

OWNER'S MANUAL



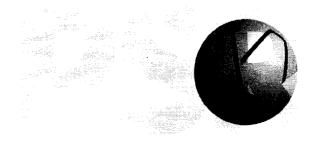






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You now own a portable keyboard that combines advanced functions, great sound and exceptional ease-of-use in a highly compact package. Its outstanding features also make it an remarkably expressive and versatile instrument.

Read this Owner's Manual carefully while playing your new PortaTone in order to take full advantage of its various features.

Main Features

The PortaTone is a sophisticated yet easy-to-use keyboard with the following features and functions:

- Exceptionally realistic sounds with 100 AWM (Advanced Wave Memory) Voices, utilizing digital recordings of actual instruments.
- 100 dynamic auto accompaniment Styles, each with different Intro, Main A and B, four Fill-ins, and Ending sections. Each of the 100 Styles also has its own Jam Track section, featuring specially programmed chord progressions and accompaniment that matches the selected musical Style.
- Large custom LCD gives you easy, at-a-glance confirmation of all important settings.
- Convenient control over accompaniment Styles including Tempo, independent Accompaniment Volume, and even accompaniment "size" (LARGE/SMALL control).
- 20 Songs, for listening enjoyment or for playing along with when using the Minus One function.
- One Touch Setting, for automatically calling up an appropriate Voice for playing with the Style
 or Song you select.
- High-quality amplifier/speaker system (stereo for the PSR-190).

Ecautions King Care of Your PortaTone

Your new PortaTone is a fine musical instrument — and should be treated as such. Handle it with care and common sense, and it will give you years of enjoyment.

Location

• Avoid exposure to direct sunlight or other sources of heat. Never leave it inside a car where it can get very hot. Also avoid highly humid or dusty places.

■ Interference From Electromagnetic Fields

• Do not use your PortaTone close to television sets, radios or similar equipment since this may cause interference noise in the other appliance.

Handling

• Protect your PortaTone from strong impact. Be careful not to drop it or place heavy objects on it. Avoid applying excessive force to the controls and keys.

■When Not Using the PortaTone

• After use, always turn off the POWER switch. When not using your PortaTone for long periods, be sure to remove the batteries to avoid damage through battery leakage.

■Cleaning

- Clean the exterior with a soft, dry cloth. To remove stubborn stains, use a slightly moistened cloth.
- Never use alcohol, thinner, or other chemical solvents, since they will
 damage the finish. Also, do not leave vinyl chloride material on the
 PortaTone for a long time, since it may adhere to the exterior.

NOTE Yamaha is not responsible for damage caused by improper usage.

Setting Up

This section contains information about setting up your PortaTone for playing. Make sure to read this section carefully before using the instrument.

Power Requirements

Your PortaTone can run either on batteries (sold separately) or on normal household current by using the optional Yamaha PA-3/3B Power Adaptor (or another adaptor specifically recommended by Yamaha).

Using an AC Power Adaptor

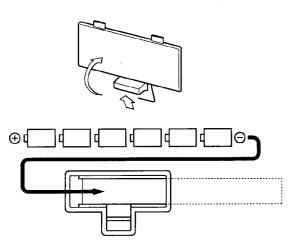
To connect your PortaTone to a wall socket, you will need the optionally available Yamaha PA-3/3B Power Adaptor. Use of other AC adaptors could result in damage to the instrument, so be sure to ask for the right kind. Plug the adaptor into a convenient wall outlet and its connector into the DC IN 10-12V jack on the back of your PortaTone.



Using Batteries

■ Inserting Batteries

Turn the instrument upside-down and remove the battery compartment lid. Insert six 1.5-volt size "D" batteries as shown in the illustration, making sure that the positive and negative terminals are properly aligned, and replace the lid.



■ When the Batteries Run Down

When the batteries run low and the battery voltage drops below a certain level, the PortaTone may not sound or function properly or may be reset to the default status. As soon as this happens, replace them with a complete set of six new batteries. Never mix old and new batteries or different types of batteries (e.g., alkaline and manganese).

To prevent possible damage from battery leakage, remove the batteries from the instrument if it is not to be used for an extended period of time.

Accessory Jack

■ Using Headphones

For private practicing and playing without disturbing others, connect a set of stereo headphones to the rear panel PHONES /AUX OUT jack. Sound from the built-in speaker system is automatically cut off when you insert a headphone plug into this jack.

PHONES /



■ Connecting a Keyboard Amplifier or Stereo System

Though the PortaTone is equipped with a built-in speaker system, you can also play it through an external amplifier/speaker system. First, make sure the PortaTone and any external devices are turned off, then connect one end of a stereo audio cable to the LINE IN or AUX IN jack(s) of the other device and the other end to the rear panel PHONES/AUX OUT jack on the PortaTone.

Music Stand

Insert the bottom edge of the included music stand into the slot located at the top rear of the PortaTone control panel.

Getting Started

Playing the Demo Songs

The PortaTone has a variety of Demo Songs, specially recorded to showcase the dynamic sounds and rhythms and give you an idea of what you can do with the instrument.

1. First, turn on the power.

Press the POWER ON/OFF button. Whenever the power is turned on, the Voice mode is automatically called up and set to play Voice 01 (PIANO).

2. Set the Volume.

Initially, turn the VOLUME control about a third of the way up. You can adjust the control for optimum level once you start playing.

3. Press the DEMO button.

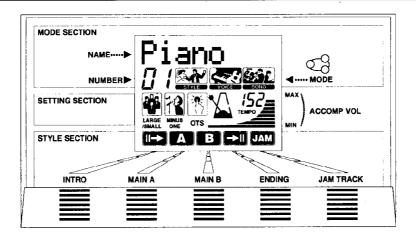
The Demo Songs will play from the Song number 01 in sequence. You can play along on the keyboard with the Songs. (Scores for the Demo Songs are provided on pages 11~20)

To stop playback, press the DEMO button again or press the START/STOP button.

The Style section and the accompaniment LARGE/SMALL will change according to the Style data while the Demo Song plays.

The Panel Display

The PortaTone features a large multi-function display that shows all important settings for the instrument. The section below briefly explains the various icons and indications in the display.



MODE SECTION

This section indicates which mode is selected — Voice, Style, or Song — and shows the name and number of the selected Voice/Style/Song. To select the desired mode, press the corresponding button: VOICE, STYLE, or SONG.

SETTING SECTION

This section indicates important settings related to the Style and/or Song modes. These include LARGE/SMALL (page 7), MINUS ONE (page 10), OTS (One Touch Setting; page 9, 10), TEMPO (page 6), and Accompaniment Volume (page 7).

To turn the Large/Small, Minus One, and One Touch Setting functions on/off, press the corresponding button: LARGE/SMALL, MINUS ONE, or OTS. To control Tempo and Accompaniment Volume, use the TEMPO and ACCOMP VOL controls, respectively.

STYLE SECTION

This indicates playback of the Styles, or the rhythm/accompaniment patterns. Each Style has different "sections" — Intro, Main A and B, 4 Fill-ins, Ending, and Jam Track — each of which is indicated in the display as it plays. These can be played by pressing the appropriate button during accompaniment playback. (See page 6, 7)

Selecting and Playing Voices

The Voice Mode

The Voice mode features 100 authentic Voices.

Many of these Voices have special preset characteristics or embellishments.

The Voices are divided into various categories depending on their characteristics or the effects used.

Harmony Voices (#45 - #58) automatically add a one-, two- or three-note harmony to the original monophonic Voice. Split Voices (#69 - #79) feature two Voices, each playable from separate sections of the keyboard — the lower Voice playable up to B2 and the upper Voice from C3 (middle C). Echo Voices (#80 - #94) provide an echo effect that adds delayed repeats to the original Voice. Finally, Sustain Voices (#95 - #99) extend the sound by adding a natural, slow release.

Also included are special Percussion Voices — #94 (with Echo) and #00 — that let you play various drum and percussion sounds from the keyboard. (Refer to the Percussion Voice chart on page 5) Symbols are also printed above the keyboard, conveniently indicating which sounds are played from which keys.

NOIS About the Harmony Voices

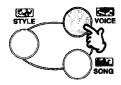
Since Harmony Voices are designed to automatically play two or more notes with the notes you play on the keyboard, only one note can be played on the keyboard at a time. If several notes are played together, only the last note or highest note played will be heard.

The type of harmony used depends on the particular Voice that is selected. When an Auto Accompaniment Style or Song is not playing, the basic key for the harmony is always C. When an Auto Accompaniment Style is playing (or when the Stopped Accompaniment function is active), the harmony changes according to the chord played in the AUTO ACCOMP SECTION of the keyboard, or according to the chord changes in the Intro, Ending, and Jam Track sections. In the Song mode, the harmony changes according to the chord progression of the Song.

Selecting and Playing a Voice

1. Select the Voice mode.

Press the VOICE button.







VOICE icon in display

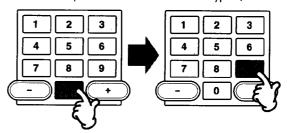
2. Select the desired Voice number.

Use the numeric keypad. Available Voices are listed on the upper right of the panel.

You can either enter the Voice number directly with the number keys, or step up and down through the Voices by using the +/- keys.

■ Using the number keys

Be sure to enter a two-digit number, as is printed next to each Voice name on the panel. For example, to select Voice 09, first press "0" on the numeric keypad, then "9."



■ Using the +/- keys

Press the + key to select the next Voice, and press the - key to select the previous Voice. Holding down either key continuously scrolls up or down through the numbers. The +/- keys have a "wrap around" feature. For example, pressing the + key from the last number returns to Voice 01.

NOIE

- •To reset the selected voice to it's default (Voice 01), Simultaneously press the +/- keys.
- •Each Voice is automatically called up with the most suitable octave range setting. Thus, playing middle C with one Voice may sound higher or lower than another Voice at the same key.

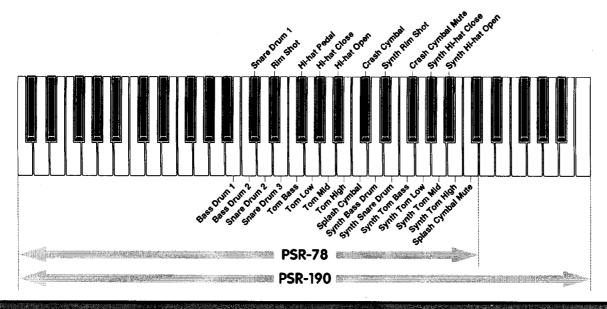
3. Play the selected Voice.

To change to another Voice, repeat step 2 above.

You can also play rhythm Styles in the Voice mode by simply pressing the START/STOP button. The Style last selected from the Style mode will be played.

The PortaTone is polyphonic up to a maximum of 12 notes. (Depending on the Voice selected, fewer notes may be available.) This includes not only the Voices played from the keyboard, but also the notes in a Style pattern, and so on. Thus, if you play too many notes at one time, some may not sound and/or others may be cancelled.

Percussion Voice Chart (Voices 94 and 00)



Selecting and Playing Styles

The Style Mode

The Style mode provides dynamic rhythm/accompaniment patterns (as well as Voice settings appropriate for each pattern) for various popular music styles, as listed on the panel.

A total of 100 different Styles are available, in fifteen different categories. Each Style is made up of different "sections" — Intro, Main A and B, 4 Fill-ins, Ending, and Jam Track — letting you call up different accompaniment patterns as you perform.

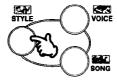
Each Style's Jam Track section features specially programmed chord progressions and accompaniment that are ideal for the selected musical Style. If you're a novice and not familiar with playing chords, the convenient Jam Track section automatically plays stylistically appropriate chord changes for you to "jam" over.

The Auto Accompaniment features that are built into the rhythms add the excitement of instrumental backing to your performance, letting you control the accompaniment by the chords you play. Auto Accompaniment effectively splits the keyboard into two sections: The upper is used for playing a melody line, and the lower (labeled "AUTO ACCOMP SECTION") is for the Auto Accompaniment function.

Selecting and Playing a Style

1. Select the Style mode.

Press the STYLE button.



STYLE button

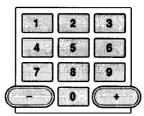




STYLE icon in display

${f 2.}$ Select the desired Style number.

Use the numeric keypad. Available Styles are listed on the upper left of the panel.



You can either enter the Style number (two digits) directly with the number keys, or step up and down through the Styles by using the +/- keys.

3. Start the selected Style.

You can do this in one of three ways:

• Pressing the START/STOP button

The rhythm starts playing immediately without bass and chord accompaniment. The currently selected Main A or B section will play. (You can select either pattern by pressing the appropriate button — MAIN/AUTO FILL A or B — before pressing the START/STOP button.)



Using Synchro Start

The PortaTone also has a Synchro Start function that allows you to start the rhythm/accompaniment by simply pressing a key on the keyboard. To use Synchro Start, first press the SYNC-START button (the metronome icon flashes to indicate Synchro Start stand-by), then press one of the keys in the AUTO ACCOMP SECTION of the keyboard.



NOTE Synchro Start is automatically set to stand-by when you select the Style mode.

Using Synchro Start with an Intro pattern

First, press one of the section buttons — MAIN/AUTO FILL A, B, or JAM — to select which pattern follows the Intro. Next, press the INTRO button, followed by the SYNC-START button. (The INTRO indication in the display lights, and the metronome icon and the MAIN A /B/JAM indication flashes to indicate Synchro Start stand-by.) To actually start the Intro pattern and accompaniment, play one of the keys in the AUTO ACCOMP SECTION of the keyboard.

4. Change chords using the Auto Accompaniment feature.

Try playing a few successive single notes with your left hand, and notice how the bass and chord accompaniment change with each key you play. (Refer to the boxed sections on pages 8 for more information on how to use Auto Accompaniment.)

Chords played in the AUTO ACCOMP SECTION of the keyboard are also detected and played when the accompaniment is stopped. In this condition (Stopped Accompaniment function), the Voices used for the bass and chords are automatically selected.

5. Change the tempo of the Style, if you wish.

Use the TEMPO buttons to change the tempo of the Style.



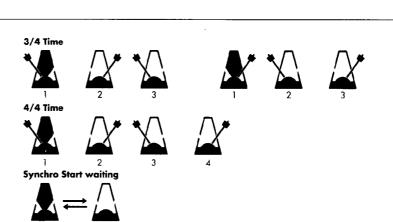
Press TEMPO \blacktriangle to increase the speed and TEMPO \blacktriangledown to decrease it; holding down the appropriate button continuously increases/decreases the speed. The tempo value appears in the display. Tempo range is from 40 to 240 bpm (in 1 bpm steps).

To reset the tempo to its original default setting, press both TEMPO buttons simultaneously.

Default Tempos — Each Song and Style has been given a default or standard tempo. If you change the tempo, you can set it back to the original default setting, by pressing both TEMPO buttons simultaneously. Also, the tempo of a Song or Style returns to the default setting when selecting a different Song or Style. If the style is playing and the One Touch Setting function is off (see page 9), the tempo remains even if you select a different style. When you turn on the power of the PortaTone, the tempo is automatically set to the default setting of Style 01.

About the METRONOME Icon

The METRONOME icon in the display flashes in time with the current tempo during playback of a Style (or Song). The flashing pattern provides a visual indication of both the tempo and time signature of the Style or Song.



6. Change the Style section (Main A , Main B, or Jam Track), if you wish.

Main A and Main B

While the Style is playing, you can add variation in the rhythm/accompaniment by pressing the MAIN/AUTO FILL A or B button. This automatically plays one of four Fill-in patterns, and smoothly leads into the next section — even if it is the same section.





MAIN/AUTO FILL A and B buttons

The A or B indication appears in the display, flashing before playback of the pattern and staying lit during playback.

Jam Track

The Jam Track is a special accompaniment pattern that includes automatic and chord progressions that match the selected Style. Press the JAM TRACK button during playback, and the accompaniment will continue, changing chords according to the programmed progression, letting you "jam" or play along with the changes. The Jam Track accompaniment pattern depends on the Main A or Main B section that has been selected just before pressing the Jam Track button.





JAM TRACK button

JAM indicator in display

The JAM indicaton appears in the display, flashing before playback of the pattern and staying lit during playback.

Since the Jam Track progression is based on the last chord played, you may want to play the root chord before pressing JAM TRACK. (For example, if you are playing a song in the key of E, play an E chord before pressing JAM TRACK.)

NOTE

- •If you press the MAIN A or B button, 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.
- •The section buttons can not be used during song playback or when the SONG mode is selected.

7. Set the Accompaniment Volume, if you wish.

You may want to adjust the accompaniment volume, separate from the overall instrument volume. To do this, use the ACCOMP VOL buttons.



Press ACCOMP VOL ▲ to increase the volume and ACCOMP VOL ▼ to decrease it; holding down the appropriate button continuously increases/decreases the volume. The level is shown in the display.



To reset the accompaniment volume to its original default setting, press both ACCOMP VOL buttons simultaneously.

The ACCOMP VOL buttons can not be used during song playback or when the SONG mode is selected.

8. Change the accompaniment ensemble "size" (LARGE/SMALL), if you wish.

Press the LARGE/SMALL button.







LARGE/SMALL button

LARGE icon

SMALL icon

This switches between "large" ensemble and "small" ensemble accompaniment, allowing you change the instrumental texture and dynamics of the Auto Accompaniment as you play. (The icon shows four people when set to LARGE, and one person when set to SMALL.)

9. Stop the Style.

You can do this in one of two ways:

Pressing the START/STOP button The shuther (assemble in a shuther assemble in a shu

The rhythm/accompaniment stops playing immediately.

• Using an Ending pattern

Press the ENDING button (the ENDING indication in the display flashes). An ending pattern plays from the next measure, then playback stops.

About Multi Fingering

The Auto Accompaniment function automatically generates bass and chord accompaniment for you to play along with, by using Multi Fingering operation. You can change the chords of the accompaniment by playing keys in the AUTO ACCOMP SECTION of the keyboard using either the "Single Finger" or "Fingered" method. With Single Finger you can simply play a one-, two- or three-finger chord indication (see Single Finger Chords below). The Fingered technique is that of conventionally playing all the notes of the chord. Whichever method you use, the PortaTone "understands" what chord you indicate and then automatically generates the accompaniment.

Though detection of the Single Finger and Fingered methods is automatic with Multi Fingering, you can set Auto Accompaniment to function exclusively in either the Single Finger or Fingered mode.

To set Auto Accompaniment to Single Finger:

Turn the power off, then hold down the "-" key on the numeric keypad and simultaneously turn the power on. ["SINGLE" briefly appears in the display.)

To set Auto Accompaniment to Fingered:

Follow the same steps as above, holding down the "+" key instead. ("FINGERED" briefly appears in the display.) To switch back to Multi Fingering operation, simply turn the power off and on again.

Single Finger Chords

Chords that can be produced in Single Finger operation are major, minor, seventh and minor seventh. The illustration below shows how to produce the four chord types. (The key of C is used here as an example; other keys follow the same rules. For example, B^b7 is played as B^b and A.)

Major chord:



Press the root note of the chord.

Seventh chord:



Press the root note together with any white key to the left of it.

Minor chord:



Press the root note together with any black key to the left of it.

Minor seventh chord:



Press the root note together with any white and black key to the left of it (three keys altogether).

NOTE In Single Finger, the AUTO ACCOMP SECTION is set between the C1 key (the lowest key) and the C#2 key.

Fingered Chords

Using the key of C as an example, the chart below shows the types of chords that can be recognized in the Fingered mode.

Fingered Chords in the Key of C

Notes enclosed in parentheses are optional; the chords will be recognized without them.





























NOTE>

- If the chord is inverted (i.e., C-E-G is played as G-C-E), the PortaTone will still recognize it as a C chord.
- Minor 6th chords are recognized only in root position, however; all other inversions are interpreted as minor 7th/flatted 5th.
- If augmented and diminished 7th chords are inverted, the lowest note will be recognized as the root.
- 7th flatted 5th chords may be played with the lowest note as the root or the 7th.
- 1+2+5 chords are recognized only in root position; all other inversions are interpreted as suspended 4th.
- 7th Augmented and diminished 7th chords are interpreted as simple augmented and diminished.
- Chord Cancel function

When the auto accompaniment is set to Fingered, The PortaTone also has a Chord Cancel function to stop the chord accompaniment but allow the rhythm pattern to continue playing.

To use Chord Cancel, simultaneously press any three consecutive notes in the AUTO ACCOMP SECTION; for example, C, C# and D.

One Touch Setting in the Style Mode

The One Touch Setting function automatically selects an appropriate Voice, Tempo, Accompaniment volume and Large/Small for playing with the Style you select. In other words, when One Touch Setting is on, the Voice, Tempo and Accompaniment Volume automatically changes when you change the Style.

To turn on the One Touch Setting function, press the ONE TOUCH SETTING button. (The OTS icon appears in the display.)
To turn the function off, press the button again.





ONE TOUCH SETTING button OTS icon in display

Selecting and playing Songs -

The Song Mode

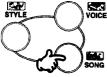
The Song mode features special Songs that have been created using the rich and dynamic sounds of the PortaTone.

The Songs are generally for your listening enjoyment; however, you can also play along with them on the keyboard. Also, by using the Minus One function, you can "mute" the original melody and play it manually on the keyboard yourself.

Selecting and Playing a Song

1. Select the Song mode.

Press the SONG button.



SONG button



SONG icon in display

3. Start the selected Song.

Press the START/STOP button.



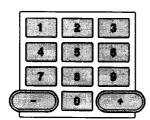
START/STOP

NOTE You can play along with the Song using the currently selected Voice, or even select a different Voice for playing along. Simply call up the Voice mode while the Song is playing back and select the desired Voice. Changing Voices in this manner overrides the Voice changes that have been programmed into the Song.

4. If you want to change to another Song, repeat step 2 above.

2. Select the desired Song number.

Use the numeric keypad. Available Songs are listed on the upper right of the panel.



numeric keypad

You can either enter the Song number (two digits) directly with the number keys, or step up and down through the Songs by using the +/- keys.

5. Stop the Song.

Press the START/STOP button. If playback was started by pressing the START/STOP button, the selected Song stops automatically at the end.

INDIED If Minus One is on, the selected Song repeats playback indefinitiely. Also, if you start Song playback with the DEMO button, all Songs play back repeatedly in succession from the song number 01, indefinitely.

Minus One

Minus One, as its name implies, takes away the melody part of the Song, allowing you to play that part yourself. You can turn Minus One on before starting a Song, or do it even while a Song is playing. To help you play the "missing" melody, scores for all Songs have been provided; see pages 11.

To use the Minus One function with the selected Song, press the MINUS ONE button. (The Minus One icon appears in the display.)



MINUS ONE

MINUS ONE button



MINUS ONE icon in display

One Touch Setting in the Song Mode

The One Touch Setting function works with the Minus One function and automatically selects an appropriate Voice for playing the melody along with the Song you select.

To turn on the One Touch Setting function, press the ONE TOUCH SETTING button. (The OTS icon appears in the display.)





ONE TOUCH SETTING button

OTS icon in display

To turn the function off, press the button again.

Keep in mind that even with the One Touch Setting function on, there are some Songs which change the selected Voice in the middle of the Song.

Traildeshoolins

Problem	Possible Cause and Solution
When the PortaTone is turned on or off, a buzzing sound is temporarily produced.	This is normal and indicates that the PortaTone is receiving electrical power.
The sound of the Voices or rhythms seems unusual or strange. The PSR-190/78 is suddently reset to the default status.	The battery power is too low. Replace the batteries. (See page 2)
Not all notes are heard when playing a number of notes simultaneously.	Too many keys are pressed at the same time. The PortaTone is polyphonic up to a maximum of 12 notes. (See the note on page 4)
The sound of the Voice changes from note to note.	The AWM tone generation method uses multiple recordings (samples) of an instrument across the range of the keyboard; thus, the actual sound of the Voice may be slightly different from note to note.
There is no sound even when the keyboard is played or when a Song is being played back.	Check that nothing is connected to the PHONES/AUX OUT jack on the rear panel. When a set of headphones is plugged into this jack, no sound is output.

Song Scores



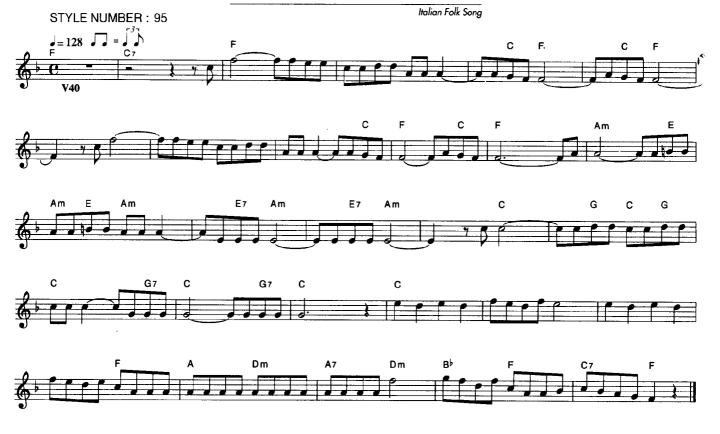
FANTASTIC ISLAND



EVERYTHING FOR YOU



FUNICULI-FUNICULA



JINGLE BELLS

J.Pierpont





SPECIAL NIGHT



WALTZING MATILDA



09 HIGH & LOW



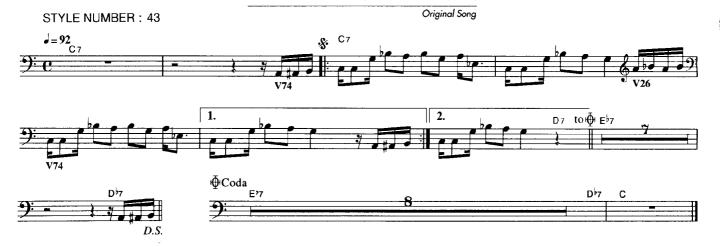
ETUDE OP.10 NO.3



11 FEEL THE BEAT



12 FIRST INSPIRATION



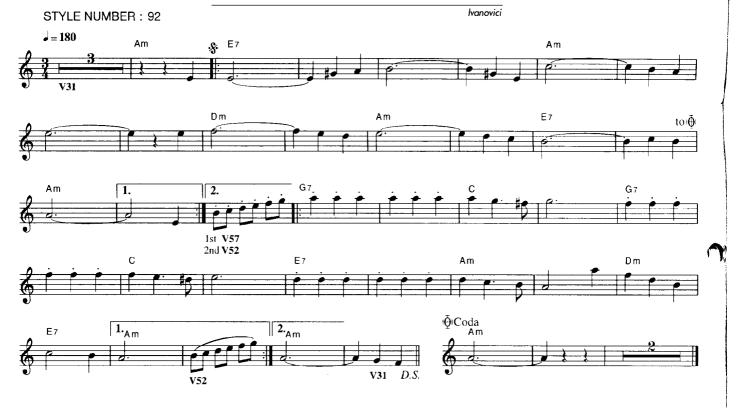
13 BACK TO HOMETOWN







15 THE WAVES OF DANUBE



ANYTIME ANYWHERE



17 FINE VIEW



18 LA CUCARACHA

(



19 STAR PARADE





		PSR-190	PSR-78			
Keyboard	Number of Keys	61	49			
	Key Size	Regular				
	Register	C1 - C6	C1 - C5			
Voice	Tone Generation	AWM				
	Number of Voices	100				
Maximum Polyphony		12 notes				
Effect	Dual	Included				
Split		Included in Voice				
	Sustain	Included in Voice				
	Harmony/Echo	Included in Voice				
Style	Number of Styles	100				
	Auto Accompaniment	Yes				
	Chord Detection	Multi Fingering (Single Finger, Fingered)				
	Sections	Intro, Main A, Main B, Fill-in x 4, Ending				
	Jam Track	Yes (1 per Style)				
Song	Number of Songs	2				
Minus One		Yes				
One Touch Setting		Yes				
Controls		POWER, VOLUME, DEMO, TEMPO, ACCOMP VOL, SYNC-START,				
		START/STOP, INTRO, MAIN/AUTO FILL A and B, ENDING, JAM TRACK,				
		LARGE/SMALL (MINUS ONE), ONE TOUCH SETTING, STYLE, VOICE, SONG,				
Other Terminals &	Fittings	DC IN 10-12V jack, PHONES/AUX OUT jack, Music Stand				
Amplifier		Stereo; 3.0 W + 3.0 W (with PA-3B adaptor);	Mono; 5.5 W (with PA-3B adaptor);			
		4.5 W + 4.5 W (with batteries)	3.8 W (with batteries)			
PHONES/AUX OU	T Output	77 $\Omega \pm$ 5% impedance	50 Ω±5% impedance			
Speakers		10 cm x 2				
Power Consumption		12 W (with PA-3B adaptor) 7 W (with PA-3B adaptor)				
Rated Power Supply		DC 10-12 V: 6 "D" size/R-20/SUM-1 (1.5 V) batteries, or PA-3/3B Power Adaptor				
Dimensions (W x l	D x H)	930×358×116 mm 948×313×107 mm				
		36-5/8"×14"×4-1/2"	37-3/8"×12-3/8"×4-1/4"			
Weight		4.4 kg (9.7 lbs.)	3.8 kg (8.4 lbs.)			
Casing		Polystyrene				
Supplied Accessor	ries	Music Stand, Owner's Manual				
Optional Accessories						
		Headphones (HPE-3 or HPE-150); AC Power Adaptor (PA-3 or PA-3B), Keyboard Stand (L-2L or L-2C)				

Specifications are subject to change without notice.

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.

Mode	ı	N	١	Þ	d	e	
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Serial No.

Purchase Date

PLEASE KEEP THIS MANUAL

FCC INFORMATION (U.S.A.)

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.

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.

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 coaxial 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

This applies only to products distributed by Yamaha Corporation of America.

Limited Warranty

90 DAYS LABOR 1 YEAR PARTS

Yamaha Corporation of America, hereafter referred to as Yamaha, warrants to the original consumer of a product included in the categories listed below, that the product will be free of defects in materials and/or workmanship for the periods indicated. This warranty is applicable to all models included in the following series of products:

PSR SERIES OF PORTASOUND ELECTRONIC KEYBOARDS

If during the first 90 days that immediately follows the purchase date, your new Yamaha product covered by this warranty is found to have a defect in material and/or workmanship, Yamaha and/or its authorized representative will repair such defect without charge for parts or labor.

If parts should be required after this 90 day period but within the one year period that immediately follows the purchase date, Yamaha will, subject to the terms of this warranty, supply these parts without charge. However, charges for labor, and/or any miscellaneous expenses incurred are the consumers responsibility. Yamaha reserves the right to utilize reconditioned parts in repairing these products and/or to use reconditioned units as warranty replacements.

THIS WARRANTY IS THE ONLY EXPRESS WARRANTY WHICH YAMAHA MAKES IN CONNECTION WITH THESE PRODUCTS. ANY IMPLIED WARRANTY APPLICABLE TO THE PRODUCT, INCLUDING THE WARRANTY OF MERCHANTABILITY IS LIMITED TO THE DURATION OF THE EXPRESS WARRANTY, YAMAHA EXCLUDES AND SHALL NOT BE LIABLE IN ANY EVENT FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES.

Some states do not allow limitations that relate to implied warranties and/or the exclusion of incidental or consequential damages. Therefore, these limitations and exclusions may not apply to you.

This warranty gives you specific legal rights. You may also have other rights which vary from state to state.

CONSUMERS RESPONSIBILITIES

If warranty service should be required, it is necessary that the consumer assume certain responsibilities:

- 1. Contact the Customer Service Department of the retailer selling the product, or any retail outlet authorized by Yamaha to sell the product for assistance. You may also contact Yamaha directly at the address provided below.
- 2. Deliver the unit to be serviced under warranty to: the retailer selling the product, an authorized service center, or to Yamaha with an explanation of the problem. Please be prepared to provide proof purchase date (sales receipt, credit card copy, etc.) when requesting service and/or parts under warranty.
- 3. Shipping and/or insurance costs are the consumers responsibility.* Units shipped for service shold be packed securely.
 - *Repaired units will be returned PREPAID if warranty service is required within the first 90 days.

IMPORTANT: Do NOT ship anything to ANY location without prior authorization. A Return Authorization (RA) will be issued that has a tracking number assigned that will expedite the servicing of your unit and provide a tracking system if needed

4. Your owners manual contains important safety and operating instructions. It is your responsibility to be aware of the contents of this manual and to follow all safety precautions.

EXCLUSIONS

This warranty does not apply to units whose trade name, trademark, and/or ID numbers have been altered, defaced, exchanged removed, or to failures and/or damages that may occur as a result of:

- 1. Neglect, abuse, abnormal strain, modification or exposure to extermes in temperature or humidity.
- 2. Improper repair or maintenance by any person who is not a service representative of a retail outlet authorized by Yamaha to sell the product, an authorized service center, or an authorized service representative of Yamaha.
- 3. This warranty is applicable only to units sold by retailers authorized by Yamaha to sell these products in the U.S.A., the District of Columbia, and Puerto Rico. This warranty is not applicable in other possessions or territories of the U.S.A. or in any other country.

Please record the model and serial number of the product you have purchased in the spaces provided below.

Model	Serial #	Sales Slip #
Purchased from(Retailer)		Date

YAMAHA CORPORATION OF AMERICA Electronic Service Division

6600 Orangethorpe Avenue Buena Park, CA 90620

KEEP THIS DOCUMENT FOR YOUR RECORDS. DO NOT MAIL!

YAMAHA