VOICE function voice and dual voice) page 71
RevLevel Changing Reverb Send Level (VOICE function voice) page 72
ChoLevel Changing Chorus Send Level (VOICE function voice) page 72
DspLevel Changing DSP Send Level (VOICE function voice) page 72
Pan Stereo Panning (VOICE function voice) page 72
VoiceSet Turning Voice Set ON/OFF page 73
FngrngMd Selecting Fingering mode (Fingered mode) page 31
AcompVol Setting Accompaniment Volume page 73
AccSpPnt Changing Accompaniment Split Point (Accomp mode) page 41
TouchSns Setting Touch Sensitivity page 73
MinusMod Selecting Minus One Mode page 68
MinusChR Selecting Minus One Right-hand Channel page 74
MinusChL Selecting Minus One Left-hand Channel page 74
PBRange Setting Pitch Bend Range page 74
Metronom Metronome ON/OFF page 74
Tuning Fine Tuning page 74
SclTune Changing the Scale Tuning page 43
TuneAcc Accompaniment Scale Tuning ON/OFF page 46
RemoteCh Setting Remote Keyboard Channel page 76
KybdOut Transmitting Keyboard Data page 77
SongOut Transmitting Song data (Melody track/s) page 77
AcompOut Transmitting Auto-accompaniment data page 77
Local Local Control ON/OFF page 78
ExtClock External Clock ON/OFF page 78
InitSnd? Sending Initial Data page 78
BulkSnd? Sending Bulk Data page 79
Reverb Hall1 (Reverb Type Name) Selecting Reverb Types page 24
RevRtnLv Setting Reverb Return Level page 25
Chorus Chorus1 (Chorus Type Name) Selecting Chorus Types page 26
ChoRtnLv Setting Chorus Return Level page 27
Dsp Stage2 (DSP Type Name) Selecting DSP Types page 28
DspRtnLv Setting DSP Return Level page 29

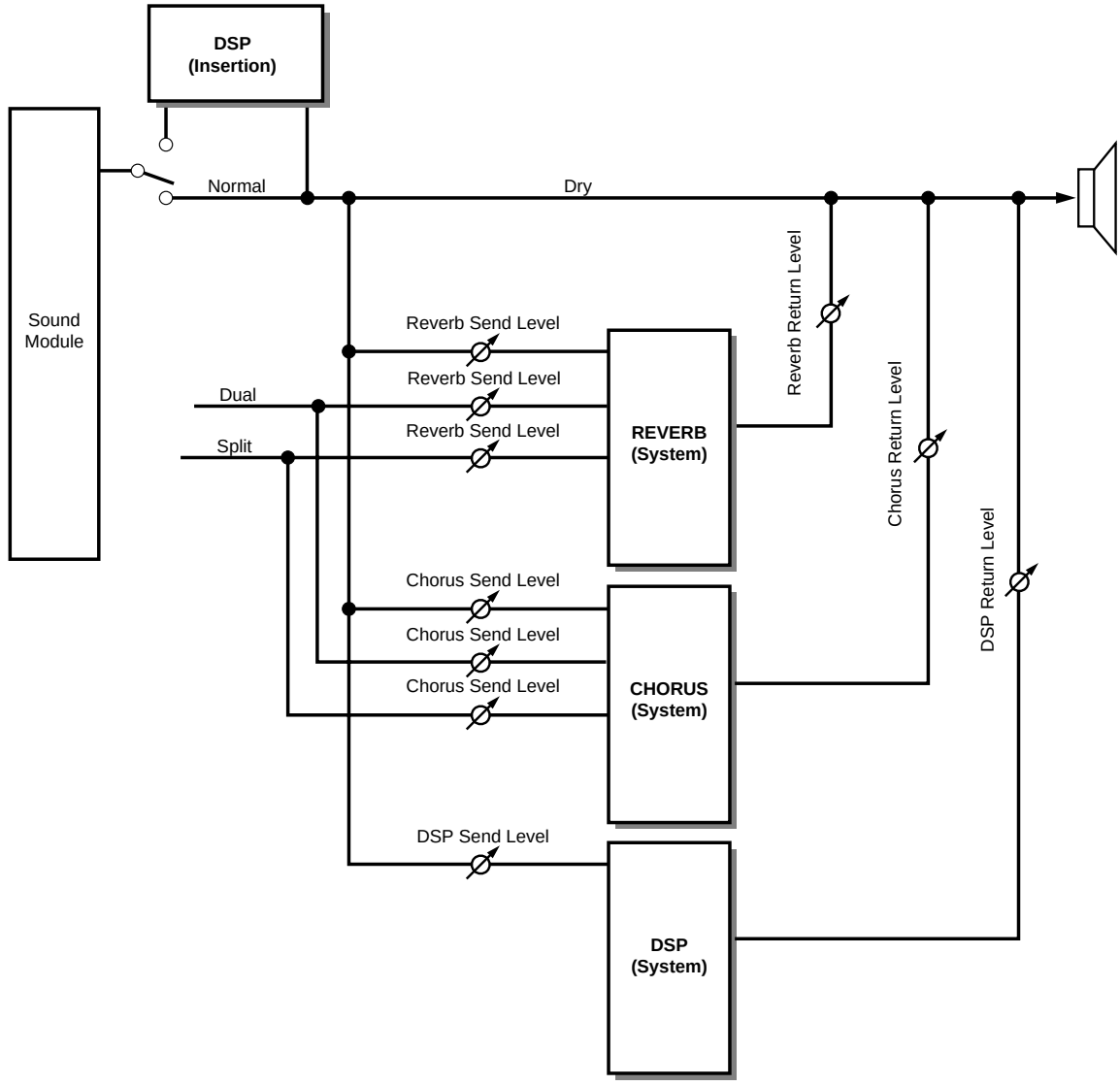
Appendix: About Digital Effect

■ Digital Effect Configuration

The PSR-A3 features three types of digital effectors: Reverb, Chorus and DSP. Reverb and Chorus effectors are exclusively used for enhancing and varying their respective effect types. On the contrary the DSP effector can be used to select a variety of effect types such as Distortion, Equalizer, Reverb and Chorus.

All the digital effects are connected or routed in one of two ways: System or Insertion. All types of Reverb and Chorus effects classified as System effects. DSP, on the other hand, can be configured as either System or Insertion effects. DSP configuration varies depending on the type selected: System or Insertion illustrated below.

Each digital effect can be applied to the performance and incoming performance data through MIDI IN, accompaniment and song playback. Each effect send level can independently be set for each voice (Reverb and Chorus for the VOICE function voice, Dual voice and Split voice. DSP for the VOICE function voice only), while each effect return level affects entire system.



The Digital Effect List

No.	Effect Type		Features
REVERB			
01~04	Hall1~4	System	Concert hall reverb.
05~08	Room1~4	System	Small room reverb.
09, 10	Stage1, 2	System	Reverb for solo instruments.
11, 12	Plate1, 2	System	Simulated steel plate reverb.
13	OFF	—	No effect.
CHORUS			
01~05	Chorus1~5	System	Conventional chorus program with rich, warm chorusing.
06~09	Flanger1~4	System	Pronounced three-phase modulation with a slight metallic sound.
10	OFF	—	No effect.
DSP			
01~04	Hall1~4	System	Concert hall reverb.
05~08	Room1~4	System	Small room reverb.
09, 10	Stage1, 2	System	Reverb for solo instruments.
11, 12	Plate1, 2	System	Simulated steel plate reverb.
13, 14	Early Reflection1, 2	System	Early reflections only.
15	Gate Reverb	System	Gated reverb effect, in which the reverberation is quickly cut off for special effects.
16	Reverse Gate	System	Similar to Gate Reverb, but with a reverse increase in reverb.
17~21	Chorus1~5	System	Conventional chorus program with rich, warm chorusing.
22~25	Flanger1~4	System	Pronounced three-phase modulation with slight metallic sound.
26	Symphonic	System	Exceptionally rich & deep chorusing.
27	Phaser	System	Pronounced, metallic modulation with periodic phase change.
28~32	Rotary Speaker 1~5	Insertion	Rotary speaker simulation.
33, 34	Tremolo 1, 2	Insertion	Rich Tremolo effect with both volume and pitch modulation.
35	Guitar Tremolo	Insertion	Simulated electric guitar tremolo.
36	Auto Pan	Insertion	Several panning effects that automatically shift the sound position (left, right, front, back).
37	Auto Wah	Insertion	Repeating filter sweep “wah” effect.
38	Delay L, C, R	System	Three independent delays, for the left, right and center stereo positions.
39	Delay L, R	System	Initial delay for each stereo channel, and two separate feedback delays.
40	Echo	System	Stereo delay, with independent Feedback Level controls for each channel.
41	Cross Delay	System	Complex effect that sends the delayed repeats “bouncing” between the left and right channels.
42	Distortion Hard	Insertion	Hard-edge distortion.
43	Distortion Soft	Insertion	This type is not so hard compared with Distortion Hard.
44	EQ Disco	Insertion	Discotype equalizer program to boost high and low frequencies.
45	EQ Telephone	Insertion	Equalizer program which eliminates higher and lower frequencies to simulate the sounds through telephone.
46	OFF	—	No effect.

Appendix: Troubleshooting

Something not working as it should? In many cases what appears to be a malfunction can be traced to a simple error that can be remedied immediately. Before assuming that your PSR-A3 is faulty, please check the following points.

PROBLEM	POSSIBLE CAUSE/SOLUTION
The speakers produce a “pop” sound whenever the power is turned ON or OFF.	This is normal and is no cause for alarm.
No sound when the keyboard is played.	Turn the power OFF and turn the power ON again. The default setting “Local ON” is automatically selected.
	The Local Control function could be turned OFF. Make sure Local Control is turned ON (page 78).
Not all simultaneously-played notes sound.	You are probably exceeding the maximum polyphony of the PSR-A3. The PSR-A3 can play up to 32 notes at the same time — including split, dual, auto-accompaniment, song memory, and multi pad notes. Notes exceeding this limit will not sound.
Auto accompaniment won’t function properly. No lower keyboard sound.	Auto accompaniment won’t sound right if you’re using SINGLE FINGER type fingering when the SINGLE FINGER mode is not selected (page 31).
	Are you sure you’re playing in the Auto-Accompaniment section of the keyboard?
	Are you playing chords that the PSR-A3 can recognize (see chord types on page 32)?
The selected voice does not sound when the keyboard is played.	Make sure that the Keyboard Volume, Split Voice Volume, and/or Dual Voice Volume parameters are set at an appropriate level (pages 71, 15, and 18).
	Turn the power OFF and turn the power ON again. The appropriate default volume setting for the voice is automatically selected.
Rhythm doesn’t sound when started.	Some sections of some styles do not use the accompaniment rhythm track.
Operation of the sustain pedal is reversed.	Sustain pedal operation will be reversed if you turn ON the power or plug in the pedal while pressing the pedal. For normal operation turn OFF the power then turn it back ON while the pedal is not pressed.
The desired parameter cannot be edited.	The cursor is not located at the parameter to be edited. Make sure that the cursor is located at the parameter to be edited (the parameter should be flashing).
Accompaniment does not play properly.	Make sure that the accompaniment tracks you want to hear are not muted (page 39), and that the Accomp Volume parameter is turned up to a reasonable level (page 73).
	Turn the power OFF and turn the power ON again. The appropriate default track setting for the style and the default accompaniment volume is automatically selected.
The Harmony/Echo and/or Dual Voice function will not turn ON.	Neither of these functions can be turned ON if a percussion kit voice is selected. Make sure a voice between number 01 and 160 is selected.
	The Harmony/Echo effect cannot be turned ON when the FINGERED FULL mode is in use.

PROBLEM	POSSIBLE CAUSE/SOLUTION
The reverb and chorus types can not be changed by changing the registration memory number.	ACCOMP FREEZE function is turned ON. The reverb and chorus types are memoried as accompaniment parameter. Press the [ACCOMP FREEZE] button to turn OFF it.
Individual registration, user song, user pad, scale memory data transmitted via bulk dump from an external sequencer or other device is not received by the PSR-A3.	Transmit the data with no more than a 2-second break between blocks, or transmit as entirely separate data.
Cartridge data cannot be selected or cannot be played back correctly.	Make sure that an appropriate Yamaha Music Cartridge is properly plugged into the cartridge slot (page 64)
	The electrical contacts on the Music Cartridge are affected with dust. Insert and remove the Music Cartridge several times. This may solve the problem. If the problem still happens, wipe and clear the electrical contacts on the Music Cartridge with a dry soft cloth.

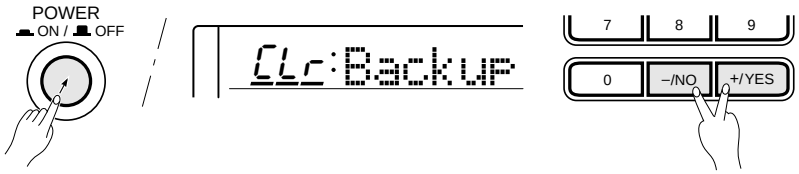
Appendix: Data Backup & Initialization

Except for the data listed below, all PSR-A3 panel settings are reset to their initial settings whenever the power is turned ON. The data listed below are backed up — i.e. retained in memory — as long as an AC adaptor is connected or a set of batteries is installed.

- Registration Memory data
- User Song data
- User Pad Kit data
- Scale Memory data
- Remote Channel
- Keyboard Out
- Song Out
- Accomp Out
- External Clock

■ Data Initialization

All data can be initialized and restored to the factory preset condition by turning ON the power while holding the **[–/NO]** and **[+/YES]** buttons. "CLr: Backup" will appear briefly on the display.



CAUTION

- ***All registration, user song, user pad kit and scale memory data, plus the other settings listed above, will be erased and/or changed when the data initialization procedure is carried out.***
- ***If the PSR-A3 has been "locked up" due to static electricity or other causes, turn the PSR-A3 OFF and execute the initialize operation.***

Index

Specifications /

Keyboards:
61 standard-size keys (C1~C6) with touch response.

Display:
Large multi-function LCD display

Setup:
Power: ON/OFF
Master Volume: MIN-MAX

Control & Ten Keys:
CURSOR▲▼◀ ▶, FUNCTION▲▼, MODE▼, [0]~[9], [+/YES], [–/NO], Data dial

Cartridge Slot

Demo:
Voice Demo:21 songs
Style Demo:8 songs

Mode:
NORMAL, SPLIT,SINGLE,FINGERED

Voice:
AWM 160 voices+9 Keyboard Percussion Kits
Polyphony: 32
Split Voice: Volume, Octave, Reverb Level, Chorus Level, Pan, Split Point
Dual Voice: Volume, Octave, Reverb Level, Chorus Level, Pan
Touch Response:Touch Sensitivity
Harmony/Echo: 22 types
Sustain
Others: Keyboard Volume, Octave, Reverb Level, Chorus Level, DSP Level, Pan

Auto Accompaniment:
140 styles
Accomp Track: RHYTHM1/2, BASS, CHORD1/2, PAD, PHRASE1/2
ACCOMP LARGE/SMALL
Accomp Track Settings: ON/OFF, Voice, Volume
Accompaniment Control: SYNC-START/STOP, START/STOP, INTRO, MAIN A/B (AUTO FILL), ENDING
Tempo
Fingering (FINGERED Mode): Normal, Bass, Full
Accompaniment Volume
Accompaniment Split Point

One Touch Setting:
560 One Touch Settings

Overall Controls:
Transpose, Metronome, Tuning

Pitch Bend Wheel:
Pitch Bend Range

Digital Effect:
Reverb:12 types, Reverb Return Level
Chorus: 9 types, Chorus Return Level
DSP: 45 types, DSP Return Level
DSP Variation

Scale Setting:
One-octave keyboard buttons, Scale Tuning
Accompaniment Scale Tuning

Scale Memory:
1~6

Registration Memory:
32 Registration Bank, 1~4, Accomp Freeze

Multi Pads:
36 Preset Multi Pad Kits+4 User Multi Pad Kits
4 Pads+Terminate

Song:
Song: 8 User Songs
Recording Tracks: ACCOMP, MELODY 1,2
Edit: Volume, Voice (MELODY TRACK), Song Clear
Minus One: 3 Modes
Minus One Right-hand Channel,
Minus One Left-hand Channel
Repeat

MIDI:
Remote Channel, Keyboard Out, Song Out, Accompaniment Out, External Clock, Local Control, Initial Data Send, Bulk Data Send

Auxiliary Jacks:
DC IN 10-12V, PHONES, SUSTAIN, AUX OUT R and L+R/L, MIDI IN/OUT

Amplifiers:
6.0 W + 6.0 W (when using PA-5B AC Power adaptor)
4.5 W + 4.5 W (when using batteries)
Phones output: 75Ω ±5% Impedance

Speakers:
12cm (4-3/4") x 2

Power Consumption:
22 W (when using PA-5B AC power adaptor)

Batteries:
Six SUM-1, “D” size, R-20 or equivalent batteries

Rated Voltage:
DC 10-12V

Dimensions (WxDxH):
973 x 397 x 146 mm (38-1/4" x 15-5/8" x 5-3/4")

Weight:
7.4 kg (16.2 lbs.) excluding batteries

Supplied Accessories:
- Music Cartridge
- Music Stand
- Owner’s Manual

Optional Accessories:
- Headphones HPE-3, HPE-150
- AC Power Adaptor PA-5, PA-5B, PA-5C
- Footswitch FC4, FC5
- Music Cartridge

** Specifications subject to change without notice.*

Voice List /

The PSR-A3 is provided with the Panel Voices (voice numbers 01~171) and GM Voices (voice numbers 01~137). GM Voices are used for the accompaniment. Refer to the GM Voice List on page 91 for the accompaniment track voice editing.

Polyphony

The PSR-A3 can play up to 32 individual notes at the same time (i.e. it has a maximum "polyphony" of 32). This number includes all voices used: dual, split, auto accompaniment, song, and multi pads. If the maximum polyphony of the PSR-A3 is exceeded, the excess notes will be truncated (they will not sound).

Another feature affecting polyphony is the fact that some PSR-A3 voices actually use two voices at once, as shown in the voice list below. The effective maximum polyphony of the PSR-A3 is correspondingly reduced when these voices are used.

NOTES

- *The voice list includes the MIDI program numbers and MIDI bank select numbers (Panel Voice List only) that control each voice when the PSR-A3 is played from an external MIDI device.*
- *Panel voice number 113/GM voice number 110 (Bagpipe) uses only one voice above A#2.*

Panel Voice List /

Voice Number	Bank Select		MIDI Program Number	Voice Name	Number of Notes Used
	MSB	LSB			
Piano					
01	0	0	0	Grand Piano	1
02	0	0	1	Bright Piano	1
03	0	0	2	Honky-tonk Piano	2
04	0	0	3	Funky Electric Piano	2
05	0	0	4	DX Electric Piano	2
06	0	0	5	Midi Grand Piano	2
07	0	0	6	Hyper Electric Piano	2
08	0	0	7	Dream Electric Piano	2
09	0	0	8	Bell Electric Piano	2
10	0	0	9	Ice Electric Piano	2
11	0	0	10	Tremolo Electric Piano	2
12	0	0	11	Harpsichord	1
13	0	0	12	Harpsichord Coupled	2
14	0	0	13	Clavi	2
15	0	0	14	Wah Clavi	2
16	0	0	15	Celesta	2
Mallets					
17	0	0	16	Vibraphone	2
18	0	0	17	Marimba	2
19	0	0	18	Glockenspiel	1
20	0	0	19	Xylophone	1
21	0	0	20	Tubular Bells	1
22	0	0	21	Timpani	1
23	0	0	22	Steel Drums	2
24	0	0	23	Dulcimer	2
25	0	0	24	Music Box	2
26	0	0	25	Kalimba	1
Organ					
27	0	0	26	Jazz Organ 1	2
28	0	0	27	Jazz Organ 2	2
29	0	0	28	Drawbar Organ	2
30	0	0	29	Full Organ	2
31	0	0	30	Click Organ	2
32	0	0	31	Rock Organ 1	2
33	0	0	32	Rock Organ 2	2
34	0	0	33	16'+2' Organ	2
35	0	0	34	16'+4' Organ	2
36	0	0	35	Church Organ	2
37	0	0	36	Reed Organ	2
38	0	0	37	Musette Accordion	2
39	0	0	38	Traditional Accordion	2
40	0	0	39	Soft Accordion	2
41	0	0	40	Tango Accordion	2
42	0	0	41	Bandoneon	2

Voice Number	Bank Select		MIDI Program Number	Voice Name	Number of Notes Used
	MSB	LSB			
Guitar					
43	0	0	42	Classical Guitar	1
44	0	0	43	Folk Guitar	2
45	0	0	44	12Strings Guitar	2
46	0	0	45	Jazz Guitar	2
47	0	0	46	Octave Guitar	2
48	0	0	47	Hawaiian Guitar	2
49	0	0	48	Clean Guitar	2
50	0	0	49	Tremolo Guitar	2
51	0	0	50	Muted Guitar	2
52	0	0	51	Guitar Harmonics	1
53	0	0	52	Overdriven Guitar	2
54	0	0	53	Distortion Guitar	2
Bass					
55	0	0	54	Acoustic Bass	1
56	0	0	55	Finger Bass	1
57	0	0	56	Pick Bass	1
58	0	0	57	Fretless Bass	2
59	0	0	58	Slap Bass	2
60	0	0	59	Synth Bass 1	2
61	0	0	60	Synth Bass 2	2
62	0	0	61	Techno Bass	2
Strings					
63	0	0	62	Violin	1
64	0	0	63	Viola	1
65	0	0	64	Cello	1
66	0	0	65	Contrabass	1
67	0	0	66	Banjo	1
68	0	0	67	Shamisen	1
69	0	0	68	Koto	1
70	0	0	69	Harp	2
71	0	0	70	Sitar	2
Ensemble					
72	0	0	71	Strings 1	2
73	0	0	72	Strings 2	2
74	0	0	73	Chamber Strings	2
75	0	0	74	Synth Strings	2
76	0	0	75	Slow Strings	2
77	0	0	76	Tremolo Strings	2
78	0	0	77	Violin w/Strings	2
79	0	0	78	Pizzicato Strings	2
80	0	0	79	Choir	2
81	0	0	80	Choir Aahs	2
82	0	0	81	Choir Oohs	2
83	0	0	82	Synth Choir	2
84	0	0	83	Voyager	2
85	0	0	84	Orchestra Hit	1

Voice Number	Bank Select MSB	Bank Select LSB	MIDI Program Number	Voice Name	Number of Notes Used
Brass					
86	0	0	85	Trumpet	2
87	0	0	86	Flugel Horn	2
88	0	0	87	Muted Trumpet	2
89	0	0	88	Trombone	2
90	0	0	89	Trombone Section	2
91	0	0	90	French Horn	1
92	0	0	91	Tuba	1
93	0	0	92	Brass Section	2
94	0	0	93	Brass+Sax	2
95	0	0	94	Brass+Trombone	2
96	0	0	95	Brass+Trumpet	2
97	0	0	96	Synth Brass 1	2
98	0	0	97	Synth Brass 2	2
Reed					
99	0	0	98	Soprano Sax	2
100	0	0	99	Alto Sax	1
101	0	0	100	Breathy Alto Sax	2
102	0	0	101	Tenor Sax	1
103	0	0	102	Breathy Tenor Sax	2
104	0	0	103	Baritone Sax	2
105	0	0	104	Sax + Clarinet	2
106	0	0	105	Sax+Trombone	2
107	0	0	106	Oboe	1
108	0	0	107	English Horn	1
109	0	0	108	Bassoon	1
110	0	0	109	Clarinet	1
111	0	0	110	Harmonica	1
112	0	0	111	Shanai	1
113	0	0	112	Bagpipe	2
Pipe					
114	0	0	113	Piccolo	2
115	0	0	114	Flute	2
116	0	0	115	Pan Flute	2
117	0	0	116	Recorder	1
118	0	0	117	Blown Bottle	2
119	0	0	118	Shakuhachi	1
120	0	0	119	Whistle	1
121	0	0	120	Ocarina	1
Synth Lead					
122	0	0	121	Square Lead	2
123	0	0	122	Sawtooth Lead	2
124	0	0	123	Voice Lead	2
125	0	0	124	Crystal	2
126	0	0	125	Brightness	2
127	0	0	126	Sub Aqua	2
128	0	0	127	Analog Lead	2
129	0	1	0	Rain Hold	2
130	0	1	1	70's Lead	2
131	0	1	2	Synth Clavi	2

Voice Number	Bank Select MSB	Bank Select LSB	MIDI Program Number	Voice Name	Number of Notes Used
Synth Pad					
132	0	1	3	Fantasia	2
133	0	1	4	Bell Pad	2
134	0	1	5	Xenon Pad	2
135	0	1	6	Angels	2
136	0	1	7	Transform	2
137	0	1	8	Atmosphere	2
138	0	1	9	Shining	2
139	0	1	10	Dark Moon	2
140	0	1	11	Cyber Pad	2
141	0	1	12	Sci-Fi	2
Oriental					
142	0	97	107	Kanoun	1
143	0	98	107	Kanoun Octave	2
144	0	98	105	Oud	1
145	0	99	105	Oud with tremolo	2
146	0	97	110	Rababa	1
147	0	96	110	Kaman	1
148	0	96	50	Wataryat	2
149	0	98	25	Bouzouki	1
150	0	97	106	Baglamas	1
151	0	97	15	Santuri	1
152	0	97	25	Bouzouk	2
153	0	97	71	Mizmar	1
154	0	96	74	Mijwez	1
155	0	96	73	Nay	1
156	0	96	75	Kawala	1
157	0	96	109	Argoul	1
158	0	96	61	Arabic Brass	1
159	0	96	19	Arabic Organ	2
160	0	96	23	Arabic Accordion	2
Drum Kits					
161	127	0	0	Standard Kit	1
162	127	0	8	Room Kit	1
163	127	0	16	Rock Kit	1
164	127	0	24	Electronic Kit	1
165	127	0	25	Analog Kit	1
166	127	0	32	Jazz Kit	1
167	127	0	40	Brush Kit	1
168	127	0	48	Classic Kit	1
169	127	0	64	Arabic Kit	1
Dual Only					
170	0	1	13	Organ Harmonics 51/3	1
171	0	1	14	Organ Harmonics 51/3+ 22/3	2

GM Voice List /

Voice Number	MIDI Program Number	Voice Name	Number of Notes Used
Piano			
01	0	Acoustic Grand Piano	1
02	1	Bright Acoustic Piano	1
03	2	Electric Grand Piano	2
04	3	Honky-tonk Piano	2
05	4	Electric Piano 1	2
06	5	Electric Piano 2	2
07	6	Harpsichord	1
08	7	Clavi	1
Chromatic Percussion			
09	8	Celesta	1
10	9	Glockenspiel	1
11	10	Music Box	2
12	11	Vibraphone	1
13	12	Marimba	1
14	13	Xylophone	1
15	14	Tubular Bells	1
16	15	Dulcimer	2
Organ			
17	16	Drawbar Organ	1
18	17	Percussive Organ	1
19	18	Rock Organ	2
20	19	Church Organ	2
21	20	Reed Organ	1
22	21	Accordion	2
23	22	Harmonica	1
24	23	Bandoneon	2
Guitar			
25	24	Acoustic Guitar (nylon)	1
26	25	Acoustic Guitar (steel)	1
27	26	Electric Guitar (jazz)	1
28	27	Electric Guitar (clean)	2
29	28	Electric Guitar (muted)	1
30	29	Overdriven Guitar	1
31	30	Distortion Guitar	1
32	31	Guitar Harmonics	1
Bass			
33	32	Acoustic Bass	1
34	33	Electric Bass (finger)	1
35	34	Electric Bass (pick)	1
36	35	Fretless Bass	1
37	36	Slap Bass 1	1
38	37	Slap Bass 2	1
39	38	Synth Bass 1	1
40	39	Synth Bass 2	1
Strings			
41	40	Violin	1
42	41	Viola	1
43	42	Cello	1
44	43	Contrabass	1
45	44	Tremolo Strings	2
46	45	Pizzicato Strings	2
47	46	Orchestral Harp	1
48	47	Timpani	1
Ensemble			
49	48	Strings Ensemble 1	1
50	49	Strings Ensemble 2	1
51	50	Synth Strings 1	2
52	51	Synth Strings 2	2
53	52	Choir Aahs	2
54	53	Voice Oohs	1
55	54	Synth Voice	1
56	55	Orchestra Hit	1
Brass			
57	56	Trumpet	1
58	57	Trombone	1
59	58	Tuba	1
60	59	Muted Trumpet	1
61	60	French Horn	1
62	61	Brass Section	1
63	62	Synth Brass 1	2
64	63	Synth Brass 2	2
Reed			
65	64	Soprano Sax	1
66	65	Alto Sax	1
67	66	Tenor Sax	1
68	67	Baritone Sax	1
69	68	Oboe	1
70	69	English Horn	1
71	70	Bassoon	1
72	71	Clarinet	1
Pipe			
73	72	Piccolo	1
74	73	Flute	1
75	74	Recorder	1
76	75	Pan Flute	1
77	76	Blown Bottle	2
78	77	Shakuhachi	1
79	78	Whistle	1
80	79	Ocarina	1
Synth Lead			
81	80	Lead 1 (square)	2
82	81	Lead 2 (sawtooth)	2
83	82	Lead 3 (calliope)	2
84	83	Lead 4 (chiff)	2
85	84	Lead 5 (charang)	2
86	85	Lead 6 (voice)	2
87	86	Lead 7 (fifth)	2
88	87	Lead 8 (bass+Lead)	2
Synth Pad			
89	88	Pad 1 (new age)	2
90	89	Pad 2 (warm)	2
91	90	Pad 3 (polysynth)	2
92	91	Pad 4 (choir)	2
93	92	Pad 5 (bowed)	2
94	93	Pad 6 (metallic)	2
95	94	Pad 7 (halo)	2
96	95	Pad 8 (sweep)	2
Synth Effects			
97	96	FX 1 (rain)	2
98	97	FX 2 (soundtrack)	2
99	98	FX 3 (crystal)	2
100	99	FX 4 (atmosphere)	2
101	100	FX 5 (brightness)	2
102	101	FX 6 (goblins)	2
103	102	FX 7 (echoes)	2
104	103	FX 8 (sci-fi)	2
Ethnic			
105	104	Sitar	1
106	105	Banjo	1
107	106	Shamisen	1
108	107	Koto	1
109	108	Kalimba	1
110	109	Bagpipe	2
111	110	Fiddle	1
112	111	Shanai	1
Percussive			
113	112	Tinkle Bell	2
114	113	Agogo	1
115	114	Steel Drums	2
116	115	Woodblock	1
117	116	Taiko Drum	1
118	117	Melodic Tom	1
119	118	Synth Drum	1
120	119	Reverse Cymbal	1
Sound Effects			
121	120	Guitar Fret Noise	1
122	121	Breath Noise	1
123	122	Seashore	2
124	123	Bird Tweet	2
125	124	Telephone Ring	1
126	125	Helicopter	2
127	126	Applause	2
128	127	Gunshot	1
Drum Kits			
129	0	Standard Kit	1
130	8	Room Kit	1
131	16	Rock Kit	1
132	24	Electronic Kit	1
133	25	Analog Kit	1
134	32	Jazz Kit	1
135	40	Brush Kit	1
136	48	Classic Kit	1
137	64	Arabic Kit	1

Percussion Kit List /

* "<——" indicates the content is the same as that of Standard Kit.
* The number in parentheses ( ) after the percussion kit name is the MIDI program number.
* The corresponding MIDI note numbers for the notes listed in the chart below are actually one octave lower. For example, the MIDI note number for note #36 (C1) in the chart is note #24 (C0).
* Each drum/percussion voice uses one note.
* The drum and percussion voices in same alternate group *1–8 can not be played at the same time.
* The PSR-A3 has two Arabic Kits (Panel Arabic Kit: panel voice number 169 and GM Arabic Kit: GM voice number 137). Panel Arabic Kit will be used when you normally play on the keyboard or the PSR-A3 receives program change messages on the specified remote channel or receives program change messages after receiving "Panel Voice" message. GM Arabic Kit will be selected only when you change the accompaniment track voices, or the PSR-A3 receives program change messages through MIDI under the condition excepting the ones mentioned above.
* GM voice numbers 129 through 136 correspond to the panel voice numbers 161 through 168 respectively.

Note#	Note	**161/129: Standard Kit** (0)	**162/130: Room Kit** (8)	**163/131: Rock Kit** (16)	**164/132: Electronic Kit** (24)	**165/133: Analog Kit** (25)
25	C♯0	Surdo Mute	<——	<——	<——	<——
26	D0	Surdo Open	<——	<——	<——	<——
27	D♯0	Hi Q	<——	<——	<——	<——
28	E0	Whip Slap	<——	<——	<——	<——
29	F0	Scratch H	<——	<——	<——	<——
30	F♯0	Scratch L	<——	<——	<——	<——
31	G0	FingerSnap	<——	<——	<——	<——
32	G♯0	Click Noise	<——	<——	<——	<——
33	A0	Metronome Click	<——	<——	<——	<——
34	A♯0	Metronome Bell	<——	<——	<——	<——
35	B0	Click L (Square wave)	<——	<——	<——	<——
36	C1	Click H (Square wave)	<——	<——	<——	<——
37	C♯1	Brush Tap	<——	<——	<——	<——
38	D1	Brush Swirl	<——	<——	<——	<——
39	D♯1	Brush Slap	<——	<——	<——	<——
40	E1	Brush Swirl W/Attack	<——	<——	Reverse Cymbal	Reverse Cymbal
41	F1	Snare Roll	<——	<——	<——	<——
42	F♯1	Castanet	<——	<——	Hi-Q	Hi-Q
43	G1	Snare H Soft	Snare Room L	Snare Rock L	Snare Gate L	Snare Analog L
44	G♯1	Sticks	<——	<——	<——	<——
45	A1	Bass Drum H Soft	Bass Drum Room L	Bass Drum Rock L	Bass Drum Gate L	Bass Drum Analog L
46	A♯1	Open Rim Shot	<——	<——	<——	<——
47	B1	Bass Drum L	Bass Drum Room M	Bass Drum Rock M	Bass Drum Gate M	Bass Drum Analog M
48	C2	Bass Drum H Hard	Bass Drum Room H	Bass Drum Rock H	Bass Drum Gate H	Bass Drum Analog H
49	C♯2	Closed Rim Shot	<——	<——	<——	Closed Rim Shot Analog
50	D2	Snare L	Snare Room M	Snare Rock M	Snare Gate M	Snare Analog M
51	D♯2	Hand Clap	<——	<——	<——	<——
52	E2	Snare H Hard	Snare Room H	Snare Rock H	Snare Gate H	Snare Analog H
53	F2	Floor Tom L	Room Tom 1	Rock Tom 1	Electronic Tom 1	Snare Analog H
54	F♯2	Hi-Hat Closed *1	<——	<——	<——	Analog Hi-hat Closed 1 *3
55	G2	Floor Tom H	Room Tom 2	Rock Tom 2	Electronic Tom 2	Analog Tom 2
56	G♯2	Hi-Hat Pedal *1	<——	<——	<——	Analog Hi-hat Closed 2 *3
57	A2	Low Tom	Room Tom 3	Rock Tom 3	Electronic Tom 3	Analog Tom 3
58	A♯2	Hi-Hat Open *1	<——	<——	<——	Analog Hi-hat Open *3
59	B2	Mid Tom L	Room Tom 4	Rock Tom 4	Electronic Tom 4	Analog Tom 4
60	C3	Mid Tom H	Room Tom 5	Rock Tom 5	Electronic Tom 5	Analog Tom 5
61	C♯3	Crash Cymbal 1	<——	<——	<——	<——
62	D3	High Tom	Room Tom 6	Rock Tom 6	Electronic Tom 6	Analog Tom 6
63	D♯3	Ride Cymbal 1	<——	<——	<——	<——
64	E3	Chinese Cymbal	<——	<——	<——	<——
65	F3	Ride Cymbal Cup	<——	<——	<——	<——
66	F♯3	Tambourine	<——	<——	<——	<——
67	G3	Splash Cymbal	<——	<——	<——	<——
68	G♯3	Cowbell	<——	<——	<——	<——
69	A3	Crash Cymbal 2	<——	<——	<——	<——
70	A♯3	Vibraslap	<——	<——	<——	<——
71	B3	Ride Cymbal 2	<——	<——	<——	<——
72	C4	Bongo H	<——	<——	<——	<——
73	C♯4	Bongo L	<——	<——	<——	<——
74	D4	Conga H Mute	<——	<——	<——	<——
75	D♯4	Conga H Open	<——	<——	<——	<——
76	E4	Conga L	<——	<——	<——	<——
77	F4	Timbale H	<——	<——	<——	<——
78	F♯4	Timbale L	<——	<——	<——	<——
79	G4	Agogo H	<——	<——	<——	<——
80	G♯4	Agogo L	<——	<——	<——	<——
81	A4	Cabasa	<——	<——	<——	<——
82	A♯4	Maracas	<——	<——	<——	<——
83	B4	Samba Whistle H	<——	<——	<——	<——
84	C5	Samba Whistle L	<——	<——	<——	<——
85	C♯5	Guiro Short	<——	<——	<——	<——
86	D5	Guiro Long	<——	<——	<——	<——
87	D♯5	Claves	<——	<——	<——	<——
88	E5	Wood Block H	<——	<——	<——	<——
89	F5	Wood Block L	<——	<——	<——	<——
90	F♯5	Cuica Mute	<——	<——	Scratch H	Scratch H
91	G5	Cuica Open	<——	<——	Scratch L	Scratch L
92	G♯5	Triangle Mute *2	<——	<——	<——	<——
93	A5	Triangle Open *2	<——	<——	<——	<——
94	A♯5	Shaker	<——	<——	<——	<——
95	B5	Jingle Bell	<——	<——	<——	<——
96	C6	Bell Tree	<——	<——	<——	<——

Note#	Note	**166/134: Jazz Kit** (32)	**167/135: Brush Kit** (40)	**168/136: Classic Kit** (48)	**169: Panel Arabic Kit** (64)	**137: GM Arabic Kit** (64)
25	C#0	<——	<——	<——	—	Tabel Tak
26	D0	<——	<——	<——	—	Tabel Dom
27	D#0	<——	<——	<——	—	Nakarazan Edge
28	E0	<——	<——	<——	—	Whip Slap
29	F0	<——	<——	<——	—	Scratch H
30	F#0	<——	<——	<——	—	Scratch L
31	G0	<——	<——	<——	—	Nakarazan Dom
32	G#0	<——	<——	<——	—	Katem Tak
33	A0	<——	<——	<——	—	Katem Sak
34	A#0	<——	<——	<——	—	Katem Dom
35	B0	<——	<——	<——	—	Rik Tak 2
36	C1	<——	<——	<——	Nakarazan Dom	Rik Tak 1
37	C#1	<——	<——	<——	Cabasa	Rik Finger 2
38	D1	<——	<——	<——	Nakarazan Edge	Brush Swirl
39	D#1	<——	<——	<——	Hager Dom	Rik Finger 1
40	E1	<——	<——	<——	Hager Edge	Rik Brass Tremolo
41	F1	<——	<——	<——	Bongo H	Tabla Roll of Edge
42	F#1	<——	<——	<——	Bongo L	Rik Dom
43	G1	<——	Brush Slap L	Snare Classic L	Conga H Mute	Duhulla Sak
44	G#1	<——	<——	<——	Conga H Open	Rik Sak
45	A1	<——	<——	Gran Casa L	Conga L	Tabla Dom
46	A#1	<——	<——	<——	Zagrouda H	Tabla Sak
47	B1	<——	<——	Gran Casa M	Zagrouda L	Duhulla Dom
48	C2	<——	<——	Gran Casa H	Bass Drum L	Bass Drum L
49	C#2	<——	<——	<——	Closed Rim Shot	Closed Rim Shot
50	D2	<——	Brush Slap H	Snare Classic M	Snare H Soft	Snare H Soft
51	D#2	<——	<——	<——	Arabic Hand Clap	Arabic Hand Clap
52	E2	<——	Brush Tap	Snare Classic H	Snare H Hard	Snare H Hard
53	F2	Natural Tom 1	Brush Tom 1	Natural Tom 1	Floor Tom L	Floor Tom L
54	F#2	Dark Hi-Hat Closed *4	Dark Hi-Hat Closed *5	Dark Hi-Hat Closed *6	Dark Hi-Hat Closed *7	Dark Hi-Hat Closed *8
55	G2	Natural Tom 2	Brush Tom 2	Natural Tom 2	Floor Tom H	Floor Tom H
56	G#2	Dark Hi-Hat Pedal *4	Dark Hi-Hat Pedal *5	Dark Hi-Hat Pedal *6	Dark Hi-Hat Pedal *7	Dark Hi-Hat Pedal *8
57	A2	Natural Tom 3	Brush Tom 3	Natural Tom 3	Low Tom	Low Tom
58	A#2	Dark Hit Hat Open *4	Dark Hit Hat Open *5	Dark Hit Hat Open *6	Dark Hit Hat Open *7	Dark Hit Hat Open *8
59	B2	Natural Tom 4	Brush Tom 4	Natural Tom 4	Mid Tom L	Mid Tom L
60	C3	Natural Tom 5	Brush Tom 5	Natural Tom 5	Mid Tom H	Mid Tom H
61	C#3	<——	<——	Hand Cymbal Long L	Crash Cymbal 1	Crash Cymbal 1
62	D3	Natural Tom 6	Brush Tom 6	Natural Tom 6	High Tom	High Tom
63	D#3	<——	<——	Hand Cymbal Short L	Ride Cymbal 1	Ride Cymbal 1
64	E3	<——	<——	<——	Crash Cymbal 2	Chinese Cymbal
65	F3	<——	<——	<——	Duhulla Dom	Ride Cymbal Cup
66	F#3	<——	<——	<——	Tambourine	Tambourine
67	G3	<——	<——	<——	Duhulla Tak	Splash Cymbal
68	G#3	<——	<——	<——	Cowbell	Cowbell
69	A3	<——	<——	Hand Cymbal Long H	Duhulla Sak	Crash Cymbal 2
70	A#3	<——	<——	<——	Claves	Tabla Flam
71	B3	<——	<——	Hand Cymbal Short H	Doff Dom	Rik Tik
72	C4	<——	<——	<——	Katem Dom	Bongo H
73	C#4	<——	<——	<——	Katem Tak	Bongo L
74	D4	<——	<——	<——	Katem Sak	Conga H Mute
75	D#4	<——	<——	<——	Katem Tak	Conga H Open
76	E4	<——	<——	<——	Doff Tak	Conga L
77	F4	<——	<——	<——	Tabla Dom	Doff Tak
78	F#4	<——	<——	<——	Tabla Tak1	Doff Dom
79	G4	<——	<——	<——	Tabla Tik	Agogo H
80	G#4	<——	<——	<——	Tabla Tak2	Agogo L
81	A4	<——	<——	<——	Tabla Sak	Cabasa
82	A#4	<——	<——	<——	Tabla Roll of Edge	Tabla Tik
83	B4	<——	<——	<——	Tabla Flam	Zagrouda H
84	C5	<——	<——	<——	Sagat 1	Zagrouda L
85	C#5	<——	<——	<——	Tabel Dom	Guiro Short
86	D5	<——	<——	<——	Sagat 3	Guiro Long
87	D#5	<——	<——	<——	Tabel Tak	Claves
88	E5	<——	<——	<——	Sagat 2	Tabla Tak2
89	F5	<——	<——	<——	Rik Dom	Tabla Tak1
90	F#5	<——	<——	<——	Rik Tak 2	Hager Edge
91	G5	<——	<——	<——	Rik Finger 1	Hager Dom
92	G#5	<——	<——	<——	Rik Tak 1	Sagat 2
93	A5	<——	<——	<——	Rik Finger 2	Sagat 3
94	A#5	<——	<——	<——	Rik Brass Tremolo	Duhulla Tak
95	B5	<——	<——	<——	Rik Sak	Sagat 1
96	C6	<——	<——	<——	Rik Tik	Bell Tree

MIDI Implementation Chart /

[Portable Keyboard]
Model: PSR-A3

MIDI Implementation Chart

Date: 1995. 5. 18
Version: 1.00

Function		Transmitted	Recognized	Remarks
Basic	Default	1~16 CH	1~16 CH (*1)	
Channel	Changed	1~16 CH	1~16 CH (*1)	
Mode	Default	Mode 3	(*1)	
	Messages	×	×	
	Altered	**********	×	
Note Number	: True voice	0~127 **********	0~127 0~127	
Velocity	Note on	○ 9nH, v=1~127	○ 9nH, v=1~127	
	Note off	× 9nH, v=0	× 9nH, v=0 or 8nH	
After Touch	key's	×	×	
	Ch's	×	×	
Pitch Bender		○	○	
Control Change	0, 32	○	○	Bank select MSB, LSB (*2)
	1	× (*3)	○	Modulation
	6, 38	○	○	Data entry MSB, LSB
	7	○	○	Volume
	10	○	○	Pan
	11	× (*3)	○	Expression
	64	○	○	Sustain
	66	× (*3)	○	Sostenuto
	67	× (*3)	○	Soft pedal
	71	× (*3)	○	Harmonic content
	72	× (*3)	○	Release time
	73	× (*3)	○	Attack time
	74	× (*3)	○	Brightness
	84	× (*3)	○	Portamento control
	91	○	○	Reverb send level
	93	○	○	Chorus send level
	94	○	○	DSP send level
	96, 97	× (*3)	○	Data increment, decrement
	98, 99	× (*3)	○	NRPN LSB, MSB (*4)
	100, 101	○	○	RPN LSB, MSB (*5)
	120	○ (*6)	○	All sound off
	121	×	○	Reset all controllers (*7)
Program Change	: True #	○ 0~127 **********	○ 0~127 0~127 (*8)	
System Exclusive		○	○	(*10)
System Common	: Song Position	×	×	
	: Song Select	×	×	
	: Tune	×	×	
System Real Time	: Clock	○	○ (*9)	
	: Commands	○	○ (*9)	Start, stop
Aux Messages	: Local ON/OFF	×	×	
	: All Notes Off	×	○	
	: Active Sense	○	○	
	: Reset	×	×	

Mode 1: OMNI ON, POLY
Mode 2: OMNI ON, MONO
Mode 3: OMNI OFF, POLY
Mode 4: OMNI OFF, MONO

○: Yes
×: No

*1 PSR-A3 ordinarily functions as 16 MIDI channel multi-timbral tone generator controlled by MIDI reception data. Panel voices and the other panel settings are not affected by the MIDI message, excepting the followings:

MIDI Master Tuning
System Exclusive Message for controlling Reverb, Chorus and Dsp

The Remote Channel can be designated by the panel settings. The designated channel on the PSR-A3 can be controlled by an external device and receive all the data excepting the following control change data:

Data entry, MSB, LSB
Portamento control
Data increment
Data decrement
NRPN LSB, MSB
RPN LSB, MSB

*2 Bank Select MSB
The bank select MSB is used for melody voice and rhythm voice switching.

MSB 00H: Melody voice.
MSB 7FH: Rhythm voice.

Transmission: Transmitted when changing the voice, style and song.
Reception: All channels except10 channel receive this message. (10 channel is fixed at rhythm voice.). But when 10 channel is set for the remote channel or receives XG System On message, 10 channel receives this message and the rhythm voice can change to the melody voice.

Bank Select LSB
This message is used to correspond to the panel voice numbers higher than 128.

Bank Select LSB=00H: program change numbers 0~127 correspond to the panel voice numbers 1~128.
Bank Select LSB=01H: program change numbers 0~12 correspond to the panel voice numbers 129~141.
Bank Select LSB=96H~99H: Oriental voices (refer to the Panel Voice List on page 90).

Transmission: Transmitted when changing the voice, style and song.
Reception: This message can be received only at the channel designated as the remote channel or the panel voice.

No voice change will occur when only a bank select is received. When a program change is received the latest bank select value is used.

*3 These Control Change messages are not transmitted by the PSR-A3 panel operation, but may be transmitted by the accompaniment style playing.

*4 NRPN transmission/reception
The following parameters are supported.

NRPN MSB	NRPN LSB	Data entry MSB	Data entry LSB	Parameter Name/Range	Default
01H	08H	mmH	- -	Vibrato Rate mm : 00H - 40H - 7FH (-64 - 0 - +63)	40H
01H	09H	mmH	- -	Vibrato Depth mm : 00H - 40H - 7FH (-64 - 0 - +63)	40H
01H	0AH	mmH	- -	Vibrato Delay mm : 00H - 40H - 7FH (-64 - 0 - +63)	40H
01H	20H	mmH	- -	Filter Cutoff Freq. mm : 00H - 40H - 7FH (-64 - 0 - +63)	40H
01H	21H	mmH	- -	Filter Resonance mm : 00H - 40H - 7FH (-64 - 0 - +63)	40H
01H	63H	mmH	- -	EG Attack Time mm : 00H - 40H - 7FH (-64 - 0 - +63)	40H
01H	64H	mmH	- -	EG Decay Time mm : 00H - 40H - 7FH (-64 - 0 - +63)	40H
01H	66H	mmH	- -	EG Release TIme mm: 00H - 40H - 7FH (-64 - 0 - +63)	40H
14H	rrH	mmH	- -	Drum Filter Cutoff Freq. rr: drum instrument note number mm: 00H - 40H - 7FH (-64 - 0 - +63)	40H
15H	rrH	mmH	- -	Drum Filter Resonance rr: drum instrument note number mm: 00H - 40H - 7FH (-64 - 0 - +63)	40H
16H	rrH	mmH	- -	Drum EG Attack Rate rr: drum instrument note number mm: 00H - 40H - 7FH (-64 - 0 - +63)	40H
17H	rrH	mmH	- -	Drum EG Decay Rate rr: drum instrument note number mm: 00H - 40H - 7FH (-64 - 0 - +63)	40H
18H	rrH	mmH	- -	Drum Instrument Pitch Course rr: drum instrument note number mm: 00H - 40H - 7FH (-64 - 0 - +63)	40H
19H	rrH	mmH	- -	Drum Instrument Pitch Fine rr: drum instrument note number mm: 00H - 40H - 7FH (-64 - 0 - +63)	40H
1AH	rrH	mmH	- -	Drum Instrument Level rr: drum instrument note number mm: 00H - 7FH (0 - 127)	Depends on note
1CH	rrH	mmH	- -	Drum Instrument Panpot rr: drum instrument note number mm: 00H - 40H - 7FH (L - Center - R)	Depends on note
1DH	rrH	mmH	- -	Drum Instrument Reverb Send Level rr: drum instrument note number mm: 00H - 7FH (0 - 127)	Depends on note
1EH	rrH	mmH	- -	Drum Instrument Chorus Send Level rr: drum instrument note number mm: 00H - 7FH (0 - 127)	Depends on note
1FH	rrH	mmH	- -	Drum Instrument DSP Send Level rr: drum instrument note number mm : 00H - 7FH (0 - 127)	7FH

Data entry LSB is ignored.

*5 RPN transmission/reception
The following parameters are supported.

RPN MSB	RPN LSB	Data entry MSB	Data entry LSB	Parameter Name/Range	Default
00H	00H	mmH	- -	Pitch bend Sensitivity mm: 00H - 02H - 0CH (0 - 2 - 12)	02H
00H	01H	mmH	- -	Fine Tuning mm: 00H - 40H - 7FH (-64 - 0 - +63)	40H
00H	02H	mmH	- -	Course Tuning mm: 00H - 40H - 7FH (-64 - 0 - +63)	40H
7FH	7FH	- -	- -	RPN Null Clears current RPN and NRPN number settings.	- -

Data entry LSB is ignored.

*6 Not transmitted when Song and Accompaniment is playing.

*7 Pitch Bend, modulation, expression, sustain, sostenuto and softpedal are returned to their defult values.
Clears current RPN and NRPN number settings.
Resets portament source note number.

*8 129~160 voice numbers are selectable through an appropriate Bank Select setting (Refer to *2).

*9 When the External Clock is turned ON by PSR-A3 panel setting, Clock, Start/Stop message will be received.
The start/stop of the song recording and playback will be controlled by the external device. The initial set up data is transmitted before the song playback, so that the start may be delayed.

*10 Exclusive

The following system exclusive parameters are supported.

<GM system ON> F0H, 7EH, 7FH, 09H, 01H, F7H

All parameters except MIDI master Tuning and Dsp setting are reset to their default values.
Remote Channel setting is canceled.
This message requires approximately 50ms to execute, so sufficient time should be allowed before the next message is sent.

<DISK ORCHESTRA ON> F0H, 43H, 73H, 01H, 14H, F7H

This message switches PSR-A3 to Disk Orchestra defualt settings.
Remote Channel setting is canceled.
This message requires approximately 50ms to execute, so sufficient time should be allowed before the next message is sent.

<DISK ORCHESTRA OFF> F0H, 43H, 73H, 01H, 13H, F7H

This message switches Disk Orchestra ON to OFF.
All parameters except MIDI master Tuning are reset to their default values.
This message requires approximately 50ms to execute, so sufficient time should be allowed before the next message is sent.

<MIDI Master Volume> F0H, 7FH, 7FH, 04H, 01H, ll, mm, F7H

Allows the volume of all channels to be changed simultaneously.
"mm" is used as the MIDI Master Volume value ("ll" is ignored).
The defalut value for "mm" is 7FH.

<MIDI Master Tuning>

F0H, 43H, 1nH, 27H, 30H, 00H, 00H, mm, ll, cc, F7H
"mmll" is used as the MIDI Master Tuning value.
The tuning value is represented as follows:

T=M-128 (28<=M<=228), T=-100 (M<28), T=100 (M>228)

Where T is the actual tuning value in cents.
M is decimal value represented by 1-byte using bits 0..3 of "mm" as the MSB and bits 0..3 of "ll" as the LSB.

The default values of "mm" and "ll" are 08H and 00H resprectively.
n and cc are also recognized.
This value is not reset by a GM System ON or Reset All Controllers message.
This value affects not only MIDI reception part but the entire system of the PSR-A3.

<Panel Voice> F0H, 43H, 76H, 1BH, cc, vv, F7H

This message alternately selects Panel voice or GM voice.

cc: MIDI channel
vv: 00=GM voice mode/01=Panel voice mode

GM voice mode is defalut.
This message is ignored by the remote channel.

<Bulk Dump>

Song Memory:
F0H, 43H, 76H, 1CH, bl, bh, <DATA>, cs, F7H
Multi Pad:
F0H, 43H, 76H, 1DH, bl, bh, <DATA>, cs, F7H
Registration Memory:
F0H, 43H, 76H, 1EH, bl, bh, <DATA>, cs, F7H
Scale Memory:
F0H, 43H, 76H, 1FH, bl, bh, <DATA>, cs, F7H

"bl" and "bh" represent the total byte count as "bl + bh*128".
cs=Checksum.

<XG System On> F0H, 43H, 1nH, 4CH, 00H, 00H, 7EH, 00H, F7H

n: device number (transmission: n=0, reception: n is ignored.)

All parameters except MIDI master Tuning are reset to their default values.
Remote Channel setting is canceled.
This message requires approximately 50ms to execute, so sufficient time should be allowed before the next message is sent.

<XG Parameter Change>

F0H, 43H, 1nH, 4CH, aaH, bbH, ccH, ddH.....F7H
n: device number(transmission: n=0, reception: n is ignored.)
aa,bb,cc: address High, Mid, Low (see below)
dd: data (succesive transmission and reception are possible within the amount of data shown in the following Table-1)

Note: PSR-A3 corresponds to XG parameters in the Table-1. But this is a part of XG parameters, PSR-A3 does not perfectly correspond to XG format.

<Table-1> Parameter Change

SYSTEM

Address (H)			Size (H)	Data (H)	Parameter	Description	Default value(H)
00	00	00	4	0000 - 07FF	MASTER TUNE	-102.4 - +102.3[cent]	00 04 00 00
		01				1st bit3-0 → bit15-12	
		02				2nd bit3-0 → bit11-8	
		03				3rd bit3-0 → bit7-4	
						4th bit3-0 → bit3-0	
		04	1	00 - 7F	MASTER VOLUME	0 - 127	7F
		06	1	28 - 58	TRANSPOSE	-24 - +24[semitone]	40
		7D	1	00 - 01	DRUM SETUP RESET	00: Drum setup 1 01: Drum setup 2	—
		7E	1	00	XG SYSTEM ON		—
		7F	1	00	ALL PARAMETER RESET		—

EFFECT

Address (H)			Size (H)	Data (H)	Parameter	Description	Default value(H)
02	01	00	2	00-7F	REVERB TYPE MSB	Refer to Table-2	01(=HALL1)
				00-7F	REVERB TYPE LSB	Refer to Table-2	00
		02	1	00-7F	REVERB PARAMETER 1	Refer to Table-3	Depends on reverb type
		03	1	00-7F	REVERB PARAMETER 2	Refer to Table-3	Depends on reverb type
		04	1	00-7F	REVERB PARAMETER 3	Refer to Table-3	Depends on reverb type
		05	1	00-7F	REVERB PARAMETER 4	Refer to Table-3	Depends on reverb type
		06	1	00-7F	REVERB PARAMETER 5	Refer to Table-3	Depends on reverb type
		07	1	00-7F	REVERB PARAMETER 6	Refer to Table-3	Depends on reverb type
		08	1	00-7F	REVERB PARAMETER 7	Refer to Table-3	Depends on reverb type
		09	1	00-7F	REVERB PARAMETER 8	Refer to Table-3	Depends on reverb type
		0A	1	00-7F	REVERB PARAMETER 9	Refer to Table-3	Depends on reverb type
		0B	1	00-7F	REVERB PARAMETER 10	Refer to Table-3	Depends on reverb type
		0C	1	00-7F	REVERB RETURN	-∞dB...0dB...+6dB(0...64...127)	40
		0D	1	01-7F	REVERB PAN	L63...C...R63(1...64...127)	40
02	01	10	1	00-7F	REVERB PARAMETER 11	Refer to Table-3	Depends on reverb type
		11	1	00-7F	REVERB PARAMETER 12	Refer to Table-3	Depends on reverb type
		12	1	00-7F	REVERB PARAMETER 13	Refer to Table-3	Depends on reverb type
		13	1	00-7F	REVERB PARAMETER 14	Refer to Table-3	Depends on reverb type
		14	1	00-7F	REVERB PARAMETER 15	Refer to Table-3	Depends on reverb type
		15	1	00-7F	REVERB PARAMETER 16	Refer to Table-3	Depends on reverb type
02	01	20	2	00-7F	CHORUS TYPE MSB	Refer to Table-2	41(=CHORUS1)
				00-7F	CHORUS TYPE LSB	Refer to Table-2	00
		22	1	00-7F	CHORUS PARAMETER 1	Refer to Table-3	Depends on chorus type
		23	1	00-7F	CHORUS PARAMETER 2	Refer to Table-3	Depends on chorus type
		24	1	00-7F	CHORUS PARAMETER 3	Refer to Table-3	Depends on chorus type
		25	1	00-7F	CHORUS PARAMETER 4	Refer to Table-3	Depends on chorus type
		26	1	00-7F	CHORUS PARAMETER 5	Refer to Table-3	Depends on chorus type
		27	1	00-7F	CHORUS PARAMETER 6	Refer to Table-3	Depends on chorus type
		28	1	00-7F	CHORUS PARAMETER 7	Refer to Table-3	Depends on chorus type
		29	1	00-7F	CHORUS PARAMETER 8	Refer to Table-3	Depends on chorus type
		2A	1	00-7F	CHORUS PARAMETER 9	Refer to Table-3	Depends on chorus type
		2B	1	00-7F	CHORUS PARAMETER 10	Refer to Table-3	Depends on chorus type
		2C	1	00-7F	CHORUS RETURN	-∞dB...0dB...+6dB(0...64...127)	40
		2D	1	01-7F	CHORUS PAN	L63...C...R63(1...64...127)	40
		2E	1	00-7F	SEND CHORUS TO REVERB	-∞dB...0dB...+6dB(0...64...127)	00
02	01	30	1	00-7F	CHORUS PARAMETER 11	Refer to Table-3	Depends on chorus type
		31	1	00-7F	CHORUS PARAMETER 12	Refer to Table-3	Depends on chorus type
		32	1	00-7F	CHORUS PARAMETER 13	Refer to Table-3	Depends on chorus type
		33	1	00-7F	CHORUS PARAMETER 14	Refer to Table-3	Depends on chorus type
		34	1	00-7F	CHORUS PARAMETER 15	Refer to Table-3	Depends on chorus type
		35	1	00-7F	CHORUS PARAMETER 16	Refer to Table-3	Depends on chorus type
02	01	40	2	00-7F	VARIATION TYPE MSB	Refer to Table-2	05(=DELAY L,C,R)
				00-7F	VARIATION TYPE LSB	Refer to Table-2	00
		42	2	00-7F	VARIATION PARAMETER 1 MSB	Refer to Table-3	Depends on variation type
				00-7F	VARIATION PARAMETER 1 LSB	Refer to Table-3	Depends on variation type
		44	2	00-7F	VARIATION PARAMETER 2 MSB	Refer to Table-3	Depends on variation type
				00-7F	VARIATION PARAMETER 2 LSB	Refer to Table-3	Depends on variation type
		46	2	00-7F	VARIATION PARAMETER 3 MSB	Refer to Table-3	Depends on variation type
				00-7F	VARIATION PARAMETER 3 LSB	Refer to Table-3	Depends on variation type
		48	2	00-7F	VARIATION PARAMETER 4 MSB	Refer to Table-3	Depends on variation type
				00-7F	VARIATION PARAMETER 4 LSB	Refer to Table-3	Depends on variation type

Address (H)			Size (H)	Data (H)	Parameter	Description	Default value(H)
		4A	2	00-7F	VARIATION PARAMETER 5 MSB	Refer to Table-3	Depends on variation type
				00-7F	VARIATION PARAMETER 5 LSB	Refer to Table-3	Depends on variation type
		4C	2	00-7F	VARIATION PARAMETER 5 MSB	Refer to Table-3	Depends on variation type
				00-7F	VARIATION PARAMETER 6 LSB	Refer to Table-3	Depends on variation type
		4E	2	00-7F	VARIATION PARAMETER 7 MSB	Refer to Table-3	Depends on variation type
				00-7F	VARIATION PARAMETER 7 LSB	Refer to Table-3	Depends on variation type
		50	2	00-7F	VARIATION PARAMETER 8 MSB	Refer to Table-3	Depends on variation type
				00-7F	VARIATION PARAMETER 8 LSB	Refer to Table-3	Depends on variation type
		52	2	00-7F	VARIATION PARAMETER 9 MSB	Refer to Table-3	Depends on variation type
				00-7F	VARIATION PARAMETER 9 LSB	Refer to Table-3	Depends on variation type
		54	2	00-7F	VARIATION PARAMETER 10 MSB	Refer to Table-3	Depends on variation type
				00-7F	VARIATION PARAMETER 10 LSB	Refer to Table-3	Depends on variation type
		56	1	00-7F	VARIATION RETURN	-∞dB...0dB...+6dB(0...64...127)	40
		57	1	01-7F	VARIATION PAN	L63...C...R63(1...64...127)	40
		58	1	00-7F	SEND VARIATION TO REVERB	-∞dB...0dB...+6dB(0...64...127)	00
		59	1	00-7F	SEND VARIATION TO CHORUS	-∞dB...0dB...+6dB(0...64...127)	00
		5A	1	00-01	VARIATION CONNECTION	“0:INSERTION,1:SYSTEM”	00
		5B	1	00-01	VARIATION PART	00H~0FH: Ch1~16 7F: Off	7F
02	01	70	1	00-7F	VARIATION PARAMETER 11	Refer to Table-3	Depends on variation type
		71	1	00-7F	VARIATION PARAMETER 12	Refer to Table-3	Depends on variation type
		72	1	00-7F	VARIATION PARAMETER 13	Refer to Table-3	Depends on variation type
		73	1	00-7F	VARIATION PARAMETER 14	Refer to Table-3	Depends on variation type
		74	1	00-7F	VARIATION PARAMETER 15	Refer to Table-3	Depends on variation type
		75	1	00-7F	VARIATION PARAMETER 16	Refer to Table-3	Depends on variation type

* VARIATION means PSR-A3 Dsp effect.

MULTI PART

Address (H)			Size (H)	Data (H)	Parameter	Description	Default value(H)
08	nn	07	1	00 - 05	PART MODE	00: NORMAL 01: Preset Drum Setup 02: Drum Setup 1 03: Drum Setup 2	00 (except 10Ch)/02 (10Ch)
	nn	11	1	00 - 7F	DRY LEVEL	0 - 127	7F
	nn	41	1	00 - 7F	SCALE TUNING C	-64 - +63[cent]	40
	nn	42	1	00 - 7F	SCALE TUNING C#	-64 - +63[cent]	40
	nn	43	1	00 - 7F	SCALE TUNING D	-64 - +63[cent]	40
	nn	44	1	00 - 7F	SCALE TUNING D#	-64 - +63[cent]	40
	nn	45	1	00 - 7F	SCALE TUNING E	-64 - +63[cent]	40
	nn	46	1	00 - 7F	SCALE TUNING F	-64 - +63[cent]	40
	nn	47	1	00 - 7F	SCALE TUNING F#	-64 - +63[cent]	40
	nn	48	1	00 - 7F	SCALE TUNING G	-64 - +63[cent]	40
	nn	49	1	00 - 7F	SCALE TUNING G#	-64 - +63[cent]	40
	nn	4A	1	00 - 7F	SCALE TUNING A	-64 - +63[cent]	40
	nn	4B	1	00 - 7F	SCALE TUNING A#	-64 - +63[cent]	40
	nn	4C	1	00 - 7F	SCALE TUNING B	-64 - +63[cent]	40

* nn: MIDI Channel(00-0F)

DRUM SETUP

Address (H)			Size (H)	Data (H)	Parameter	Description	Default value(H)
3n	rr	00	1	00 - 7F	PITCH COARSE	-64 - +63[semitone]	40
3n	rr	01	1	00 - 7F	PITCH FINE	-64 - +63[cent]	40
3n	rr	02	1	00 - 7F	LEVEL	0 - 127	Depends on note
3n	rr	04	1	00 - 7F	PAN	1(Left)-64(Center)-127(Right)	Depends on note
3n	rr	05	1	00 - 7F	REVERB SEND	0 - 127	Depends on note
3n	rr	06	1	00 - 7F	CHORUS SEND	0 - 127	7F
3n	rr	07	1	00 - 7F	VARIATION SEND	0 - 127	7F
3n	rr	0B	1	00 - 7F	FILTER CUTOFF FREQUENCY	-64 - 63	40
3n	rr	0C	1	00 - 7F	FILTER RESONANCE	-64 - 63	40
3n	rr	0D	1	00 - 7F	EG ATTACK	-64 - 63	40
3n	rr	0E	1	00 - 7F	EG DECAY1	-64 - 63	40

* n:Drum setup number (0H or 1H)
rr:note number(18H to 54H)

<Table-2> Effect map

The following types in the boxes can be controlled by the PSR-A3 settings. The numbers in the brackets are PSR-A3 panel effect numbers. The blank indicates the content is the same as that of 00H.

REVERB TYPE

MSB \ LSB	00H	01H	02H	08H	09H	0AH	0BH	0CH
00H	NO EFFECT							
01H	[1]HALL1	HALL5		[2]HALL2	[3]HALL3	[4]HALL4		
02H	ROOM5	ROOM6	ROOM7	[5]ROOM1	[6]ROOM2	[7]ROOM3	[8]ROOM4	
03H	STAGE3	STAGE4		[9]STAGE1	[10]STAGE2			
04H	PLATE3			[11]PLATE1	[12]PLATE2			
05H	NO EFFECT							
:	:							
7FH	NO EFFECT							

CHORUS TYPE

MSB \ LSB	00H	01H	02H	08H	09H	0AH	0BH	0CH
00H	NO EFFECT							
01H	NO EFFECT							
:	:							
40H	NO EFFECT							
41H	CHORUS6	CHORUS7	[5]CHORUS5					
42H	CELESTE1	[4]CHORUS4	CELESTE2	[2]CHORUS2	[3]CHORUS3	[1]CHORUS1		
43H	FLANGER 5	[9]FLANGER4		[6]FLANGER1	[7]FLANGER2	[8]FLANGER3		
44H	NO EFFECT							
:	:							
7FH	NO EFFECT							

VARIATION TYPE

MSB \ LSB	00H	01H	02H	08H	09H	0AH	0BH	0CH
00H	NO EFFECT							
01H	[1]HALL1	HALL2		[2]HALL2	[3]HALL3	[4]HALL4		
02H	ROOM5	ROOM6	ROOM7	[5]ROOM1	[6]ROOM2	[7]ROOM3	[8]ROOM4	
03H	STAGE3	STAGE4		[9]STAGE1	[10]STAGE2			
04H	PLATE3			[11]PLATE1	[12]PLATE2			
05H	DELAY L,C,R2			[38]DELAY LCR				
06H	[39]DELAY L,R							
07H	[40]ECHO							
08H	[41]CROSS DELAY							
09H	[13]EARLY REF1	[14]EARLY REF2						
0AH	[15]GATE REVERB							
0BH	[16]REVERSE GATE							
0CH	NO EFFECT or THRU*							
:	:							
3FH	NO EFFECT or THRU*							
40	THRU							
41	CHORUS6	CHORUS7	[21]CHORUS5					
42	CELESTE1	[20]CHORUS4	CELESTE2	[18]CHORUS2	[19]CHORUS3	[17]CHORUS1	[32]ROTARY SP5	
43	FLANGER 5	[25]FLANGER4		[22]FLANGER1	[23]FLANGER2	[24]FLANGER3		
44	SYMPHONIC2			[26]SYMPHONIC				
45	ROTARY SP6			[28]ROTARY SP1				
46	TREMOLO3			[33]TREMOLO1		[31]ROTARY SP4		
47	AUTO PAN2			[36]AUTO PAN	[29]ROTARY SP2	[30]ROTARY SP3	[34]TREMOLO2	[35]GTR TREMOLO
48	[27]PHASER							
49	DISTORTION							
4A	OVER DRIVE							
4B	AMP SIMULATOR			[42]DIST.HARD	[43]DIST.SOFT			
4C	3-BAND EQ			[44]EQ DISCO	[45]EQ TEL			
4D	2-BAND EQ							
4E	AUTO WAH2			[37]AUTO WAH				
4F	THRU							
:	:							
7F	THRU							

*No effect or Thru is determined by either Variation connection is system or insertion.

<Table-3> Effect Parameter List

Only the following parameter numbers are effective.
Parameter values consists of 2-bytes. Enter 00H for MSB and appropriate value for LSB.
* Parameter number 10 Dry/Wet is effective only when Variation connection is insertion.

TYPE MSB(H)	Type	Parameter Number	Parameter	Value	Description
01	HALL	1	Reverb Time	0-69	0.3~30.0s
02	ROOM	2	Diffusion	0-10	
03	STAGE	3	Initial Delay	0-63	0.0~99.3ms
04	PLATE	4	HPF Cutoff	0-52	Thru~8.0kHz
		5	LPF Cutoff	34-60	1.0k~Thru
		10*	Dry/Wet	1-127	D63>W ~ D=W ~ D<W63
		11	Rev Delay	0-63	0.0~100.0ms
		12	Density	0-4	
		13	Rev/Er Balance	1-127	R<E63 ~ R=E ~ R63>E
		15	Feedback Level	1-127	-63~+63
05	DELAY L,C,R	1	Lch Delay	1-7200	0.1~720.0ms
		2	Rch Delay	1-7200	0.1~720.0ms
		3	Cch Delay	1-7200	0.1~720.0ms
		4	Feedback Delay	1-7200	0.1~720.0ms
		5	Feedback Level	1-127	-63~+63
		6	Cch Level	0-127	
		7	High Damp	1-10	0.1~1.0
		10*	Dry/Wet	1-127	D63>W ~ D=W ~ D<W63
		13	EQ Low Frequency	8-40	50Hz~2.0kHz
		14	EQ Low Gain	52-76	-12~+12dB
		15	EQ High Frequency	28-58	500Hz~16.0kHz
		16	EQ High Gain	52-76	-12~+12dB
06	DELAY L,R	1	Lch Delay	1-7200	0.1~720.0ms
		2	Rch Delay	1-7200	0.1~720.0ms
		3	Feedback Delay 1	1-7200	0.1~720.0ms
		4	Feedback Delay 2	1-7200	0.1~720.0ms
		5	Feedback Level	1-127	-63~+63
		6	High Damp	1-10	0.1~1.0
		10*	Dry/Wet	1-127	D63>W ~ D=W ~ D<W63
		13	EQ Low Frequency	8-40	50Hz~2.0kHz
		14	EQ Low Gain	52-76	-12~+12dB
		15	EQ High Frequency	28-58	500Hz~16.0kHz
		16	EQ High Gain	52-76	-12~+12dB
07	ECHO	1	Lch Delay1	1-3600	0.1~360.0ms
		2	Lch Feedback Level	1-127	-63~+63
		3	Rch Delay1	1-3600	0.1~360.0ms
		4	Rch Feedback Level	1-127	-63~+63
		5	High Damp	1-10	0.1~1.0
		6	Lch Delay2	1-3600	0.1~360.0ms
		7	Rch Delay2	1-3600	0.1~360.0ms
		8	Delay2 Level	0-127	
		10*	Dry/Wet	1-127	D63>W ~ D=W ~ D<W63
		13	EQ Low Frequency	8-40	50Hz~2.0kHz
		14	EQ Low Gain	52-76	-12~+12dB
		15	EQ High Frequency	28-58	500Hz~16.0kHz
		16	EQ High Gain	52-76	-12~+12dB
08	CROSS DELAY	1	L->R Delay	1-3600	0.1~360.0ms
		2	R->L Delay	1-3600	0.1~360.0ms
		3	Feedback Level	1-127	-63~+63
		4	Input Select	0-2	L,R,L&R(L,R is mono mix)
		5	High Damp	1-10	0.1~1.0
		10*	Dry/Wet	1-127	D63>W ~ D=W ~ D<W63
		13	EQ Low Frequency	8-40	50Hz~2.0kHz
		14	EQ Low Gain	52-76	-12~+12dB
		15	EQ High Frequency	28-58	500Hz~16.0kHz
		16	EQ High Gain	52-76	-12~+12dB

TYPE MSB(H)	Type	Parameter Number	Parameter	Value	Description
09	EARLY REF	1	Type	0-5	S-H, L-H, Rdm, Rvs, Plt, Spr
		2	Room Size	0-127	
		3	Diffusion	0-10	0~10
		4	Initial Delay	0-127	0.0~200.0ms
		5	Feedback Level	1-127	-63~+63
		6	HPF Cutoff	0-52	Thru~8.0kHz
		7	LPF Cutoff	34-60	1.0k~Thru
		10*	Dry/Wet	1-127	D63>W ~ D=W ~ D<W63
		11	Liveness	0-10	
		12	Density	0-3	
		13	High Damp	1-10	0.1~1.0
0A	GATE REVERB	1	Type	0-1	TypeA, TypeB
0B	REVERSE GATE	2	Room Size	0-127	
		3	Diffusion	0-10	
		4	Initial Delay	0-127	0.0~200.0ms
		5	Feedback Level	1-127	-63~+63
		6	HPF Cutoff	0-52	Thru~8.0kHz
		7	LPF Cutoff	34-60	1.0k~Thru
		10*	Dry/Wet	1-127	D63>W ~ D=W ~ D<W63
		11	Liveness	0-10	
		12	Density	0-3	
		13	High Damp	1-10	0.1~1.0
41	CHORUS	1	LFO Frequency	0-127	0.00~39.7Hz
42	CELESTE	2	LFO PM Depth	0-127	
		3	Feedback Level	1-127	-63~+63
		4	Delay Offset	0-127	0.0~50.0ms
		6	EQ Low Frequency	8-40	50Hz~2.0kHz
		7	EQ Low Gain	52-76	-12~+12dB
		8	EQ High Frequency	28-58	500Hz~16.0kHz
		9	EQ High Gain	52-76	-12~+12dB
		10*	Dry/Wet	1-127	D63>W ~ D=W ~ D<W63
		15	Input Mode	0-1	mono/stereo
43	FLANGER	1	LFO Frequency	0-127	0.00~39.7Hz
		2	LFO Depth	0-127	
		3	Feedback Level	1-127	-63~+63
		4	Delay Offset	0-127	0.0~50.0ms
		6	EQ Low Frequency	8-40	50Hz~2.0kHz
		7	EQ Low Gain	52-76	-12~+12dB
		8	EQ High Frequency	28-58	500Hz~16.0kHz
		9	EQ High Gain	52-76	-12~+12dB
		10*	Dry/Wet	1-127	D63>W ~ D=W ~ D<W63
		14	LFO Phase Difference	4-124	-180°~+180° (resolution 3°)
		15	Input Mode	0-1	mono/stereo
44	SYMPHONIC	1	LFO Frequency	0-127	0.00~39.7Hz
		2	LFO Depth	0-127	
		3	Delay Offset	0-127	0.0~50.0ms
		6	EQ Low Frequency	8-40	50Hz~2.0kHz
		7	EQ Low Gain	52-76	-12~+12dB
		8	EQ High Frequency	28-58	500Hz~16.0kHz
		9	EQ High Gain	52-76	-12~+12dB
		10*	Dry/Wet	1-127	D63>W ~ D=W ~ D<W63
45	ROTARY	1	LFO Frequency	0-127	0.00~39.7Hz
	SPEAKER	2	LFO Depth	0-127	
		6	EQ Low Frequency	8-40	50Hz~2.0kHz
		7	EQ Low Gain	52-76	-12~+12dB
		8	EQ High Frequency	28-58	500Hz~16.0kHz
		9	EQ High Gain	52-76	-12~+12dB
		10*	Dry/Wet	1-127	D63>W ~ D=W ~ D<W63

TYPE MSB(H)	Type	Parameter Number	Parameter	Value	Description
46	TREMOLO	1	LFO Frequency	0-127	0.00~39.7Hz
		2	AM Depth	0-127	
		3	PM Depth	0-127	
		6	EQ Low Frequency	8-40	50Hz~2.0kHz
		7	EQ Low Gain	52-76	-12~+12dB
		8	EQ High Frequency	28-58	500Hz~16.0kHz
		9	EQ High Gain	52-76	-12~+12dB
		14	LFO Phase Difference	4-124	-180°~+180° (resolution 3°)
		15	Input Mode	0-1	mono/stereo
47	AUTO PAN	1	LFO Frequency	0-127	0.00~39.7Hz
		2	L/R Depth	0-127	
		3	F/R Depth	0-127	
		4	PAN Direction	0-5	L<->R, L->R, L<-R, Lturn, Rturn, L/R
		6	EQ Low Frequency	8-40	50Hz~2.0kHz
		7	EQ Low Gain	52-76	-12~+12dB
		8	EQ High Frequency	28-58	500Hz~16.0kHz
		9	EQ High Gain	52-76	-12~+12dB
48	PHASER	1	LFO Frequency	0-127	0.00~39.7Hz
		2	LFO Depth	0-127	
		3	Phase Shift Offset	0-127	
		4	Feedback Level	1-127	-63~+63
		6	EQ Low Frequency	8-40	50Hz~2.0kHz
		7	EQ Low Gain	52-76	-12~+12dB
		8	EQ High Frequency	28-58	500Hz~16.0kHz
		9	EQ High Gain	52-76	-12~+12dB
		10*	Dry/Wet	1-127	D63>W ~ D=W ~ D<W63
		11	Stage	6-10	
49	DISTORTION	1	Drive	0-127	
4A	OVERDRIVE	2	EQ Low Frequency	8-40	50Hz~2.0kHz
		3	EQ Low Gain	52-76	-12~+12dB
		4	LPF Cutoff	34-60	1.0k~Thru
		5	Output Level	0-127	
		7	EQ Mid Frequency	28-54	500Hz~10.0kHz
		8	EQ Mid Gain	52-76	-12~+12dB
		9	EQ Mid Width	10-120	1.0~12.0
		10*	Dry/Wet	1-127	D63>W ~ D=W ~ D<W63
		11	Edge(Clip Curve)	0-127	0:Mild ~ 127:Sharp
4B	AMP	1	Drive	0-127	
	SIMULATOR	2	AMP Type	0-3	Off,Stack,Combo,Tube
		3	LPF Cutoff	34-60	1.0k~Thru
		4	Output Level	0-127	
		10*	Dry/Wet	1-127	D63>W ~ D=W ~ D<W63
		11	Edge(Clip Curve)	0-127	0:Mild ~ 127:Sharp
4C	3-BAND EQ	1	EQ Low Gain	52-76	-12~+12dB
		2	EQ Mid Frequency	28-54	500Hz~10.0kHz
		3	EQ Mid Gain	52-76	-12~+12dB
		4	EQ Mid Width	10-120	1.0~12.0
		5	EQ High Gain	52-76	-12~+12dB
		6	EQ Low Frequency	8-40	50Hz~2.0kHz
		7	EQ High Frequency	28-58	500Hz~16.0kHz
4D	2-BAND EQ	1	EQ Low Frequency	8-40	50Hz~2.0kHz
		2	EQ Low Gain	52-76	-12~+12dB
		3	EQ High Frequency	28-58	500Hz~16.0kHz
		4	EQ High Gain	52-76	-12~+12dB
4E	AUTO WAH	1	LFO Frequency	0-127	0.00~39.7Hz
		2	LFO Depth	0-127	
		3	Cutoff Frequency Offset	0-127	50Hz~14.0kHz
		4	Resonance	10-120	1.0~12.0
		6	EQ Low Frequency	8-40	50Hz~2.0kHz
		7	EQ Low Gain	52-76	-12~+12dB
		8	EQ High Frequency	28-58	500Hz~16.0kHz
		9	EQ High Gain	52-76	-12~+12dB
		10*	Dry/Wet	1-127	D63>W ~ D=W ~ D<W63

■ GM System Level 1

The existing MIDI protocol allows performance and other data to be transferred between different instruments, even if they are from different manufacturers. This means, for example, that sequence data that was originally created to control a tone generator from manufacturer A can also be used to control a different tone generator from manufacturer B. Since the voice allocation in different devices from different manufacturers is usually different, however, appropriate program change data must be transmitted to select the right voices.

The General MIDI protocol was developed to minimize confusion and the need for re-programming when playing software created by one MIDI device on another. This has been achieved by defining a standard voice allocation in which the same or similar voices are accessed by the same program change numbers or MIDI channels. The current standard recognized by the International MIDI Association is known as “GM System Level 1.” The PSR-A3 voice allocation complies with the GM System Level 1 standard.

SPECIAL MESSAGE SECTION

This product utilizes batteries or an external power supply (adapter). DO NOT connect this product to any power supply or adapter other than one described in the manual, on the name plate, or specifically recommended by Yamaha.

This product should be used only with the components supplied or; a cart, rack, or stand that is recommended by Yamaha. If a cart, etc., is used, please observe all safety markings and instructions that accompany the accessory product.

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

This product, either alone or in combination with an amplifier and headphones or speaker/s, may be capable of producing sound levels that could cause permanent hearing loss. DO NOT operate for long periods of time at a high volume level or at a level that is uncomfortable. If you experience any hearing loss or ringing in the ears, you should consult an audiologist.
IMPORTANT: The louder the sound, the shorter the time period before damage occurs.

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, and are therefore the owners responsibility. Please study this manual carefully and consult your dealer before requesting service.

ENVIRONMENTAL ISSUES:
Yamaha strives to produce products that are both user safe and environmentally friendly. We sincerely believe that our products and the production methods used to produce them, meet these goals. In keeping with both the letter and the spirit of the law, we want you to be aware of the following:

Battery Notice:
This product MAY contain a small non-rechargeable battery which (if applicable) is soldered in place. The average life span of this type of battery is approximately five years. When replacement becomes necessary, contact a qualified service representative to perform the replacement.

This product may also use "household" type batteries. Some of these may be rechargeable. Make sure that the battery being charged is a rechargeable type and that the charger is intended for the battery being charged.

When installing batteries, do not mix batteries with new, or with batteries of a different type. Batteries MUST be installed correctly. Mismatches or incorrect installation may result in overheating and battery case rupture.

Warning:
Do not attempt to disassemble, or incinerate any battery. Keep all batteries away from children. Dispose of used batteries promptly and as regulated by the laws in your area. Note: Check with any retailer of household type batteries in your area for battery disposal information.

Disposal Notice:
Should this product become damaged beyond repair, or for some reason its useful life is considered to be at an end, please observe all local, state, and federal regulations that relate to the disposal of products that contain lead, batteries, plastics, etc. If your dealer is unable to assist you, please contact Yamaha directly.

NAME PLATE LOCATION:
The name plate is located on the bottom of the product. The model number, serial number, power requirements, etc., are located on this plate. You should record the model number, serial number, and the date of purchase in the spaces provided below and retain this manual as a permanent record of your purchase.

Model _____

Serial No. _____

Purchase Date _____

PLEASE KEEP THIS MANUAL

92-BP

FCC INFORMATION (U.S.A.)

1. **IMPORTANT NOTICE: DO NOT MODIFY THIS UNIT!**
   This product, when installed as indicated in the instructions contained in this manual, meets FCC requirements. Modifications not expressly approved by Yamaha may void your authority, granted by the FCC, to use the product.
2. **IMPORTANT**: When connecting this product to accessories and/or another product use only high quality shielded cables. Cable/s supplied with this product MUST be used. Follow all installation instructions. Failure to follow instructions could void your FCC authorization to use this product in the USA.
3. **NOTE:** This product has been tested and found to comply with the requirements listed in FCC Regulations, Part 15 for Class "B" digital devices. Compliance with these requirements provides a reasonable level of assurance that your use of this product in a residential environment will not result in harmful interference with other electronic devices. This equipment generates/uses radio frequencies and, if not installed and used according to the instructions found in the users manual, may cause interference harmful to the operation of other electronic devices. Compliance with FCC regulations does not guarantee that interference will not occur in all installations. If this product is found to be the source of interference, which can be determined by turning the unit "OFF" and "ON", please try to eliminate the problem by using one of the following measures:

   Relocate either this product or the device that is being affected by the interference.

   Utilize power outlets that are on different branch (circuit breaker or fuse) circuits or install AC line filter/s.

   In the case of radio or TV interference, relocate/reorient the antenna. 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 the local retailer authorized to distribute this type of product. If you can not locate the appropriate retailer, please contact Yamaha Corporation of America, Electronic Service Division, 6600 Orangethorpe Ave, Buena Park, CA90620

   The above statements apply ONLY to those products distributed by Yamaha Corporation of America or its subsidiaries.

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