



DIGITAL KEYBOARD

PSR-E423

Setting Up

Quick Guide

Reference

Appendix

Owner's Manual



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.

WARNING: Do not place this product in a position where anyone could walk on, trip over, or roll anything over power or connecting cords of any kind. The use of an extension cord is not recommended! If you must use an extension cord, the minimum wire size for a 25' cord (or less) is 18 AWG. NOTE: The smaller the AWG number, the larger the current handling capacity. For longer extension cords, consult a local electrician.

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.

Some Yamaha products may have benches and / or accessory mounting fixtures that are either supplied with the product or as optional accessories. Some of these items are designed to be dealer assembled or installed. Please make sure that benches are stable and any optional fixtures (where applicable) are well secured BEFORE using.

Benches supplied by Yamaha are designed for seating only. No other uses are recommended.

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, never mix old batteries with new ones, and never mix different types of batteries. 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 (bottom)

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.

* This applies only to products distributed by YAMAHA CORPORATION OF AMERICA.

(class B)

OBSERVERA!

Apparaten kopplas inte ur växelströmskällan (nätet) så länge som den är ansluten till vägguttaget, även om själva apparaten har stängts av.

ADVARSSEL: Netvspændingen til dette apparat er IKKE afbrudt, så længe netledningen sidder i en stikkontakt, som er t endt — også selvom der er slukket på apparatets afbryder.

VAROITUS: Laitteen toisiopiiriin kytketty käyttökytkin ei irroita koko laitetta verkosta.

(standby)

Entsorgung leerer Batterien (nur innerhalb Deutschlands)

Leisten Sie einen Beitrag zum Umweltschutz. Verbrauchte Batterien oder Akkumulatoren dürfen nicht in den Hausmüll. Sie können bei einer Sammelstelle für Altbatterien bzw. Sondermüll abgegeben werden. Informieren Sie sich bei Ihrer Kommune.

(battery)

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

Model No.

Serial No.

(bottom)

COMPLIANCE INFORMATION STATEMENT (DECLARATION OF CONFORMITY PROCEDURE)

Responsible Party : Yamaha Corporation of America
Address : 6600 Orangethorpe Ave., Buena Park,
Calif. 90620
Telephone : 714-522-9011
Type of Equipment : Digital Keyboard
Model Name : PSR-E423

This device complies with Part 15 of the FCC Rules.

Operation is subject to the following two conditions:

- 1) this device may not cause harmful interference, and
- 2) this device must accept any interference received including interference that may cause undesired operation.

See user manual instructions if interference to radio reception is suspected.

* This applies only to products distributed by
YAMAHA CORPORATION OF AMERICA.

(FCC DoC)

Information for Users on Collection and Disposal of Old Equipment and used Batteries



These symbols on the products, packaging, and/or accompanying documents mean that used electrical and electronic products and batteries should not be mixed with general household waste.

For proper treatment, recovery and recycling of old products and used batteries, please take them to applicable collection points, in accordance with your national legislation and the Directives 2002/96/EC and 2006/66/EC.



By disposing of these products and batteries correctly, you will help to save valuable resources and prevent any potential negative effects on human health and the environment which could otherwise arise from inappropriate waste handling.



For more information about collection and recycling of old products and batteries, please contact your local municipality, your waste disposal service or the point of sale where you purchased the items.

[For business users in the European Union]

If you wish to discard electrical and electronic equipment, please contact your dealer or supplier for further information.



[Information on Disposal in other Countries outside the European Union]

These symbols are only valid in the European Union. If you wish to discard these items, please contact your local authorities or dealer and ask for the correct method of disposal.

Cd

Note for the battery symbol (bottom two symbol examples):

This symbol might be used in combination with a chemical symbol. In this case it complies with the requirement set by the Directive for the chemical involved.

(weee_battery_eu_en)

PRECAUTIONS

PLEASE READ CAREFULLY BEFORE PROCEEDING

* Please keep this manual in a safe place for future reference.



WARNING

Always follow the basic precautions listed below to avoid the possibility of serious injury or even death from electrical shock, short-circuiting, damages, fire or other hazards. These precautions include, but are not limited to, the following:

Power supply/AC power adaptor

- Do not place the power cord near heat sources such as heaters or radiators, and do not excessively bend or otherwise damage the cord, place heavy objects on it, or place it in a position where anyone could walk on, trip over, or roll anything over it.
- Only use the voltage specified as correct for the instrument. The required voltage is printed on the name plate of the instrument.
- Use the specified adaptor (page 86) only. Using the wrong adaptor can result in damage to the instrument or overheating.
- Check the electric plug periodically and remove any dirt or dust which may have accumulated on it.

Do not open

- This instrument contains no user-serviceable parts. Do not open the instrument or attempt to disassemble or modify the internal components in any way. If it should appear to be malfunctioning, discontinue use immediately and have it inspected by qualified Yamaha service personnel.

Water warning

- Do not expose the instrument to rain, use it near water or in damp or wet conditions, or place containers on it containing liquids which might spill into any openings. If any liquid such as water seeps into the instrument, turn off the power immediately and unplug the power cord from the AC outlet. Then have the instrument inspected by qualified Yamaha service personnel.
- Never insert or remove an electric plug with wet hands.

Fire warning

- Do not put burning items, such as candles, on the unit.
A burning item may fall over and cause a fire.



CAUTION

Always follow the basic precautions listed below to avoid the possibility of physical injury to you or others, or damage to the instrument or other property. These precautions include, but are not limited to, the following:

Power supply/AC power adaptor

- Do not connect the instrument to an electrical outlet using a multiple-connector. Doing so can result in lower sound quality, or possibly cause overheating in the outlet.
- When removing the electric plug from the instrument or an outlet, always hold the plug itself and not the cord. Pulling by the cord can damage it.
- Remove the electric plug from the outlet when the instrument is not to be used for extended periods of time, or during electrical storms.

Location

- Do not place the instrument in an unstable position where it might accidentally fall over.
- Before moving the instrument, remove all connected cables.
- When setting up the product, make sure that the AC outlet you are using is easily accessible. If some trouble or malfunction occurs, immediately turn off the power switch and disconnect the plug from the outlet. Even when the power switch is turned off, electricity is still flowing to the product at the minimum level. When you are not using the product for a long time, make sure to unplug the power cord from the wall AC outlet.
- Use only the stand specified for the instrument. When attaching the stand or rack, use the provided screws only. Failure to do so could cause damage to the internal components or result in the instrument falling over.

Battery

- Always replace all batteries at the same time. Do not use new batteries together with old ones.
- Do not mix battery types, such as alkaline batteries with manganese batteries, or batteries from different makers, or different types of batteries from the same maker, since this can cause overheating, fire, or battery fluid leakage.
- Do not tamper with or disassemble batteries.
- Do not dispose of batteries in fire.
- Do not attempt to recharge batteries that are not intended to be charged.
- Keep batteries away from children.
- If the batteries do leak, avoid contact with the leaked fluid. If the battery fluid should come in contact with your eyes, mouth, or skin, wash immediately with water and consult a doctor. Battery fluid is corrosive and may possibly cause loss of sight or chemical burns.
- Always make sure all batteries are inserted in conformity with the +/- polarity markings. Failure to do so might result in overheating, fire, or battery fluid leakage.
- When the batteries run out, or if the instrument is not to be used for a long time, remove the batteries from the instrument to prevent possible leakage of the battery fluid.

If you notice any abnormality

- When one of the following problems occur, immediately turn off the power switch and disconnect the electric plug from the outlet. (If you are using batteries, remove all batteries from the instrument.) Then have the device inspected by Yamaha service personnel.
 - The power cord or plug becomes frayed or damaged.
 - It emits unusual smells or smoke.
 - Some object has been dropped into the instrument.
 - There is a sudden loss of sound during use of the instrument.

Connections


- Before connecting the instrument to other electronic components, turn off the power for all components. Before turning the power on or off for all components, set all volume levels to minimum.
- Be sure to set the volumes of all components at their minimum levels and gradually raise the volume controls while playing the instrument to set the desired listening level.

Handling caution

- Do not insert a finger or hand in any gaps on the instrument.
- Never insert or drop paper, metallic, or other objects into the gaps on the panel or keyboard.
- Do not rest your weight on, or place heavy objects on the instrument, and do not use excessive force on the buttons, switches or connectors.
- Do not use the instrument/device or headphones for a long period of time at a high or uncomfortable volume level, since this can cause permanent hearing loss. If you experience any hearing loss or ringing in the ears, consult a physician.

Yamaha cannot be held responsible for damage caused by improper use or modifications to the instrument, or data that is lost or destroyed.

Always turn the power off when the instrument is not in use.

Even when the [](Standby/On) switch is in the "Standby" position, electricity is still flowing to the instrument at the minimum level. When you are not using the instrument for a long time, make sure you unplug the power cord from the wall AC outlet.

Make sure to discard used batteries according to local regulations.

NOTICE

To avoid the possibility of damage to the product, data or other property, follow the notices below.

■ Handling and Maintenance

- Do not use the instrument in the vicinity of a TV, radio, stereo equipment, mobile phone, or other electric devices. Otherwise, the instrument, TV, or radio may generate noise.
- Do not expose the instrument to excessive dust or vibrations, or extreme cold or heat (such as in direct sunlight, near a heater, or in a car during the day) to prevent the possibility of panel disfiguration or damage to the internal components.
- Do not place vinyl, plastic or rubber objects on the instrument, since this might discolor the panel or keyboard.
- When cleaning the instrument, use a soft, dry cloth. Do not use paint thinners, solvents, cleaning fluids, or chemical-impregnated wiping cloths.

■ Saving data

- Some data items (page 50) are automatically saved as backup data in the internal memory even if you turn the power off. Saved data may be lost due to malfunction or incorrect operation. Save important data to external device such as a computer (page 77).

● About copyrights

- Copying of the commercially available musical data including but not limited to MIDI data and/or audio data is strictly prohibited except for your personal use.
- This product incorporates and bundles computer programs and contents in which Yamaha owns copyrights or with respect to which it has license to use others' copyrights. Such copyrighted materials include, without limitation, all computer software, style files, MIDI files, WAVE data, musical scores and sound recordings. Any unauthorized use of such programs and contents outside of personal use is not permitted under relevant laws. Any violation of copyright has legal consequences. DON'T MAKE, DISTRIBUTE OR USE ILLEGAL COPIES.

● About functions/data bundled with the instrument

- Some of the preset songs have been edited for length or arrangement, and may not be exactly the same as the original.

● About this manual

- The illustrations and LCD screens as shown in this manual are for instructional purposes only, and may appear somewhat different from those on your instrument.
- Windows is a registered trademark of Microsoft® Corporation in the United States and other countries.
- The company names and product names in this manual are the trademarks or registered trademarks of their respective companies.

Logos



GM System Level 1

“GM System Level 1” is an addition to the MIDI standard which ensures that any GM-compatible music data can be accurately played by any GM-compatible tone generator, regardless of manufacturer. The GM mark is affixed to all software and hardware products that support GM System Level.



XGlite

As its name implies, “XGlite” is a simplified version of Yamaha’s high-quality XG tone generation format. Naturally, you can play back any XG song data using an XGlite tone generator. However, keep in mind that some songs may play back differently compared to the original data, due to the reduced set of control parameters and effects.



USB

USB is an abbreviation for Universal Serial Bus. It is a serial interface for connecting a computer with peripheral Devices. It allows “hot swapping” (connecting peripheral devices while the power to the computer is on).



Stereo Sampled Piano

The instrument has a special Portable Grand Piano Voice—created by state-of-the-art stereo sampling technology and using Yamaha’s sophisticated AWM (Advanced Wave memory) tone generation system.



Touch Response

The exceptionally natural Touch Response feature, with a convenient front panel on/off switch, gives you maximum expressive level control over the voices. It also works in conjunction with the Dynamic Filter, which dynamically adjusts the timbre or tone of a voice according to your playing strength—just a like a real musical instrument!



STYLE FILE

The Style File Format is Yamaha’s original style file format which uses a unique conversion system to provide high-quality automatic accompaniment based on a wide range of chord types.

About this Owner's Manual and Data List

This manual consists of four main sections: "Setting Up," "Quick Guide," "Reference," and "Appendix." Also, a separate "Data List" is provided.

Owner's Manual (this book)

Setting Up	Please read this section first.
Quick Guide	This section explains how to use the basic functions. Refer to this section while playing the instrument.
Reference	This section explains how to make detailed settings for the instrument's various functions.
Appendix	This section includes troubleshooting information and specifications.

Data List

Voice List, MIDI Data Format, etc.

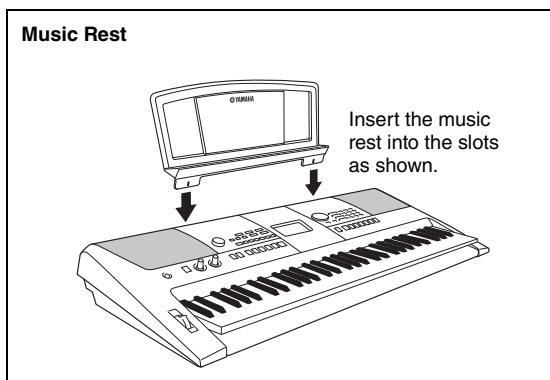
MIDI Reference

The MIDI Reference section contains MIDI related information. The MIDI Reference is available for downloading from the Yamaha Manual Library at: <http://www.yamaha.co.jp/manual/>

Included Accessories

The package includes the following items. Please check that you have them all.

- | | |
|--|---|
| <ul style="list-style-type: none">• Owner's Manual• Music rest• Accessory CD-ROM | <ul style="list-style-type: none">• Data List• My Yamaha Product User Registration<ul style="list-style-type: none">* The PRODUCT ID on the sheet will be needed when you fill out the User Registration form. |
|--|---|

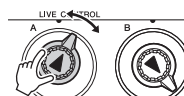


Special Features

Creating New Sounds

► Page 22

By adjusting just two knobs you can add varying degrees of distortion, “sweetness,” or other characteristics to a sound to change it subtly or drastically. Parameters that can be assigned to the knobs include effect, filter, envelope generator and more. You can create new sounds in real time!



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Arpeggio Function

► Page 20

Similar to the arpeggio functions provided on some synthesizers, this function automatically produces arpeggios (broken chords) when you simply play the appropriate notes on the keyboard. A variety of arpeggios can be produced by changing your fingering or the arpeggio type.



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Performance assistant technology

► Page 37

Play along with a song on the instrument’s keyboard and produce a perfect performance every time ... even if you play wrong notes! All you have to do is play on the keyboard—alternately on the left- and right-hand ranges of the keyboard, for example—and you’ll sound like a pro as long as you play in time with the music.



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Play a Variety of Instrument Voices

► Page 16

The instrument voice that sounds when you play the keyboard can be changed to violin, flute, harp, or any of an extensive range of voices. You can change the mood of a song written for piano, for example, by using violin to play it instead. Experience a whole new world of musical variety.

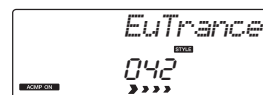


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Play Along with Styles

► Page 27

Want to play with full accompaniment? Try the auto-accompaniment Styles. The accompaniment styles provide the equivalent of a full backing band covering a wide variety of styles from waltzes to 8-beat to euro-trance ... and much more. Select a style that matches the music you want to play, or experiment with new styles to expand your musical horizons.



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Setting Up

Be sure to do the following operations BEFORE turning on the power.

Power Requirements

Although the instrument will run either from an optional AC adaptor or batteries, Yamaha recommends use of an AC adaptor whenever possible. An AC adaptor is more environmentally friendly than batteries and does not deplete resources.

Using an AC Power Adaptor

- 1 Make sure that the [⏻] (Standby/On) switch of the instrument is in the “Standby” position.

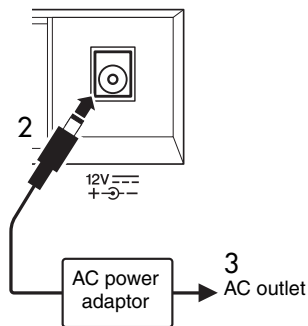
⚠ WARNING

- Use the specified adaptor (page 86). The use of other adaptors may result in irreparable damage to both the adaptor and the instrument.

- 2 Connect the AC adaptor to the power supply jack.
- 3 Plug the AC adaptor into an AC outlet.

⚠ CAUTION

- Unplug the AC Power Adaptor when not using the instrument, or during electrical storms.

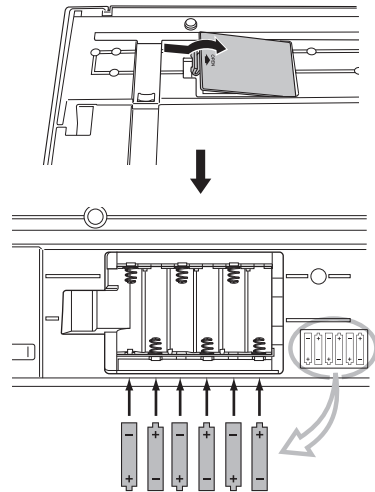


Using Batteries

- 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.

NOTE

- Connecting the AC power adaptor automatically supplies power from the adaptor and overrides battery power, even when batteries are installed.



For battery operation the instrument requires six 1.5V “AA” size, LR6 or equivalent batteries. (Alkaline batteries are recommended.) When battery power becomes too low for proper operation, make sure to replace all batteries, following the precautions listed below. If necessary, also make sure to save all important User data (see pages 50, 77).

⚠ CAUTION

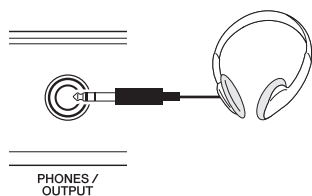
- Be sure to install the batteries in the same direction, maintaining the correct polarity (as shown). Incorrect battery installation may result in heat, fire and/or leaking of corrosive chemicals.
- When the batteries run down, replace them with a complete set of six new batteries. NEVER mix old and new batteries. Do not use different kinds of batteries (e.g. alkaline and manganese) at the same time.
- If the instrument will not be used for an extended period of time, remove the batteries to prevent possible fluid leakage.

NOTICE

- Use only manganese or alkaline batteries for this instrument. Other types of batteries (including rechargeable batteries) may exhibit a sudden drop in power when the batteries are low, possibly resulting in a loss of flash memory data.
- Please use the power adaptor when transferring data to flash memory. Batteries (including rechargeable types) can be drained rapidly by this type of operation. If the batteries do become drained during a data transfer, both the data being transferred and the data currently in the transfer destination will be lost.

Make all necessary connections below **BEFORE** turning the power on.

Connecting Headphones (PHONES/OUTPUT Jack)



Any pair of stereo headphones with a 1/4" stereo phone plug can be plugged in here for convenient monitoring. The speakers are automatically shut off when a plug is inserted into this jack.

The PHONES/OUTPUT jack also functions as an external output. You can connect the PHONES/OUTPUT jack to a keyboard amplifier, stereo system, mixer, tape recorder, or other line-level audio device to send the instrument's output signal to that device.

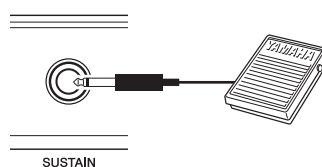
! WARNING

- Avoid listening with the headphones at high volume for long periods of time; doing so may not only result in ear fatigue, it may be damaging to your hearing.

! CAUTION

- To prevent damage to the speakers, set the volume of the external devices at the minimum setting before connecting them. Failure to observe these cautions may result in electric shock or equipment damage. Also, be sure to set the volumes of all devices at their minimum levels and gradually raise the volume controls while playing the instrument to set the desired listening level.

Connecting a Footswitch (SUSTAIN Jack)



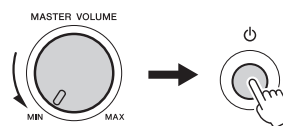
The sustain function lets you produce a natural sustain as you play by pressing a footswitch. A Yamaha FC4 or FC5 footswitch plugged into this jack can be used to switch sustain on and off.

NOTE

- The sustain function does not affect split voices.
- Make sure that the footswitch plug is properly connected to the SUSTAIN jack before turning on the power.
- Do not press the footswitch while turning the power on. Doing this changes the recognized polarity of the footswitch, resulting in reversed footswitch operation.

Turning the Power On

The [⏻](Standby/On) switch turns the power to the instrument on (⏻) or standby (⏻). Turn down the volume by turning the [MASTER VOLUME] control to the left and press the [⏻](Standby/On) switch to turn on the power. Press the [⏻](Standby/On) switch again to turn the power off.



While playing the keyboard, adjust the volume level by using the [MASTER VOLUME] control.

! CAUTION

- Even when the switch is in the "STANDBY" position, electricity is still flowing to the instrument at the minimum level. When you are not using the instrument for a long time, make sure you unplug the AC power adaptor from the wall AC outlet, and/or remove the batteries from the instrument.

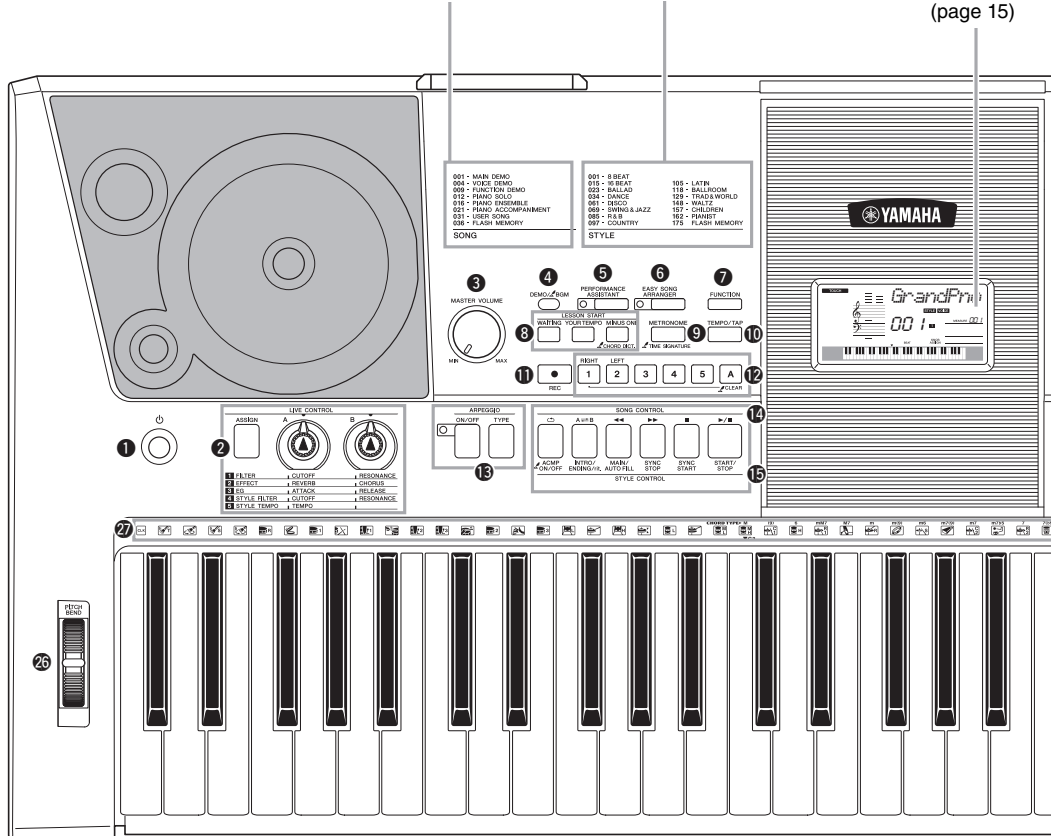
Panel Controls and Terminals

Front Panel

Song List (Data List)

Style List (Data List)

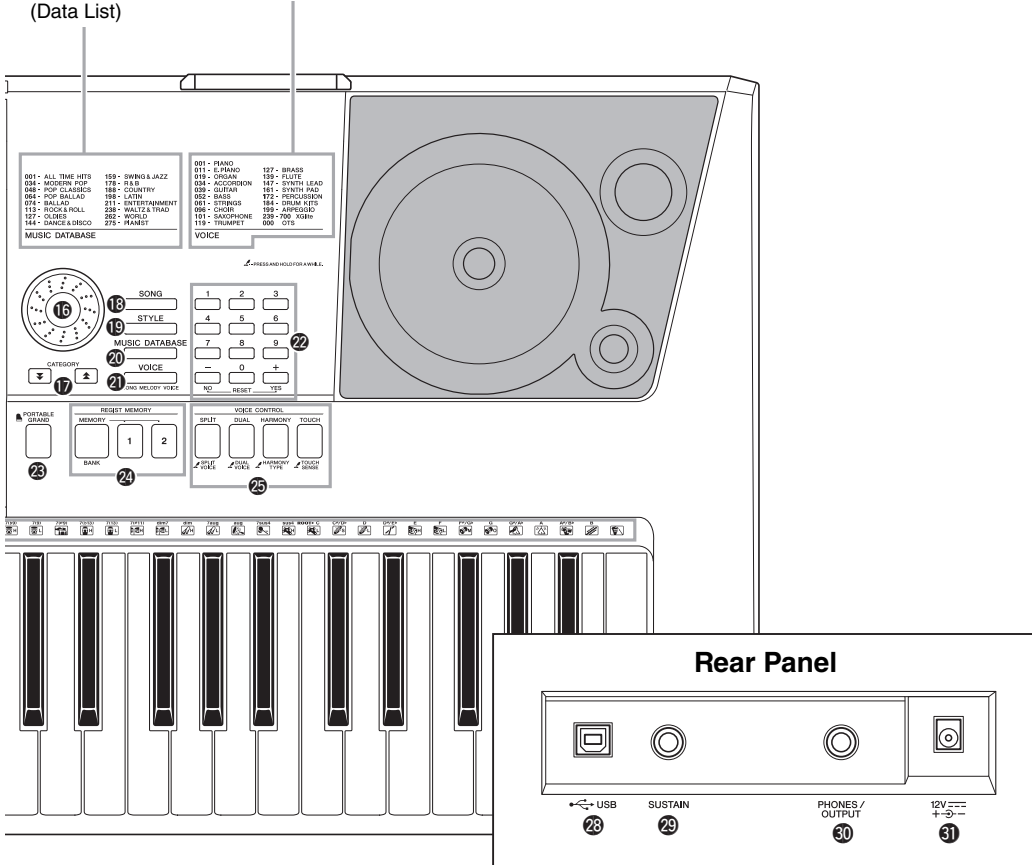
Display (page 15)



Front Panel

- ❶ [⏻](Standby/On) switch..... page 11
- ❷ LIVE CONTROL
 - [ASSIGN] buttonpage 22
 - [A] and [B] knobspage 22
- ❸ [MASTER VOLUME] control page 11
- ❹ [DEMO/BGM] buttonpage 31
- ❺ [PERFORMANCE ASSISTANT] buttonpage 37
- ❻ [EASY SONG ARRANGER] button.....page 41
- ❼ [FUNCTION] buttonpage 70
- ❽ LESSON START
 - [WAITING] buttonpage 33
 - [YOUR TEMPO] buttonpage 35
 - [MINUS ONE] buttonpage 36
- ❾ [METRONOME] button pages 19, 53
- ❿ [TEMPO/TAP] button.. pages 19, 62, 63, 67, 69
- ⓫ [REC] button.....page 43
- ⓬ [1]–[5], [A] buttonspage 44
- ⓭ ARPEGGIO
 - [ON/OFF] buttonpage 20
 - [TYPE] buttonpage 21
- ⓮ SONG CONTROL
 - [↺] (REPEAT & LEARN) button ... page 36
 - [A ⇌ B] (A-B REPEAT) button page 68
 - [⏮] (REW) button.....page 32
 - [⏭] (FF) button.....page 32
 - [⏸] (PAUSE) buttonpage 32
 - [▶/■] (START/STOP) button.....page 32
- ⓯ STYLE CONTROL
 - [ACMP ON/OFF] buttonpage 27
 - [INTRO/ENDING/rit.] buttonpage 61
 - [MAIN/AUTO FILL] buttonpage 61
 - [SYNC STOP] buttonpage 61
 - [SYNC START] button.....page 60
 - [START/STOP] button.....page 26
- ⓰ Dial pages 14, 16
- ⓱ CATEGORY [▲] and [▼] buttons.. pages 14, 70

Music Database List Voice List (Data List)
(Data List)



Rear Panel

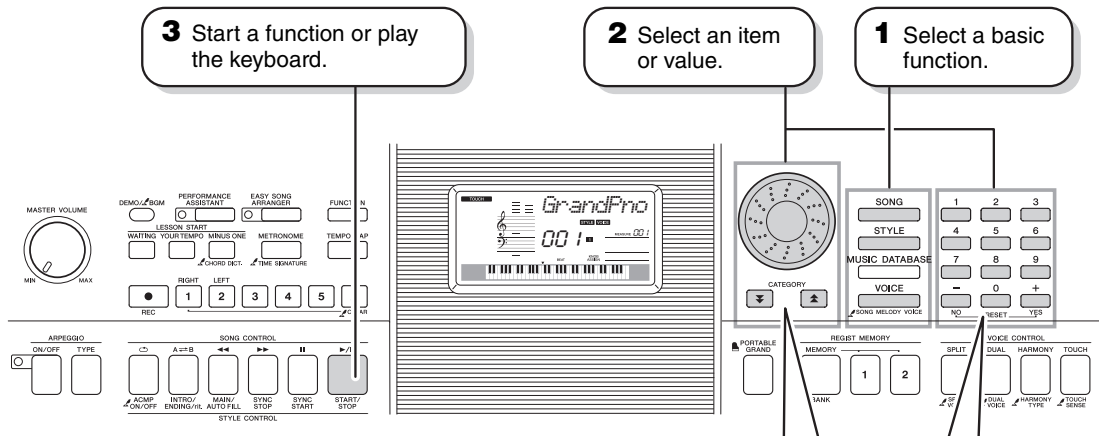
<p>18 [SONG] buttonpage 30</p> <p>19 [STYLE] buttonpage 26</p> <p>20 [MUSIC DATABASE] buttonpage 40</p> <p>21 [VOICE] buttonpage 16</p> <p>22 Number buttons [0]–[9], [+] and [-] buttons page 14</p> <p>23 [PORTABLE GRAND] button page 17</p> <p>24 REGIST MEMORY [MEMORY/BANK], [1], [2] buttonspage 48</p> <p>25 VOICE CONTROL [SPLIT] button pages 18, 56 [DUAL] button pages 18, 56 [HARMONY] buttonpage 57 [TOUCH] buttonpage 56</p> <p>26 PITCH BEND wheelpage 54</p> <p>27 Drum Kit..... page 16</p>	<p>28 USB terminal page 73</p> <p>29 SUSTAIN jack page 11</p> <p>30 PHONES/OUTPUT jack page 11</p> <p>31 DC IN jack page 10</p>
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The illustrations next to each key indicate the drum and percussion instruments assigned to the keys when "Standard Kit 1" is selected.

Basic Operation and Displays

Basic Operation

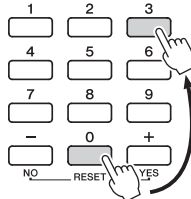
Press a button to select a basic function: Voice, Style or Song. To change the instrument voice that sounds when you play the keyboard, press the [VOICE] button. If you want to play along with auto accompaniment, press the [STYLE] button. If you want to listen to a song, press the [SONG] button.



Number buttons [0]–[9]

The number buttons can be used to directly enter a Song, Style or Voice number or parameter value. For numbers that start with one or two zeroes, the first zeroes can be omitted.

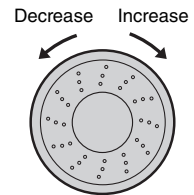
Example:
Selecting Voice 003, Bright Piano.



Press number buttons [0], [0], [3].

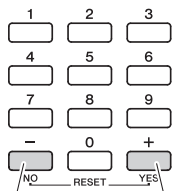
Dial

Rotate the dial clockwise to increase the value of the selected item, or counter-clockwise to decrease its value. Rotate the dial continuously to continuously increase or decrease the value.



[+], [-] buttons

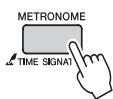
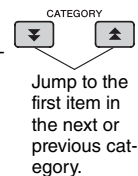
Press the [+] button briefly to increase the value by 1, or press the [-] button briefly to decrease the value by 1. Press and hold either button to continuously increase or decrease the value in the corresponding direction.



Press briefly to decrease. Press briefly to increase.

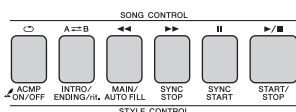
CATEGORY [▲] and [▼] buttons

When selecting a song or style, you can use these buttons to jump to the first item in the next or previous category. The CATEGORY [▲] and [▼] buttons can also be used to select function items sequentially after pressing the [FUNCTION] button.



The "Press & Hold" Symbol

Buttons having this indication can be used to call up an alternate function when the relevant button is pressed and held. Hold down this button until the function calls up.




Press the [SONG] button to access the SONG functions (printed above the buttons), and press the [STYLE] button to access the STYLE functions (printed below).

Display Items

The display shows all of the current basic settings: song, style, voice. It also includes a range of indicators that show the on/off status of a range of functions.

Notation

Displays the melody and chord notes of a song when the Song Lesson function is in use, or the notes of chords you specify when the Dictionary function is in use. At other times the notes you play on the keyboard are displayed.



NOTE

- Any notes occurring below or above the staff are indicated by "8va" in the notation.
- For a few specific chords, not all notes may be shown in the notation section of the display. This is due to space limitations in the display.

BEAT number and MEASURE


Indicates the beat number in a measure during the Metronome function. Indicates the current measure during playback of a song or style, and the currently set Tempo value for the song or style. (pages 45, 53)

Chord Display

Indicates the name of the chord currently being played back, or the name of the chord being played on the keyboard. (page 27)

Track Display

Information related to the song tracks is shown here.



TOUCH

Indicates that Touch response is turned on. (page 56)

HARMONY

Indicates that Harmony is turned on. (page 57)

DUAL

Indicates that the Dual voice is turned on. (page 18)

SPLIT

Indicates that the Split voice is turned on. (page 18)

ARPEGGIO

Indicates that the Arpeggio is turned on. (page 20)

Performance assistant technology

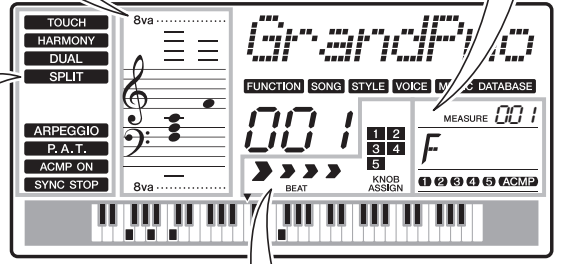
Indicates that performance assistant technology is turned on. (page 36)

ACMP ON

Indicates that Accompaniment is turned on. (page 27)

SYNC STOP

Indicates that SYNC STOP is turned on. (page 61)




Beat Display

Indicates the current style or song beat with flashing arrows. (page 31)

Knob Assign Display

This display allows you to visually confirm parameters assigned to the knobs. (page 22)



Try Playing a Variety of Instrument Voices

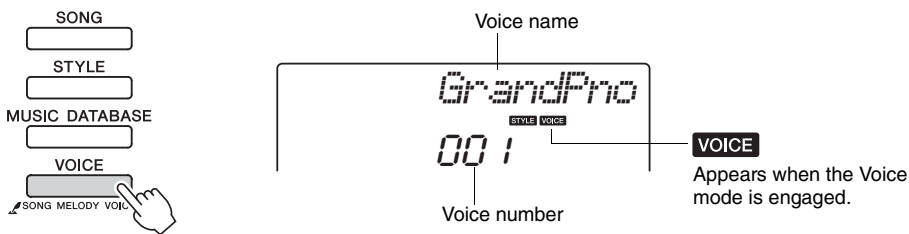
In addition to piano, organ, and other “standard” keyboard instruments, this instrument has a large range of voices that includes guitar, bass, strings, sax, trumpet, drums and percussion, sound effects ... a wide variety of musical sounds.

Select and Play a Voice—MAIN

This procedure selects the main voice you will play on the keyboard.

1 Press the [VOICE] button.

The voice number and name will be displayed.



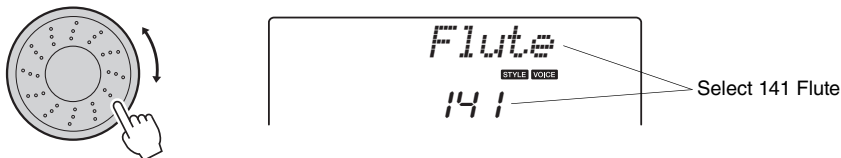
2 Select the voice you want to play.

While watching the displayed voice name rotate the dial. The available voices will be selected and displayed in sequence. The voice selected here becomes the main voice.

For this example select the “141 Flute” voice.

NOTE

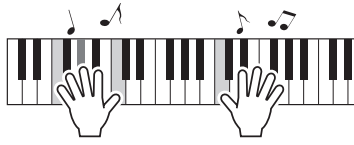
- You can also select the voice using the CATEGORY [\blacktriangle] and [\blacktriangledown] buttons after pressing the [VOICE] button. (page 14)



Preset Voice Types

001–183	Instrument Voices
184–198 (Drum Kit)	Various drum and percussion sounds are assigned to individual keys, via which they can be played. Details on assigning instruments to keys are provided in the Drum Kit List of the separate Data List.
199–238	Arpeggio voices for arpeggio performance.

3 Play the keyboard.



Try selecting and playing a variety of voices.

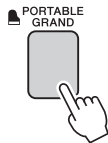
NOTE 1

- Voice Settings (page 55)

Play the Grand Piano Voice

When you just want to play piano, all you have to do is press one convenient button.

Press the [PORTABLE GRAND] button.
The “001 Grand Piano” voice will be selected.

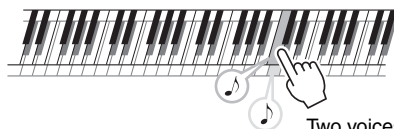
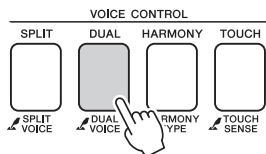


NOTE 1

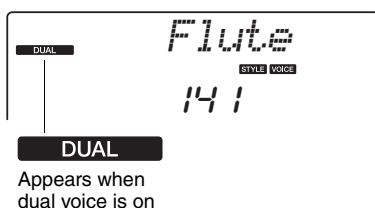
- When you press the [PORTABLE GRAND] button all settings other than touch sensitivity are turned off. The dual and split voices will also be turned off, so only the Grand Piano voice will play over the entire keyboard.

Play Two Voices Simultaneously—DUAL

Once you press the [DUAL] button to turn the dual function on, a second voice will sound that will play in addition to the main voice when you play the keyboard. The second voice is known as the “dual” voice.



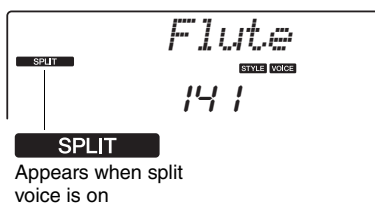
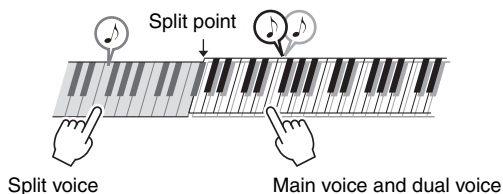
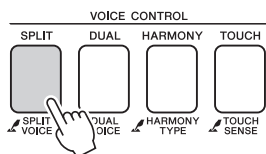
Two voices will sound at the same time.



Press the button a second time to turn the dual voice function off. A suitable dual voice is automatically selected when you turn on this function, but you can easily select a different dual voice (page 56).

Play Different Voices with the Left and Right Hands—SPLIT

Once you press the [SPLIT] button to turn the split function on, you can play different voices to the left and right of the keyboard “split point.” The main and dual voices can be played to the right of the split point, while the voice played to the left of the split point is known as the “split voice.” The split point setting can be changed as required (page 63).

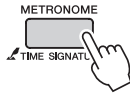


Press the button a second time to turn the split voice function off. A suitable split voice is automatically selected when you turn on this function, but you can easily select a different split voice (page 56).

Using the Metronome

The instrument features a built-in metronome (a device that keeps an accurate tempo) that is convenient for practicing.

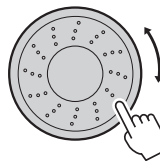
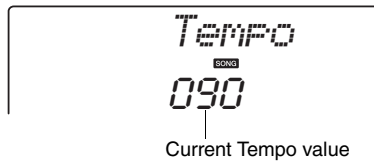
Press the [METRONOME] button to start the metronome. To stop the metronome, press the [METRONOME] button again.



If you want to adjust the metronome tempo, press the [TEMPO/TAP] button to call up the Tempo setting in the display, then you can use the dial to set the tempo. You can also set the tempo using the number buttons on the front panel.

NOTE

- You can set the time signature (page 53).



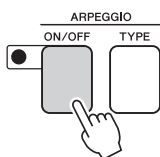
Creating Arpeggios

The arpeggio function lets you create arpeggios (broken chords) by simply playing the required notes on the keyboard. For example, you could play the notes of a triad—the root, third, and fifth—and the arpeggio function will automatically create a variety of interesting arpeggio-type phrases. By changing the arpeggio type and the notes you play it is possible to create a wide range of patterns and phrases that can be used for music production as well as performance.

Use the Arpeggio Function

1 Press the ARPEGGIO [ON/OFF] button to turn the arpeggio function on.

The indicator lights when the Arpeggio function is on.



NOTE 1

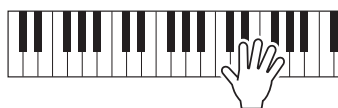
- When you select a voice number between 199 and 238 the arpeggio function will automatically be turned on.

NOTE 2

- Play a key to the left of the keyboard split point because the arpeggio function applies only to the split voice when you select a voice between 229 and 238.

2 Play a note or notes on the keyboard to trigger Arpeggio playback.

The sound of the arpeggio produced will change according to the number of notes you play and the area of the keyboard you play in.



NOTE 3

- When an FC4 or FC5 foot-switch is connected to the SUSTAIN jack is pressed, the Arpeggio will continue to play after the note is released (page 59).

When the split function is on, the arpeggio applies to the split voice. The arpeggio applies to the main and dual voices when the split function is off. Arpeggios cannot be played using the split and main/dual voices simultaneously.

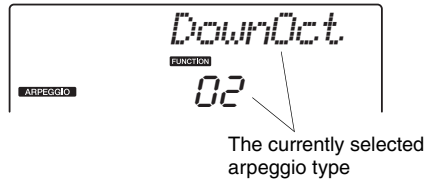
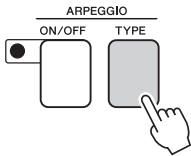
3 When you have finished playing with the arpeggio function, press the ARPEGGIO [ON/OFF] button to turn it off.

Changing the Arpeggio type

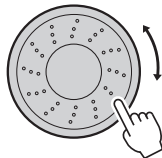
The most suitable arpeggio type is automatically selected when you select a voice, but you can easily select any other arpeggio type.

1 Press the ARPEGGIO [TYPE] button.

“ARP Type” will appear in the display for a few seconds, then the name of the current arpeggio type will appear in the display.



2 Rotate the dial to select the desired arpeggio type.



A list of the available arpeggio types is provided in the Arpeggio List of the separate Data List.

You can save the instrument's settings at this point and then recall them at any time you want to repeat your performance (page 48). You can also record your performance (page 43). Please note that the arpeggio sound for the split voice cannot be recorded.

NOTE

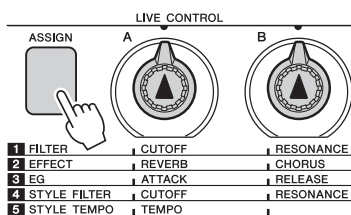
- No arpeggio will sound if you turn the arpeggio function on while playing notes on the keyboard.

Create Original Sounds

The two knobs located in the lower left area of the panel can be used to add variations to the sound being played, transforming the sound in a variety of musical ways. Filter, envelope generator, and other effects can be assigned to the two knobs as required. In this section we'll explain how effects can be assigned to the knobs, and provide a few tips for their use.

Assigning Effects to the Knobs

Repeatedly press the [ASSIGN] button to sequentially select the five effect combinations provided: **1** → **2** → **3** → **4** → **5** → **1** ... etc. The currently selected combination is shown in the display.

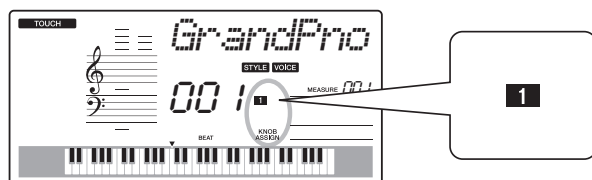


NOTE 1

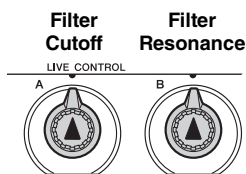
- The assignable knob effects are pre-programmed in the pairs listed above. It is not possible to assign different effect combinations.

NOTE 2

- 1-3** affect the main and dual voices only. Split voices will not be affected. Styles and songs will also not be affected.
- 4-5** affect styles only.

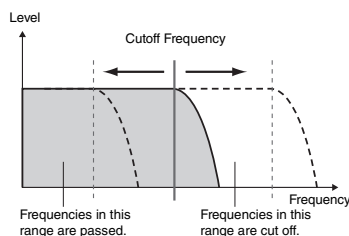


1 Filter

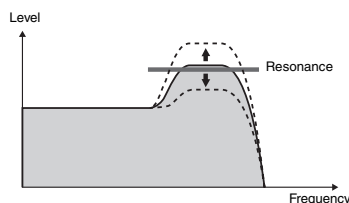


Filter effects shape sound by allowing only a specified range of frequencies to pass and/or by producing a resonance peak at the filter's "cutoff" frequency. Filter effects can be used to create a range of synthesizer-like sounds.

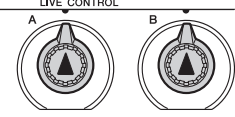
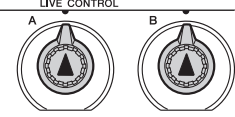
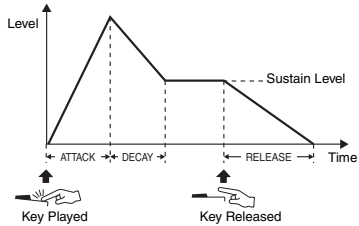
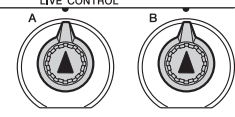
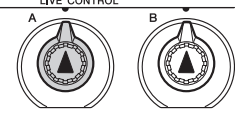
* Filter effects can sometimes cause distortion in the bass frequencies.



Knob A adjusts the filter's cutoff frequency, and therefore the brightness of the sound.



Knob B adjusts the amount of resonance applied at the filter's cutoff frequency. Increasing the resonance emphasizes the frequencies at the cutoff frequency, and thus "strengthens" the perceived effect of the filter.

<p>2 Effect</p> <p>Reverb Send Level Chorus Send Level</p> <p>LIVE CONTROL</p> 	<p>Reverb reproduces the acoustic ambience of a concert hall or club, while chorus produces a layered “multi-instrument” effect. Knob A adjusts the depth of the reverb effect, and Knob B adjusts the depth of the chorus effect.</p>
<p>3 EG (Envelope Generator)</p> <p>Attack Time Release Time</p> <p>LIVE CONTROL</p> 	<p>Envelope Generator effects determine how the level of the sound varies over time. You can make the attack faster for a more percussive sound or slower for a violin-like sound, for example. Or you can lengthen or shorten the sustain to most ideally match the music.</p>  <p>Knob A adjusts attack time (the amount of time it takes the sound to reach maximum level when a key is played). Knob B adjusts release time (the amount of time it takes for the sound to decay to silence after a key is released).</p>
<p>4 Style Filter</p> <p>Filter Cutoff Filter Resonance</p> <p>LIVE CONTROL</p> 	<p>In this case the knobs apply the filter effect to the style being played. Knob A and Knob B have the same functions as for “1 Filter” described on the preceding page.</p>
<p>5 Style Tempo</p> <p>Tempo –No Effect–</p> <p>LIVE CONTROL</p> 	<p>Knob A adjusts the tempo of the style and arpeggios. Rotating the knob clockwise increases the tempo while rotating it counterclockwise decreases the tempo. The knob’s center position produces the initial default tempo.</p>

Using the Knobs

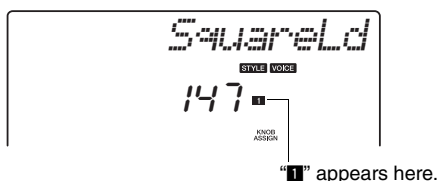
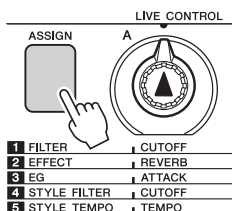
1 Select the voice you want to play on the keyboard.

For this example we want to use a synth-lead type voice, so select “147 SquareLd” (Square-wave Lead).

NOTE

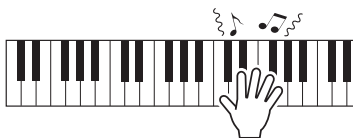
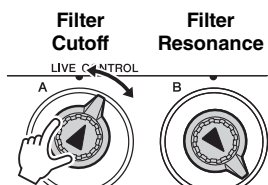
- Try Playing a Variety of Instrument Voices (page 16)

2 Press the [ASSIGN] button as many times as necessary to select “1 FILTER” (“1” will appear in the display).



Knob A can now be used to adjust the filter cutoff frequency, and Knob B can be used to adjust the resonance.

3 Rotate Knob B to its maximum setting (all the way to the right), then play with the right hand while operating Knob A with the left hand.



Rotating the knob to the right while the volume is set to a high level can result in distortion. If this occurs, reduce the volume level.

If you select a different keyboard voice the knobs will be reset and the ideal settings for the selected voice will be automatically recalled. In the same way, if the “4 STYLE FILTER” effect is selected, the knobs will be reset if a different style is selected. If you create an original setting you like, it might be a good idea to save it in the instrument’s Registration Memory (page 48) so you can recall the same settings again at any time. You can also record performances using original sounds you’ve created (page 43).

Changing the knob settings does not immediately change the sound. Newly assigned effects will only change the sound when the knobs are first operated after the new effect has been selected.

The chart below lists some interesting ways to use the various effects that can be assigned to the knobs.

Some Ideas for Using the Knobs

Number/Effect	Try This
1 FILTER	Select a synth-type lead or pad voice (see the Voice List of the separate Data List). Turn Knob B all the way up and operate Knob A while playing for some spacey, floating 1980's effects.
2 EFFECT	Select a voice that sounds as though it already has reverb and chorus effects applied, and turn Knob A and Knob B all the way down to hear the "direct" sound of the voice. You can then turn the Knob A and Knob B settings up to add extra impact and richness to the voice.
3 EG	Select a piano voice, and turn Knob B all the way up and Knob A to about the 3 o'clock position. This should give you a majestic, organ-like sound. The attack time is quite long so play the keys and hold them to let the sound come in fully. Ideal for slow pieces.
4 STYLE FILTER	Select style 42, Euro Trance. Turn accompaniment on and start style playback (pages 26–28). Set Knob B to about 3 o'clock, and Knob A to about 8 o'clock. The overall sound of the style should be a bit muffled, with the drums emphasized for solid rhythmic impact.
5 STYLE TEMPO	Play a style and/or arpeggio and use Knob A to adjust the tempo.

Playing Styles

This instrument has an auto accompaniment feature that produces accompaniment (rhythm + bass + chords) in the style you choose to match chords you play with your left hand. You can select from 174 different styles covering a range of musical genres and time signatures.

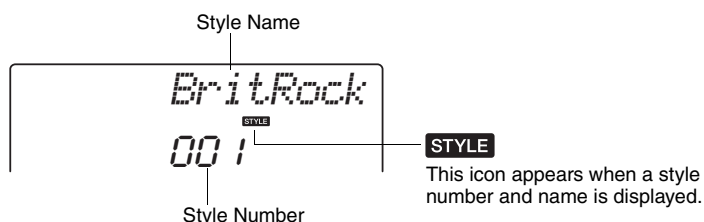
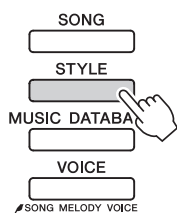
In this section we'll learn how to use the auto accompaniment features.

Select a Style Rhythm

Most styles includes a rhythm part. You can select from a wide variety of rhythmic types—rock, blues, Euro trance, and many, many more. Let's begin by listening to just the basic rhythm. The rhythm part is played using percussion instruments only.

1 Press the [STYLE] button.

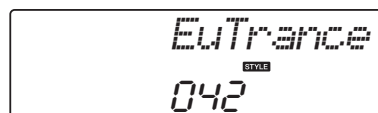
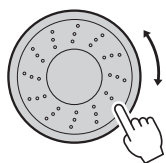
The style number and name will appear in the display.



2 Select a style.

Use the dial to select the style you want to use.

A list of all the available styles is provided in the Style List of the separate Data List.



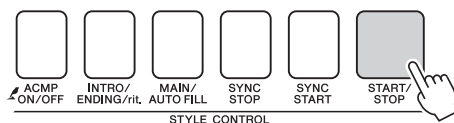
NOTE 1

- You can also use the style files provided on the supplied CD-ROM (page 64).

3 Press the [START/STOP] button.

The style rhythm will start playing.

Press the [START/STOP] button a second time when you want to stop playback.



NOTE 1

- Style numbers 150, 162–174 have no rhythm part and therefore no rhythm will play if you use them for the above example. For these styles first turn auto accompaniment on as described on page 27, press the [START/STOP] button, and the accompaniment bass and chord parts will begin playing when you play a key to the left of the keyboard split point.

Play Along with a Style

You learned how to select a style rhythm on the preceding page. Here we'll see how to add bass and chord accompaniment to the basic rhythm to produce a full, rich accompaniment that you can play along with.

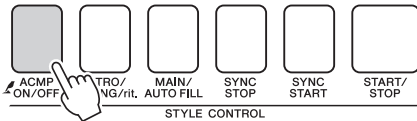
1 Press the [STYLE] button and select the desired style.

For this example select the "042 Euro Trance" style.

2 Turn automatic accompaniment on.

Press the [ACMP ON/OFF] button.

Pressing this button a second time will turn automatic accompaniment off.



ACMP ON

This icon appears when automatic accompaniment is on.

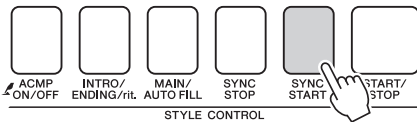
When automatic accompaniment is on ...

The area of the keyboard to the left of the split point (54 : F#2) becomes the "auto accompaniment range" and is used only for specifying the accompaniment chords.

The diagram shows a keyboard with a vertical line indicating the split point. The area to the left of this line is shaded and labeled 'Auto accompaniment range'. An arrow points to the split point with the text 'Split point (page 63)'.

3 Turn sync start on.

Press the [SYNC START] button to turn the sync start function on.



Flashes when sync start is on.

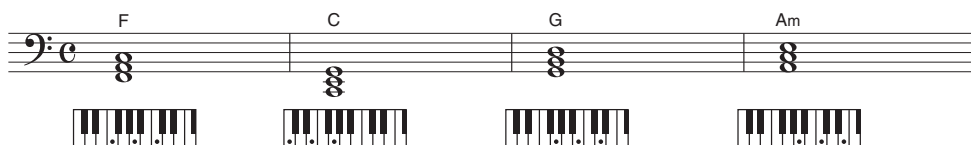
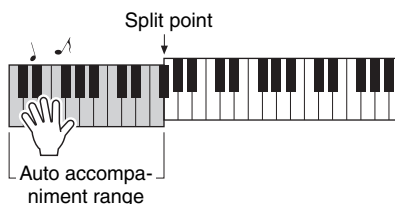
When sync start is on, the bass and chord accompaniment included in a style will start playing as soon as you play a note to left of the keyboard split point. Press the button a second time to turn the sync start function off.

4 Start playing.

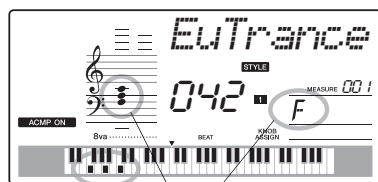
Style playback will begin as soon as you play a chord in the accompaniment range of the keyboard. Try playing the chord progression shown below.

NOTE

- Chords (page 29)
- Looking Up Chords Using the Chord Dictionary (page 65)



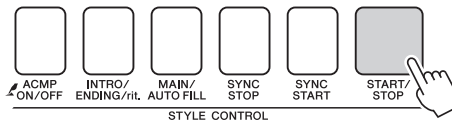
This is a simple-but-effective chord progression.



Indicates the chord currently being played in the accompaniment range of the keyboard.

5 Stop playing.

Press the [START/STOP] button to stop style playback when you're done.








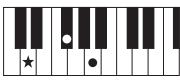
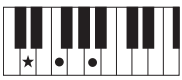




























You can also stop playing by pressing the [INTRO/ENDING/rit.] button so that an appropriate ending pattern will play and then style playback will stop.

You can switch style “sections” to add variety to the accompaniment. Refer to “Pattern Variation (Sections)” on page 60.

Chords

For users who are new to chords, this chart features common chords. Since there are many useful chords and many different ways to use them musically, refer to commercially available chord books for further details.

★ indicates the root note.

Major	Minor	Seventh	Minor Seventh	Major Seventh
C 	Cm 	C7 	Cm7 	CM7 
D 	Dm 	D7 	Dm7 	DM7 
E 	Em 	E7 	Em7 	EM7 
F 	Fm 	F7 	Fm7 	FM7 
G 	Gm 	G7 	Gm7 	GM7 
A 	Am 	A7 	Am7 	AM7 
B 	Bm 	B7 	Bm7 	BM7 

- Inversions can be used as well as in "root" position—with the following exceptions: m7, m7 ♭5, 6, m6, sus4, aug, dim7, 7 ♭5, 6(9), sus2
- Inversion of the 7sus4 and m7(11) chords are not recognized if the notes are omitted.
- sus2 chords are indicated by the root name only.

Easy Chords

This method lets you easily play chords in the accompaniment range of the keyboard using only one, two, or three fingers.

For root "C"



To play a major chord
Press the root note (★) of the chord.



To play a minor chord
Press the root note together with the nearest black key to the left of it.



To play a seventh chord
Press the root note together with the nearest white key to the left of it.



To play a minor seventh chord
Press the root note together with the nearest white and black keys to the left of it (three keys altogether).

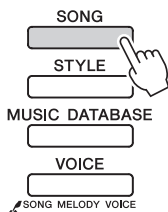
Playing Songs

With this instrument the term “song” refers the data that makes up a piece of music. You can simply enjoy listening to the 30 internal songs, or use them with just about any of the many functions provided—the performance assistant technology feature, lessons, and more. The songs are organized by category. In this section we’ll learn how to select and play songs, and briefly describe the 30 songs provided.

Select and Listen to a Song

1 Press the [SONG] button.

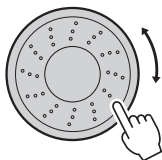
The song number and name will be displayed. You can use the dial to select a different song.



The currently selected song and number are displayed

2 Select a song.

Select a song after referring to the Song List in the separate Data List. Use the dial to select the song you want to listen to.



The song displayed here can be played

NOTE 1

- You can also play songs you have recorded yourself (User Songs) or songs that have been transferred to the instrument from a computer in the same way that you play the internal songs.

The songs are organized by category.

- | | |
|---------------------------|---|
| 001 - MAIN DEMO | • The songs in this category have been created to give you an idea of the advanced capabilities of this instrument. |
| 004 - VOICE DEMO | • These songs features some of the instrument's many useful voices. |
| 009 - FUNCTION DEMO | • Use these songs to experience some of the instrument's advanced features: song number 9 for the easy song arranger, and songs 10 and 11 for the performance assistant technology feature. |
| 012 - PIANO SOLO | • These piano solo pieces are ideally suited for use as lesson songs. |
| 016 - PIANO ENSEMBLE | • A selection of piano ensemble songs that are also well suited for use as lesson songs. |
| 021 - PIANO ACCOMPANIMENT | • When you need to practice backing (accompaniment) patterns, these are the songs to do it with. |
| 031 - USER SONG | • Songs you record yourself. |
| 036 - FLASH MEMORY | • Songs transferred from a computer (page 76) |
- SONG**

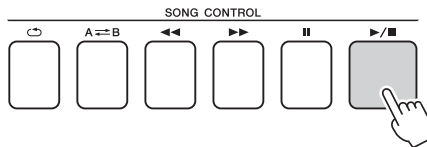
3 Listen to the song.

Press the [▶/■] (START/STOP) button to begin playback of the selected song.

You can stop playback at any time by pressing the [▶/■] (START/STOP) button again.

NOTE 1

- Score data for the 30 internal songs are provided in the Songbook on the CD-ROM. The exceptions are songs 1–11 and 30. The scores for songs 9 to 11 are provided in the separate Data List.



The arrow marks in the beat display flash in time with the rhythm of the song or style.

Play Songs in Sequence

Press the [DEMO/BGM] button to play Songs 001–008 in sequence. Playback will repeat continuously, starting again from the first Song (001). You can select a song by using the [+] button after pressing the [DEMO/BGM] button. The [-] button can be used to go back to the beginning of the selected song. You can stop playback at any time by pressing the [DEMO/BGM] button.



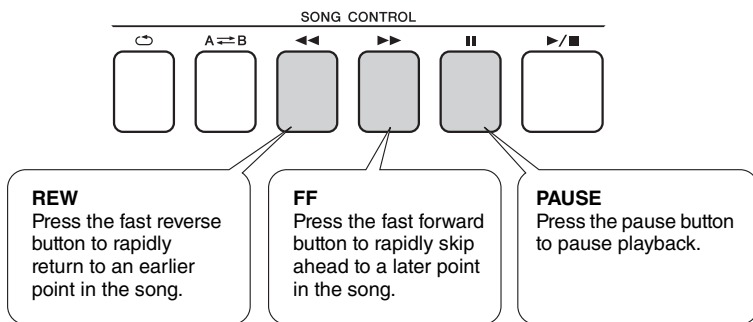
You can also specify the repeat playback of all preset songs or songs transferred from a computer. The specified songs can also be played in random order (page 66).

Song Fast Forward, Fast Reverse, and Pause

These are just like the transport controls on a cassette deck or CD player, letting you fast forward [▶▶] (FF), rewind [◀◀] (REW) and pause [||] (PAUSE) playback of the song.

NOTE 1

- When an A-B repeat range is specified the fast reverse and forward function will only work within that range.



Select a Song For a Lesson

Yamaha Education Suite

You can select song you like and use it for a left-hand, right-hand, or both-hands lesson. During the lesson you can play as slowly as you like, and you can even play wrong notes. Song playback will slow down to a speed you can handle. It's never too late to start learning!

The practice methods:

Lesson 1—Waiting	→	Learn to play the correct notes.
Lesson 2—Your Tempo	→ →	Learn to play the correct notes with the correct timing.
Lesson 3—Minus One	→ → →	Learn to play the correct notes at the correct timing along with the song.

Lesson 1—Waiting

In this lesson, try playing the correct notes. Play the note shown in the display. The song will wait until you play the right note.

1 Select a song for your lesson.

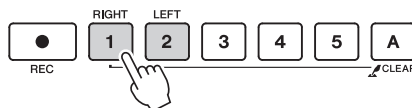
Select a song from the Piano Solo, Piano Ensemble category! For this example try selecting the “012 ForElise”.

NOTE

- Song numbers 10 and 11 are function demos for performance assistant. The lesson function cannot be used with them.
- You can also use songs (only SMF format 0) transferred from the computer and saved to flash memory. (pages 75–77)

2 Turn off playback of the part you wish to practice.

The preset songs have separate left- and right-hand parts. The right-hand part is selected by the [RIGHT](1) button and the left-hand part is selected by the [LEFT](2) button. You can turn the left- and right-hand parts on or off as required in order to practice the corresponding part (the part that is turned off) on the keyboard. You can practice both parts when both the left- and right-parts are turned off.



NOTE

- You can turn parts on or off, even during playback.

Pressing the part buttons toggles part playback on and off. Turn off playback of the part you wish to practice. When you press one of the buttons to turn playback off, the corresponding part indicator in the display turns off and playback of that part is muted.

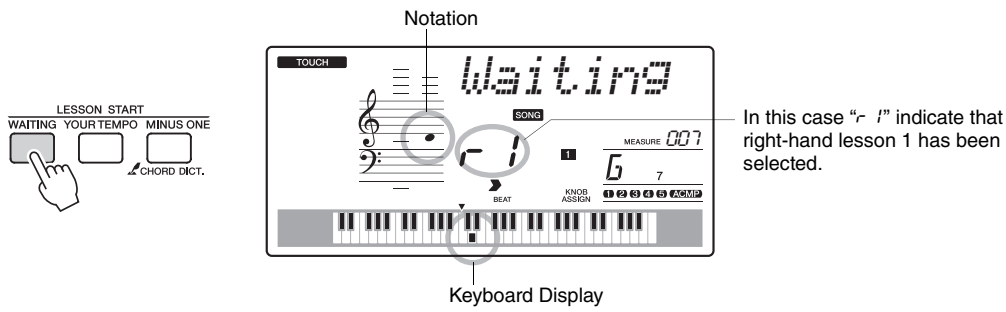
(When you first select a song, both the “1” and “2” parts indicators will light, indicating that both parts are on.)

The screenshot shows the display with 'ForElise' and '012'. A callout box contains the following text:

Right-hand lesson	1 2	Track 1 is unlit
Left-hand lesson	1 2	Track 2 is unlit
Both-hands lesson	1 2	Track 1 and 2 are unlit

3 Start Lesson 1.

Press the [WAITING] button to start Lesson 1.



Play the note shown in the display. When you play the correct note, the next note you need play is shown. The song will wait until you play the correct note.

4 Stop the Lesson mode.

You can stop the Lesson mode at any time by pressing the [▶/■] (START/STOP) button.

You can also stop the Lesson mode by pressing the [WAITING] button.

See How You've Done

- Excellent ██████████
- Very Good ████████
- Good ██████
- OK ████

When the lesson song has played all the way through your performance will be evaluated in 4 levels: OK, Good, Very Good, or Excellent. "Excellent!" is the highest evaluation.

After the evaluation display has appeared, the lesson will start again from the beginning.

NOTE 1

- The evaluation feature can be turned off via the FUNCTION Grade item (page 72).

Once you've mastered Lesson 1, move on to Lesson 2.

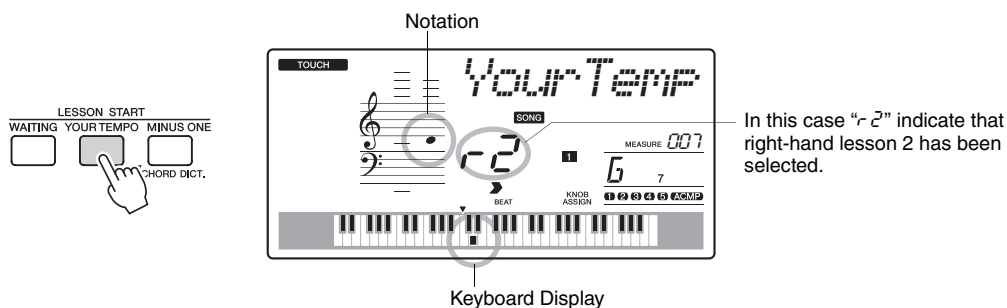
Lesson 2—Your Tempo

Learn to play the correct notes with the correct timing. Song playback tempo will vary to match the speed you are playing at. The song will slow down when you play wrong notes, so you can learn at your own pace.

1 Select the song and part you want to practice (steps 1 and 2 on page 33).

2 Start Lesson 2.

Press the [YOUR TEMPO] button to start Lesson 2.



Play the note shown in the display. Try to play the notes at the correct timing. As you learn to play the right notes at the right timing the tempo will increase until eventually you’ll be playing at the song’s original tempo.

3 Stop the Lesson mode.

You can stop the Lesson mode at any time by pressing the [▶/■] (START/STOP) button.

You can also stop the Lesson mode by pressing the [YOUR TEMPO] button.

Once you’ve mastered Lesson 2, move on to Lesson 3.

Lesson 3—Minus One

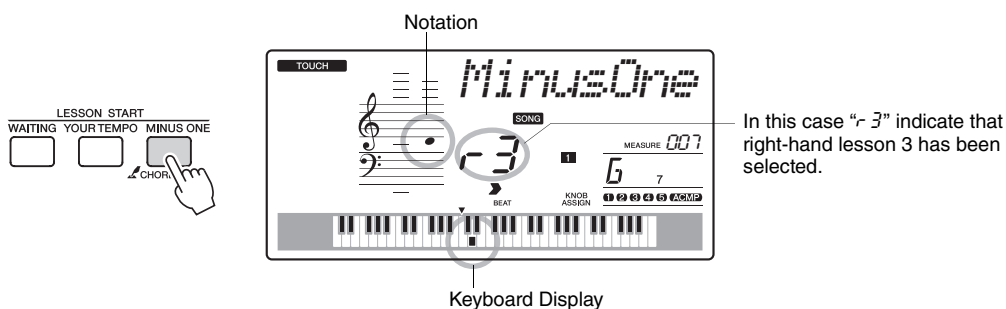
Here's where you can perfect your technique.

The song will play at the normal tempo, minus the part you have chosen to play. Play along while listening to the song.

1 Select the song and part you want to practice (steps 1 and 2 on page 33).

2 Start Lesson 3.

Press the [MINUS ONE] button to start Lesson 3.



Play the note shown in the display.

3 Stop the Lesson mode.

You can stop the Lesson mode at any time by pressing the [▶/■] (START/STOP) button.

You can also stop the Lesson mode by pressing the [MINUS ONE] button.

Practice Makes Perfect—Repeat and Learn

Use this feature when you want to start again just ahead of a section on which you made a mistake, or to repeatedly practice a section you find difficult.

Press the [↺] (REPEAT & LEARN) button during a lesson.

The song location will move back four measures from the point at which you pressed the button, and playback will begin after a one-measure count-in. Playback will continue up to the point at which you pressed the [↺] (REPEAT & LEARN) button, and then jump back four measures and repeat again after a count-in. This process will repeat, so all you have to do is press the [↺] (REPEAT & LEARN) button when you make a mistake in order to repeat practice of that section until you get it right. Press the button again to return to the normal lesson mode.

NOTE

- You can change the number of measures the Repeat and learn function jumps back by pressing a number button [1]–[9] during repeat playback.

The Easy Way to Play Piano

This instrument includes a performance assistant technology feature that lets you play along with a song and sound like a great pianist (even though you might be making lots of mistakes)! In fact, you can play any notes and still sound good! So even if you can't play piano and can't read a note of music, you can have some musical fun. It's never too late to start learning!

Using the Performance Assistant technology

Try out the performance assistant technology using the preset song "Ave Maria."

1 Select a song.

Press the [SONG] button, and the song number and name will be displayed. You can use the dial or other selection controls to select a different song. For this example try selecting the "010 Ave Maria".

NOTE

- *Select and Listen to a Song* (page 30)

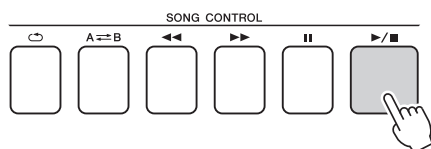
2 Press the [PERFORMANCE ASSISTANT] button.

The indicator lights when the performance assistant technology feature is on.



Press the [PERFORMANCE ASSISTANT] button to turn the function on or off.

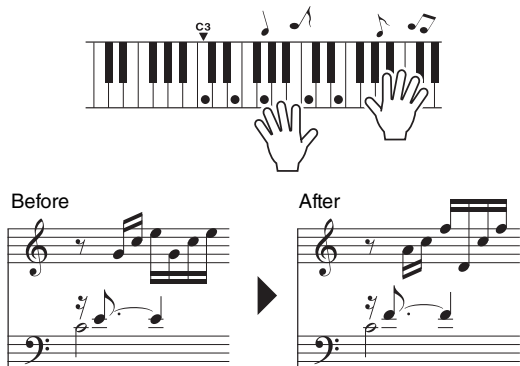
3 Press the [▶/■] (START/STOP) button.



Song playback will begin.

The basic pattern will repeat. Listen to four measures while memorizing the basic pattern. It's your turn to play the part from the fifth measure.

4 Play on the keyboard.



Play the score on the left along with the accompaniment using both hands. You can even play the same keys over and over: C, E, G, C, E, G, C, E. Performance assistant technology will make sure that the notes will come out as if they were played according to the score on the right. Keep playing, and performance assistant technology will continue to “correct” the notes that you play.

NOTE

- The score for Ave Maria is provided in the separate Data List.

You can stop song playback at any time by pressing the [▶/■] (START/STOP) button.

5 Press the [PERFORMANCE ASSISTANT] button to turn the performance assistant technology feature off.

Next try playing the Chopin Nocturne.

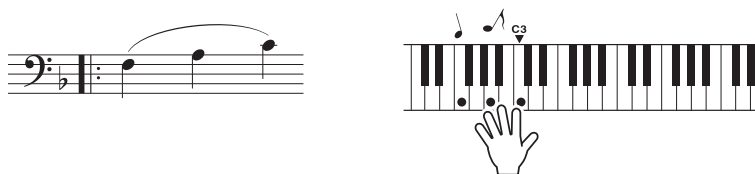
1 The procedure is the same as that described for playing Ave Maria on page 37. Select “011 Nocturne”:

NOTE

- The score for Nocturne is provided in the separate Data List.

2 Listen to eight measures, then begin playing from the ninth measure.

Play the keys shown in the illustration. Keep playing F, A and C with your left hand and the correct notes will sound as the song proceeds. When you get used to playing the left hand part, refer to step 2 on the next page and try adding the right-hand part.



3 Press the [PERFORMANCE ASSISTANT] button to turn the performance assistant technology feature off.

Next try playing a different preset song.

1 The procedure is the same as that described for playing Ave Maria on page 37. Select any song.

To use the performance assistant technology feature it is necessary to play a song that includes chord data.

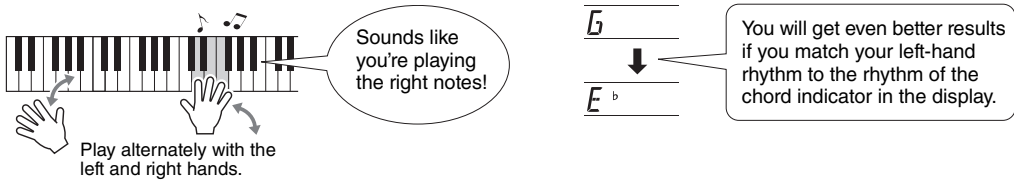
Select a song that includes chord data, referring to the Song List in the separate Data List.

NOTE 1

• Songs transferred to the instrument from a computer can also be used with the performance assistant technology as long as they include the required chord data. If a song includes the required data, the chords are shown on the right side of the display.

2 Play freely referring to the description below.

To begin, try to feel the rhythm of the song. Then, with your hands spread as shown in the illustration, simply play the keyboard alternately with your left and right hands (any notes will do).



How does it sound? You'll get acceptable results no matter where you play thanks to performance assistant technology!

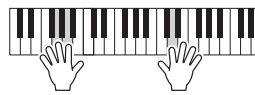
Next try the three playing methods illustrated below. Different ways of playing produce different results.

Play with the left and right hands at the same timing—type 1.



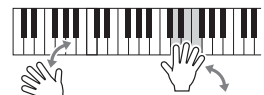
Play 3 notes at once with your right hand.

Play with the left and right hands at the same timing—type 2.



Play 1 note at a time with your right hand (for example: index finger → middle finger → ring finger).

Play alternately with the left and right hands—type 3.



Play 3 notes at once with your right hand.

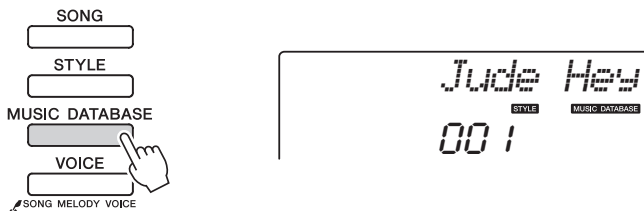
Once you get a feel for it, try playing chords with your left hand and a melody with your right ... or any other combination.

3 Press the [PERFORMANCE ASSISTANT] button to turn the performance assistant technology feature off.

Play Using the Music Database

You want to play music in your favorite style, but you're not sure how to select the best voice and style for the type of music you want to play ... simply select the appropriate style from the Music Database. The panel settings will automatically be adjusted for the ideal combination of sounds and style!

1 Press the [MUSIC DATABASE] button.

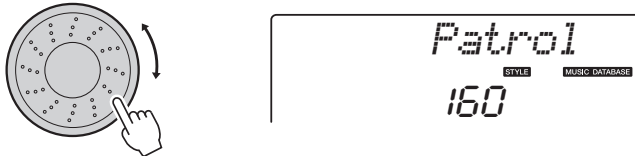


A Music Database name will appear in the display.

2 Select a Music Database.

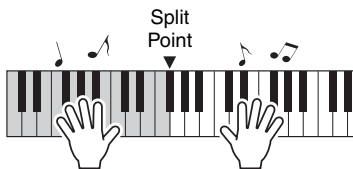
Referring to the Music Database List in the separate Data List, use the dial to select a music database. Select one that matches the image of the song you intend to play.

For this example select the "160 Patrol".



3 Play the chords with your left hand and melody with your right.

The jazz style will start playing when you play a left-hand chord to the left of the split point. Refer to page 29 for information about playing chords.



Press the [START/STOP] button to stop playback.

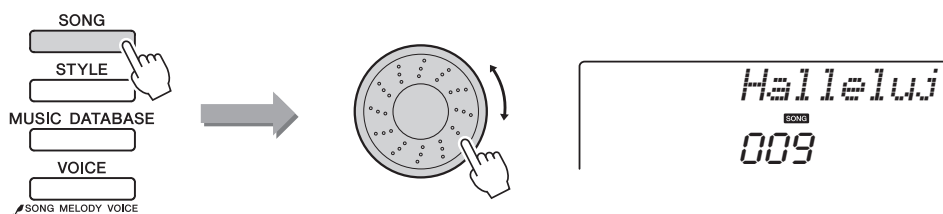
Change a Song's Style

In addition to each song's default style, you can select any other style to play the song with the Easy Song Arranger feature. This means that you can play a song that is normally a ballad, for example, as a bossa nova, as a hip-hop tune, etc. You can create totally different arrangements by changing the style with which a song is played. You can also change the song's melody voice and the keyboard voice for a complete change of image.

Listen to the DEMO Song for Easy Song Arranger

The "Hallelujah Chorus" in the preset songs lets you experience the Easy Song Arranger. Playing it.

Press the [SONG] button, then select a "009 Hallelujah Chorus" by using the dial. Press the [▶/■] (START/STOP) button to play it.



As the song progresses, you will see only the style changes while the song remains the same.

Keep in mind that you can enjoy using Easy Song Arranger with other songs as well—any songs that include chord data.

NOTE

- The score for "Hallelujah Chorus" is provided in the separate Data List.

Using the Easy Song Arranger

Try switching styles while the song plays back.

1 Press the [EASY SONG ARRANGER] button.

The indicator lights when the Easy Song Arranger function is on.

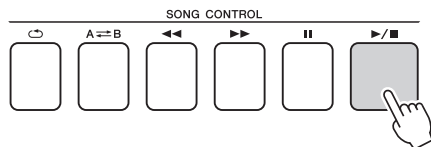


2 Select a Song.

Press the [SONG] button, then select the song you want to arrange. Select the songs that include the required chord data referring to the Song List in the separate Data List.

3 Listen to the song.

Press the [▶/■] (START/STOP) button to begin playback of the song. Move on to the next step while the song is playing.



NOTE

• When playing song numbers 010, 011 and 021 to 030 while using the Easy Song Arranger, melody tracks will be automatically muted and no melody will sound. In order to hear the melody tracks you will need to press the track buttons [3] to [5].

4 Select a style.

Press the [STYLE] button and then rotate the dial to hear how the song sounds with different styles. As you select different styles the song will remain the same while only the styles change.

You can also press the [MAIN/AUTO FILL] button to change the style's main section.

NOTE

- Because the Easy Song Arranger uses song data you can't specify chords by playing in the accompaniment range of the keyboard. The [ACMP ON/ OFF] button will not function.
- If the time signature of the song and style are different, the time signature of the song will be used.

Changing the Melody Voice

You can change the song's melody voice while the Easy Song Arranger is on.

Press the [VOICE] button once to display the name of the current melody voice. Use the dial to select a different voice, then press and hold the [VOICE] button for longer than a second. "SONG MELODY VOICE" will appear in the display for a few seconds, indicating that the newly selected voice has replaced the song's original melody voice.

5 Press the [EASY SONG ARRANGER] button to turn the function off.

If the song or style is being played back, first stop the playback, then turn the Easy Song Arranger function off.

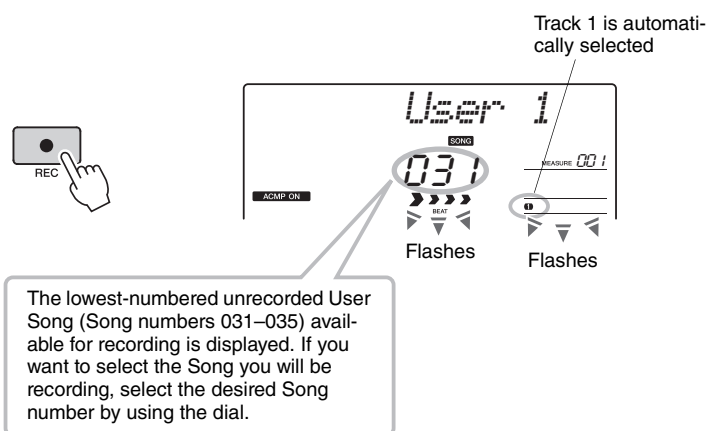
The indicator will go out.

Record Your Own Performance

You can record up to 5 of your own performances and save them as user songs 031 through 035. The recorded song can be played back on the instrument.

Recording

1 Press the [REC] button.



NOTICE

- If all User Songs (Song numbers 031–035) contain recorded data, Song 031 will automatically be selected. In this case, you will record over and erase any previous data in Song 031, so be careful that you won't be erasing any material you want to keep!

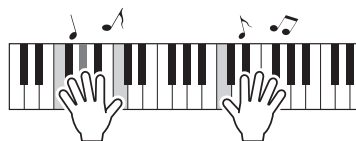
NOTE 1

- Accompaniment cannot be turned on or off once the [REC] button is pressed.

You can turn off the Record mode by pressing the [REC] button again (Track 1 stop flashing).

2 Start recording.

When you play the keyboard, recording will begin.



NOTE 1

- After you've selected the desired User Song for recording, you can select a Style to be recorded as well. To do this, press the [STYLE] button and select the Style number while the ACMP indication is on.

3 Stop recording.

Pressing the [START/STOP] button stops recording and writes the data to the User Song. (A "Writing!" message is shown.)

To playback the newly recorded performance, press the [START/STOP] button.

NOTICE

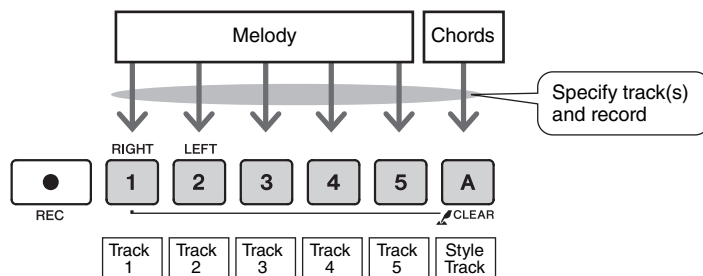
- Never attempt to turn the power off when a "Writing!" message is shown in the display. Doing so can damage the flash memory and result in a loss of data.

Recording to a specified track

Recordable Data

You can record up to a total of 6 tracks: 5 melody tracks and 1 style (chord) track. Each track can be recorded individually.

- **Melody Track [1]–[5]**..... Record the melody parts.
- **Style Track [A]**..... Records the chord part.



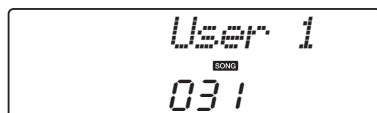
Track Mute

This instrument allows you to choose whether recorded tracks will play back while you are recording or playing back other tracks (page 68).

NOTE 1

- Up to approximately 10,000 notes can be recorded for the five user songs if you record only to the melody tracks. Up to approximately 5,500 chord changes can be recorded for the five user songs if you record only to the style track.

- 1 Press the [SONG] button, then use the dial to select the user song number (031–035) you want to record to.



Rotate the dial to select a song number between 031 and 035.

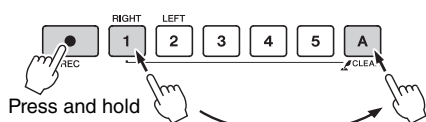
- 2 Select the track(s) you want to record to and confirm your selection on the display.

◆ Record a Melody Track and the Accompaniment Track Together

Press the melody track button [1]–[5] you want to record to while holding the [REC] button.

Next, press the [A] button while holding the [REC] button.

The selected tracks will flash in the display.



Track 1 and Style Track will flash

NOTICE

- If you record to a track that contains previously-recorded data the previous data will be overwritten and lost.

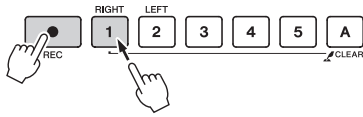
NOTE 1

- Style accompaniment is automatically turned on when you select the style track [A] for recording.
- Style accompaniment cannot be turned on or off while recording is in progress.

◆ **Record a Melody track**

Press the melody track button [1]–[5] you want to record to while holding the [REC] button.

The selected track will flash in the display.



NOTE 1

- If style accompaniment is on and track [A] has not yet been recorded, the style track [A] will automatically be selected for recording when a melody track is selected. If you only want to record a melody track, be sure to turn the style track [A] off.

To cancel recording to a selected track, press that track button a second time.

3 Recording will start when you play on the keyboard.

You can also start recording by pressing the [▶/■] (START/STOP) button.

The current measure will be shown on the display during recording.



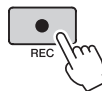
NOTE 1

- If the memory becomes full during recording a warning message will appear and recording will stop automatically. Use the song clear or track clear (page 47) function to delete unwanted data and make more room available for recording, then do the recording again.

4 Stop recording by pressing the [▶/■] (START/STOP) or [REC] button.



or



NOTE 1

- If you want to record only the rhythm (percussion) part, press the [▶/■] (START/STOP) button to play just the rhythm, then add the section change by pressing the [INTO/ENDING/rit.] button or [MAIN/AUTO FILL] button.

When recording stops the current measure number will return to 001 and the recorded track numbers in the display will light.

To Record Other Tracks

Repeat steps 2 through 4 to record any of the remaining tracks.

By selecting an unrecorded track—track buttons [1]–[5], [A]—you can record the new track while listening to previously recorded tracks (the playback tracks will appear in the display). You can also mute previously recorded tracks (the muted tracks will not appear in the display) while recording new tracks.

To Re-record a Track

Simple select the track you want to re-record for recording in the normal way.

The new material will overwrite the previous data.

5 When the recording is done ...

To playback the newly recorded performance, press the [▶/■] (START/STOP) button.

◆ To Play Back a User Song

User songs are played back in the same way as regular songs (page 30).

- 1 Press the [SONG] button.
- 2 The current song number/name will be displayed—use the dial to select the user song (031–035) you want to play.
- 3 Press the [▶/■] (START/STOP) button to start playback.

Data Recording Limitations

- The split voice cannot be recorded.
- The following data are recorded at the beginning of the track. Changes made during the song will not be recorded.
 - reverb type, chorus type, time signature, style number, style volume, tempo

Song Clear—Deleting User Songs

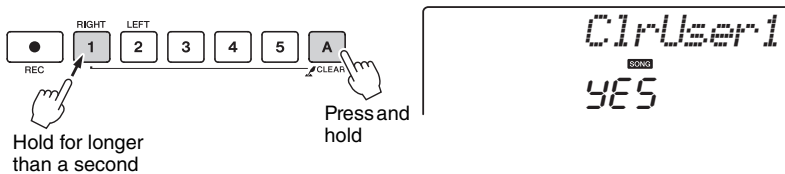
This function clears an entire user song (all tracks).

NOTE 1

- If you only want to clear a specific track from a user song use the Track Clear function.

- 1 **Press the [SONG] button, then select the user song (031–035) you want to clear.**
- 2 **Press and hold the track [1] button for longer than a second while holding the track [A] button.**

A confirmation message will appear on the display.



- 3 **Press the [+] button.**

A confirmation message will appear on the display.

You can cancel the clear operation by pressing the [-] button.

- 4 **Press the [+] button to clear the song.**

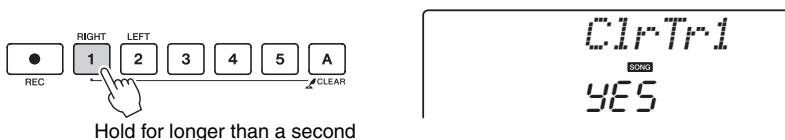
The clear-in-progress message will appear briefly on the display while the song is being cleared.

Track Clear—Deleting a Specified Track from a User Song

This function lets you delete a specified track from a user song.

- 1 **Press the [SONG] button, then select the user song (031–035) you want to clear.**
- 2 **Press and hold the track button ([1]–[5], [A]) corresponding to the track you want to clear for longer than a second.**

A confirmation message will appear on the display.



- 3 **Press the [+] button.**

A confirmation message will appear on the display.

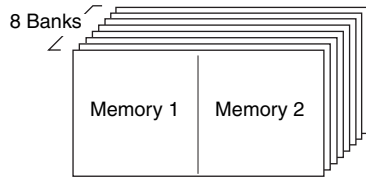
You can cancel the clear operation by pressing the [-] button.

- 4 **Press the [+] button to clear the track.**

The clear-in-progress message will appear briefly on the display while the track is being cleared.

Memorize Your Favorite Panel Settings

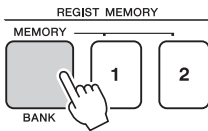
This instrument has a Registration Memory feature that lets you save your favorite settings for easy recall whenever they're needed. Up to 16 complete setups can be saved (8 banks of two setups each).



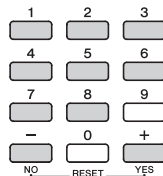
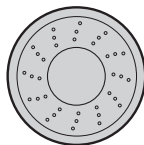
Up to 16 presets (eight banks of two each) can be memorized.

Saving to the Registration Memory

- 1 Set the panel controls as required—select a voice, accompaniment style, etc.
- 2 Press the [MEMORY/BANK] button. A bank number will appear in the display when you release the button.



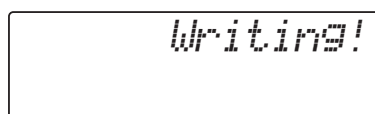
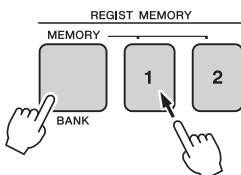
- 3 Use the dial or the [1]–[8] number buttons to select a bank number from 1 to 8.



NOTE

- Data cannot be saved to the registration memory during song playback.

- 4 Press the REGIST MEMORY [1] or [2] button while holding the [MEMORY/BANK] button to store the current panel settings to the specified registration memory.



NOTICE

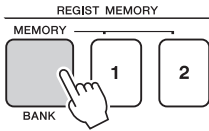
- If you select a Registration Memory number that already contains data, the previous data is deleted and overwritten by the new data.

NOTICE

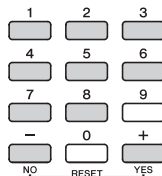
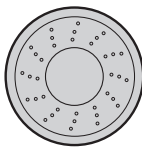
- Do not turn off the power while saving settings to the registration memory, otherwise the data may be damaged or lost.

Recalling a Registration Memory

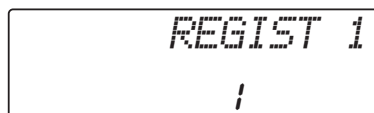
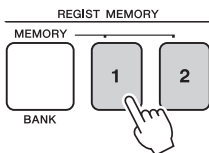
- 1 Press the [MEMORY/BANK] button. A bank number will appear in the display when you release the button.



- 2 Use the dial or the [1]–[8] number buttons to select bank you want to recall.



- 3 Press the REGIST MEMORY button, [1] or [2], containing the settings you want to recall. The recalled REGIST MEMORY number appears in the display for a few seconds. The panel controls will be instantly set accordingly.



Settings That Can be Saved to the Registration Memory

Style settings*

Style number, Auto Accompaniment ON/OFF, Split Point, Style settings (Main A/B), Style Volume, Tempo

Voice settings

Main Voice setting (Voice number, Volume, Octave, Pan, Reverb Send Level, Attack Time, Release Time, Filter Cutoff, Filter Resonance, Chorus Send Level),

Dual Voice settings (Dual ON/OFF, Voice number, Volume, Octave, Pan, Reverb Send Level, Chorus Send Level, Attack Time, Release Time, Filter Cutoff, Filter Resonance),

Split Voice settings (Split ON/OFF, Voice number, Volume, Octave, Pan, Reverb Send Level, Chorus Send Level)

Effect settings

Reverb Type, Chorus Type

Arpeggio settings

Arpeggio Type, Arpeggio ON/OFF, Arpeggio Quantize, Arpeggio Volume, Arpeggio Pedal

Harmony settings

Harmony ON/OFF, Harmony Type, Harmony Volume

Other settings

Transpose, Pitch Bend Range, Knob Assign

* Style settings are not available for Registration Memory when using the Song features.

Backup and Initialization

Backup

The following settings are always backed up, and are maintained even when the power is turned off. If you want to initialize the settings, use the Initialize operation “Backup Clear” as explained below.

The Backup Parameters

- User Songs
- Style Number 175
- Touch Response on/off
- Registration Memory
- FUNCTION Settings: Tuning, Split Point, Touch Sensitivity, Style Volume, Song Volume, Metronome Volume, Grade, Demo Group, Demo Play, Demo Cancel, Master EQ type

NOTE

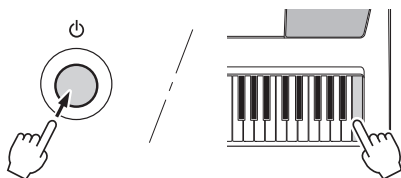
- You can save the settings as backup data to your computer, by using the Musicsoft Downloader (MSD) software. Refer to the section “Transfer a backup file from the instrument to a computer” on page 77.

Initialization

This function erases all backup data in the instrument’s flash memory and restores the initial default settings. The following initialization procedures are provided.

Backup Clear

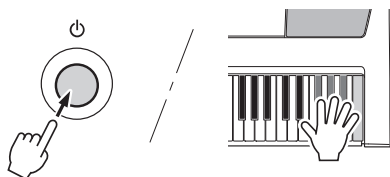
To clear data backed up to the internal flash memory turn the power on by pressing the [⏻](Standby/On) switch while holding the highest white key on the keyboard. The backed up data will be erased and the default values restored.



Initialization does not delete the files transferred from the computer. If you want to delete the files, see “Deleting Files” below.

Deleting Files

To clear song and style files that have been transferred to the internal flash memory from a computer, turn the power on by pressing the [⏻](Standby/On) switch while simultaneously holding the highest white key on the keyboard and the three highest black keys.



NOTICE

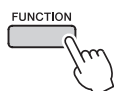
- When you execute the Flash Clear operation, data you have purchased will also be cleared. Be sure to save data you want to keep to a computer.

Handy Performance Features

Adding Reverb

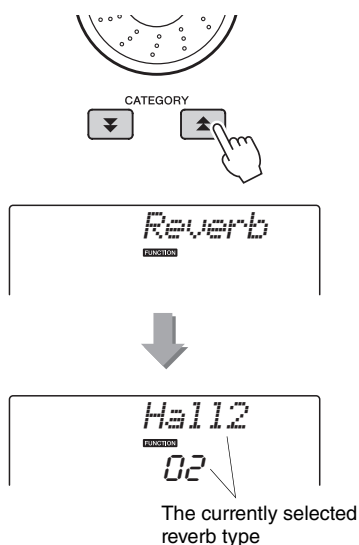
Reverb lets you play with a rich concert hall type ambience. When you select a style or song the optimum reverb type for the voice used is automatically selected. If you want to select a different reverb type, use the procedure described below.

1 Press the [FUNCTION] button.



2 Use the CATEGORY [▲] and [▼] buttons to select “Reverb”

“Reverb” will appear in the display for a few seconds, and the currently selected reverb type will be displayed.



3 Use the dial to select a reverb type.

You can check how the selected reverb type sounds by playing on the keyboard. Refer to the Effect Type List in the separate Data List for information about the available reverb types.

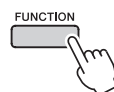
Adjusting the Reverb Send Level

You can individually adjust the amount of reverb that is applied to the main, dual, and split voices. (See page 71).

Adding Chorus

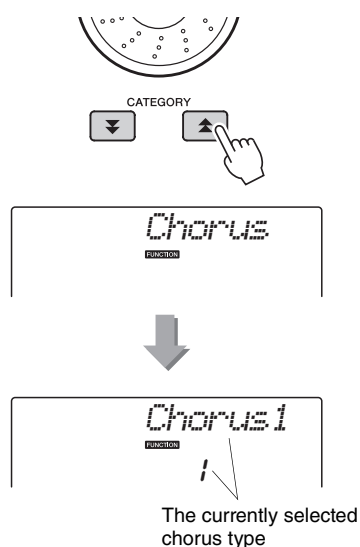
The chorus effect creates a thick sound that is similar to many of the same voices being played in unison. When you select a style or song the optimum chorus type for the voice used is automatically selected. If you want to select a different chorus type, use the procedure described below.

1 Press the [FUNCTION] button.



2 Use the CATEGORY [▲] and [▼] buttons to select “Chorus”

“Chorus” will appear in the display for a few seconds, and the currently selected chorus type will be displayed.



3 Use the dial to select a chorus type.

You can check how the selected chorus type sounds by playing on the keyboard. Refer to the Effect Type List in the separate Data List for information about the available chorus types.

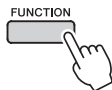
Adjusting the Chorus Send Level

You can individually adjust the amount of chorus that is applied to the main, dual, and split voices. (See page 71).

Pitch Controls (Transpose)

The overall pitch of the instrument can be shifted up or down by a maximum of 1 octave in semitone increments.

- 1 Press the [FUNCTION] button.



- 2 Use the CATEGORY [▲] and [▼] buttons to select the Transpose item.



- 3 Use the dial to set the transpose value between -12 and +12 as required.

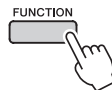
NOTE

- The pitch of Drum Kits voices cannot be changed.

Pitch Controls (Tuning)

The overall tuning of the instrument can be shifted up or down by a maximum of 100 cents in 1-cent increments (100 cents = 1 semitone).

- 1 Press the [FUNCTION] button.



- 2 Use the CATEGORY [▲] and [▼] buttons to select the Tuning item.



- 3 Use the dial to set the tuning value between -100 and +100 as required.

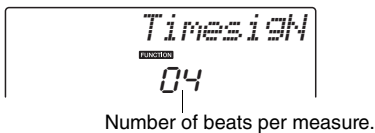
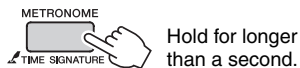
NOTE

- The pitch of Drum Kits voices cannot be changed.

Setting the Metronome Time Signature

In this example we'll set up a 5/8 time signature.

- 1 Press and hold the [METRONOME] button for longer than a second to select the number of beats per measure function "TimesigN".



- 2 Use the dial to select the number of beats per measure.

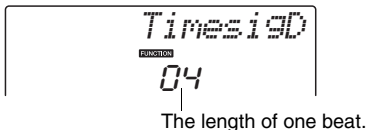
A chime will sound on the first beat of each measure while the other beats will click. All beats will simply click with no chime at the beginning of each measure if you set this parameter to "00". The available range is from 0 through 60. Select 5 for this example.

NOTE 1

- The metronome time signature will synchronize to a style or song that is playing, so these parameters cannot be changed while a style or song is playing.

- 3 Press the CATEGORY [▲] and [▼] buttons as many times as necessary to select the beat length function "TimesigD".

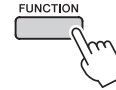
The currently selected beat length will be displayed.



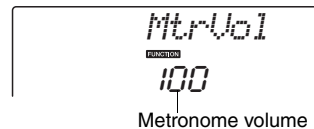
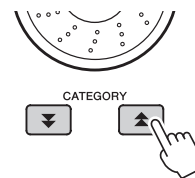
- 4 Use the dial to select the beat length. Select the required length for each beat: 2, 4, 8, or 16 (half note, quarter note, eighth note, or 16th note). Select 8 for this example.

Adjusting the Metronome Volume

- 1 Press the [FUNCTION] button.



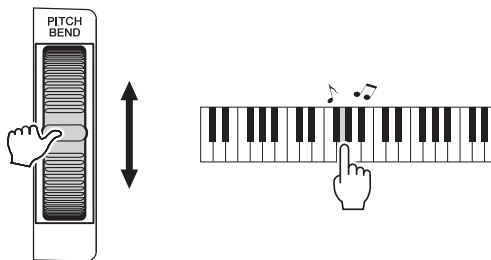
- 2 Use the CATEGORY [▲] and [▼] buttons to select the Metronome Volume item.



- 3 Use the dial to set the metronome volume as required.

Pitch Bend

The pitch bend wheel can be used to add smooth pitch variations to notes you play on the keyboard. Roll the wheel upward to raise the pitch, or downward to lower the pitch. You can change the amount of pitch bend produced by the wheel, as described on page 71.



One Touch Setting

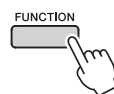
Sometimes selecting the ideal voice to play with a song or style can be confusing. The One Touch Setting feature automatically selects a well-balanced voice for you when you select a style or song. Simply select voice number “000” to activate this feature.

Select an EQ Setting for the Best Sound

Five different master equalizer (EQ) settings are provided to give you the best possible sound when listening through different reproduction systems—the instrument’s internal speakers, headphones, or an external speaker system.

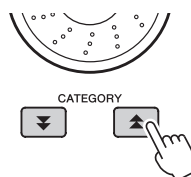
1 Press the [FUNCTION] button.

The currently selected function will appear in the display.



2 Press the CATEGORY [▲] and [▼] buttons as many times as necessary to select the master EQ type function “MasterEQ”:

“MasterEQ” will appear in the display for a few seconds, then the currently selected EQ type will be displayed.



The currently selected master EQ type.

3 Use the dial to select the desired Master EQ setting.

Five settings are available: 1–5. Settings 1 and 2 are best for listening via the instrument’s built-in speakers, setting 3 is for headphones, and settings 4 and 5 are ideal for listening via external speakers.

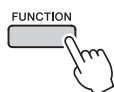
Voice Settings

Voice Editing

Create original voices by editing the many available voice parameters. By editing the various parameters available you can create new voices that best suit your musical needs.

1 Press the [FUNCTION] button.

The currently selected function will appear in the display.



2 Press the CATEGORY [▲] and [▼] buttons as many times as necessary to select the item you want to edit.

You can individually adjust the voice setting (Volume, Octave, Pan, Reverb Level, Chorus Level, Attack Time, Release Time, Filter Cutoff and Filter Resonance) that is applied to the main, dual, and split voices. Refer to the Functions on page 71 for details.



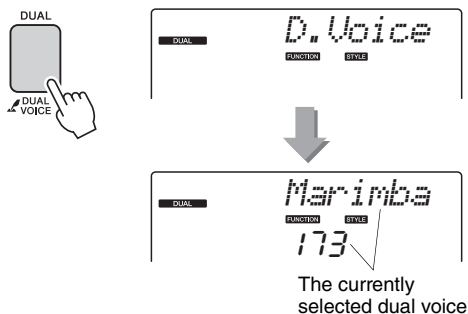
3 Use the dial to set the value.

Edited parameters can be saved to registration memory (page 48). If you select a different keyboard voice the parameters will be reset and the ideal settings for the selected voice will be automatically recalled.

Category	Setting	Display	Range/Settings
Main Voice	Volume	<i>M. Volume</i>	000–127
	Octave	<i>M. Octave</i>	-2+2
	Pan	<i>M. Pan</i>	000 (left)–64 (center)–127 (right)
	Reverb Level	<i>M. Reverb</i>	000–127
	Chorus Level	<i>M. Chorus</i>	000–127
	Attack Time	<i>M. Attack</i>	000–127
	Release Time	<i>M. Releas</i>	000–127
	Filter Cutoff	<i>M. Cutoff</i>	000–127
	Filter Resonance	<i>M. Reso.</i>	000–127
Dual Voice	Voice	<i>D. Voice</i>	001–700
	Volume	<i>D. Volume</i>	000–127
	Octave	<i>D. Octave</i>	-2+2
	Pan	<i>D. Pan</i>	000 (left)–64 (center)–127 (right)
	Reverb Level	<i>D. Reverb</i>	000–127
	Chorus Level	<i>D. Chorus</i>	000–127
	Attack Time	<i>D. Attack</i>	000–127
	Release Time	<i>D. Releas</i>	000–127
	Filter Cutoff	<i>D. Cutoff</i>	000–127
Split Voice	Filter Resonance	<i>D. Reso.</i>	000–127
	Voice	<i>S. Voice</i>	001–700
	Volume	<i>S. Volume</i>	000–127
	Octave	<i>S. Octave</i>	-2+2
	Pan	<i>S. Pan</i>	000 (left)–64 (center)–127 (right)
	Chorus Level	<i>S. Chorus</i>	000–127

Selecting a Dual Voice

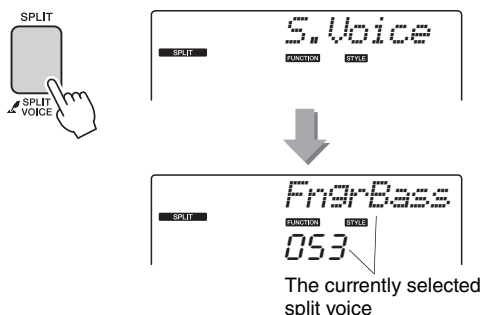
- 1 Press and hold the [DUAL] button for longer than a second.
 “D.Voice” will appear in the display for a few seconds, then the currently selected dual voice will be displayed.



- 2 Select the desired Dual Voice by using the dial.

Selecting a Split Voice

- 1 Press and hold the [SPLIT] button for longer than a second.
 “S.Voice” will appear in the display for a few seconds, then the currently selected split voice will be displayed.



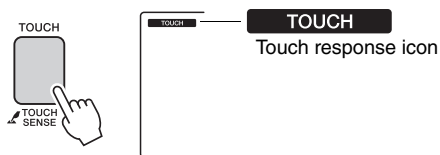
- 2 Select the desired Split Voice by using the dial.

Touch Response Sensitivity

When touch response is on you can adjust the keyboard’s sensitivity to dynamics in three steps.

- 1 Press the [TOUCH] button to turn touch response on.

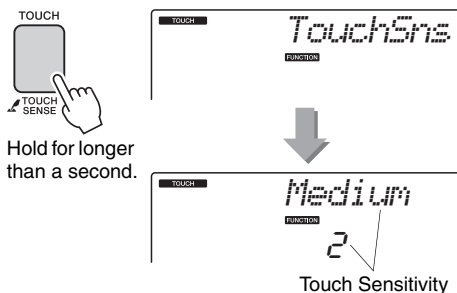
The [TOUCH] button alternately turns touch response on and off.
 The touch response icon will appear in the display when touch response is on.



When touch response is set to off, all notes will be played at the same volume no matter how hard or softly you play the keys.

- 2 Press and hold the [TOUCH] button for longer than a second so that the Touch Sensitivity item appears.

“TouchSns” will appear in the display for a few seconds, and the currently selected touch sensitivity will be displayed.



- 3 Use the dial in response to keyboard dynamics to select a touch sensitivity setting between 1 and 3. Higher values produce greater (easier) volume variation in response to keyboard dynamics—i.e. greater sensitivity.

NOTE

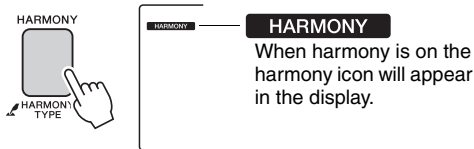
- The initial default touch sensitivity setting is “2”.

Harmony

This feature adds harmony notes to the main voice.

1 Press the [HARMONY] button to turn Harmony feature on.

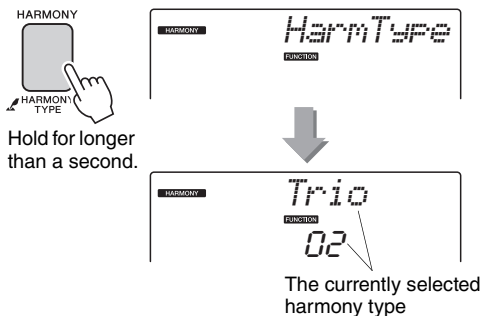
To turn Harmony off, press the [HARMONY] button again.



When you press the [HARMONY] button to turn this feature on, the appropriate harmony type for the currently selected main voice is automatically selected.

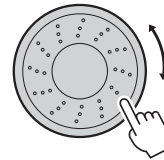
2 Press and hold the [HARMONY] button for longer than a second so that the Harmony Type item appears.

"HarmType" will appear in the display for a few seconds, and the currently selected harmony type will be displayed. Use the dial to select a different harmony type.



3 Use the dial to select a harmony type.

Refer to the Effect Type List in the separate Data List for information about the available harmony types. Try playing the keyboard with the harmony function. The effect and operation of each Harmony Type is different—refer to the below section "How to sound each Harmony Type" as well as the Effect Type List for details.



NOTE

- The harmony notes can be added only to the Main Voice, not to Dual or Split Voices.
- The keys left of the Split Point of the keyboard produce no harmony notes when the auto accompaniment is on (ACMP ON is lit).

How to sound each Harmony Type

- Harmony type 01 to 05



Press the right-hand keys while playing chords in the auto accompaniment range of the keyboard when the Auto Accompaniment is on (page 27).

- Harmony type 06 to 12 (Trill)



Hold down two keys.

- Harmony type 13 to 19 (Tremolo)



Keep holding down the keys.

- Harmony type 20 to 26 (Echo)



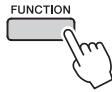
Keep holding down the keys.

You can adjust the Harmony Volume in the Function Settings (page 72).

Arpeggio Settings

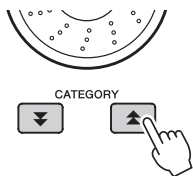
Controlling Arpeggio Volume with Keyboard Dynamics

- 1 Press the [FUNCTION] button.



- 2 Press the CATEGORY [\blacktriangle] and [\blacktriangledown] buttons as many times as necessary to select the arpeggio velocity function “ARP Velo”.

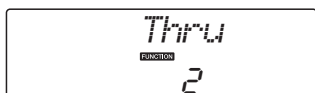
“ARP Velo” will appear in the display for a few seconds, then the currently selected arpeggio velocity setting will be displayed.



The currently selected arpeggio velocity.

- 3 Use the dial to select “2 Thru”.

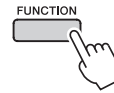
When “1 Original” is selected the arpeggio volume is the same regardless of changes in keyboard velocity.



Synchronizing an arpeggio to a tempo of Style or Song

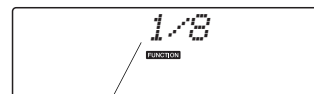
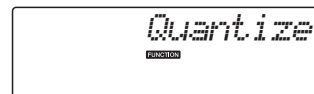
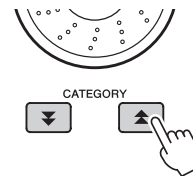
Adjust the arpeggio quantization to synchronize the arpeggio to a Style or Song.

- 1 Press the [FUNCTION] button.



- 2 Press the CATEGORY [\blacktriangle] and [\blacktriangledown] buttons as many times as necessary to select the “Quantize”.

“Quantize” will appear in the display for a few seconds, then the currently selected Quantize value will be displayed.



The currently selected arpeggio quantization.

- 3 Use the dial to select the appropriate quantize value (1/8, 1/16 or OFF) as required.

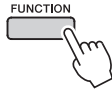
A setting of “1/8” will align off-beat notes to the nearest 4th note, a setting of “1/16” will align off-beat notes to the nearest 8th note, and a setting of “OFF” will result in no quantization.

The default arpeggio quantize setting depends on the arpeggio type.

Holding the arpeggio Playback

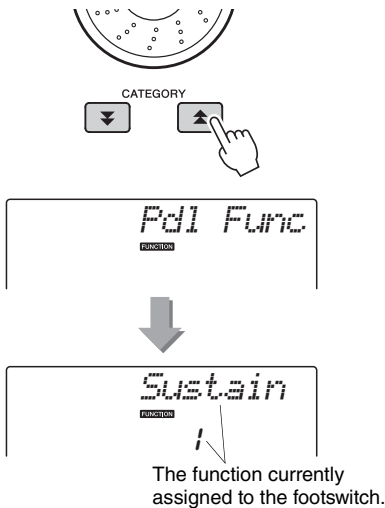
Arpeggio playback can be made to continue after the note has been released by pressing a footswitch connected to the SUSTAIN jack. Arpeggio playback will stop when the footswitch is released. Connect a footswitch (page 11), then assign the function to the footswitch as per the instructions below.

1 Press the [FUNCTION] button.



2 Press the CATEGORY [▲] and [▼] buttons as many times as necessary to select “Pd1 Func”.

“Pd1 Func” will appear in the display for a few seconds, then the currently selected function assigned to the footswitch will be displayed.



3 Use the dial to select “Arp Hold”.



If you want to restore the footswitch function to sustain, select “Sustain”. If you want to use both hold and sustain functions, select “Hold+Sus”. The sustain function affects the main and dual voices only. Split voices will not be affected.

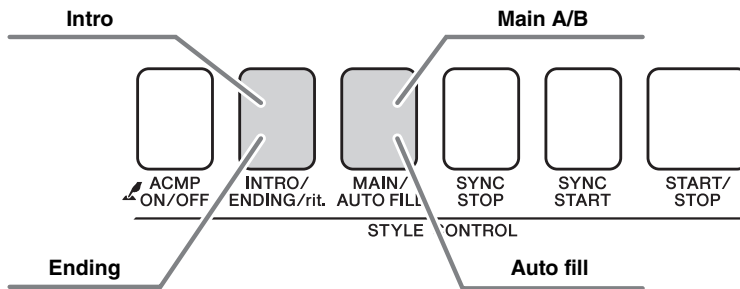
Style (Auto-accompaniment) Functions

Basic operation of the Style (auto-accompaniment) feature is described on page 26 of the Quick Guide.

Here are some other ways you can play the styles, the style volume adjustment procedure, and more.

Pattern Variation (Sections)

The instrument features a wide variety of style “sections” that allow you to vary the arrangement of the accompaniment to match the song you are playing.



INTRO section

This is used for the beginning of the Song. When the intro finishes playing, accompaniment shifts to the main section. The length of the intro (in measures) differs depending on the selected Style.

MAIN section

This is used for playing the main part of the Song. It plays a main accompaniment pattern, and repeats indefinitely until another section’s button is pressed. There are two variations on the basic pattern (A and B), and the Style playback sound changes harmonically based on the chords you play with your left hand.

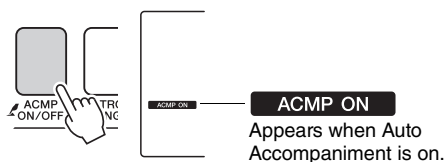
Fill-in section

This is automatically added before changing to section A or B.

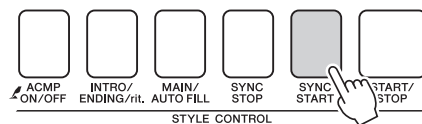
ENDING section

This is used for the ending of the Song. When the ending is finished, the auto accompaniment stops automatically. The length of the ending (in measures) differs depending on the selected Style.

- 1 Press the [STYLE] button and then select a style.
- 2 Press the [ACMP ON/OFF] button to turn auto accompaniment on.



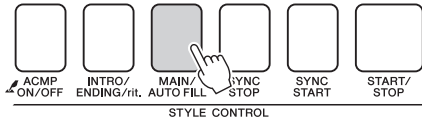
- 3 Press the [SYNC START] button to turn synchro start on.



Synchro Start

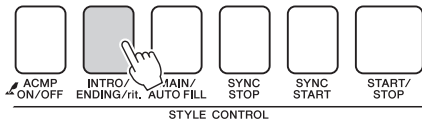
When the synchro start standby mode is engaged, style playback will begin as soon as you play a chord in the accompaniment range of the keyboard. You can disengage the synchro-start standby mode by pressing the [SYNC START] button again.

4 Press the [MAIN/AUTO FILL] button.



The name of the selected section—MAIN A or MAIN B—will be displayed.

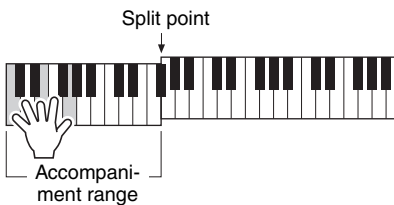
5 Press the [INTRO/ENDING/rit.] button.



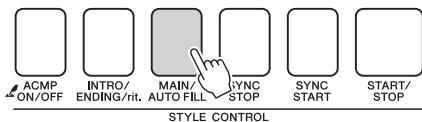
You're now ready to play the intro.

6 As soon as you play a chord with your left hand, the Intro of the selected Style starts.

For this example, play a C major chord (as shown below). For information on how to enter chords, see “Chords” on page 29.

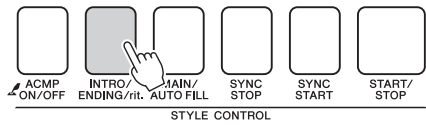


7 Press the [MAIN/AUTO FILL] button.



When the fill-in is finished, it leads smoothly into the selected main section A/B.

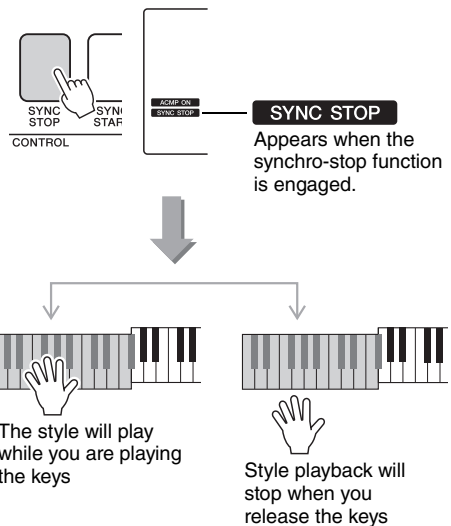
8 Press the [INTRO/ENDING/rit.] button.



This switches to the ending section. When the ending is finished, the auto accompaniment stops automatically. You can have the ending gradually slow down (ritardando) by pressing the [INTRO/ENDING/rit.] button again while the ending is playing back.

Synchro Stop

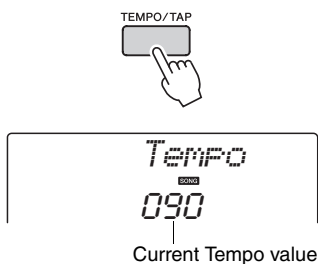
When this function is selected the accompaniment style will only play while you are playing chords in the accompaniment range of the keyboard. Style playback will stop when you release the keys. To turn the function on, press the [SYNC STOP] button.



Changing the tempo of the Style

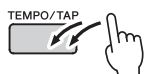
Styles can be played at any tempo you desire—fast or slow.

- 1 Press the [TEMPO/TAP] button to call up the Tempo setting in the display after selecting a Style.



- 2 Use the dial to select a tempo from 011 to 280 quarter-note beats per minute. Press the [+] and [-] buttons simultaneously to instantly reset the value to the default tempo of a Style.

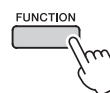
You can change the tempo during style playback by pressing the [TEMPO/TAP] button just twice.



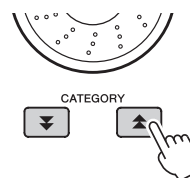
Adjusting the Style Volume

Press the [STYLE] button to engage the style function.

- 1 Press the [FUNCTION] button.



- 2 Use the CATEGORY [▲] and [▼] buttons to select the Style Volume item.

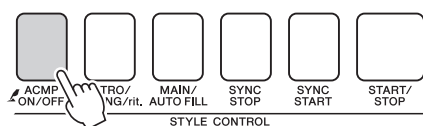


- 3 Use the dial to set the style volume between 000 and 127.

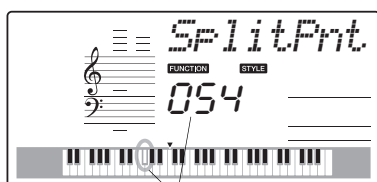
Setting the Split Point

The initial default split point is key number 54 (the F#2 key), but you can change it to another key using the procedure described below.

- 1 Press the [STYLE] button.
- 2 Press and hold the [ACMP ON/OFF] for longer than a second so that the Split point item appears.

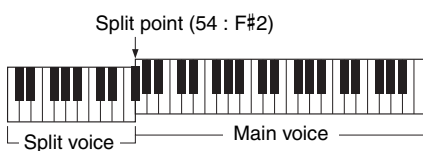


Hold for longer than a second



Split point

- 3 Use the dial to set the split point to any key from 036(C1) through 096(C6).



NOTE 1

- When you change the split point the auto-accompaniment split point also changes.
- The split point cannot be changed during a song lesson.

NOTE 2

- You can also access the Split Point item by pressing the [FUNCTION] button and using the CATEGORY [▲] and [▼] buttons to locate the item (page 71).

Tap Start

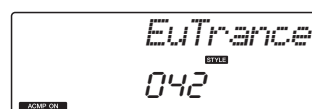
You can start the style by simply tapping the [TEMPO/TAP] button at the required tempo—4 times for time signatures in 4, and three times for time signatures in 3. You can change the tempo during style playback by pressing the button just twice.



Play a Style with Chords but No Rhythm (Stop Accompaniment)

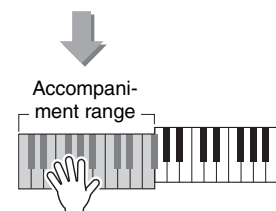
When auto accompaniment is on (the ACMP ON icon is showing) and Synchro Start is off, you can play chords in the left-hand accompaniment range of the keyboard while the style is stopped and still hear the accompaniment chords. This is “Stop Accompaniment”, and any of the chord fingerings recognized by the instrument can be used (page 29).

Press the [STYLE] button to engage the style function, then press the [ACMP ON/OFF] button to turn the auto accompaniment on.



ACMP ON

Appears when auto accompaniment is on



Loading Style Files

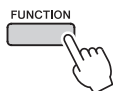
This instrument features 174 internal styles, but other styles, such as those provided on the CD-ROM and others that can be obtained from the internet (only 50KB or less styles with the “.sty” suffix), can be loaded into style number 175 and used in the same way as the internal styles.

In order to use the style file load function, the file must already have been transferred from the computer to the instrument. The procedure for transferring files from a computer to the instrument is described on page 75 (“Transferring Data between the Computer and Instrument”).

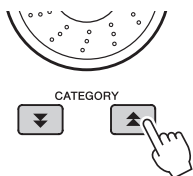
The procedure described below loads a style file that has already been transferred from a computer to the instrument into style number 175.

1 Press the [FUNCTION] button.

The currently selected function will appear in the display



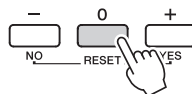
2 Press the CATEGORY [▲] and [▼] buttons as many times as necessary to select the style file load function “Sff Load”.



After about 2 seconds the name of a loadable style file will appear in the display. If multiple loadable style files have been transferred to the instrument, you can use the dial or the [+] and [-] buttons to select the other files in sequence.

3 Execute the load operation.

With the name of the style file you want to load shown in the display, press the number [0] button.



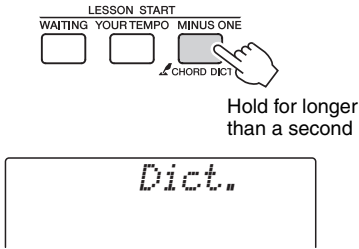
4 A confirmation message for the load operation will appear. Press the [+ / YES] button to actually load the file.



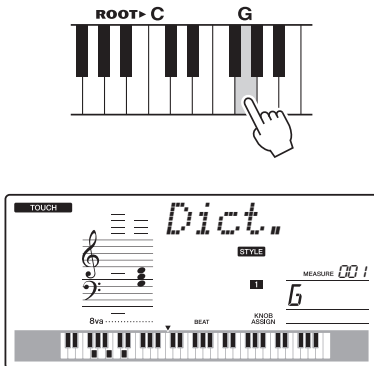
Looking Up Chords Using the Chord Dictionary

The Dictionary function is essentially a built-in “chord book” that shows you the individual notes of chords. It is ideal when you know the name of a certain chord and want to quickly learn how to play it.

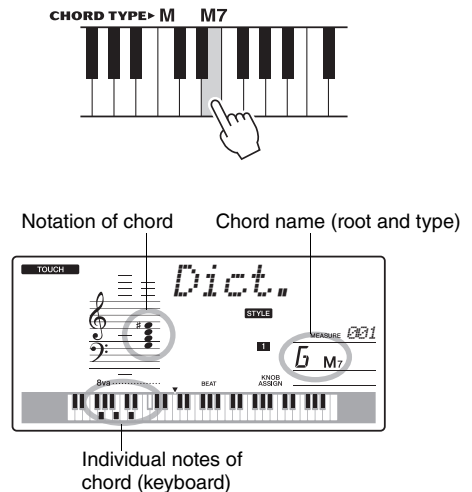
- 1 Press and hold the LESSON [START] button for longer than a second.



- 2 As an example, we'll learn how to play a GM7 (G major seventh) chord. Press the “G” key in the section of the keyboard labeled “ROOT”. (The note doesn't sound.) The root note you set is shown in the display.



- 3 Press the “M7” (major seventh) key in the section of the keyboard labeled “CHORD TYPE”. (The note doesn't sound.) The notes you should play for the specified chord (root note and chord type) are shown in the display, both as notation and in the keyboard diagram.



To call up possible inversions of the chord, press the [+]/[-] buttons.

NOTE

- About major chords: Simple major chords are usually indicated only by the root note. For example, “C” refers to C major. However, when specifying major chords here, make sure to select “M” (major) after pressing the root note.

- 4 Try playing a chord in the auto accompaniment section of the keyboard, checking the indications in the display. When you've played the chord properly, a bell sound signals your success and the chord name in the display flash.

Song Settings

BGM Playback

With the default setting only a few of the internal songs are played back and repeated when the [DEMO/BGM] button is pressed. This setting can be changed so that all internal songs are played, or all songs transferred to the instrument from a computer are played. Four playback group settings are provided. Simply select the one that suits your needs.

1 Press and hold the [DEMO/BGM] button for longer than a second.

“DemoGrp” will appear in the display for a few seconds, then the currently selected repeat playback target will be displayed.



Hold for longer than a second.

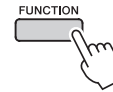
2 Use the dial to select a repeat playback group from the table below.

Demo	Preset songs 001–008
Preset	All preset songs
User	All User songs
Download	All songs transferred from a computer

Random Song Playback

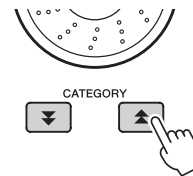
The random play mode causes the songs in the group selected for BGM playback to be played back in random order.

1 Press the [FUNCTION] button.



2 Press the CATEGORY [▲] and [▼] buttons as many times as necessary to select “PlayMode”.

“PlayMode” will appear in the display for a few seconds, then the currently selected repeat playback mode will be displayed.



You cannot select the repeat playback mode when “Demo” is selected as the repeat playback group.

3 Use the dial to select “Random”.

If you want to restore the normal playback mode, select “Normal”.

Changing the tempo of the Song

Songs can be played at any tempo you desire—fast or slow.

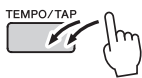
- 1 Press the [TEMPO/TAP] button to call up the Tempo setting in the display after selecting a Song.



- 2 Use the dial to select a tempo from 011 to 280 quarter-note beats per minute.

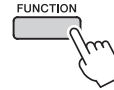
Press the [+] and [-] buttons simultaneously to instantly reset the value to the default tempo of a Song.

You can change the tempo during song playback by pressing the [TEMPO/TAP] button just twice.

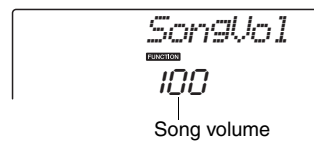
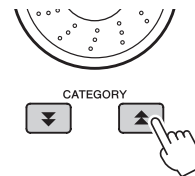


Song Volume

- 1 Press the [FUNCTION] button.



- 2 Use the CATEGORY [▲] and [▼] buttons to select the Song Volume item.



- 3 Use the dial to set the song volume between 000 and 127.

NOTE

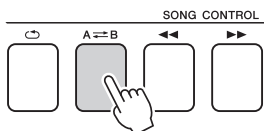
- Song volume can be adjusted while a song is selected.

A-B Repeat

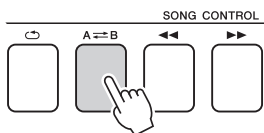
You can specify a section of a song—"A" is the start point and "B" is the end point—for repeat playback.



- 1 Play the song (page 30) and press the [A⇌B] (A-B REPEAT) button at the beginning of the section you want to repeat (the "A" point).



- 2 Press the [A⇌B] (A-B REPEAT) button a second time at the end of the section you want to repeat (the "B" point).



- 3 The specified A-B section of the song will now play repeatedly.

You can stop repeat playback at any time by pressing the [A⇌B] (A-B REPEAT) button.

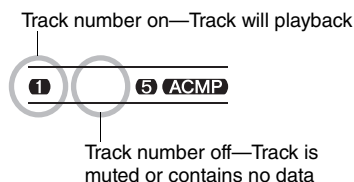
NOTE

- The repeat start and end points can be specified in one-measure increments.
- The current measure number is shown in the display during playback.
- If you want to set the start point "A" at the very beginning of the song press the [A⇌B] (A-B REPEAT) button before starting playback of the song.

Muting Independent Song Tracks

Each "track" of a song plays a different part of the song—melody, percussion, accompaniment, etc. You can mute individual tracks and play the muted part on the keyboard yourself, or simply mute tracks other than the ones you want to listen to.

To mute a track, press the appropriate track button (TRACK [1]–[5], [A]) button. Press the same button a second time to disengage track muting.



Tap Start

You can start the song by simply tapping the [TEMPO/TAP] button at the required tempo—4 times for time signatures in 4, and three times for time signatures in 3. You can change the tempo during song playback by pressing the button just twice.



Change the Melody Voice

You can change a song's melody voice to any other voice you prefer.

NOTE

- You cannot change the melody voice of a user song.

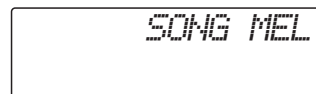
- Select the song and play it.
- Rotate the dial to select the voice you want to listen to after pressing the [VOICE] button.



- Press the [VOICE] button for longer than a second. "SONG MELODY VOICE" appears in the display for a few seconds, indicating that the voice selected in step #2 has replaced the song's original melody voice.



Hold for longer than a second



The Functions

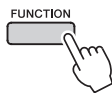
The “Functions” provide access to a range of detailed instrument parameters for tuning, setting the split point, and adjusting the voices and effects. Take a look at the function list starting on the opposite page.

When you locate a function you want to set up, simply select the function’s display name (shown to the right of the function name in the list) and adjust as required.

Selecting and Setting Functions

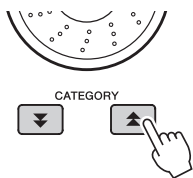
1 Find the function you want to set in the list that begins on pages 71, 72.

2 Press the [FUNCTION] button.



3 Select a function.

Press the CATEGORY [\blacktriangle] and [\blacktriangledown] buttons as many times as necessary until the function’s display name appears in the display.



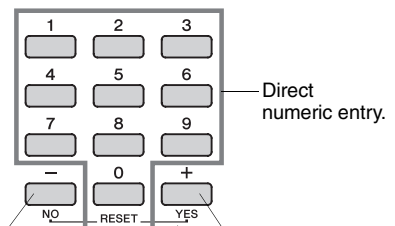
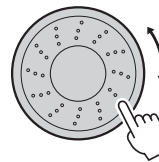
The selected function.



4 Use the dial, the [+] and [-] buttons, or the [0]–[9] number buttons to set the selected function as required.

The [+] and [-] buttons are used to make ON/OFF type settings: [+] = ON, [-] = OFF.

In some cases the [+] button will initiate execution of the selected function, and the [-] will cancel the selection.



- Decrement value by 1.
- Cancel
- Press simultaneously to recall the default setting.
- Increment value by 1.
- Execute

Some Function settings are stored in memory as soon as they are changed. See “The Backup Parameters” on page 50 for information on the function settings that are stored on the instrument.

To restore all initial factory default settings perform the “Backup Clear” procedure described in the “Initialization” section on page 50.

Function Setting List

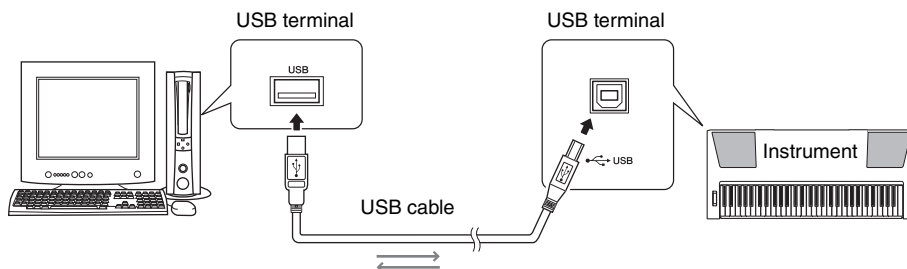
Category	Settings	Display	Range/Settings	Description
Volume	Style Volume	<i>StyleVol</i>	000–127	Determines the volume of the Style.
	Song Volume	<i>SongVol</i>	000–127	Determines the volume of the Song.
Overall	Transpose	<i>Transpos</i>	-12–12	Determines the pitch of the instrument by semitone increments.
	Tuning	<i>Tuning</i>	-100–100	Sets the pitch of the instrument's sound in 1-cent increments.
	Pitch Bend Range	<i>PBRange</i>	01–12	Sets the pitch bend range in semitone increments.
	Split Point	<i>SplitPnt</i>	036–096 (C1–C6)	Determines the highest key for the Split voice and sets the Split “point”—in other words, the key that separates the Split (lower) and Main (upper) voices. The Split Point setting and Accompaniment Split Point setting are automatically set to the same value.
	Touch Sensitivity	<i>TouchSns</i>	1(Soft), 2(Medium), 3(Hard)	When Touch Response is on, this determines the sensitivity of the feature.
Main Voice	Volume	<i>M. Volume</i>	000–127	Determines the volume of the Main voice.
	Octave	<i>M. Octave</i>	-2+2	Determines the octave range for the Main voice.
	Pan	<i>M. Pan</i>	000 (left)– 64 (center)– 127 (right)	Determines the pan position of the Main voice in the stereo image. The value “0” results in the sound being panned full left; the value “127” results in the sound being panned full right.
	Reverb Level	<i>M. Reverb</i>	000–127	Determines how much of the Main voice's signal is sent to the Reverb effect.
	Chorus Level	<i>M. Chorus</i>	000–127	Determines how much of the Main voice's signal is sent to the Chorus effect.
	Attack Time	<i>M. Attack</i>	000–127	Sets the Main voice attack time.
	Release Time	<i>M. Releas</i>	000–127	Sets the Main voice release time.
	Filter Cutoff	<i>M. Cutoff</i>	000–127	Sets the Main voice filter cutoff frequency.
	Filter Resonance	<i>M. Reso.</i>	000–127	Sets the Main voice filter resonance.
Dual Voice	Voice	<i>D. Voice</i>	001–700	Selects the Dual voice.
	Volume	<i>D. Volume</i>	000–127	Determines the volume of the Dual voice.
	Octave	<i>D. Octave</i>	-2+2	Determines the octave range for the Dual voice.
	Pan	<i>D. Pan</i>	000 (left)– 64 (center)– 127 (right)	Determines the pan position of the Dual voice in the stereo image. The value “0” results in the sound being panned full left; the value “127” results in the sound being panned full right.
	Reverb Level	<i>D. Reverb</i>	000–127	Determines how much of the Dual voice's signal is sent to the Reverb effect.
	Chorus Level	<i>D. Chorus</i>	000–127	Determines how much of the Dual voice's signal is sent to the Chorus effect.
	Attack Time	<i>D. Attack</i>	000–127	Sets the Dual voice attack time.
	Release Time	<i>D. Releas</i>	000–127	Sets the Dual voice release time.
	Filter Cutoff	<i>D. Cutoff</i>	000–127	Sets the Dual voice filter cutoff frequency.
Split Voice	Voice	<i>S. Voice</i>	001–700	Selects the Split voice.
	Volume	<i>S. Volume</i>	000–127	Determines the volume of the Split voice.
	Octave	<i>S. Octave</i>	-2+2	Determines the octave range for the Split voice.
	Pan	<i>S. Pan</i>	000 (left)– 64 (center)– 127 (right)	Determines the pan position of the Split voice in the stereo image. The value “0” results in the sound being panned full left; the value “127” results in the sound being panned full right.
	Reverb Level	<i>S. Reverb</i>	000–127	Determines how much of the Split voice's signal is sent to the Reverb effect.
	Chorus Level	<i>S. Chorus</i>	000–127	Determines how much of the Split voice's signal is sent to the Chorus effect.
	Effect	Reverb Type	<i>Reverb</i>	01–10
Chorus Type		<i>Chorus</i>	01–05	Determines the Chorus type, including off (05).
Master EQ Type		<i>MasterEQ</i>	Speaker1, Speaker2, Headphone, Line Out1, Line Out2	Sets the equalizer applied to the speaker output for optimum sound in different listening situations.

Category	Settings	Display	Range/Settings	Description
Harmony	Harmony Type	<i>HarnType</i>	01–26	Determines the Harmony type.
	Harmony Volume	<i>HarnVol</i>	000–127	Determines the volume of the Harmony effect.
Arpeggio	Arpeggio Type	<i>ARP Type</i>	01–150	Determines the Arpeggio type.
	Arpeggio Velocity	<i>ARP Velo</i>	1 (Original), 2 (Thru)	Sets the velocity mode for arpeggio playback.
	Arpeggio Quantize	<i>Quantize</i>	OFF, 1/8, 1/16	Synchronizes arpeggio playback to a Style or Song.
	Arpeggio Pedal	<i>Pdl Func</i>	1(Sustain)/ 2(Arp Hold)/ 3(Hold+Sus)	Determines the pedal function in the arpeggio mode.
Style File Load	Style File Load	<i>Sff Load</i>	001–nnn	Loads a Style file.
PC	PC mode	<i>PC mode</i>	PC1/PC2/OFF	Optimizes the MIDI settings when you connect to a computer.
MIDI	Local On/Off	<i>Local</i>	ON/OFF	Determines whether the instrument's keyboard controls the internal tone generator (ON) or not (OFF).
	External Clock	<i>ExtClock</i>	ON/OFF	Determines whether the instrument synchronizes to the internal clock (OFF) or an external clock (ON).
	Keyboard Out	<i>KbdOut</i>	ON/OFF	Determines whether keyboard performance data of the instrument is transmitted (ON) or not (OFF).
	Style Out	<i>StyleOut</i>	ON/OFF	Determines whether Style data is transmitted (ON) via USB or not (OFF) during Style playback.
	Song Out	<i>SongOut</i>	ON/OFF	Determines whether User Song is transmitted (ON) via USB or not (OFF) during Song playback.
	Initial Send	<i>InitSend</i>	YES/NO	Lets you send the data of the panel settings to a computer. Press [+] to send, or press [-] to cancel.
Metronome	Time Signature Numerator	<i>Timesign</i>	00–60	Determines the time signature of the Metronome.
	Time Signature Denominator	<i>TimesigD</i>	Half note, Quarter note, Eighth note, Sixteenth note	Sets the length of each metronome beat.
	Metronome Volume	<i>MtrVol</i>	000–127	Determines the volume of the Metronome.
Lesson	Lesson Track (R)	<i>R-Part</i>	GuideTrack 1–16, OFF	Determines the guide track number for your right hand lesson. The setting is only effective for songs in SMF format 0 transferred from a computer.
	Lesson Track (L)	<i>L-Part</i>	GuideTrack 1–16, OFF	Determines the guide track number for your left hand lesson. The setting is only effective for songs in SMF format 0 transferred from a computer.
	Grade	<i>Grade</i>	ON/OFF	Determines whether the Grade function is on or off.
Demo	Demo Group	<i>DemoGrp</i>	1(Demo)/ 2(Preset)/ 3(User)/ 4(Download)	Determines the repeat playback group.
	Demo Playmode	<i>PlayMode</i>	1(Normal)/ 2(Random)	Determines the repeat playback mode.
	Demo Cancel	<i>D-Cancel</i>	ON/OFF	Determines whether Demo cancel is enabled or not. When this is set to ON, the Demo Song will not play, even if the [DEMO/BGM] button is pressed.

Connecting to a Computer

This instrument can be connected to a computer to allow transfer of MIDI data or a file.

Connecting a Personal Computer



In order to be able to communicate with and use instruments connected to your computer, the appropriate driver software must be properly installed on your computer. The USB-MIDI driver allows sequence software and similar applications on your computer to transmit and receive MIDI data to and from MIDI devices via a USB cable. The USB-MIDI driver is included on the CD-ROM. Installation of the USB-MIDI driver is described on page 80.

CAUTION

- Connect the PSR-E423 to external equipment only after turning off power for all devices. Then, turn on the power, first to the PSR-E423, then to the connected external equipment. Reverse this order when you turn the power off.

Precautions when using the USB terminal

When connecting the computer to the USB terminal, make sure to observe the following points. Failing to do so risks freezing the computer and corrupting or losing the data. If the computer or the instrument freezes, restart the application software or the computer OS, or turn the power to the instrument off then on again.

- Use an AB type USB cable of less than about 3 meters.
- Before connecting the computer to the USB terminal, exit from any power-saving mode of the computer (such as suspended, sleep, standby).
- Before turning on the power to the instrument, connect the computer to the USB terminal.
- Execute the following before turning the power to the instrument on/off or plugging/unplugging the USB cable to/from the USB terminal.
 - Quit any open application software on the computer.
 - Make sure that data is not being transmitted from the instrument. (Data is transmitted whenever you play on the keyboard or play back a song, etc.)
- While the computer is connected to the instrument, you should wait for six seconds or more between these operations: (1) when turning the power of the instrument off then on again, or (2) when alternately connecting/disconnecting the USB cable.

Transferring Performance Data to and from a Computer

By connecting the instrument to a computer, the instrument's performance data can be used on the computer, and performance data from the computer can be played on the instrument.

MIDI settings

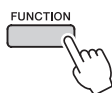
These settings pertain to performance data transmission and reception.

Item	Display	Range/Settings	Description
Local	<i>Local</i>	ON/OFF	Local control determines whether or not notes played on the instrument are sounded by its internal tone generator system: the internal tone generator is active when local control is on, and inactive when local control is off.
External Clock	<i>ExtClock</i>	ON/OFF	These settings determine whether the instrument is synchronized to its own internal clock (OFF), or to a clock signal from an external device (ON).
Keyboard Out	<i>KbdOut</i>	ON/OFF	These settings determine whether keyboard performance data of the instrument is transmitted (ON) or not (OFF).
Style Out	<i>StyleOut</i>	ON/OFF	These settings determine whether Style data is transmitted (ON) or not (OFF) during Style playback.
Song Out	<i>SongOut</i>	ON/OFF	These settings determine whether User Song is transmitted (ON) or not (OFF) during Song playback.

If you can't get any sound out of the instrument, this may be the most likely cause.

If External Clock is ON and no clock signal is being received from an external device, the song, style, and metronome functions will not start.

1 Press the [FUNCTION] button.



2 Use the CATEGORY [▲] and [▼] buttons to select the item you want to change its value.

3 Use the dial to select ON or OFF.

PC Mode

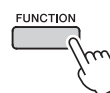
A number of MIDI settings need to be made when you want to transfer performance data between the computer and the instrument. The PC Mode item can conveniently make multiple settings for you in one operation. Three settings are available: PC1, PC2, and OFF.

This setting is not necessary when transferring song or backup files between the computer and the instrument.

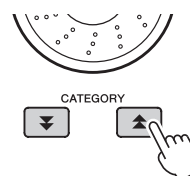
* Set the PC mode to PC2 when using Digital Music Notebook.

	PC1	PC2*	OFF
Local	OFF	OFF	ON
External Clock	ON	OFF	OFF
Song Out	OFF	OFF	OFF
Style Out	OFF	OFF	OFF
Keyboard Out	OFF	ON	ON

1 Press the [FUNCTION] button.



2 Press the CATEGORY [▲] and [▼] buttons as many times as necessary to select the PC mode item "PC Mode".



3 Use the dial to select PC1, PC2, or OFF.

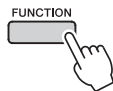
NOTE

- Although User Songs can be transmitted from the instrument by using the Song Out function, Preset Song data cannot be transmitted in this way.

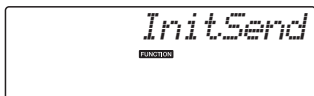
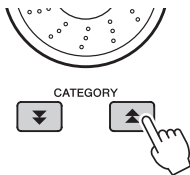
Initial Send

This function lets you send the panel setup data to a computer. Before you record performance data to a sequencer application running on your computer, it is a good idea to first send and record the panel setup data before the actual performance data.

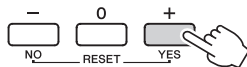
1 Press the [FUNCTION] button.



2 Use the CATEGORY [▲] and [▼] buttons to select the Initial Send item.



3 Press [+ / YES] to send, or press [- / NO] to cancel.



Transferring Data between the Computer and Instrument

Song and Style files residing on a computer or the supplied CD-ROM, can be transferred to the instrument. Backup files can also be transferred from the instrument to the computer and back.

In order to transfer files between your computer and the instrument you will need to install the Musicsoft Downloader application and the USB-MIDI Driver included on the Accessory CD-ROM on your computer. Refer to the Accessory CD-ROM Installation Guide on page 78 for installation details.

Data that can be transferred from a computer to this instrument.

Data Capacity: 1.5MB

256 files total for the Song and Style

Data Format

Song: (.mid) SMF format 0/1

Style: (.sty)

Backup File: 10PK4.BUP

What is SMF (Standard MIDI File)?

The SMF (Standard MIDI File) format is one of the most common and widely compatible sequence formats used for storing sequence data. There are two variations: Format 0 and Format 1. A large number of MIDI devices are compatible with SMF Format 0, and most commercially available MIDI sequence data is provided in SMF Format 0.

With the Musicsoft Downloader You Can.

- Transfer files from the computer to the instrument's flash memory.
→ refer to the procedure described on page 76.
The procedure for transferring songs included on the Accessory CD-ROM from your computer to the instrument is given as an example.
- Backup files can be transferred from the instrument to a computer and back.
→ refer to the procedure described on page 77.

* Use the Musicsoft Downloader application with Internet Explorer 5.5 or higher.

Use Musicsoft Downloader To Transfer Songs From the Accessory CD-ROM To the Instrument's flash memory

NOTE

- If a song or style is being played, stop playback before proceeding.

1 Install the Musicsoft Downloader and USB-MIDI driver to your computer, then connect the computer and the instrument (page 73).

2 Insert the included CD-ROM into the CD-ROM drive.

3 Double-click the Musicsoft Downloader shortcut icon that is created on the desktop.

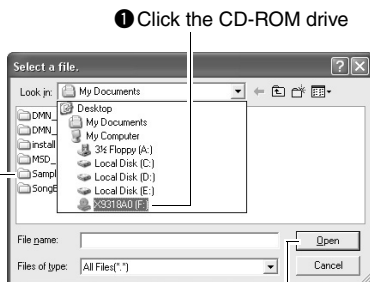
This will launch the Musicsoft Downloader application and the main window will appear.

NOTE

- The instrument cannot be operated while the Musicsoft Downloader is running.

4 Click the “Add File” button and the Add File window will appear.

5 Click the button to the right of “Look in” and select the CD-ROM drive from the drop-down menu that appears. Double-click the “SampleData” Folder on the window. Select the file from the “SongData” Folder you want to transfer to the instrument, and click “Open”.



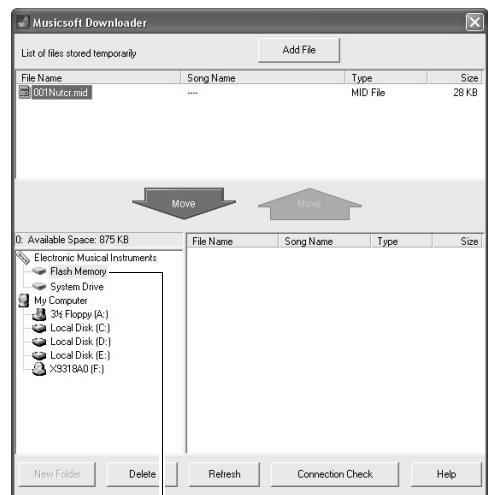
2 Double-click “SampleData” Folder → “SongData” Folder, and click a song file.

3 Click “Open”

At this point you can select a Style file on the computer or CD-ROM and transfer it to the instrument in the same way as a song file.

6 A copy of the selected MIDI song file will appear in the “List of files stored temporarily” at the top of the window.

The memory medium will also be displayed at the bottom of the window to specify the destination for the transfer. Click the “Electronic Musical Instruments”, and then “Flash memory.”



1 Click the “Electronic Musical Instruments”, and then “Flash Memory”

7 After selecting the file in the “List of files stored temporarily”, click the downward [Move] button and a confirmation message will appear. Click [OK] and the song will be transferred from the “List of files stored temporarily” to the instrument’s memory.

8 Close the window to end the Musicsoft Downloader.

NOTE

- End the Musicsoft Downloader to playback the file transferred from your computer.

- 9 To playback a song stored in flash memory, press the [SONG] button. Use the dial to select the song you want to play, then press the [▶/■] (START/STOP) button to start playback.

To playback a style stored in flash memory, it must be loaded into style number 175 with style file load function (page 64).

NOTICE

- Do not unplug the USB cable during a data transfer. Not only will the data not be transferred and saved, but operation of the memory media may become unstable and its contents may disappear completely when the power is turned on or off.

NOTICE

- Store data can be lost due to equipment malfunction or improper operation. For safety we recommend that you keep a copy of all important data stored on your computer.
- We recommend that you use a power adaptor rather than batteries when transferring data. The data can be corrupted if the batteries fail during the transfer.

To Use transferred Songs For Lessons...

When using songs (only SMF format 0) transferred from a computer for lessons you can specify which channels are to be played back as the right-hand and left-hand parts.

- 1 Press the [SONG] button and select the song (036-) residing in flash memory for which you want to set the guide track.
- 2 Press the [FUNCTION] button.
- 3 Use the CATEGORY [▲] and [▼] buttons to select the R-Part or L-Part item.
- 4 Use the dial to select the channel you want to play back as the specified right- or left-hand part.

The default settings are channel 1 for the right-hand part and channel 2 for the left-hand part.

Transfer a backup file from the instrument to a computer

You can use the Musicsoft Downloader to transfer “Backup Files” containing backup data (page 50), including the five User Songs stored on the instrument, to a computer. If you click “Electronic Musical Instruments” in the Musicsoft Downloader display, and then “System Drive”, a file named “10PK4.BUP” will appear in the lower right corner of the Musicsoft Downloader display. This is the backup file. For details about how to transmit backup file using the Musicsoft Downloader application, refer to the Online help “Transferring Data Between the Computer and Instrument (for unprotected data)” in the application.

NOTICE

- The backup data, including the five User Songs is transmitted/received as a single file. As a result, all backup data will be overwritten every time you transmit or receive. Keep this in mind when transferring data.

NOTICE

- Do not rename the backup file on the computer. If you do so, it will not be recognized when transferred to the instrument.

Accessory CD-ROM Installation Guide

SPECIAL NOTICES

- The software and this manual are the exclusive copyrights of Yamaha Corporation.
- Use of the software and this manual is governed by the license agreement which the purchaser fully agrees to upon breaking the seal of the software packaging. (Please read carefully the Software Licensing Agreement on page 84 before installing the application.)
- Copying of the software or reproduction of this manual in whole or in part by any means is expressly forbidden without the written consent of the manufacturer.
- Yamaha makes no representations or warranties with regard to the use of the software and documentation and cannot be held responsible for the results of the use of this manual and the software.
- This disk containing the software is not meant for use with an audio/visual system (CD player, DVD player, etc.). Do not attempt to use the disk on equipment other than a computer.
- The screen displays as illustrated in this manual are for instructional purposes, and may appear somewhat different from the screens which appear on your computer.
- Software such as the USB-MIDI driver may be revised and updated without prior notice. Make sure to check and download the latest version of the software from the following site.
<http://music.yamaha.com/download/>
- Future upgrades of application and system software and any changes in specifications and functions will be announced separately.

Important Notices about the CD-ROM

Data Types

This CD-ROM includes application software. Please refer to page 80 for software installation instructions.

CAUTION

- *Do not attempt to play this CD-ROM on equipment other than a computer. The result high-volume noise can potentially cause hearing damage or damage your equipment.*

Operating System (OS)

The applications in this CD-ROM are provided in versions for Windows operating systems.

CD-ROM Contents

When the included CD-ROM is inserted into the CD-ROM drive, the following start window will appear automatically. (If the start window does not appear automatically, open the “My computer” folder and double click “Start.exe” in the CD-ROM drive.)



Folder Name		Application / Data Name	Contents
1	MSD_	Musicsoft Downloader	This application can be used to download MIDI song data from the Internet and transfer it from the computer to the instrument's memory. Refer to page 82 for installation instructions.
2	USBdrv32_	USB-MIDI Driver (for 32-bit version Windows 2000/XP/Vista/7)	This driver software is necessary to connect MIDI devices to your computer via USB. Refer to page 80 for installation instructions.
	USBdrv64_	USB-MIDI Driver (for 64-bit version Windows XP/Vista/7)	
3	SongBook	Song Book	Includes score data for the 30 internal songs provided on the instrument as well as 70 MIDI songs provided on the CD-ROM. The exceptions are songs 1–11 and 30. The scores for songs 9–11 are provided in the separate Data List.
	SampleData	SongData	MIDI 70 songs
		StyleData	5 style files
		MDB	5 Music Database data
			These songs, styles, or data can be transferred to the instrument and played or used with the instrument's functions.

In order to view PDF scores, you will need to install Adobe Reader in your computer. Adobe Reader can be downloaded free at the Adobe website.

System Requirements

Data	OS	Computer	Memory	Hard Disk	Display
Musicsoft Downloader	Windows 2000/XP Home Edition/XP Professional/Vista * Only 32-bit is supported. Windows 7	233 MHz or higher; Intel Pentium/Celeron Processor family (500 MHz or higher is recommended)	64 MB or more (256 MB or more is recommended)	128 MB or more (at least 512 MB of free space is recommended)	800 x 600 HighColor (16-bit)
USB Driver for Windows	Windows XP Professional (SP2/SP3)/XP Home Edition (SP2/SP3)/2000 (SP4)	166 MHz or higher; Intel Core/Pentium/Celeron processor	32 MB or more (64 MB or more is recommended)	10 MB or more	—
	Windows XP Professional x64 Edition (SP2)	Intel 64 compatible processor	256 MB or more	10 MB or more	—
	Windows Vista (SP0/SP1/SP2)	800 MHz or higher; Intel Core/Pentium/Celeron processor or Intel 64 compatible processor	512 MB or more	10 MB or more	—
	Windows 7	1.4 GHz or higher; Intel Core/Pentium/Celeron processor or Intel 64 compatible processor	1 GB or more (32-bit)/2 GB or more (64-bit)	10 MB or more	—

Software Installation

If you have any problems with the installation, refer to the troubleshooting section on page 82.

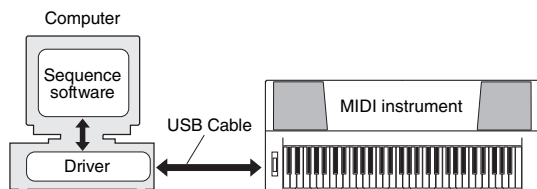
NOTE

- The example displays shown in this guide are in English.

Installing / Updating the USB-MIDI Driver

In order to be able to communicate with and use MIDI instruments connected to your computer, the appropriate driver software must be properly installed on your computer.

The USB-MIDI driver allows sequence software and similar applications on your computer to transmit and receive MIDI data to and from instruments via a USB cable.



Follow the steps below to install (or update) the USB-MIDI driver.

- 1 **Disconnect all USB devices from the computer except for the mouse and computer keyboard.**

- 2 **Start the computer and use the “Administrator” account to log on to Windows.**
Close all applications and windows that are open.
- 3 **Insert the Accessory CD-ROM into your computer’s CD-ROM drive.**
- 4 **Turn off the power of the instrument.**
- 5 **Connect the USB connector of the computer to the USB connector of the MIDI instrument with a standard USB cable.**

NOTE

- Do not use a USB hub for connecting multiple USB devices.

NOTE

- If you are using several MIDI instruments with USB connection at the same time, connect all the instruments to the computer and turn on the power for all of them, then perform the following installation procedure.

- 6 **Turn on the power of the instrument(s).**
- 7 **When the “Found New Hardware Wizard” window appears, click [Cancel].**

NOTE

- On some computers, it may take a few minutes before this screen appears.

NOTE

- This screen will not appear on Windows 7. When the message “Device driver software was not successfully installed” appears, continue the installation procedure.

NOTE

- This screen will not appear if you are updating the USB-MIDI driver from the previous version. Continue the installation procedure.

8 Open the following folder from the CD-ROM drive in your “My Computer” folder, and double click “setup.exe.”

- For users of 32 bit version Windows 2000/XP/Vista/7: “USBdrv32_”
- For users of 64 bit version Windows XP/Vista/7: “USBdrv64_”

* Select [Start] menu → [Control Panel] → [System] to check the system. (Windows XP: “x64 Edition” appears on the 64 bit version, and does not appear on the 32 bit version.)

9 When the “File Download” window appears, click [Run] or [Open].

The “Preparing to install” window appears. The next window will appear after finishing this preparation.

NOTE

- The messages that appear in this window may differ somewhat depending on your browser.

NOTE

- (Windows XP) If the “Security Warning” window appears, click [Run].

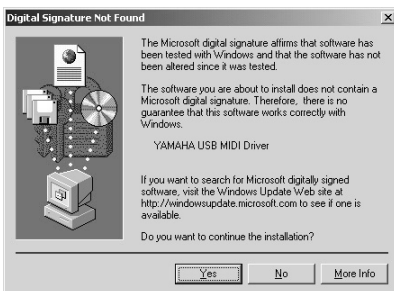
NOTE

- (Windows Vista/7) If the “User Account Control” window appears, click [Continue] or [Yes].

10 When the “Welcome to the InstallShield Wizard for Yamaha USB-MIDI Driver” window appears, click [Next].

If the warning message below appears during the installation, click [Yes], [Continue Anyway], or [Install].

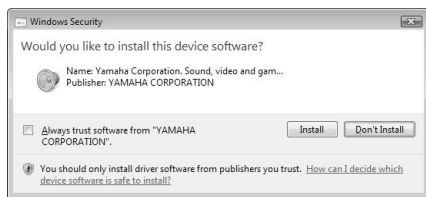
Windows 2000



Windows XP



Windows Vista/7



11 When a message appears indicating that the driver has been successfully installed, click [Finish].

NOTE

- On some computers, it may take a few minutes before this screen appears.

12 When a window appears prompting you to restart the computer, do so.

Restart the computer by following the on-screen directions.

NOTE

- This display will not appear when using Windows XP x64/Vista/7. No restart is necessary.

Checking the version of the driver

Open the “Control Panel” and double-click the “Yamaha USB-MIDI Driver” icon. A window appears and the driver version is indicated in the lower left of the window.

NOTE

- When using Windows XP x64/Vista/7, double-click the “Yamaha USB-MIDI Driver (WDM)” icon.

Installing the Musicsoft Downloader

IMPORTANT

- You will need to log on with administrator (root) privileges in order to install Musicsoft Downloader on a computer running Windows 2000, XP, Vista or 7.

1 Insert the Accessory CD-ROM into your computer's CD-ROM drive.

The start window will appear automatically showing software applications.

NOTE

- If the start window does not appear automatically, open the "My Computer" folder and double click "Start.exe" in the CD-ROM drive. Then, proceed to step 2 below.

2 Click [Musicsoft Downloader].

3 Click the [Install] button, and follow the on-screen instructions to install the software.

For Musicsoft Downloader operating instructions see the Help menu: launch the Musicsoft Downloader application and click "Help".

- * You can obtain the latest version of the Musicsoft Downloader at the following web site.
<http://music.yamaha.com/download/>

IMPORTANT

- Only Musicsoft Downloader can be used to transfer files between this instrument and a computer. No other file transfer application can be used.

Troubleshooting

The driver cannot be installed.

- **Is the USB cable connected correctly?**
Check the USB cable connection. Disconnect the USB cable, then connect it again.
- **Is the USB function enabled on your computer?**
When you connect the instrument to the computer for the first time, if the "Add (Found) New Hardware Wizard" or the "Found New Hardware" window does not appear, the USB function on the computer may be disabled. Perform the following steps.
 - 1 Select [Control Panel]* → [System] → [Hardware] → [Device Manager] (for Windows 2000/XP), or select [Control Panel] → [Device Manager] (for Windows Vista/7).
* Classic View only in Windows XP.
 - 2 Make sure that no "!" or "x" marks appear at "Universal serial bus controller" or "USB Root Hub". If you see an "!" or "x" mark, the USB controller is disabled.
- **Is any unknown device registered?**
If driver installation fails, the instrument will be marked as an "Unknown device", and you will not be able to install the driver. Delete the "Unknown device" by following the steps below.
 - 1 Select [Control Panel]* → [System] → [Hardware] → [Device Manager] (for Windows 2000/XP), or select [Control Panel] → [Device Manager] (for Windows Vista/7).
* Classic View only in Windows XP.
 - 2 Look for "Other devices" in the menu "View devices by type".
 - 3 If you find "Other devices", double-click it to extend the tree to look for "Unknown device". If one appears, select it and click the [Remove] button.
 - 4 Remove the USB cable from the instrument, and make the connection again.
 - 5 Install the driver again. (pages 80–81)

When controlling the instrument from your computer via USB, the instrument does not operate correctly or no sound is heard.

- Did you install the driver? (page 80)
- Is the USB cable connected correctly?
- Are the volume settings of the instrument, playback device, and application program set to the appropriate levels?
- Have you selected an appropriate port in the sequence software?
- Are you using the latest USB MIDI driver? The latest driver can be downloaded from the following web site.

<http://music.yamaha.com/download/>

Playback response is delayed.

- Does your computer satisfy the system requirements?
- Is any other application or device driver running?

Cannot suspend or resume the computer correctly.

- Do not suspend the computer while the MIDI application is running.
If you are using Windows 2000, you may not be able to suspend/resume normally, depending on the particular environment (USB Host Controller, etc.). Even so, simply disconnecting and connecting the USB cable will allow you to use the instrument functions again.

How can I remove the software?

[Windows 2000/XP]

- 1 Disconnect all USB devices from the computer except for the mouse and keyboard.**
- 2 Start the computer and log on to the Administrator account.**
Exit from any open applications and close all open windows.
- 3 From the [Start] menu, select ([Settings] → [Control Panel] → [Add or Remove Programs]) to display the Add or Remove Programs panel.**
- 4 Click “Change or Remove Programs” located in the upper left, then select “Yamaha USB-MIDI Driver” or “Yamaha Musicsoft Downloader” from the list in the right panel.**
- 5 Click [Remove].**
A dialog box appears. Follow the instructions to remove the software.

[Windows Vista/7]

- 1 Disconnect all USB devices from the computer except for the mouse and keyboard.**
- 2 Start the computer and log on to the Administrator account.**
Exit from any open applications and close all open windows.
- 3 From the [Start] menu, select the [Control Panel] → [Programs and Features] or [Uninstall a program] to display the “Uninstall or change a program” window.**
- 4 Select “Yamaha USB-MIDI Driver” or “Yamaha Musicsoft Downloader” from the list.**
- 5 Click [Uninstall].**
If the “User Account Control” window appears, click [Allow] or [Continue].
A dialog box appears. Follow the instructions to remove the software.

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Troubleshooting

Problem	Possible Cause and Solution
When the instrument is turned on or off, a popping sound is temporarily produced.	This is normal and indicates that the instrument is receiving electrical power.
When using a mobile phone, noise is produced.	Using a mobile phone in close proximity to the instrument may produce interference. To prevent this, turn off the mobile phone or use it further away from the instrument.
There is no sound even when the keyboard is played or when a song or style is being played back.	Check that nothing is connected to the PHONES/OUTPUT jack on the rear panel. When a set of headphones is plugged into this jack, no sound is output.
	Check the Local Control on/off. (See page 74.)
Playing keys in the right hand area of the keyboard does not produce any sound.	When using the Dictionary function (page 65), the keys in the right hand area are used only for entering the chord root and type.
The volume is too soft. The sound quality is poor. The rhythm stops unexpectedly or will not play. The recorded data of the song, etc. does not play correctly. The LCD display suddenly goes dark, and all panel settings are reset.	The batteries are low or dead. Replace all six batteries with completely new ones, or use the optional AC adaptor.
The style or song does not play back when the [START/STOP] button is pressed.	Is External Clock set to ON? Make sure External Clock is set to OFF; refer to "External Clock" on page 74.
The style does not sound properly.	Make sure that the Style Volume (page 62) is set to an appropriate level.
	Is the split point set at an appropriate key for the cords you are playing? Set the split point at an appropriate key (page 63). Is the "ACMP ON" indicator showing in the display? If it is not showing press the [ACMP ON/OFF] button so that it does show.
No rhythm accompaniment plays when the [START/STOP] button is pressed after selecting style number 150 or a style between 162 and 174 (Pianist).	This is not a malfunction. Style number 150 and style numbers 162–174 (Pianist) have no rhythm parts, so no rhythm will play. The other parts will begin playing when you play a chord in the accompaniment range of the keyboard if style playback is turned on.
Not all of the voices seem to sound, or the sound seems to be cut off.	The instrument is polyphonic up to a maximum of 32 notes. If the Dual voice or Split voice is being used and a style or song is playing back at the same time, some notes/sounds may be omitted (or "stolen") from the accompaniment or song.
Some notes don't sound when playing multiple notes simultaneously on the keyboard, or some notes don't sound when playing arpeggios.	You have exceeded 32 simultaneous notes, which is the maximum polyphony (the maximum number of notes that can be played simultaneously) of the instrument. The instrument will play normally as long as no more than 32 notes are being played at once, both on the keyboard and by any automatic playback functions.
The footswitch (for sustain) seems to produce the opposite effect. For example, pressing the footswitch cuts off the sound and releasing it sustains the sounds.	The polarity of the footswitch is reversed. Make sure that the footswitch plug is properly connected to the SUSTAIN jack before turning on the power.
The sound of the voice changes from note to note.	This is normal. 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.
The wrong notes sound when the keyboard is played.	Perhaps the performance assistant technology is turned on. Press the [PERFORMANCE ASSISTANT] button to turn it off.
The ACMP ON indicator does not appear when the [ACMP ON/OFF] button is pressed.	Always press the [STYLE] button first when you are going to use any style-related function.

Specifications

Keyboards

- 61 standard-size keys (C1–C6), with Touch Response.

Display

- LCD display (backlit)

Setup

- STANDBY/ON
- MASTER VOLUME: MIN–MAX

Realtime Control

- Pitch Bend Wheel
- Knobs A, B
- A: Cutoff, Reverb, Attack, Style Cutoff, Style Tempo
- B: Resonance, Chorus, Release, Style Resonance

Voice

- 183 panel voices + 15 drum/SFX kits + 462 XGlite voices + 40 arpeggio voices
- Polyphony: 32
- DUAL
- SPLIT

Style

- 174 Preset Styles + External files
- Style Control: ACMP ON/OFF, SYNC STOP, SYNC START, START/STOP, INTRO/ENDING/rit., MAIN/AUTO FILL
- Fingering: Multi Finger
- Style Volume

Music Database

- 305

Education Feature

- Dictionary
- Lesson 1–3, Repeat & Learn

Registration Memory

- 8 banks x 2 types

Function

- VOLUME: Style Volume, Song Volume
- OVERALL: Tuning, Transpose, Split Point, Touch Sensitivity, Pitch Bend Range
- MAIN VOICE: Volume, Octave, Pan, Reverb Level, Chorus Level, Attack Time, Release Time, Filter Cutoff, Filter Resonance
- DUAL VOICE: Voice, Volume, Octave, Pan, Reverb Level, Chorus Level, Attack Time, Release Time, Filter Cutoff, Filter Resonance
- SPLIT VOICE: Voice, Volume, Octave, Pan, Reverb Level, Chorus Level, Attack Time, Release Time, Filter Cutoff, Filter Resonance
- EFFECT: Reverb Type, Chorus Type, Master EQ Type
- HARMONY: Harmony Type, Harmony Volume
- ARPEGGIO: Arpeggio Type, Arpeggio Velocity, Arpeggio Quantize, Arpeggio Pedal
- SFF Load: Style File Load
- PC: PC Mode
- MIDI: Local On/Off, External Clock, Initial Send, Keyboard Out, Style Out, Song Out
- METRONOME: Time Signature Numerator, Time Signature Denominator, Metronome Volume
- LESSON: Lesson Track (R), Lesson Track (L), Grade
- DEMO: Demo Group, Demo Play, Demo Cancel

Effects

- Reverb: 9 types
- Chorus: 4 types
- Harmony: 26 types
- Arpeggio: 150 types

Song

- 30 Preset Songs + 5 User Songs + Accessory CD-ROM Songs (70)
- Song Clear, Track Clear
- Song Volume
- Song Control: REPEAT & LEARN, A-B REPEAT, PAUSE, REW, FF, START/STOP

Performance assistant technology

Recording

- Song
- User Song: 5 Songs
- Recording Tracks: 1, 2, 3, 4, 5, STYLE

MIDI

- Local On/Off
- Keyboard Out
- Initial Send
- Style Out
- External Clock
- Song Out

Auxiliary jacks

- PHONES/OUTPUT, DC IN, USB, SUSTAIN

Amplifier

- 2.5W + 2.5W

Speakers

- 12cm x 2 + 3cm x 2

Power Consumption

- 7W (PA-130)
- 10W (PA-3C)

Power Supply

- Adaptor: Users within U.S.: PA-130 or an equivalent
Others: PA-3C, PA-130 or an equivalent
- Batteries: Six "AA" size, LR6 or equivalent batteries

Dimensions (W x D x H)

- 946 x 402 x 136 mm (37-1/4" x 15-13/16" x 5-3/8")

Weight

- 7.0kg (15 lbs. 7 oz.) (not including batteries)

Supplied Accessories

- Music Rest
- Accessory CD-ROM
- Owner's Manual
- Data List
- My Yamaha Product User Registration
- * The PRODUCT ID on the sheet will be needed when you fill out the User Registration form.

Optional Accessories

- AC Power Adaptor: Users within U.S.: PA-130 or an equivalent
Others: PA-3C, PA-130 or an equivalent
- Footswitch: FC4/FC5
- Keyboard Stand: L-2C/L-2L
- Headphones: HPE-150/30

* Specifications and descriptions in this owner's manual are for information purposes only. Yamaha Corp. reserves the right to change or modify products or specifications at any time without prior notice. Since specifications, equipment or options may not be the same in every locale, please check with your Yamaha dealer.

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YAMAHA

LIMITED 1-YEAR WARRANTY ON PORTABLE KEYBOARDS (NP, PSR-E, YPG AND YPT SERIES)

Thank you for selecting a Yamaha product. Yamaha products are designed and manufactured to provide a high level of defect-free performance. Yamaha Corporation of America ("Yamaha") is proud of the experience and craftsmanship that goes into each and every Yamaha product. Yamaha sells its products through a network of reputable, specially authorized dealers and is pleased to offer you, the Original Owner, the following Limited Warranty, which applies only to products that have been (1) directly purchased from Yamaha's authorized dealers in the fifty states of the USA and District of Columbia (the "Warranted Area") and (2) used exclusively in the Warranted Area. Yamaha suggests that you read the Limited Warranty thoroughly, and invites you to contact your authorized Yamaha dealer or Yamaha Customer Service if you have any questions.

Coverage: Yamaha will, at its option, repair or replace the product covered by this warranty if it becomes defective, malfunctions or otherwise fails to conform with this warranty under normal use and service during the term of this warranty, without charge for labor or materials. Repairs may be performed using new or refurbished parts that meet or exceed Yamaha specifications for new parts. If Yamaha elects to replace the product, the replacement may be a reconditioned unit. You will be responsible for any installation or removal charges and for any initial shipping charges if the product(s) must be shipped for warranty service. However, Yamaha will pay the return shipping charges to any destination within the USA if the repairs are covered by the warranty. This warranty does not cover (a) damage, deterioration or malfunction resulting from accident, negligence, misuse, abuse, improper installation or operation or failure to follow instructions according to the Owner's Manual for this product; any shipment of the product (claims must be presented to the carrier); repair or attempted repair by anyone other than Yamaha or an authorized Yamaha Service Center; (b) any unit which has been altered or on which the serial number has been defaced, modified or removed; (c) normal wear and any periodic maintenance; (d) deterioration due to perspiration, corrosive atmosphere or other external causes such as extremes in temperature or humidity; (e) damages attributable to power line surge or related electrical abnormalities, lightning damage or acts of God; or (f) RFI/EMI (Interference/noise) caused by improper grounding or the improper use of either certified or uncertified equipment, if applicable. Any evidence of alteration, erasing or forgery of proof-of-purchase documents will cause this warranty to be void. This warranty covers only the Original Owner and is not transferable.

In Order to Obtain Warranty Service: Warranty service will only be provided for defective products within the Warranted Area. Contact your local authorized Yamaha dealer who will advise you of the procedures to be followed. If this is not successful, contact Yamaha at the address, telephone number or website shown below. Yamaha may request that you send the defective product to a local authorized Yamaha Servicer or authorize return of the defective product to Yamaha for repair. If you are uncertain as to whether a dealer has been authorized by Yamaha, please contact Yamaha's Service Department at the number shown below, or check Yamaha's website at www.Yamaha.com. Product(s) shipped for service should be packed securely and must be accompanied by a detailed explanation of the problem(s) requiring service, together with the original or a machine reproduction of the bill of sale or other dated, proof-of-purchase document describing the product, as evidence of warranty coverage. Should any product submitted for warranty service be found ineligible therefore, an estimate of repair cost will be furnished and the repair will be accomplished only if requested by you and upon receipt of payment or acceptable arrangement for payment.

Limitation of Implied Warranties and Exclusion of Damages: ANY IMPLIED WARRANTIES, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE SHALL BE LIMITED IN DURATION TO THE APPLICABLE PERIOD OF TIME SET FORTH ABOVE. YAMAHA SHALL NOT BE RESPONSIBLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES OR FOR DAMAGES BASED UPON INCONVENIENCE, LOSS OF USE, DAMAGE TO ANY OTHER EQUIPMENT OR OTHER ITEMS AT THE SITE OF USE OR INTERRUPTION OF PERFORMANCES OR ANY CONSEQUENCES. YAMAHA'S LIABILITY FOR ANY DEFECTIVE PRODUCT IS LIMITED TO REPAIR OR REPLACEMENT OF THE PRODUCT, AT YAMAHA'S OPTION. SOME STATES DO NOT ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS OR THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATION OR EXCLUSION MAY NOT APPLY TO YOU. This Warranty gives you specific legal rights, and you may also have other rights which vary from state to state. This is the only express warranty applicable to the product specified herein; Yamaha neither assumes nor authorizes anyone to assume for it any other express warranty.

If you have any questions about service received or if you need assistance in locating an authorized Yamaha Servicer, please contact:



YAMAHA

CUSTOMER SERVICE

Yamaha Corporation of America

6600 Orangethorpe Avenue, Buena Park, California 90620-1373

Telephone: 800-854-1569

www.yamaha.com

Do not return any product to the above address without a written Return Authorization issued by Yamaha.

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Important Notice: Guarantee Information for customers in European Economic Area (EEA) and Switzerland

English	Important Notice: Guarantee Information for customers in EEA* and Switzerland For detailed guarantee information about this Yamaha product, and Pan-EEA* and Switzerland warranty service, please either visit the website address below (Printable file is available at our website) or contact the Yamaha representative office for your country. * EEA: European Economic Area
Deutsch	Wichtiger Hinweis: Garantie-Information für Kunden in der EWR und der Schweiz Für nähere Garantie-Information über dieses Produkt von Yamaha, sowie über den Pan-EWR- und Schweizer Garantieservice, besuchen Sie bitte entweder die folgend angegebene Internetadresse (eine druckfähige Version befindet sich auch auf unserer Webseite), oder wenden Sie sich an den für Ihr Land zuständigen Yamaha-Vertrieb.
Français	Remarque importante: informations de garantie pour les clients de l'EEE et la Suisse Pour des informations plus détaillées sur la garantie de ce produit Yamaha et sur le service de garantie applicable dans l'ensemble de l'EEE ainsi qu'en Suisse, consultez notre site Web à l'adresse ci-dessous (le fichier imprimable est disponible sur notre site Web) ou contactez directement Yamaha dans votre pays de résidence. * EEE : Espace Economique Européen
Nederlands	Belangrijke mededeling: Garantie-informatie voor klanten in de EER* en Zwitserland Voor gedetailleerde garantie-informatie over dit Yamaha-product en de garantieservice in heel de EER* en Zwitserland, gaat u naar de onderstaande website (u vindt een afprintbaar bestand op onze website) of neemt u contact op met de vertegenwoordiging van Yamaha in uw land. * EER: Europese Economische Ruimte
Español	Aviso importante: información sobre la garantía para los clientes del EEE* y Suiza Para una información detallada sobre este producto Yamaha y sobre el soporte de garantía en la zona EEE* y Suiza, visite la dirección web que se incluye más abajo (la versión del archivo para imprimir está disponible en nuestro sitio web) o póngase en contacto con el representante de Yamaha en su país. * EEE: Espacio Económico Europeo
Italiano	Avviso importante: informazioni sulla garanzia per i clienti residenti nell'EEA* e in Svizzera Per informazioni dettagliate sulla garanzia relativa a questo prodotto Yamaha e l'assistenza in garanzia nei paesi EEA* e in Svizzera, potete consultare il sito Web all'indirizzo riportato di seguito (è disponibile il file in formato stampabile) oppure contattare l'ufficio di rappresentanza locale della Yamaha. * EEA: Area Economica Europea
Português	Aviso importante: informações sobre as garantias para clientes da AEE* e da Suíça Para obter uma informação pormenorizada sobre este produto da Yamaha e sobre o serviço de garantia na AEE* e na Suíça, visite o site a seguir (o arquivo para impressão está disponível no nosso site) ou entre em contato com o escritório de representação da Yamaha no seu país. * AEE: Área Económica Europeia
Ελληνικά	Σημαντική σημείωση: Πληροφορίες εγγύησης για τους πελάτες στον ΕΟΧ* και Ελλάδα Για λεπτομερείς πληροφορίες εγγύησης σχετικά με το παρόν προϊόν της Yamaha και την κάλυψη εγγύησης σε όλη τις χώρες του ΕΟΧ* και την Ελλάδα, επισκεφτείτε την παρακάτω ιστοσελίδα (εκτυπίσιμο αρχείο είναι διαθέσιμο στην ιστοσελίδα μας) ή απευθείας στον αντιπροσωπείο της Yamaha στη χώρα σας. * ΕΟΧ: Ευρωπαϊκός Οικονομικός Χώρος
Svenska	Viktigt: Garantiinformation för kunder i EES-området* och Schweiz För detaljerad information om denna Yamaha-produkt samt garantireservice i hela EES-området* och Schweiz kan du antingen besöka nedanstående webbadress (en utskriftsvänlig fil finns på webbplatsen) eller kontakta Yamahas officiella representant i ditt land. *EES: Europeiska Ekonomiska Samarbetsområdet
Norsk	Viktig merknad: Garantiinformasjon for kunder i EØS* og Sveits Detaljert garantiinformasjon om dette Yamaha-produktet og garantireservice for hele EØS-området* og Sveits kan fås enten ved å besøke nettadressen nedenfor (utskriftsversjon finnes på våre nettsider) eller kontakte kontakta Yamaha-kontoret i landet der du bor. *EØS: Det europeiske økonomiske samarbeidsområdet
Dansk	Vigtig oplysning: Garantioplysninger til kunder i EØO* og Schweiz De kan finde detaljerede garantioplysninger om dette Yamaha-produkt og den fælles garantireserviceordning for EØO* (og Schweiz) ved at besøge det websted, der er angivet nedenfor (der findes en fil, som kan udskrives, på vores websted), eller ved at kontakte Yamahas nationale repræsentationskontor i det land, hvor De bor. * EØO: Det Europæiske Økonomiske Område

Stuomi	Tärkeä ilmoitus: Taku tiedot Euroopan talousalueen (ETA) ja Sveitsin asiakkaille Tämän Yamaha-tuotteen sekä ETA-alueen ja Sveitsin takuuta koskevat yksityiskohtaiset tiedot saatte alla olevasta netiosoitteesta. (Tulostettava tiedosto saatavissa sivustollamme.) Voitte myös ottaa yhteyttä paikalliseen Yamahaedustajaan. *ETA: Euroopan talousalue
Polski	Ważne: Warunki gwarancji dotyczące obowiązujące w EOG* i Szwajcarii Aby dowiedzieć się więcej na temat warunków gwarancyjnych tego produktu fi rmy Yamaha i serwisu gwarancyjnego w całym EOG* i Szwajcarii, należy odwiedzić wskazaną poniżej stronę internetową (plik gotowy do wydruku znajduje się na naszej stronie internetowej) lub skontaktować się z przedstawicielstwem fi rmy Yamaha w swoim kraju. * EOG — Europejski Obszar Gospodarczy
Česky	Důležité oznámení: Zárucní informace pro zákazníky v EHS* a ve Švýcarsku Podrobné zázucní informace o tomto produktu Yamaha a zázucníkem servisu v celém EHS* a ve Švýcarsku naleznete na níže uvedené webové adrese (soubor k tisku je dostupný na našich webových stránkách) nebo se můžete obrátit na zastoupení fi rmy Yamaha ve své zemi. * EHS: Evropský hospodářský prostor
Magyar	Fontos figyelmeztetés: Garancia-információk az EGT* területén és Svájcban élő vásárlók számára A jelen Yamaha termékre vonatkozó részletes garancia-információk, valamint az EGT*-re és Svájcra kiterjedő garanciális szolgáltatás tekintetében keressék fel webhelyünket az alábbi címen (a webhelyen nyomtatható fájl is talál), vagy pedig lépjen kapcsolatba az országában működő Yamaha képviselői irodával. * EGT: Európai Gazdasági Térség
Eesti keel	Oluline märkus: Garantiteave Euroopa Majanduspiirkonna (EMP)* ja Šveitsi Klientidele Täpsem teabe saamiseks selle Yamaha toote garantii ning kogu Euroopa Majanduspiirkonna ja Šveitsi garantiteeninduse kohta, külastage palun veebisaiti alljärgneval aadressil (meie saitil on saadaval printitav fail) või pöörduge Teie regiooni Yamaha esinduse poole. * EMP: Euroopa Majanduspiirkond
Latviešu	Svarīgs paziņojums: garantijas informācija klientiem EEZ* un Šveicē Lai saņemtu detalizētā garantijas informāciju par šo Yamaha produktu, kā arī garantijas apkalpošanu EEZ* un Šveicē, lūdzam apmeklēt vietni, kurā norādīts tīmekļa vietnes adrese (tīmekļa vietni ir pieejams drukājams fails) vai sazināties ar jūsu valsti apkalpojošo Yamaha pārstāvniecību. * EEZ: Eiropas Ekonomiskā zona
Lietuvių kalba	Dėmesio: informacija dėl garantijos priekšams EEE* ir Šveicarijoje Jei reikia išsames informacijos apie šį „Yamaha“ produktą ir jo techninę priežiūrą visoje EEE* ir Šveicarijoje, apsilankykite mūsų svetainėje toliau nurodytu adresu (svetainėje yra spausdinamas failas) arba kreipkitės į „Yamaha“ atšlyybę savo šaliai. *EEE — Europos ekonominė erdvė
Slovenščina	Določite upozorenje: Informacije o zaruke pre zákaznikov v EHP* a Švajcarsku Podrobne informacije o zaruke tjakojice sa tohto produktu od spoločnosti Yamaha a garancijom servisu v EHP* a Švajcarsku nájdete na webovej stránke uvedenej nižšie (na našej webovej stránke je k dispozícii súbor na tlač) alebo sa obráťte na zástupcu spoločnosti Yamaha vo svojej krajine. * EHP: Európsky hospodársky priestor
Slovensščina	Pomembno obvestilo: Informacije o garanciji za kupce v EGP* in Švici Za podrobnejše informacije o tem Yamahinem izdelku ter garancijskem servisu v celotnem EGP in Švici, obiščite spletno mesto, ki je navedeno spodaj (našajva datoteka je na voljo na našem spletnem mestu), ali se obrnite na Yamahinega predstavnika v svoji državi. * EGP: Evropski gospodarski prostor
Български език	Важно съобщение: Информация за гаранцията за клиенти в ЕИП* и Швейцария За подробна информация за гаранцията за този продукт на Yamaha и гаранционното обслужване в паневропейската зона на ЕИП* и Швейцария или посетете посочения уеб сайт (на нашия уеб сайт има файл за печат), или се свържете с представителния офис на Yamaha във вашата страна. * ЕИП: Европейско икономическо пространство
Limba română	Notificare importantă: Informații despre garanție pentru clienții din SEE* și Elveția Pentru informații detaliate privind acest produs Yamaha și serviciul de garanție Pan-SEE* și Elveția, vizitați site-ul la adresa de mai jos (fișierul imprimabil este disponibil pe site-ul nostru) sau contactați biroul reprezentanței Yamaha din țara dumneavoastră. * SEE: Spațiul Economic European

<http://europe.yamaha.com/warranty/>

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