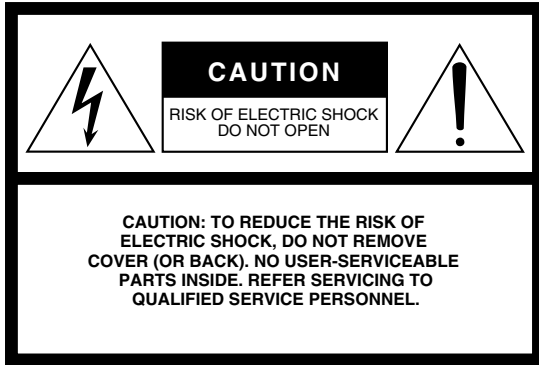# disklavier™

Mark III Series

Playback Models

## Operation Manual

SPECIAL MESSAGE SECTION

PRODUCT SAFETY MARKINGS: Yamaha electronic products may have either labels similar to the graphics shown below or molded/stamped facsimiles of these graphics on the enclosure. The explanation of these graphics appears on this page. Please observe all cautions indicated on this page and those indicated on the safety instruction section.

```
⚡        CAUTION          ⚠
     RISK OF ELECTRIC SHOCK
          DO NOT OPEN


    CAUTION: TO REDUCE THE RISK OF
   ELECTRIC SHOCK, DO NOT REMOVE
   COVER (OR BACK). NO USER-SERVICEABLE
   PARTS INSIDE. REFER SERVICING TO
   QUALIFIED SERVICE PERSONNEL.
```

SEE BOTTOM OF ENCLOSURE OR LOWER FRONT PANEL FOR GRAPHIC SYMBOL MARKINGS

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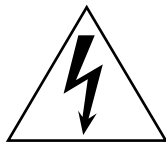
The lightning flash with arrowhead symbol within the equilateral triangle is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electrical shock.

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

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

92-469 ①

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 nonrechargeable battery which (if applicable) is soldered in place. The average life span of this type of battery is approximately five years. When replacement becomes neccessary, contact a qualified service representative to perform the replacement.

Warning: Do not attempt to recharge, disassemble, or incinerate this type of battery. Keep all batteries away from children. Dispose of used batteries promptly and as regulated by applicable laws. Note: In some areas, the servicer is required by law to return the defective parts. However, you do have the option of having the servicer dispose of these parts for you.

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.

NOTICE: Service charges incurred due to 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.

NAME PLATE LOCATION: The graphic below indicates the location of the name plate. 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.
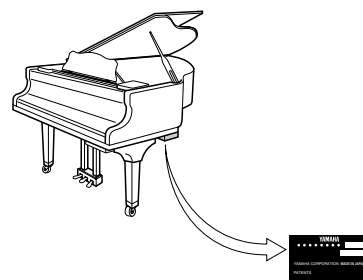
Model _____

Serial No. _____

Purchase Date_____

IMPORTANT SAFETY INSTRUCTIONS

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

WARNING— When using any electrical or electronic product, basic precautions should always be followed. These precautions include, but are not limited to, the following:

1. Read all Safety Instructions, Installation Instructions, Special Message Section items, and any Assembly Instructions found in this manual BEFORE making any connections, including connection to the main supply.

2. Main Power Supply Verification: Yamaha products are manufactured specifically for the supply voltage in the area where they are to be sold. If you should move, or if any doubt exists about the supply voltage in your area, please contact your dealer for supply voltage verification and (if applicable) instructions. The required supply voltage is printed on the name plate. For name plate location, please refer to the graphic found in the Special Message Section of this manual.

3. This product may be equipped with a polarized plug (one blade wider than the other). If you are unable to insert the plug into the outlet, turn the plug over and try again. If the problem persists, contact an electrician to have the obsolete outlet replaced. DO NOT defeat the safety purpose of the plug.

4. **DANGER**— Grounding Instructions: Disklavier Grand must be grounded and therefore has been equipped with a three pin attachment plug. If this product should malfunction, the ground pin provides a path of low resistance for electrical current, reducing the risk of electrical shock. If your wall socket will not accommodate this type plug, contact an electrician to have the outlet replaced in accordance with local electrical codes. Do NOT modify the plug or change the plug to a different type!

5. **WARNING:** Do not place this product or any other objects on the power cord or place it 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.

6. Ventilation: Electronic products, unless specifically designed for enclosed installations, should be placed in locations that do not interfere with proper ventilation. If instructions for enclosed installations are not provided, it must be assumed that unobstructed ventilation is required.

7. Temperature considerations: Electronic products should be installed in locations that do not significantly contribute to their operating temperature. Placement of this product close to heat sources such as; radiators, heat registers and other devices that produce heat should be avoided.

8. This product was NOT designed for use in wet/damp locations and should not be used near water or exposed to rain. Examples of wet/damp locations are; near a swimming pool, spa, tub, sink, or wet basement.

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

10. The power supply cord (plug) should be disconnected from the outlet when electronic products are to be left unused for extended periods of time. Cords should also be disconnected when there is a high probability of lightning and/or electrical storm activity.

11. Care should taken that objects do not fall and liquids are not spilled into the enclosure through any openings that may exist.

12. Electrical/electronic products should be serviced by a qualified service person when:
    a. The power supply cord has been damaged; or
    b. Objects have fallen, been inserted, or liquids have been spilled into the enclosure through openings; or
    c. The product has been exposed to rain; or
    d. The product does not operate, exhibits a marked change in performance; or
    e. The product has been dropped, or the enclosure of the product has been damaged.

13. Do not attempt to service this product beyond that described in the user-maintainance instructions. All other servicing should be referred to qualified service personnel.

14. 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 a long period 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.

15. Some Yamaha products may have benches and/or accessory mounting fixtures that are either supplied as a part or 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.

92-469-DK ② **PLEASE KEEP THIS MANUAL**

Mounting the Control Unit to the Grand Piano
Installation du boîtier de commande sur un piano à queue
Montieren des Steuergerätes an den Flügel
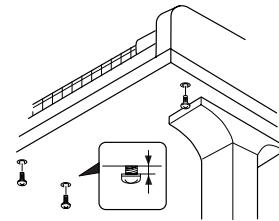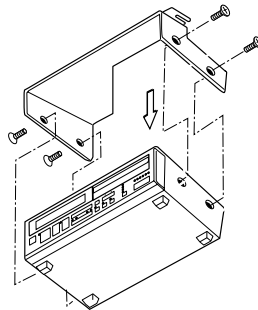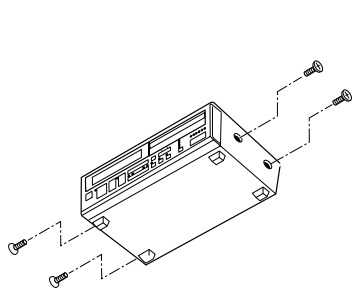
(1) Remove the four screws from the sides of the Control Unit.

(2) Place the metal suspension bracket, included with the Disklavier grand model, over the Control Unit, then secure the metal suspension bracket to the Control Unit using the same screws.

(3) Insert the three restraining screws (attached) into the marked nuts underneath the treble side key bed, then tighten the screws, leaving a gap of about 5 mm between head of the screw and piano body.

(1) Retirer les quatre vis sur les côtés du boîtier de commande.

(2) Placer le support métallique (fourni avec le Disklavier pour piano à queue) sur le boîtier de commande, puis fixer le support métallique au boîtier de commande en utilisant les quatre vis à tête conique.

(3) Introduire les trois vis de fixation dans les écrous marqués sous le clavier du côtés des aigus, puis serrer les vis en laissant un espace d'environ 5 mm entre la tête de la vis et le corps du piano.

(1) Entfernen Sie die vier Schrauben von den Seiten des Steuergerätes.

(2) Schieben Sie den mit dem Disklavier gelieferten Metallhalter über das Steuergerät, und befestigen Sie ihn mit den vier Senkschrauben am Steuergerät.

(3) Drehen Sie die drei Halteschrauben in die markierten Muttern an der Unterseite des Klaviaturbodens auf der Diskantseite ein, und ziehen Sie dann die Schrauben so weit an, daß ein Abstand von ca. 5 mm zwischen dem Schraubenkopf und dem Klaviaturboden bestehen bleibt.

Notes:
1) Handle the metal suspension bracket and the Control Unit carefully to avoid scratches.
2) Screws:
Restraining screws (5 × 12) 3
BWH screws (4 × 4) 4
3) When mounted correctly, the Control Unit is angled approximately 18° above horizontal.

Remarques :
1) Manipuler soigneusement le support métallique et le boîtier de commande pour éviter les rayures.
2) Vis :
Vis de retenue (5 × 12) 3
Vis BWH (4 × 4) 4
3) Lorsqu'il est monté correctement, le boîtier de commande est incliné d'environ 18° sur l'horizontale.

Hinweise:
1) Behandeln Sie den Metallhalter und das Steuergerät mit Sorgfalt, um Kratzer zu vermeiden.
2) Schrauben:
Halteschrauben (5 × 12) 3
BWH-Schrauben (4 × 4) 4
3) Bei korrekter Montage ist das Steuergerät um ca. 18° zur Horizontalen geneigt.
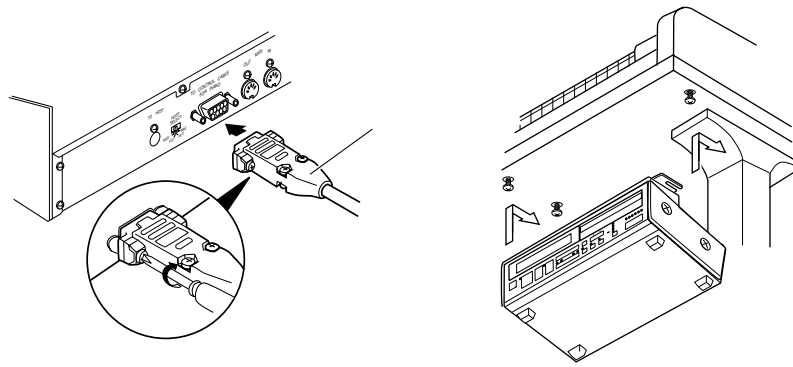
(4) Insert the control cable into the D-SUB connector on the back of the Control Unit, then securely tighten the two screws attached to the connector. Be sure to check the orientation of the D-SUB connector when inserting the cable.

(5) Fit the "slots" of the metal suspension bracket containing the Control Unit to the screws mentioned in step (3).

(6) After mounting the Control Unit, push the Control Unit back as far as it will go and then tighten the three screws to secure the bracket.

(4) Raccorder le câble de commande au connecteur D-SUB situé au dos du boîtier de commande, puis serrer correctement les deux vis du connecteur. Prendre soin de vérifier l'orientation du connecteur D-SUB en raccordant le câble.

(5) Glisser les "fentes" du support métallique contenant le boîtier de commande sur les vis mentionnées à l'étape (3).

(6) Après avoir installé le boîtier de commande, l'enfoncer jusqu'à l'extrémité et serrer les trois vis pour fixer le support.

(4) Schließen Sie das Steuerkabel an den D-SUB-Anschluss auf der Rückseite des Steuergerätes an, und ziehen Sie dann die beiden am Stecker angebrachten Schrauben fest an. Achten Sie beim Anschließen des Kabels auf korrekte Ausrichtung des D-SUB-Steckers.

(5) Hängen Sie die Schlitzlöcher des Metallhalters mit dem Steuergerät an die in Schritt (3) montierten Schrauben.

(6) Nachdem Sie das Steuergerät montiert haben, schieben Sie es bis zum Anschlag nach hinten. Ziehen Sie dann die drei Schrauben zur Sicherung des Halters an.

Welcome to the Yamaha Disklavier™!

Thank you for purchasing the Yamaha Disklavier piano!

The Disklavier is a fascinating instrument that integrates a classic Yamaha acoustic piano with innovative electronics to suit your entertainment and educational needs, while retaining the tone, touch and long-term value that have long made Yamaha pianos the world's finest.

Before using your Disklavier piano, please read this manual thoroughly and retain it for future reference.

There are two types of Mark III Playback pianos:
• Playback models
• Playback models with *Silent* system
This manual is designed to cover both models.
All functions and descriptions are common to both models except where marked "for models with *Silent* system playback."

Trademarks & Copyright

Important

Read the following before operating the Disklavier.

Warnings

- Do not locate the Disklavier in a place subject to excessive heat, low temperatures, or direct sunlight. This could be a fire hazard and may damage the finish and internal parts.

- Excessive humidity or dust can lead to fire or electric shock.

- Connect the plug on the Disklavier power cable to a compatible AC outlet. Failure to do so will present a fire and electric shock hazard. If the power cable plug is not compatible with your AC outlet, consult your dealer.

- Do not plug several devices into the same AC outlet. This can overload the AC outlet, and lead to fire and electric shock hazard. It may also affect the performance of some devices.

- Do not place heavy objects on the power cable. A damaged power cable is a potential fire and electric shock hazard. If the power cable runs under a carpet, make sure heavy objects, including the Disklavier, are not placed on top of the cable.

- If the power cable is damaged (i.e. cut or a bare wire is exposed), ask your dealer for a replacement. Using the Disklavier in this condition is a fire and shock hazard.

- When disconnecting the power cable from an AC outlet, always pull from the plug. Never pull the cable. Damaging the cable in this way is a potential fire and electric shock hazard.

- The cover of the unit should be removed only by qualified service technicians.

- Do not place liquid containers such as vases, potted plants, glasses, cosmetic bottles, medicines, etc., on top of the Disklavier.

- Do not try to modify the Disklavier, as this could lead to fire or electric shock hazard.

- When moving the Disklavier to another location, turn off the power, remove the power plug from the AC outlet, and remove all cables connected to external devices.

Cautions

- Turn off all audio devices when connecting to the Disklavier. Refer to the user's guide for each device. Use the correct cables and connect as specified.

- Set the volume level on all the devices to minimum before applying power.

- Do not play the Disklavier at a high volume for extended periods; you may damage your hearing. This is especially important when using headphones. If you think your hearing ability is impaired, consult your doctor.

- If the Disklavier is worked extremely hard — that is, prolonged playback of very "busy" songs — the Disklavier's thermal relay may trip. The thermal relay will automatically reset when the Disklavier has cooled down.

- If you notice any abnormality — such as smoke, odor, or noise — turn off the Disklavier immediately, and remove the power plug from the AC outlet. Consult your dealer for repair.

- If a foreign object or water gets inside the Disklavier turn it off immediately, and remove the power plug from the AC outlet. Consult your dealer.

- If you plan not to use the Disklavier for a long period of time (such as when you are on vacation), disconnect the electrical mains.

- Always remove the power plug from the AC outlet before cleaning the Disklavier. Leaving the power plug connected presents a risk of electric shock.

- Do not use benzene, thinner, cleaning detergent, or a chemical cloth to clean the Disklavier.

- Do not place metal objects with rubber feet on top of the Disklavier. The color and finish of the Disklavier can be damaged.

- Do not place heavy objects on the Disklavier. Doing so can damage the Disklavier.

- Use a soft, dry cloth to clean the Disklavier. However, if you discover a stain, carefully use a soft damp cloth to remove it.

Interference

- The Disklavier uses high-frequency digital circuits that may cause interference to radios and TVs placed close to it. If interference does occur, relocate the affected equipment.

Handling Batteries

The remote control of this unit is powered by dry batteries. Improper use or misuse of the dry batteries can cause the dry batteries to heat up, leak electrolyte or burst which in turn may result in a fire, damage to equipment and/or nearby objects or in burns, injury or other bodily harm. Read through and familiarize yourself with the following safety precautions prior to use to ensure correct usage.

- Do not directly touch the chemicals (electrolyte) which have leaked from dry batteries.
  1. If electrolyte from dry batteries has made contact with your eyes, rinse your eyes thoroughly with clean water and seek medical treatment from a physician immediately.
  2. If electrolyte from dry batteries has touched your skin or clothing, rinse it off immediately with clean water.
  3. If electrolyte from dry batteries has found its way inside your mouth, gargle immediately and consult a physician.

- Do not install the dry batteries with the "+" and "–" poles reversed. Misaligning the poles of dry batteries can lead the dry batteries to be charged or shorted or it can cause them to heat up, leak electrolyte or burst which in turn may result in a fire, damage to nearby objects or in burns, injury or other bodily harm.

- Use only the designated batteries. Do not use used batteries with unused batteries or different types of batteries together. This can cause them to heat up, leak electrolyte or burst which in turn may result in a fire or in burns, injury or other bodily harm. Replace all the dry batteries at the same time. Do not use new and old dry batteries together. Do not use different types of batteries (alkaline and manganese batteries, batteries made by different manufacturers or different battery products made by the same manufacturer) together: this can cause them to heat up, ingite or leak electrolyte.

- When the battery-powered unit is not going to be used for a prolonged period of time, remove the dry batteries from the unit. Otherwise the batteries will run down and their electrolyte may leak, resulting in damage to the unit.

- Remove spent batteries immediately from equipment. Otherwise, batteries will overdischarge, causing them to heat up, leak electrolyte or burst which in turn may result in damage to nearby objects or in burns, injury or other bodily harm.

- Dispose of batteries in accordance with the applicable regulations and ordinances.

Please keep this manual for future reference.

Table of Contents

Basic Operations

Advanced Operations

Chapter 1
Setting Up Your Disklavier

This chapter provides information on the supplied items and how to set up your Disklavier.

Items Supplied with the Disklavier

Check that the following items are supplied with your Disklavier:

- 1 Remote Control
- 2 Batteries for the Remote Control
- 2 Disklavier Sample PianoSoft Disks
- 1 Blank 3.5" 2HD Floppy Disk
- 1 Operation Manual
- 1 Control Unit Suspension Bracket
- 1 Stereo Headphones (for models with *Silent* system playback)

Connecting the Control Unit

Make sure that the control cable extending from the piano is firmly connected to the TO CONTROL CABLE FOR PIANO connector on the rear panel of the Control Unit.
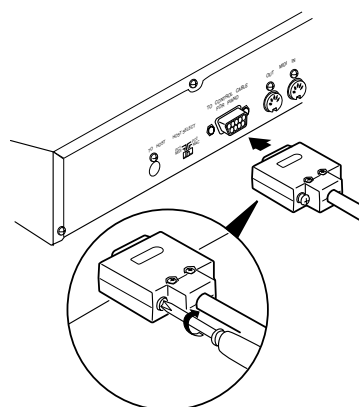
Note: The control cable should be connected to the Control Unit when the Disklavier is installed. If, however, it is not, carefully connect the control cable to the Control Unit's TO CONTROL CABLE FOR PIANO connector on the rear panel. See step (4) in "Mounting the Control Unit to the Grand Piano" at the beginning of this manual.

It is recommended to mount the Control Unit to the underside of the treble side key bed. See "Mounting the Control Unit to the Grand Piano" at the beginning of this manual.

Connecting the Power Cable

Connect the Disklavier's power cable to an AC wall outlet.

Important: Make sure that the voltage of the AC wall outlet matches that marked on the Disklavier's Serial No. plate.

Using the Remote Control

The Disklavier is equipped with a remote control which allows convenient control from almost anywhere in the room. This chapter provides notes on handling the remote control.

Installing Batteries in the Remote Control

Before the remote control can be used, the two batteries supplied with the Disklavier must be installed.

Remove the battery cover from the rear of the remote control, install the batteries, and then replace the cover.
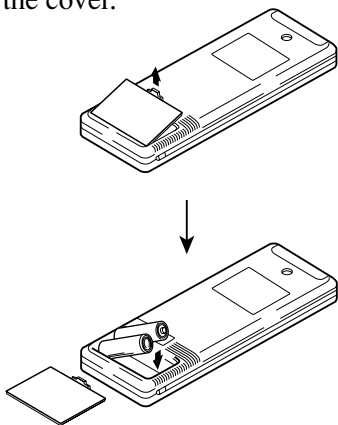
A diagram inside the battery compartment shows which way the batteries should be installed. Make sure you insert them correctly.

Battery Replacement

When the remote control fails to work from a distance, replace the batteries.

• Replacement batteries should be UM-3, AA, R6P, or LR6 type.

• Always replace both batteries.

• If the remote control is not to be used for a prolonged period of time, remove the batteries to prevent possible damage by battery leakage.

Important: Be sure to read the section on Handling Batteries on page ii of "Important" for details on the safe handling of dry batteries.

Using the Remote Control

To use the remote control, point it at the remote control sensor on the Control Unit.

Approx. 5 m (16 ft.)
30˚ 30˚
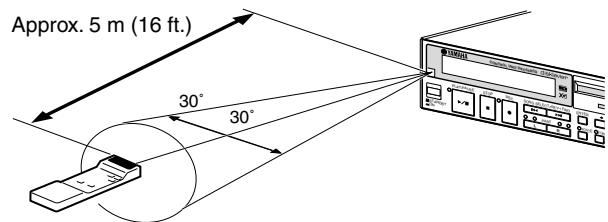
Connecting Other Equipment

☞ To connect audio instruments to the AUX connectors, see Chapter 11 "Using the AUX Connectors."

☞ To connect MIDI equipment, tone generator or a synthesizer to the Disklavier, see Chapter 16 "The Disklavier & MIDI."

☞ To connect a personal computer to the Disklavier, see Chapter 17 "The Disklavier & Personal Computers."

Basic Disklavier Terminology

The following is a list of several basic Disklavier words that you may need to know before proceeding with operational procedures in this manual. For additional Disklavier terminology, see the glossary provided in Chapter 21.

Disk
"Disk" is used as a generic term to refer to both floppy disks and internal Memory Disks.

Ensemble Song
An Ensemble song contains the same left and right-hand parts as an L/R song, and extra tracks that are played by the internal XG tone generator. Accompanying tracks can include acoustic bass, drums, strings, vibes, etc.

Floppy Disk
The magnetic storage medium that the Disklavier uses for song playback. The Disklavier uses 3.5 inch 2DD and 2HD floppy disks.
PianoSoft and PianoSoft·Plus are song disks specially for use with the Disklavier Series.

L/R Song
In a L/R song, the left-hand piano part is stored on track 1 (L) and the right-hand piano part is stored on track 2 (R). During playback you can cancel either part, and practice that part yourself. When recording an L/R song, you can record the two parts simultaneously or separately.

Memory Disk
The Disklavier has a total of 16 Mbytes of internal flash memory named Memory Disks that allow you to store song data without a floppy disk.

MIDI
An acronym for Musical Instrument Digital Interface. MIDI allows electronic musical instruments to communicate with each other.

PianoSoft
The PianoSoft Disk Collection is a library of prerecorded song disks made by Yamaha for use with the Disklavier Series. Many titles are available, and among the many musical styles

included are classical, jazz, and popular. The disk includes songs for listening enjoyment, piano study disks for the piano student, and accompaniment disks for vocal and instrumental practice.
PianoSoft is sometimes used as a generic term for PianoSoft and PianoSoft·Plus.

PianoSoft·Plus
PianoSoft·Plus disks contain prerecorded Ensemble songs featuring instrumental accompaniment that can be played back on the Disklavier.
See your Disklavier dealer for a PianoSoft catalog.

Song
A "song" usually means a short piece of music with lyrics. However, in the Disklavier manuals the term "song" is used to refer to any piece of music.

Tone Generator
An electronic device that generates instrument voices. The Disklavier has an internal XG tone generator that can produce nearly 700 instrumental and percussion voices.

Voice
The sounds produced by a tone generator expressing various instruments.

XG
Yamaha XG is an extension of the GM (General MIDI) format. With greater polyphony, more voice, and effects, it improves song compatibility between MIDI devices. When a song in the Yamaha XG format is played on another XG compatible tone generator or synthesizer, it will play and sound as the original composer/creator intended.

Chapter 2
Names of Parts and Their Functions

This chapter describes the functions of the buttons and other parts of the Disklavier.

Control Unit — Front Panel
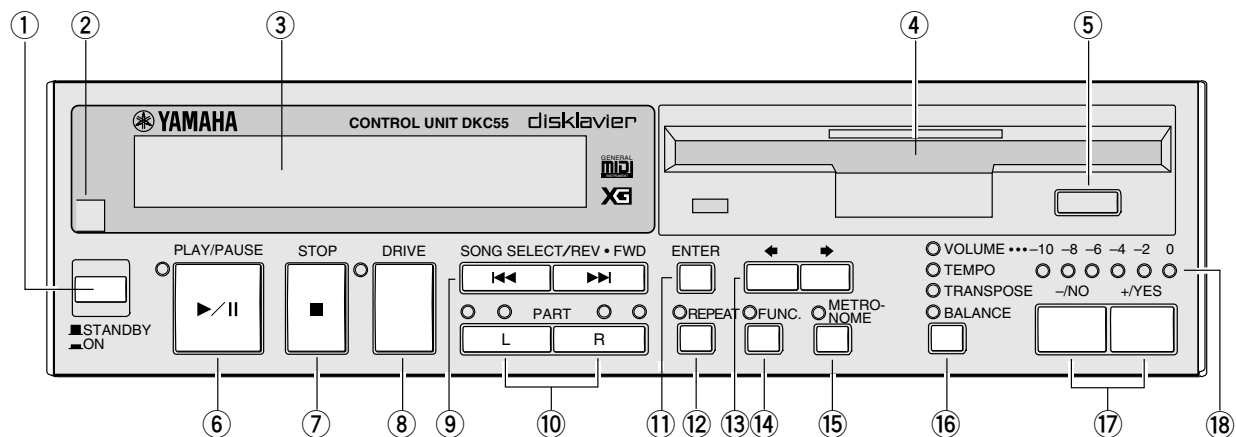
① [STANDBY / ON] button
Turns on the Disklavier or puts it in Standby mode. Press once to turn it on, and once again to put it in Standby mode.

Note: In Standby mode, the Control Unit is in effect turned off. However, electrically it is in a state in which a very small quantity of power is being consumed, as the MAINS switch is still on and the Disklavier is still connected to the AC power receptacle.

② Remote control sensor
When using the remote control, point it toward this sensor.

③ Display (LCD)
Shows various information.

④ Floppy disk drive
Insert a floppy disk such as a PianoSoft or PianoSoft·Plus song disk here.

⑤ Floppy disk eject button
Used to eject the disk from the floppy disk drive.

⑥ [PLAY/PAUSE] button
Used to start and pause playback.

⑦ [STOP] button
Used to stop playback.

⑧ [DRIVE] button
Used to select a disk. Toggles the floppy disk and Memory Disks (0 ~ 9 and A ~ F).

⑨ [SONG SELECT/REV·FWD] buttons
In Stop mode: Used to select songs.
In Play mode: Used to fast preview and review.
In Pause mode: Used to fast forward and reverse.

⑩ PART [L] [R] buttons
For L/R and Ensemble songs, these buttons allow you to choose which part to play back: L (left-hand) part, R (right-hand) part, or both.
Press both buttons together to turn pedal playback on or off so that you can play the pedals yourself.

⑪ **[ENTER] button**

Used to select and execute functions.

⑫ **[REPEAT] button**

Used to select one of the Repeat functions: ALL, RPT or RND.

⑬ **[◀] [▶] cursor buttons**

Used to move the cursor in the display.

⑭ **[FUNC.] button**

Used to access various Disklavier utility functions.

⑮ **[METRONOME] button**

Used to access the metronome.

⑯ **Selector button**

Used to select the feature you want to adjust from among Volume, Tempo, Tranpose, and Balance.

⑰ **[–/NO] [+/YES] buttons**

Used to select options and parameters and to adjust the volume.

⑱ **LED volume level indicators**

Indicates the playback volume level.
Also functions as a visual metronome.

Control Unit — Rear Panel
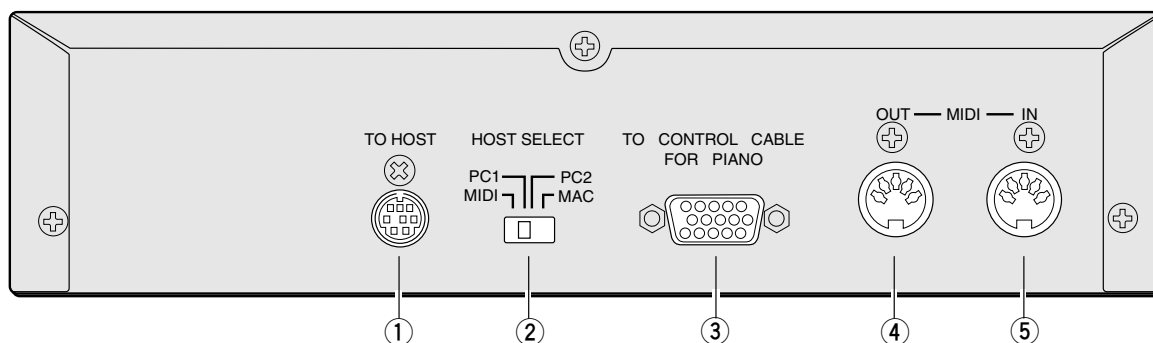
① **TO HOST (serial port)**

Used to connect the Disklavier with a personal computer.

② **HOST SELECT**

Used to select the host computer connected to the TO HOST connector.

③ **TO CONTROL CABLE FOR PIANO**

Used to connect the control cable from the piano.

④ **MIDI OUT**

Used to connect external MIDI equipment for outputting MIDI data.

⑤ **MIDI IN**

Used to connect external MIDI equipment for inputting MIDI data.

Amplifier, Speakers & Foot Controller

Foot Controller connector

⑧

Mounted underneath

Amplifier
(see illustration below)

Mounted underneath

⑨

Mounted underneath

Amplifier Panel

MAINS

AUX OUT
L/L+R   R

AUX IN
L/L+R   R

VOLUME

BASS

TREBLE

③   ④   ⑤   ⑥   ⑦
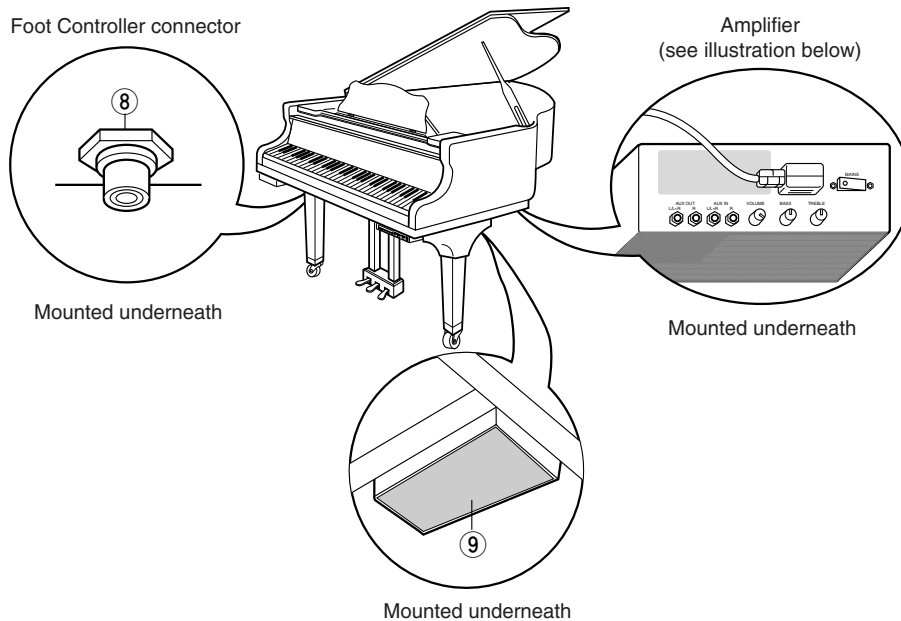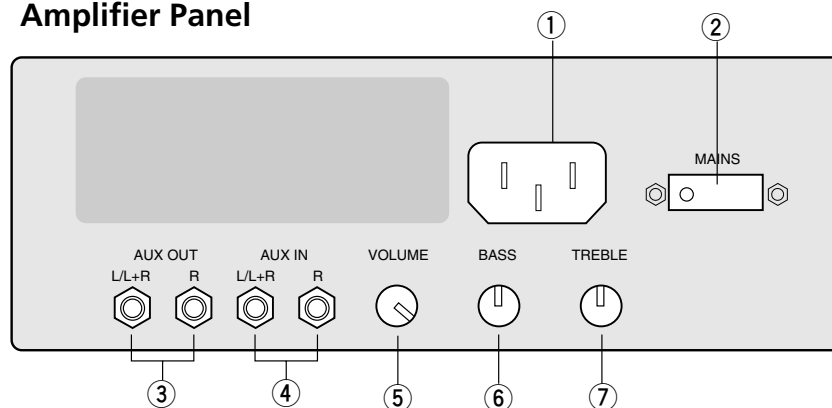
① **AC LINE INLET**

Connect the AC power cable here.

② **MAINS (ON/OFF) switch**

Press to switch on/off the Disklavier.

③ **AUX OUT L/L+R, R**

Used to connect external audio equipment.

④ **AUX IN L/L+R, R**

Used to connect external audio equipment.

⑤ **VOLUME knob**

Used to adjust the volume of the on-board
speakers and the sound output from the AUX
OUT connectors.

⑥ **BASS knob**

Used to adjust the bass sound of the built-in
speakers.

⑦ **TREBLE knob**

Used to adjust the treble sound of the built-in
speakers.

⑧ **Foot Controller connector**

Connect the optional YAMAHA FC-4, FC-5 or
FC-7 foot controller here.

⑨ **Amplified speakers**

Amplified speakers are mounted to the underside
of the piano.

Silent Control Box (for models with *Silent* system playback)
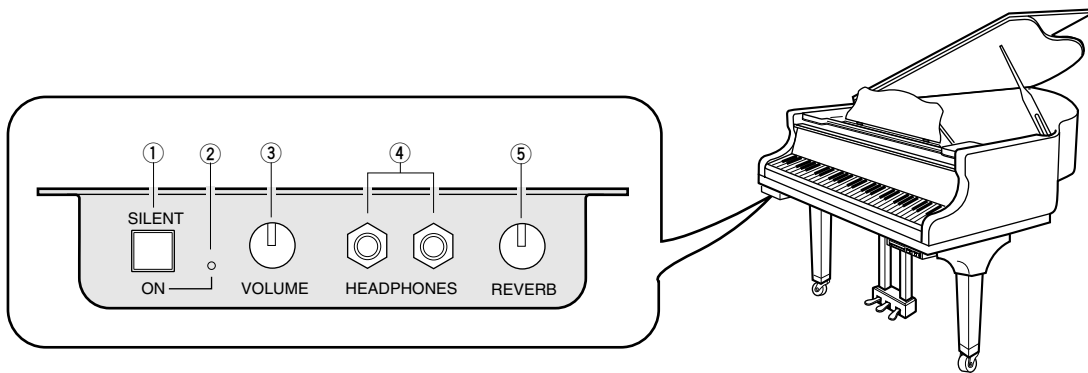
① **[SILENT] button**

Used to engage the *Silent* system.
The acoustic piano is silenced and sound is output from the digital piano.

② **SILENT ON indicator**

Lights when the *Silent* system is engaged.

③ **VOLUME knob**

Used to adjust the volume level of the digital piano and internal XG tone generator in the *Silent* system.

④ **HEADPHONES jacks**

Connect HPE-170 stereo headphones or other standard stereo headphones here for listening to playback in *Silent* mode.
You can connect up to two sets of headphones.

⑤ **REVERB knob**

Used to adjust the amount of reverb for the digital piano tone generator.

Remote Control
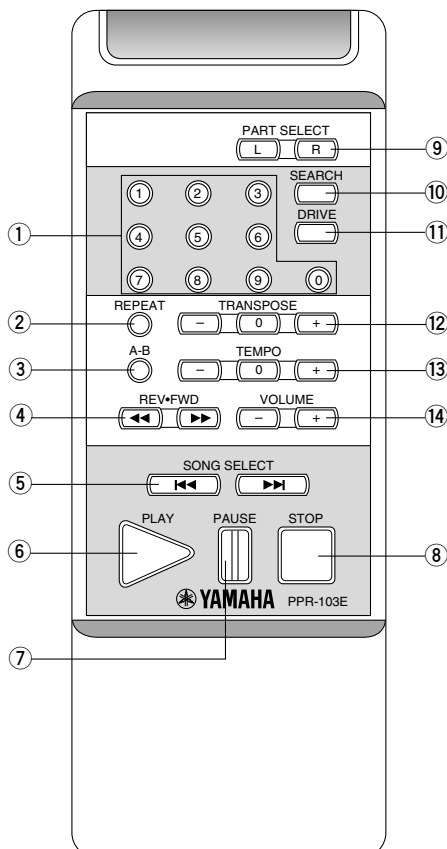
① **Number keypad***

Used for direct song selection and to enter a start time for song playback.

② **[REPEAT] button**

Used to select one of the Repeat functions: ALL, RPT, or RND.

③ **[A-B] button***

Used to enter A and B points for Segments A~B and A~ Repeat modes.

④ **[REV·FWD] buttons**

In Play mode: Used to fast preview and review.
In Pause mode: Used to fast forward and reverse.

⑤ **[SONG SELECT] buttons**

Used to select songs.

⑥ **[PLAY] button**

Used to start playback.

⑦ **[PAUSE] button**

Used to pause playback.

⑧ **[STOP] button**

Used to stop playback.

⑨ **[PART SELECT] buttons**

For L/R and Ensemble songs, these buttons are used to choose which part will play: left-hand part, right-hand part, or both parts.

⑩ **[SEARCH] button**

Used to access the Search function.

⑪ **[DRIVE] button**

Used to select a disk. Toggles the floppy disk and Memory Disks (0 ~ 9 and A ~ F).

⑫ **[TRANSPOSE] buttons**

Used to transpose song playback.
[–] transposes down, [+] transposes up, and [0] resets the transposition value to 00.

⑬ **[TEMPO] buttons**

Used to change the playback tempo.
[–] decreases the tempo, [+] increases the tempo, and [0] resets the tempo to 00.

⑭ **[VOLUME] buttons**

Used to adjust the volume.
[–] lowers the volume, [+] raises the volume.

* *Available on the remote control, but not on the Control Unit.*

Chapter 3
Floppy Disks and Memory Disks

The Disklavier can play back songs stored on floppy disks such as PianoSoft and PianoSoft·Plus song disks or on its internal Memory Disks.

Floppy Disks

Besides PianoSoft and PianoSoft·Plus song disks, the Disklavier can play back songs stored on 3.5-inch MS-DOS 720 Kbyte format 2DD floppy disks and MS-DOS 1.44 Mbyte format 2HD floppy disks.

Handling Floppy Disks

Be careful of the following when handling floppy disks.

- Do not touch the surface of a disk.

- Do not store or place disks near a television, radio, loudspeaker, or any other device that generates a magnetic field.

- Do not expose disks to extreme temperature or humidity. The working temperature range for disks is between 4˚C and 52˚C (40˚F to 125˚F).

- Do not use disks in a dusty, dirty or smoky environment.

- Remove the disk before you turn off the Disklavier.

Accidental Erasure Protection

Floppy disks have an erasure protection tab which protects valuable song data against accidental erasure and disk formatting. The protection tab is located on the reverse side of the disk in the bottom right-hand corner.

Protected
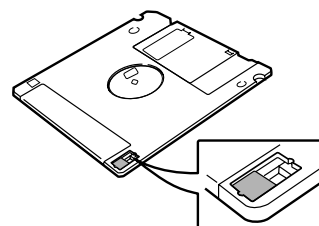
When the tab window is open, data is protected.

Unprotected
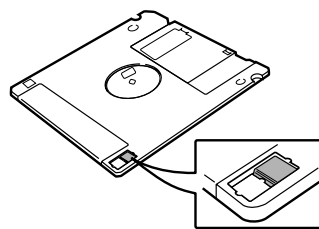
When the tab window is closed, data is not protected.

Inserting & Ejecting Floppy Disks

Inserting

Carefully insert the disk into the disk drive shutter first, label side up, as shown. Push it until it clicks into place and the Eject button pops out.
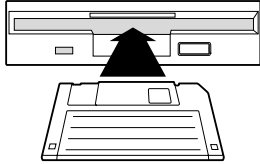
Ejecting

To eject a disk, press the Eject button.

Eject button
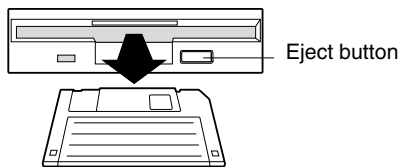
The disk will pop out. Remove the disk and return it to its case.

Note: Do not eject a disk during playback, as doing so could seriously damage the disk drive and the floppy disk.

Memory Disks

The Disklavier has 16 Mbytes (1 Mbyte × 16 Memory Disks) of internal flash memory for storing song data. They are numbered 0 to 9 and A to F.

Memory Disks are ideal for storing many songs, especially when you want to program your Disklavier to automatically play back many songs with the Chain Play or Timer Play features. (See Chapter 13 "Chain Play — Playing Back Memory Disks in a Group" and Chapter 14 "Timer Play" for details.)

☞ Chapter 12 "Storing and Managing Songs on Disks" provides more detailed information on using Memory Disks.

Chapter 4
Turning On/Off Your Disklavier

This chapter describes how to turn on and off your Disklavier and how to set the internal calendar. Turning your Disklavier on/off is a basic and very important procedure. Always be sure to follow the steps described below when you turn on or off your Disklavier.

Turning On the Disklavier

1 Set the MAINS switch to ON.

MAINS
ON   OFF
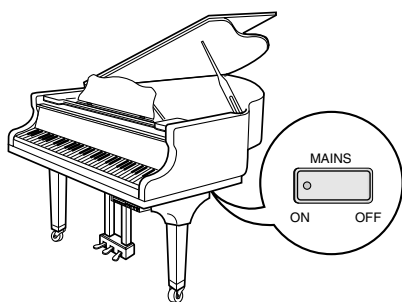
2 Press [STANDBY / ON] on the front panel of the Control Unit.
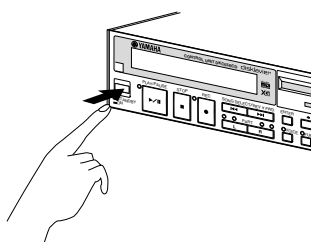
The following message appears on the display.

```
88 ******** YAMAHA ********
88 ** DISKLAVIER Playback *
```

Your Disklavier is now ready for use.

Turning Off the Disklavier

1 Press [STANDBY / ON] on the Control Unit.

2 Set the MAINS switch to OFF.

Setting the MAINS switch to OFF is effectively the same as disconnecting the power cable from an AC wall outlet. If the Disklavier is used regularly, you only need to use the [STANDBY / ON] button on the Control Unit. If the Disklavier is not going to be used for a long period, set the MAINS switch to OFF.

When the Disklavier is turned off, wait at least 5 seconds before turning it on again.

Note: The MAINS switch only needs to be switched off when you are not going to use the Disklavier for a long period of time. For daily use, only the [STANDBY / ON] button on the Control Unit needs to be turned on and off.

Setting the Internal Calendar

The Disklavier has an internal calendar that can be set from 1/1/1985 00:00:00 to 12/31/2084 23:59:59. Set the calendar accurately so that the Disklavier displays the correct current time during Stop mode.

Setting the correct time is also important for engaging timer-controlled programs (see Chapter 14 "Timer Play" for details).

Time is displayed in 24-hour format.

1 **Hold down [FUNC.] and press [STANDBY / ON].**

The setup menu appears.

```
 █.█.  ▶End          *Auto Setup
 █.█. *Chain Play *Timer Play→
```

```
 █.█. ←→*Clock Adjust
 █.█.
```
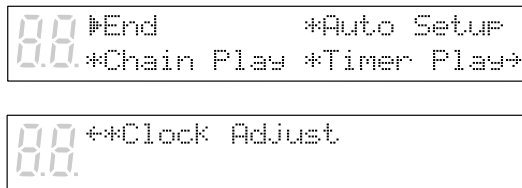
2 **Press [➡] until the ▶ cursor is next to the Clock Adjust option, then press [ENTER].**
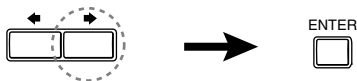
A display similar to the following appears, showing the current date and time.

```
 █.█.   Clock Adjust       (ENT)
 █.█. 1990/01/23 01:23:45
```
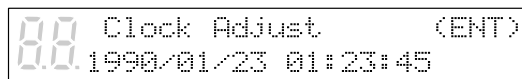
3 **Press [ENTER].**

A display similar to the following appears, with the clock stopped and the hours display flashing.

```
 █.█.   Clock Adjust  (←,→,ENT)
 █.█. 1990/01/23 01:23:45(-,+)
```

Flashes

4 **Use [⬅] and [➡] to select year, month, date, hours, minutes, and seconds, and use the [–/NO] and [+/YES] buttons to set a value.**
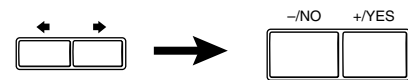
Pressing both [–/NO] and [+/YES] simultaneously in each respective field sets the year to 1990, month and day to 1, and the hours, minutes, and seconds to 0.

5 **Press [ENTER].**

The date and time are stored in the internal calendar, and the display returns to the current time display.

Calendar Memory

The date and time that you set are saved in the calendar memory when you turn off the Control Unit. The calendar memory can maintain the correct date and time for about a month. If you do not use the Control Unit for over a month, you must reset the calendar following the above procedure.

Note: The internal calendar is equipped with a storage battery (capacitor) that does not need to be replaced or recharged. However, the Control Unit must be turned on for at least 10 minutes a month in order to maintain power.

Chapter 5
Display (LCD)

Various information is shown in the display (LCD: Liquid Crystal Display) on the Control Unit. This chapter describes some of the frequently displayed indications.

Song Number

The number of the selected song is displayed in two large digits.

Song number

```
01 Piano Fantastic <00:00>→
                      ES XG
```

Selected Disk

Letters and numbers indicating the currently selected disk are displayed. "Fd" is displayed for the floppy disk, and "0" to "9" and "A" to "F" for the 16 Memory Disks.
("Fd" appears only when a floppy disk is inserted in the floppy disk drive.)

Selected disk

```
Fd Piano Fantastic <00:00>→
                      ES XG
```

Disk Title

When you select a disk for playback, the title of the selected disk scrolls across the display.

Song Title

The title of a song appears during song playback.

Time Display

When the Disklavier is not playing, the current time is displayed in hours and minutes. The separator colon blinks each second.

Current time
(Hours) (Minutes)

```
88 Piano Fantastic   05:10 →
                        ES XG
```
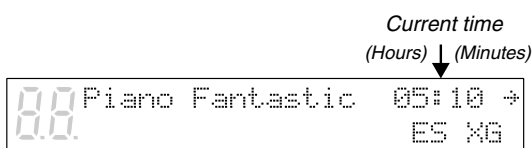
Counter Display

Playing time is indicated in one of two formats: **Minutes and seconds**, as shown below.

Minutes and seconds display

```
88 Piano Fantastic <00:00>→
                      ES XG
```
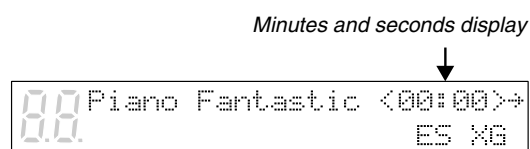
Or, **Measures and beats**, as shown below.

Measures and beats display

```
88 Sweet Dreams      <001-1>→
                        ES XG
```
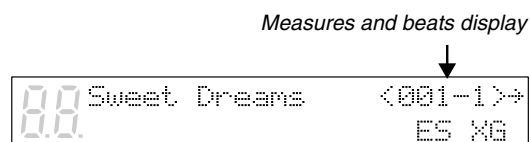
When the time display format is measures and beats, the tempo of the song is also shown on the display in beats per minute (bpm).

All PianoSoft disks use the minutes and seconds format.

☞ Songs recorded with the measures and beats format can be converted to the minutes and seconds format. See "Changing the Counter Display" on page 50.

Pedal Data

Songs supplied on PianoSoft disks may contain one of two types of pedal data: on/off pedal data or continuous pedal data (half pedal).

On/off pedal data turns the pedals on and off. It is indicated by angle brackets (< >) around the time display as shown below.

Angle brackets indicating on/off pedal data

```
88 Piano Fantastic <00:00>→
                      ES XG
```
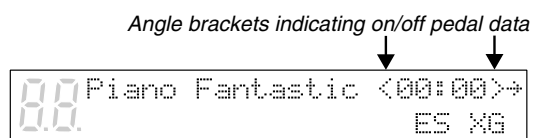
Continuous pedal data (half pedal) can actually position a pedal anywhere within its normal range (from fully up to fully down). It is indicated by parentheses around the time display as shown below.

Parentheses indicating continuous pedal data (half pedal)

```
┌─────────────────────────────────┐
│ ▐▌▐▌ Piano Fantastic (00:00)→   │
│ ▐▌▐▌            ES XG            │
└─────────────────────────────────┘
```

Song Format

There are a couple of general formats in which song data is stored on disks. The song format of the selected song is indicated on the display as ES, S0 or S1.

☛ See Chapter 15 "Disk and Song File Utilities" for details.

```
┌─────────────────────────────────┐
│ ▐▌▐▌ Piano Fantastic <00:00>→   │
│ ▐▌▐▌            ES XG            │
└─────────────────────────────────┘
```

Song format

Symbol	Song format
ES	E-SEQ format
S0	SMF format 0
S1	SMF format 1

Tone Generator

The tone generator mode used by the selected song is indicated on the display: XG or GM. If the song uses the Disklavier's internal XG tone generator, the display will indicate XG. This display is replaced by the tempo display when tempo is being adjusted.

```
┌─────────────────────────────────┐
│ ▐▌▐▌ Piano Fantastic <00:00>→   │
│ ▐▌▐▌            ES XG            │
└─────────────────────────────────┘
```

Tone generator mode

Piano Data Velocity Meters

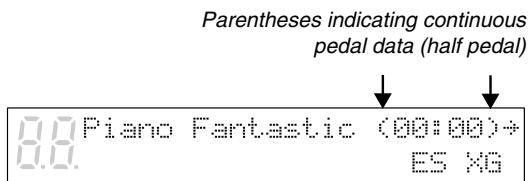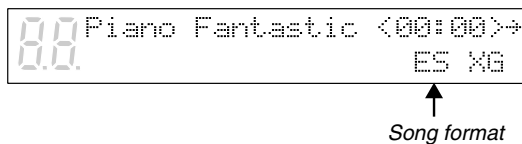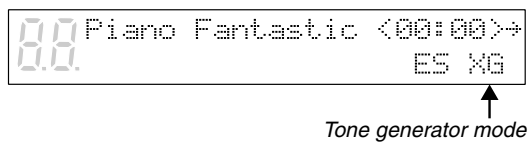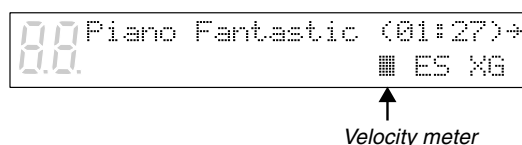The velocity of the piano part notes as they are played back is indicated on the display, as shown below.

```
┌─────────────────────────────────┐
│ ▐▌▐▌ Piano Fantastic (01:27)→   │
│ ▐▌▐▌         ▥ ES XG            │
└─────────────────────────────────┘
```

Velocity meter

For L/R and Ensemble songs, two meters will appear, one for the left-hand part and one for the right-hand part, as shown below.

```
┌─────────────────────────────────┐
│ ▐▌▐▌ Piano Two Hands (02:44)→   │
│ ▐▌▐▌         ▥▥ES XG            │
└─────────────────────────────────┘
```
        L R

Velocity meters
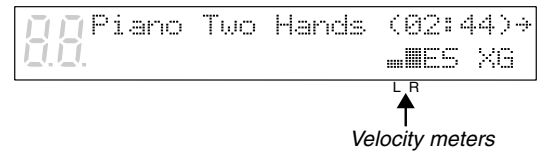
Previous/Next Display Indications

The arrows that appear on the far right of a display indicate that there is a relevant display before or after the current one. You can go to the previous or next display using the [◀] [▶] buttons.

Next display indication

```
┌─────────────────────────────────┐
│ ▐▌▐▌ Piano Fantastic <00:00>→   │
│ ▐▌▐▌            ES XG            │
└─────────────────────────────────┘
```

Next and previous display indication

```
┌─────────────────────────────────┐
│ ▐▌▐▌ Piano Fantastic <00:00>↕   │
│ ▐▌▐▌            ES XG            │
└─────────────────────────────────┘
```

Cursor

The ▶ cursor indicates the currently selected parameter.

Main buttons used in current display *

```
┌─────────────────────────────────┐
│ ▐▌▐▌ ==Metronome==  (-,+,←,→)   │
│ ▐▌▐▌ Click=ON  ♩▶117 >4/4   →   │
└─────────────────────────────────┘
```

Cursor position
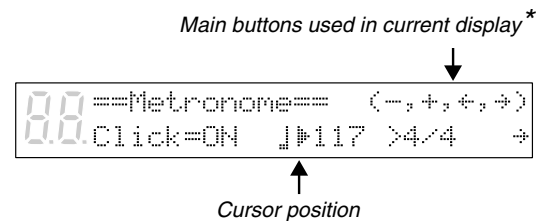
* In this case, [–/NO] [+/YES] [◀] and [▶] are used to set the parameters.

Chapter 6
Basic Playback

You can play back PianoSoft and PianoSoft·Plus song disks on your Disklavier, as well as custom recordings stored on floppy disks using other recordable Disklavier pianos. You can also play back songs you store on the Memory Disks.

☛ See Chapter 12 "Storing & Managing Songs on Disks" for information on how to store songs in the Memory Disks for playback.

The Disklavier plays the piano parts, actually moving the keys up and down as if they were being played by a performer. When song data contains Ensemble parts in addition to piano parts, those parts are played by the internal XG tone generator and output from the built-in speakers.

Follow the procedure below to play back a song. If you are using the Disklavier for the first time, you can use the enclosed sample floppy disk or Memory Disk 0 as they contain a short sample song.

Playing Back a Song

When you want to play back songs, you need to first specify which disk you want to play back, as the Disklavier has a total of 17 disks (1 floppy disk and 16 Memory Disks).

1 **Press [DRIVE] and specify the disk for playback.**
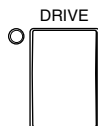
DRIVE

Each press of the [DRIVE] button toggles the floppy disk and Memory Disks (0 to 9 and A to F).

Note: When you insert a floppy disk into the floppy disk drive, the letters "Fd" automatically appear on the left side of the display.

Note: "Fd" appears only when a floppy disk is inserted in the disk drive.

The title of the disk scrolls across the display, and the number and title of the first song appear.

```
  Piano Fantastic <00:00>→
00              ES XG
```
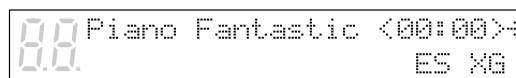
When you specify a Memory Disk, the disk number or letter also flashes in the bottom row of the display.

Note: "x" indicates Memory Disks that are unformatted or contain no songs.

```
 A Piano Favorites
0A [————] 12x45xx8900bCdEF
```
                                   Flashes
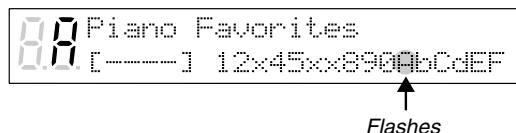
Pressing [STOP] will stop the disk title scrolling and display the number and title of the first song.

Note: The disk drive may occasionally produce a sound when the disk begins to spin. This is the normal sound of the disk drive starting to read or write to the disk; it does not indicate that there is anything wrong with the disk or disk drive.

2 Press [PLAY/PAUSE].

PLAY/PAUSE

▶/‖
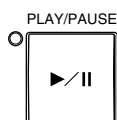
The PLAY/PAUSE indicator lights and song No.1 starts playing.
The time display starts counting up and the velocity meters show the velocity of the piano part notes currently being played, as shown.

```
￼￼Piano Fantastic <00:34>→
￼￼           ▥ES XG
```
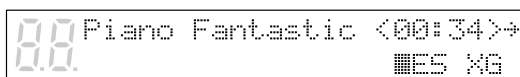
Pausing Playback

1 Press [PLAY/PAUSE].

PLAY/PAUSE

▶/‖
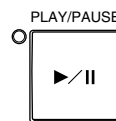
Playback stops and the PLAY/PAUSE indicator flashes.

2 Press [PLAY/PAUSE] again to continue playback.

PLAY/PAUSE

▶/‖
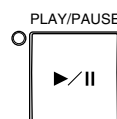
Stopping Playback

Press [STOP].

STOP

■

Playback stops and the song returns to the beginning.

Pressing [STOP] while in Pause mode cancels Pause mode.

Selecting Songs with the Control Unit

■ **Press [SONG SELECT ▶▶|] to select the next song.**
Press [SONG SELECT |◀◀] to select the previous song.

SONG SELECT/REV • FWD
|◀◀   ▶▶|
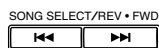
To select other songs on the disk, press and hold down [SONG SELECT ▶▶|] or [SONG SELECT |◀◀] until the number of the desired song appears.

If the current song is the first song on the disk, pressing [SONG SELECT |◀◀] causes the disk title to scroll across the display. To stop the title scrolling, press [STOP].

Selecting Songs with the Remote Control

You can also select songs at any time using the [SONG SELECT] buttons or number pad on the remote control.

Using the [SONG SELECT] Buttons

■ **Press [SONG SELECT |◀◀] to select the previous song.**
Press [SONG SELECT ▶▶|] to select the next song.

SONG SELECT
|◀◀   ▶▶|

Remote Control

Using the Number Pad

**1** **To select a song from 1 to 9, press the corresponding number button.**

SEARCH
① ② ③ ▭
④ ⑤ ⑥
⑦ ⑧ ⑨ ⑩
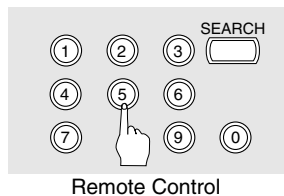
Remote Control

To select song number 5 for example, simply press [5].

To select a song numbered 10 and above, enter the first digit, then within 2 seconds, enter the second digit.

SEARCH
① ② ③ ▭
⑤ ⑥
⑦ ⑧ ⑨ ⑩

Remote Control

↓

SEARCH
① ② ③ ▭
④ ⑥
⑦ ⑧ ⑨ ⑩
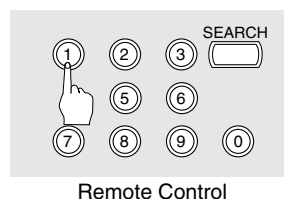
Remote Control

To select song number 12 for example, press [1], then [2].

If a song number higher than that of the last song on the disk is entered, the last song on the disk is selected.

Fast Preview & Review

During song playback, Fast Preview and Review allow you to quickly search through a song **with the piano still playing**. This is useful for locating a desired position within a song.

1 **To preview, press [SONG SELECT ▸▸].**

Remote Control

To review, press [SONG SELECT ◂◂].

Remote Control

2 **Press [PLAY/PAUSE] to continue normal playback.**
Press [STOP] to engage Pause mode.

If a song is reviewed all the way to the beginning, Pause mode is engaged. Pressing [PLAY/PAUSE] starts playback from the beginning.

If a song is previewed all the way to the end, Pause mode is engaged. Pressing [PLAY/PAUSE] starts playback of the next song.

Fast Forward & Reverse

In Pause mode, fast forward and reverse allow you to quickly locate a desired position in a song. Fast Forward and Reverse search faster than preview and review and **the piano does not play**. Reverse can also be used to return a song to the beginning, ready to play again.

1 **To fast forward a song that is currently playing, press [PLAY/PAUSE] to engage Pause mode, then press [SONG SELECT ▸▸].**

Remote Control

To reverse a song that is currently playing, press [PLAY/PAUSE] to engage Pause mode, then press [SONG SELECT ◂◂].

Remote Control

The PLAY/PAUSE indicator flashes quickly and the time display shows the current position.

2 **Press [PLAY/PAUSE] to continue normal playback.**
Press [STOP] to engage Pause mode.

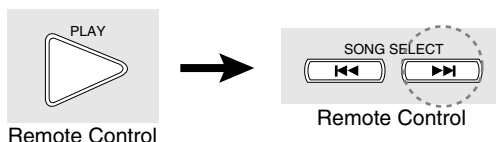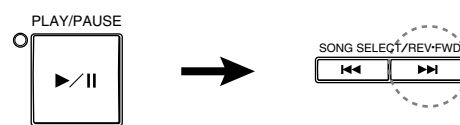If you fast forward a song all the way to the end, Pause mode is engaged. Pressing [PLAY/PAUSE] starts playback of the next song.
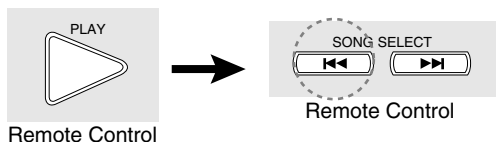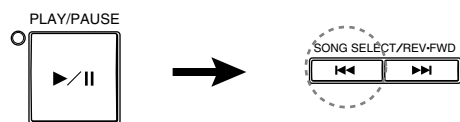
If you reverse a song all the way to the beginning, Pause mode is engaged. Pressing [PLAY/PAUSE] starts playback from the beginning.

Adjusting the Volume

You can adjust the playback volume with the Control Unit or with the remote control as described below. Since all piano songs are recorded at the maximum volume level of 0, volume can be decreased down to –10, the softest volume at which the piano can play.

For Ensemble songs, the volume of the piano and internal XG tone generator are adjusted simultaneously, so it is a good idea to first balance the volume of the piano and XG tone generator.
☛ See "Balancing the Ensemble Volume (TG Master Balance)" on page 21.

The LED volume level indicators show volume levels in the manner shown below. For example, when two consecutive indicators are lit, the volume level is between these two levels.
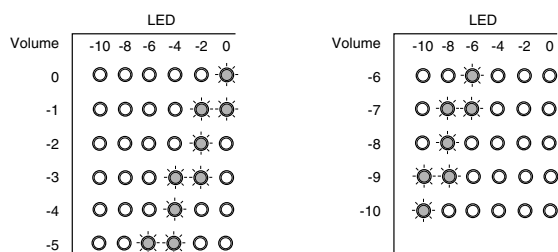
Note: Make sure the VOLUME knob on the Amplifier is set to an appropriately audible level. If the VOLUME knob on the Amplifier is turned fully counterclockwise, no sound may be produced even when you adjust the volume on the Control Unit.
Once you set the volume of the Amplifier, you do not need to adjust it frequently.

The volume level setting is saved when another song is selected, another disk inserted or selected, or when the Disklavier is turned off.

Note: This setting does not affect manual playing.

a **On the Control Unit, press the Selector until the VOLUME indicator lights. Then press [–/NO] to decrease or [+/YES] to increase the volume.**

VOLUME
TEMPO
TRANSPOSE
BALANCE

–/NO   +/YES
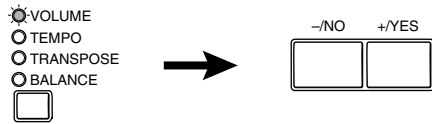
b **On the remote control, use the [VOLUME] buttons to adjust the volume.**

VOLUME
–   +

Remote Control
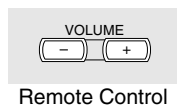
[–] decreases the volume, and [+] increases the volume.

Adjusting the Tone

You can also adjust the tone using the BASS and TREBLE knobs on the Amplifier, if necessary.

BASS knob: Turning it clockwise increases and counterclockwise decreases the bass sound.

TREBLE knob: Turning it clockwise increases and counterclockwise decreases the treble sound.

Turn the knobs until the desired tone is attained.

MAINS

AUX IN
R   L/L+R   R   VOLUME   BASS   TREBLE
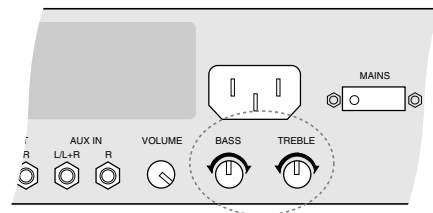
Balancing the Ensemble Volume (TG Master Balance)

When playing back PianoSoft·Plus or Ensemble songs, it is useful to be able to balance the volume levels of the piano and Ensemble parts. In other words, the volume of the XG tone generator should not be too loud or too quiet compared to the piano played by the Disklavier.

Once you adjust the volume using the Tone Generator Master Balance function, you can use the [VOLUME] buttons on the remote control to conveniently increase or decrease the overall volume in a normal fashion.

These balance settings are stored in the Control Unit. They are saved even when the Disklavier is turned off.

1 **Play back an Ensemble song.**

2 **Press the Selector until the BALANCE indicator lights.**

○ VOLUME
○ TEMPO
○ TRANSPOSE
☼ BALANCE

The following display appears.

```
8.8. == TG Master Balance ==
    ▮▮▮▮▮▮▮▮▮▮▮▮□□□ 100 (-,+)
```
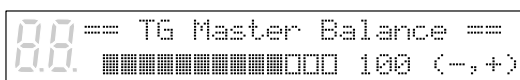
3 **Use the [–/NO] and [+/YES] buttons to adjust the volume of the internal XG tone generator.**

–/NO   +/YES
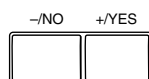
TG Master balance can adjust the volume from 0 to 127 and OFF. (0: mutes the sound of the internal XG tone generator; OFF: does not link with the internal XG tone generator.) This setting is shown in the display on the right of the bar graph.

Adjust the level so that the Ensemble voices played by the internal XG tone generator are balanced with the volume of the Disklavier piano.

4 **Press the Selector until the VOLUME indicator lights.**

☼ VOLUME
○ TEMPO
○ TRANSPOSE
○ BALANCE

The volume levels of the piano and Ensemble voices are now balanced. You can use the [VOLUME] buttons on the remote control to increase or decrease the overall volume.

Changing the Tempo

You can speed up or slow down the playback tempo. Slowing down the playback tempo can be useful when practicing a difficult piano part.

These tempo settings remain in effect until the disk is ejected or the Disklavier is turned off.

To change the tempo, use one of the following options:

a **On the Control Unit, press the Selector until the TEMPO indicator lights. Then, press [+/YES] to increase or [–/NO] to decrease the tempo.**

○ VOLUME
◉ TEMPO
○ TRANSPOSE
○ BALANCE

–/NO   +/YES

Piano Fantastic <001-1>→
S1

Flashes
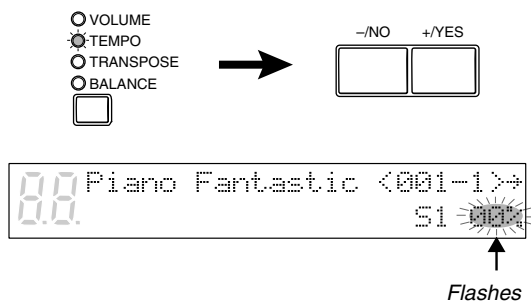
Playback tempo can be adjusted from –50% to +20% in 1% increments.

b **On the remote control, use the [TEMPO] buttons to adjust the tempo.**

TEMPO
–   0   +

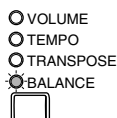Remote Control
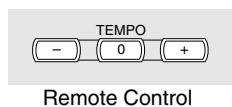
[–] decreases the tempo, and [+] increases the tempo. [0] resets the tempo to 00%.

Once the tempo has been changed, the new tempo value is shown continuously on the display.

Transposing a Song

Playback can be transposed up or down by up to two octaves. This is useful, for example, when you want to sing along (karaoke) in a different key from the original recording.

Transposition changes remain in effect until the disk is ejected or the Disklavier is turned off.

To transpose a song, use one of the following options:

a **On the Control Unit, press the Selector until the TRANSPOSE indicator lights. Then, press [+/YES] to increase or [–/NO] to decrease the transposition value.**

○ VOLUME
○ TEMPO
◉ TRANSPOSE
○ BALANCE

–/NO   +/YES

Piano Fantastic <001-1>→
=TRNS 00=   S1 XG

Flashes
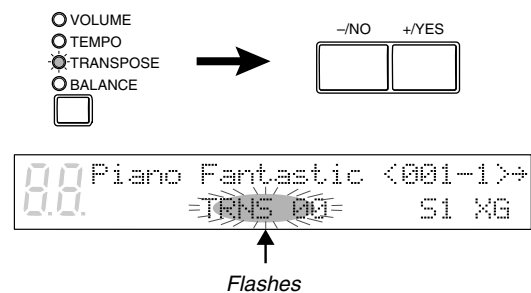
Playback can be transposed in half-step increments up or down two octaves (–24 to +24).

b **On the remote control, use the [TRANSPOSE] buttons.**

TRANSPOSE
–   0   +

Remote Control
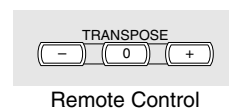
[–] decreases the transposition value, and [+] increases the transposition value. [0] resets the transposition value to 00.

Once transposed, the transposition value is shown continuously on the display.

Chapter 7
Silent System Playback

(for models with *Silent* system playback)

When you play back songs in normal mode, the acoustic piano plays the piano parts, providing live piano performance, and the accompanying sounds are output from the built-in speakers.

When you engage the *Silent* system, the acoustic piano is silenced and the piano parts are played by the digital piano tone generator. This enables you to adjust the volume of not only the accompanying sounds but of the piano as well so that you can listen to playback at a lower volume through the built-in speakers or silently through stereo headphones.

Note: You cannot play the keyboard when the *Silent* system is engaged.

What is the *Silent* System?

The Disklavier incorporates Yamaha's innovative *Silent* system, in which a push of the [SILENT] button keeps the hammers from striking the strings, effectively silencing the acoustic piano. Sound information is sent to the digital piano tone generator, and output through the built-in speakers or stereo headphones.

With this *Silent* feature, the Disklavier offers additional convenience for enjoying your Disklavier.

Quiet Mode and *Silent* Mode

There are two modes to the *Silent* system: **Quiet** mode and **Silent** mode. You can select either mode to suit your surroundings.

Quiet Mode

In *Quiet* mode, the sounds of the digital piano and Ensemble parts are output through the built-in speakers. By adjusting the volume, you can listen to songs at a lower volume than is possible with the acoustic piano.

Silent Mode

In *Silent* mode, sound is output through stereo headphones. Using headphones allows you to listen to songs privately without disturbing others at any time, day or night.

Engaging the *Silent* System

Engaging the *Silent* system is very simple. Follow the procedure below.

1 **Press [STANDBY / ON] to turn on the Disklavier.**
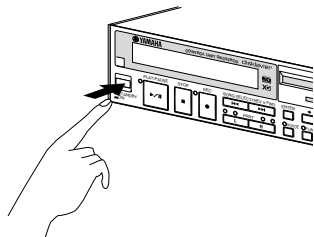
2 **To select *Quiet* mode, simply press the [SILENT] button on the Silent Control Box.**
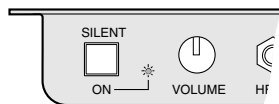
The SILENT ON indicator lights.

You can listen to playback through the built-in speakers.

3 **To select *Silent* mode, connect stereo headphones to either of two HEADPHONES jacks on the Silent Control Box.**
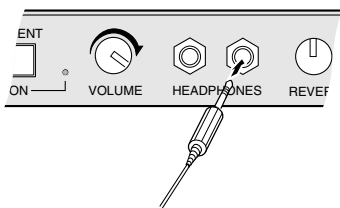
You can listen to playback through the headphones.

Two sets of headphones can be connected simultaneously. In this case, the two headphones should be of the same model.

Adjusting the Volume

In normal mode, playback volume of the piano could be adjusted only down to the softest level that the acoustic piano can play.

In *Silent* or *Quiet* mode, you can adjust the playback volume of the digital piano as desired, to a level softer than what is possible on the acoustic piano.

Playback volume is adjusted using the VOLUME knob on the Silent Control Box. The standard volume level is roughly the three o'clock position. At this setting, the volume level of the digital piano is approximately the same as what the acoustic piano would be in normal mode.

Turn the knob clockwise to increase and counterclockwise to decrease the volume. Turning the knob fully counterclockwise mutes the sound of the digital piano.
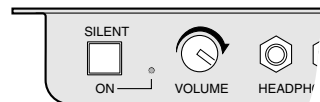
Note: You can also adjust the playback volume on the Control Unit to a certain extent within the normal volume range of the piano.

Note: Make sure the VOLUME knob on the Amplifier is set to a level at which sound is produced. If the volume knob on the Amplifier is turned fully counterclockwise, no sound may be produced even when you use the VOLUME knob on the Silent Control Box to adjust volume.

Applying Reverb Effects

A piano sounds differently depending on the size of the room in which it is played. These room reverberations are referred to as "reverb" in this manual.

The Disklavier's reverb effects can simulate chamber and hall acoustics. For example, you can add spaciousness to the piano sound to simulate the sound of a piano playing in a concert hall.

Reverb type and depth can be adjusted while playing back songs.

Reverb Types

Reverb types are selected in the Control Unit display. The default setting is HALL1.

Type	Description
ROOM	Simulates the reverb of a medium-sized room
HALL1 (default)	Simulates the reverb of a small concert hall
HALL2	Simulates the reverb of a large concert hall

Reverb Depth

Reverb depth is controlled using the REVERB knob on the Silent Control Box. Turn the knob clockwise to increase and counterclockwise to decrease the reverb. Reverb is off when the REVERB knob is turned fully counterclockwise.

Follow the procedure below to apply reverb to the digital piano sound in *Silent* or *Quiet* mode.

1 **Engage the *Silent* system.**

2 **Press [FUNC.].**

The FUNC. indicator lights and the Function menu appears.

3 **Press [➡] until the cursor is next to the Silent option, then press [ENTER].**

The following *Silent* menu appears.

```
   Reverb HALL1
   Key  =ON   Poly =32
```
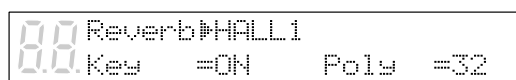
4 **Use the [–/NO] and [+/YES] buttons to select a reverb type: ROOM, HALL1, or HALL2.**
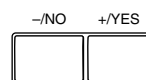
5 **Use the REVERB knob on the Silent Control Box to set the reverb depth.**

Turn the knob clockwise to increase and counterclockwise to decrease the reverb.

Note: Reverb settings made in the Control Unit are saved when the Disklavier is turned off.

☛ Reverb effects can be set along with the polyphony setting and the setting for canceling keyboard action. See "Changing the Polyphony Setting" on page 27 and "Canceling Keyboard Movement" on page 26.

Canceling Keyboard Movement

Normally, when songs are played back on the Disklavier, the piano keys move up and down as if they were being played by a performer.

In *Silent* or *Quiet* mode, you have the option of canceling the keyboard movement so that the keys will not move during playback.

Note: Keyboard movement can only be canceled in *Silent* or *Quiet* mode. Otherwise, the keys will always move during playback.

1 Press [FUNC.].

The FUNC. indicator lights and the Function menu appears.

2 Press [➡] until the ▶ cursor is next to the Silent option, then press [ENTER].

The *Silent* menu appears.

```
Reverb▶HALL1
Key  =ON  Poly =32
```
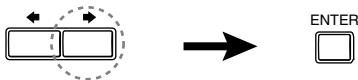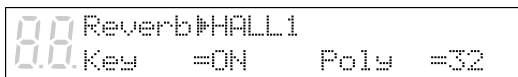
3 Press [➡] until the ▶ cursor is next to the Key parameter, then press [–/NO] to set the parameter to OFF.

```
Reverb=HALL1
Key  ▶OFF  Poly =32
```
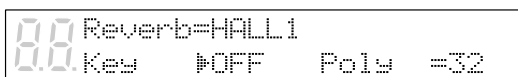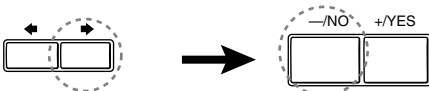
Keyboard movement is now canceled.

To re-enable keyboard movement, press [+/YES] in the above display to set the Key parameter to ON.

Note: This setting is saved when the Disklavier is turned off.

Note: During playback in *Silent* or *Quiet* mode, pedal movement of the left and right pedals is canceled, and cannot be enabled.

Shortcut for Canceling Keyboard Movement

1 During stop, pause, or play mode, press [⬅] in the song title display.

The following display appears.

```
KEY ▶ON        <00:01>→
```
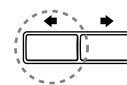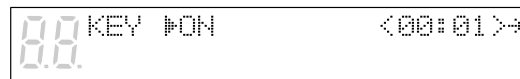
2 Press [–/NO] to cancel keyboard movement; press [+/YES] to enable keyboard movement.

3 Press [➡] to return to the previous display.
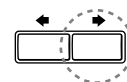
Changing the Polyphony Setting

Polyphony refers to the number of notes that can be sounded simultaneously.

The Disklavier is set to **32-note stereo sampling** polyphony by default. In other words, it plays up to 32 notes at a time (including sustained notes) in stereo.

However, in special cases such as when playing back a complex song with frequent pedal use, you can adjust the polyphony setting to 64-note stereo polyphony as described below.

Note: When complex songs with frequent pedal use are played back in 32-note stereo sampling polyphony, the number of notes beyond 32 are lost, although these notes are minor notes that are barely audible.

1 Press [FUNC.].

The FUNC. indicator lights and the Function menu appears.

2 Press [➡] until the ▶ cursor is next to the Silent option, then press [ENTER].

The *Silent* menu appears.

3 Press [➡] until the ▶ cursor is next the Poly parameter, then use the [–/NO] and [+/YES] buttons to select the number of polyphonic notes: 32 or 64.
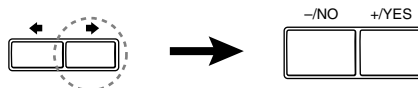
Note: This setting is saved when the Disklavier is turned off.

☞ Polyphony can be set along with reverb settings and the setting for canceling keyboard movement. See "Applying Reverb Effects" on page 25, and "Canceling Keyboard Movement" on page 26.

Tuning the Digital Piano

The *Silent* digital piano is automatically tuned to match the internal XG tone generator. If you want to re-tune the *Silent* digital piano, follow the procedures outlined in "Tuning the Tone Generator (TG Master Tune)" on page 38.

Disengaging the *Silent* System

Press the [SILENT] button so that the SILENT ON indicator goes out.

The *Silent* system is disengaged.

Note: You may hear a small noise from the motor that drives the hammer shank stopper when the *Silent* system is engaged. This does not indicate that there is anything wrong with the Disklavier.

Chapter 8
Repeat Playback

This chapter describes various repeat playback functions that you may want to use for entertainment and study purposes. You can repeatedly play back songs or specific passages within a song.

All Song, Single Song, Random Repeat

There are three Repeat modes (ALL, RPT, RND) as described below.
The functions differ slightly when a Memory Disk group is selected and when it is not selected. (See Chapter 13 "Chain Play – Playing Back Memory Disks in a Group" for details on Memory Disk groups.)

	Group selected	Group not selected (OFF)
ALL	Repeatedly plays back all songs on all disks in the group that contain songs.	Repeats all songs on the selected disk only.
RPT	Repeats one song only.	
RND	Shuffles the order of disks in the group and plays back all songs on each disk once in random order, and then repeats the cycle. Playback switches to the next disk only after all songs on the previous disk have been played back.	Shuffles the order of songs on the selected disk and repeats the cycle.

1 **Press [REPEAT] on the Control Unit or remote control to select a Repeat mode: ALL, RPT, or RND.**

Remote Control

Each press of the [REPEAT] button toggles the three Repeat modes and OFF.
The REPEAT indicator lights and the selected mode flashes on the display.

Flashes

2 **Press [PLAY] to start Repeat playback.**

Remote Control

3 **To cancel Repeat mode, press [REPEAT] again until "OFF" appears on the display.**

Remote Control

Segment A~B Repeat

In Segment A~B Repeat, playback is repeated between two specified points in a song: point A and point B. This function is useful when practicing or memorizing a difficult section of a song.

Once specified, points A and B are saved until the disk is ejected or the Disklavier is turned off.

Note: This function can be set with the remote control only.

1 To set point A, play back a song and press [A-B] on the remote control at the desired point.

PLAY

Remote Control

A - B

Remote Control

Point A is memorized and the "B" of "A-B" flashes on the display.

```
   Spain        <001-1>
                A B ES XG
```
Flashes
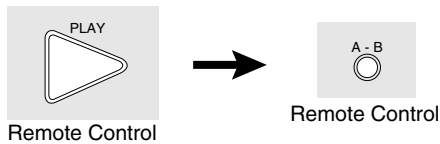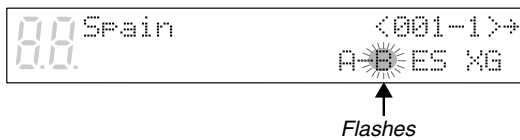
2 To set point B, press [A-B] again.

A - B

Remote Control
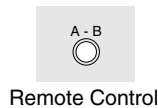
Point B is memorized and the "B" of "A-B" stops flashing.

```
   Spain        <001-1>
                A-B ES XG
```

Playback stops, the song returns to point A, and Pause mode is engaged.

3 Press [PLAY] to play back the specified section.

PLAY

Remote Control

Playback starts from point A, continues up to point B and then stops. The song returns to point A and Pause mode is engaged.

```
          Point A      Point B
   SONG 1  |   SONG 2   |   SONG 3
          Start              Stop
          Pause
```
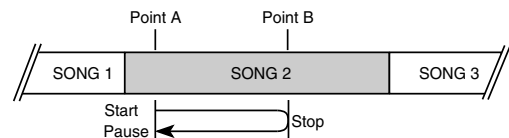
4 To cancel Segment A~B Repeat, press [REPEAT] so that "OFF" flashes on the display.

REPEAT

Remote Control

```
   Spain        <001-1>
                OFF ES XG
```
Flashes
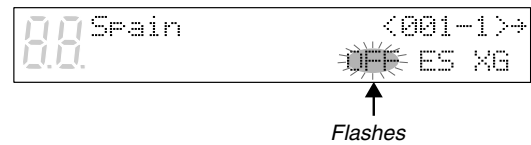
Note: The [REPEAT] button on the Control Unit can also be used for this step.

Segment A~B Repeat is turned off, but points A and B are still saved. Pressing [A-B] re-enables the mode.

A - B

Remote Control
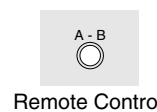
Segment A~ (Return & Pause) Repeat

In Segment A~ Repeat, playback can be repeatedly restarted from a specified point in a song. This is similar to Segment A~B Repeat except that only point A is specified. Like Segment A~B Repeat, this function is useful for practicing.

Note: This function can be set with the remote control only.

1 To set point A, play back a song and press [A-B] on the remote control when the desired point is reached.

PLAY
Remote Control → A - B
Remote Control

Point A is memorized and the "B" of "A-B" flashes on the display.

```
ꞵꞵ Spain          <001-1>→
     A-B ES XG
```
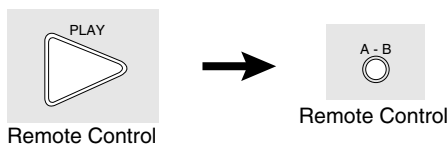
Flashes
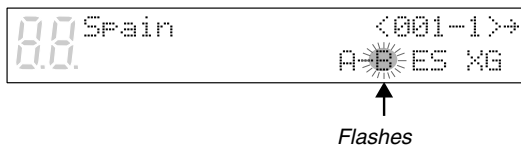
2 When you want to return to point A, press [SONG SELECT ◄◄].

SONG SELECT
◄◄ ►►
Remote Control
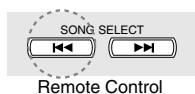
Alternatively, you may press [PAUSE] followed by [SONG SELECT ◄◄] to return to point A.

PAUSE
Remote Control → SONG SELECT
◄◄ ►►
Remote Control
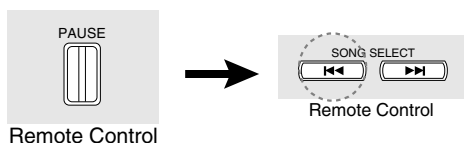
In this case, playback stops, the song returns to point A, and Pause mode is engaged.

Point A   Press the [REV] button

SONG 1 | SONG 2 | SONG 3
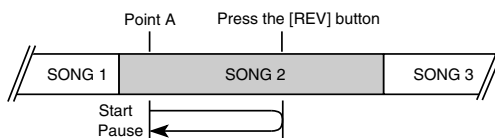
Start
Pause

3 Press [PLAY] to start playback from point A.

PLAY
Remote Control

4 To cancel Segment A~ Repeat, return to point A, and in Pause mode press [A-B] so that "OFF" flashes on the display.

A - B
Remote Control

```
ꞵꞵ Spain          <001-1>→
     OFF ES XG
```

Flashes
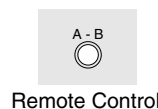
Note: Segment A~ Repeat cannot be canceled during playback.

Starting Playback from a Specified Point (Search)

Playback can be started from a specified point in a song. Instead of using fast forward or preview, you can use this function to go directly to a desired point within a song.

If the current song uses the minutes and seconds time format, you specify the point in minutes and seconds. If it uses the measures and beats time format, you specify the point in measures and beats.

Once a time value has been entered, it is saved until the disk is ejected or the Disklavier is turned off. If you want to search for the same point again, just press the search button again.

Note: This function can be set with the remote control only.

1 Press [SEARCH] on the remote control.

SEARCH

Remote Control

The time counter on the display flashes.

Flashes

Piano Fantastic 00:00
ES XG
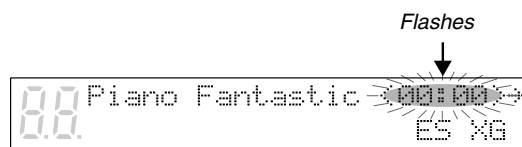
2 Enter the time that you want to search for.

For example, to search for 2:56, first press [2], then [5], then [6].

SEARCH

① ② ③
④ ⑤ ⑥
⑦ ⑧ ⑨ ⓪

Remote Control

Piano Fantastic <02:56>
ES XG
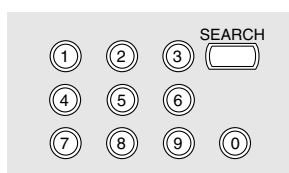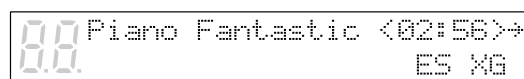
If the time value is less than 10, that is, between 00:01 and 09:59, remember to press [0] first to set the first digit to zero.

If you enter a value higher than the entire song time, the search goes to the end of the song.

3 Press [SEARCH] again to begin the search.

SEARCH

Remote Control

If the Disklavier was already playing when you pressed [SEARCH], playback will continue from the new point when the search is complete. If the Disklavier was not playing, Pause mode is engaged when the search is complete.

To search for a new point, repeat step 2.

Chapter 9
Useful Functions for Learning Piano

This chapter describes useful functions for piano study, such as practicing one hand while the Disklavier plays the other, operating the pedals, and using the built-in metronome.

Canceling the Left-Hand or Right-Hand Piano Part

In L/R and Ensemble songs, the left-hand piano part is stored on track 1 (L) and the right-hand piano part is stored on track 2 (R). Either part can be cancelled using this Part Select function. This is useful when you want to practice one part yourself with the Disklavier playing the other.

1 **When an L/R song is selected, the PART indicators light as shown.**

2 **To cancel the left-hand part, press [PART L].**
To cancel the right-hand part, press the [PART R].

The corresponding PART indicator flashes to show you that the part has been canceled.

3 **To switch a part back on, press the corresponding [PART] button again.**
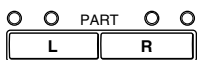
4 **A part can also be canceled by using the [PART SELECT] buttons on the remote control.**
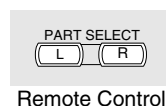
Remote Control

You can use this Part Select function in conjunction with the Pedal Cancel function described on the next page to practice playing one part while the Disklavier plays the other.

Operating the Pedals Yourself

During playback, the Disklavier pedals play the pedal data that was recorded with the song. If, however, you want to practice your pedal playing, you can cancel pedal playback and play them yourself.

The Pedal Cancel function is set in the Control Unit.

1 **Hold down [PART L] and [PART R] until "PDoff" appears on the display.**

```
  O   O   PART   O   O
 ┌─────────┬─────────┐
 │    L    │    R    │
 └─────────┴─────────┘
```

```
┌──────────────────────────────┐
│ 00 Etudes No.5      <00:00>→  │
│ 0.0 PDoff              ES XG  │
└──────────────────────────────┘
```
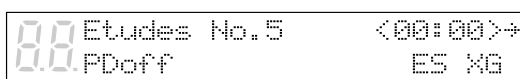
You can now play the pedals yourself. "PDoff" remains on the display until the pedals are turned on again.

2 **To turn the pedals back on, hold down [PART L] and [PART R] until "PD on" appears on the display.**

```
  O   O   PART   O   O
 ┌─────────┬─────────┐
 │    L    │    R    │
 └─────────┴─────────┘
```

```
┌──────────────────────────────┐
│ 00 Etudes No.5      <00:00>→  │
│ 0.0 PD on              ES XG  │
└──────────────────────────────┘
```
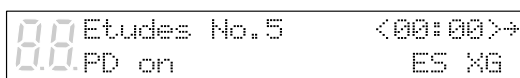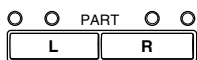
"PD on" flashes on the display for a few seconds, then goes off.
The pedals now play as normal.

> **Note:** You cannot play the keyboard when the *Silent* system is engaged.

Using the Built-in Metronome

You can sound the built-in metronome to practice playing songs on the Disklavier.

With each beat of the metronome a digital click is produced by the Control Unit. The click can be turned off. In addition to the click, the LED volume indicators function as a visual metronome. On the first beat of each measure, all the indicators flash. On the remaining beats, the left half and right half of the indicators flash alternately.

```
            −10 −8 −6 −4 −2  0
 1st beat   ☼ ☼ ☼ ☼ ☼ ☼
 2nd beat   O O O ☼ ☼ ☼
 3rd beat   ☼ ☼ ☼ O O O
   ⋮                ⋮
```
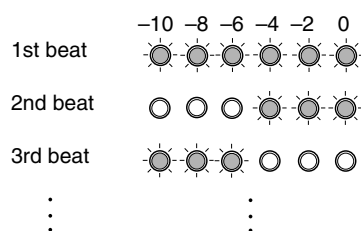
All metronome parameters are reset when a disk is ejected or when the Disklavier is turned off.

1 **Press [METRONOME].**

```
 O METRO-
   NOME
 ┌───┐
 │   │
 └───┘
```

The METRONOME indicator lights, the metronome starts, and the following display appears.

```
┌──────────────────────────────┐
│ 00 ===Metronome===  (←,↑,←,→) │
│ 0.0 Click=ON  ♪117 >4/4    → │
└──────────────────────────────┘
      ①         ②      ③
```
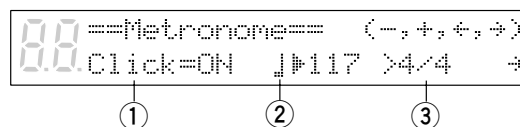
The ♪ symbol is used to show the currently selected parameter. It is moved by pressing [◀] and [▶].

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The following table shows the metronome parameters that can be set.

Parameter	Range	Default	Notes
1 Click	ON/OFF	ON	If set to off, the volume indicators still flash
2 Tempo	30 to 400 bpm	117	1 beat = 1 quarter note (crotchet)
3 Time Signature	1/4, 2/4, 3/4, 4/4, 5/4, 6/4, 7/4, 8/4, 9/4	4/4	

2 **Use the [◀] and [▶] to position the ▶ cursor next to the parameter that you want to set: click, tempo, or time signature.**

```
88 ===Metronome===  (-,+,←,→)
88 Click=ON  ♩>117 ▶4/4    →
```
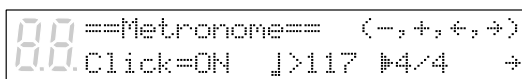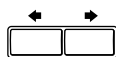
3 **Use the [–/NO] and [+/YES] buttons to set the selected parameter.**
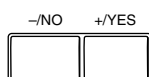
4 **To stop the metronome, press [METRONOME] again.**

Playback with the Metronome

For songs recorded with the metronome using the measures and beats time format, you can sound the metronome along with song playback.

1 **Play back a song recorded using the measures and beats time format.**

2 **Press [METRONOME].**

The METRONOME indicator lights and the metronome starts to click to the tempo of the song.

3 **To stop the metronome, press [METRONOME] again.**

Note: This function cannot be used with songs recorded using the minutes and seconds time format.

Adjusting the Metronome Volume

(for models with *Silent* system playback)

In *Silent* and *Quiet* modes, you can listen to playback with the metronome turned on. The volume of the metronome can be adjusted in a range from 50 to 127.

Note: The volume of the metronome can only be adjusted in the *Silent* system.

1 **In *Silent* or *Quiet* mode, press [METRONOME].**

METRO-
NOME

The METRONOME indicator lights, the metronome starts, and the following display appears.

```
==Metronome==  (-,+,←,→)
Click=ON   ↓▶117 >4/4    →
```
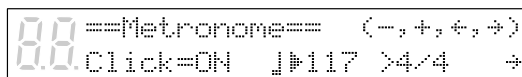
2 **Press the [➡] until the ▶ cursor is next to the Vol parameter, then use the [–/NO] and [+/YES] buttons to set the volume level.**

–/NO   +/YES

```
==Metronome==  (-,+,←,→)
←Vol▶100 PedalCount=OFF
```
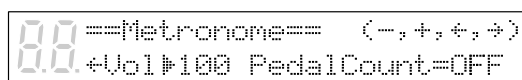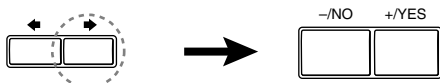
The volume can be set between 50 and 127.

Using an Optional Foot Switch or Foot Controller

An optional Yamaha foot switch or foot controller can be used to operate various Disklavier functions.

Using a Start/Stop Foot Switch

Start/stop functions can be controlled using an optional Yamaha FC-4 or FC-5 foot switch.

The following table shows which functions can be controlled using the foot switch.

Current Mode	One Press	Press Again
STOP	PLAY	PAUSE
PAUSE	PLAY	PAUSE
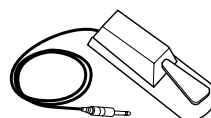
FC-4 Foot Switch
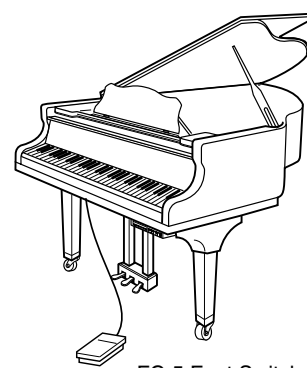
FC-5 Foot Switch

Using a Foot Controller to Control the Tempo

By connecting an optional Yamaha FC-7 controller pedal, playback tempo can also be controlled.

The following table shows which functions can be controlled using the controller pedal.

Current Mode	Pedal Down	Pedal Up
STOP	PLAY	PAUSE
PAUSE	PLAY	PAUSE
PLAYBACK	PLAY (Tempo 100%) See illustration below.	PAUSE See illustration below.

Pause
Tempo 30%

Tempo control
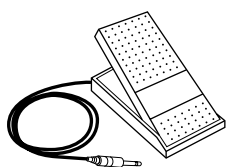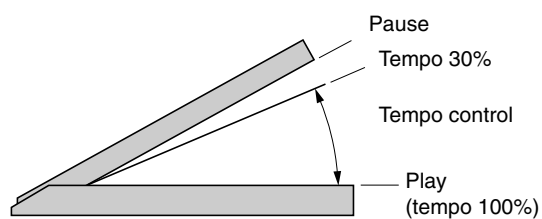
Play
(tempo 100%)

FC-7 Foot Controller

Chapter 10
Advanced Ensemble Song Playback

This chapter describes functions that will help you to better enjoy playing back Ensemble songs. These include tuning the tone generator, playing the piano parts on the tone generator, displaying Ensemble voices, and selecting tracks for the piano parts.

Tuning the Tone Generator (TG Master Tune)

The TG Master Tune function allows you to tune the internal XG tone generator to match the Disklavier's acoustic piano. This is helpful when playing Ensemble songs.

Tuning settings are saved even when the Disklavier is turned off. Each time the Disklavier is turned on, the tuning settings are sent automatically to the internal tone generator, so you need only perform this fine tuning operation once.

This function can also be used to tune a MIDI device connected to the MIDI OUT connector.

1 **Press [FUNC.].**

The FUNC. indicator lights and the Function menu appears.

```
88 ▶Disk      ＊MIDI Setup
   ＊M-Tune    ＊Silent
```
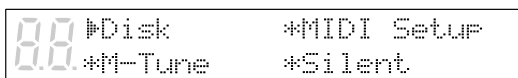
2 **Press [➡] until the ▶ cursor is next to the M-Tune option, then press [ENTER].**
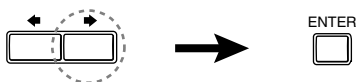
The following display appears, and a note (the A below middle C) is sounded from the internal XG tone generator.

```
88 ===TG Master Tune===
   > +003 cent  (-,+,ENT)
```
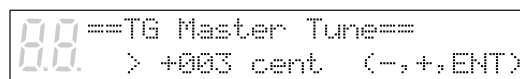
3 **Play the same note on the Disklavier keyboard.**
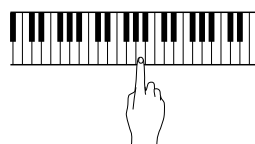
4 **Use the [–/NO] and [+/YES] buttons to tune the pitch of the digital piano (internal XG tone generator).**
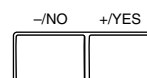
The tone generator can be tuned from –050 to +050 in 1 cent increments (100 cents equals 1 semitone).

5 **Press [ENTER] to return to the normal display.**

Changing the Tuning Note

TG Master Tune sounds the A key below Middle C by default, but you can change it to a different A key.

1 **From the TG Master Tune display, press [➡].**
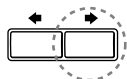
The following display appears.

```
===TG Master Tune===
↤▶Note=A3      (←,-,+,ENT)
```

2 **Use the [–/NO] and [+/YES] buttons to select a different key.**

←A-1   A1   A2   ↑   A3   A4   A6→

Middle C
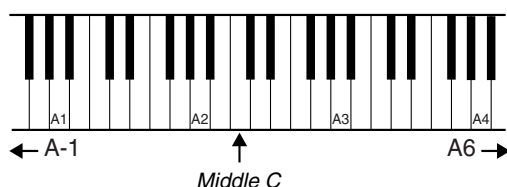
Playing the Piano Parts on the Tone Generator

Normally, piano parts are played back by the piano. You can, however, change this so that the piano parts are also played by the internal XG tone generator or a MIDI instrument connected to the MIDI OUT connector.

You can use this to double up the Disklavier piano parts with a different voice, say strings or vibes. This technique is sometimes referred to as voice layering or unison.

1 **Press [FUNC.].**

The FUNC. indicator lights and the Function menu appears.

```
▶Disk        *MIDI Setup
*M-Tune      *Silent
```

2 **Press [➡] until the ▶ cursor is next to the MIDI Setup option, then press [ENTER].**

The MIDI Setup menu display appears.

```
▶Piano Part *MIDI Out
*Remote
```

3 **With the ▶ cursor next to the Piano Part option, press [ENTER].**

The following display appears.

```
▶Piano Rcv Ch=01          ↔
>Delay In(500ms)=ON
```

4 **Press [➡] until the ⊩ cursor is next to the Piano Part ESBL Out parameter.**

```
  ← →
┌───┬───┐
└───┴───┘
```

```
88 ←Import File L=01 R=##
8.8.   PianoPart ESBL Out⊩OFF
```
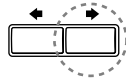
5 **Use the [–/NO] and [+/YES] buttons to set the option to ON.**

```
  –/NO    +/YES
┌─────┬─────┐
└─────┴─────┘
```
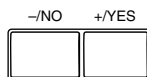
```
88 ←Import File L=01 R=##
8.8.   PianoPart ESBL Out⊩ON
```

The piano parts are now played by the internal XG tone generator with the corresponding MIDI data sent to the MIDI OUT connector.

Displaying Ensemble Voices

When an Ensemble song starts playing back, MIDI Program Change messages are sent to the internal XG tone generator. These Program Change messages tell the tone generator which voices to select for each ensemble track.

During playback, you can display the voice assignments of each track and make changes.

1 **Play back an Ensemble song, and press [➡] until the following display appears.**

```
  ← →
┌───┬───┐
└───┴───┘
```

```
88 ⊩05 001<GrandPno>Vol=100
8.8. ← 00×_o ooooo ooo__ _  →
```
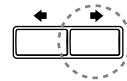
2 **Use the [–/NO] and [+/YES] buttons to select the track whose voice you want to display.**

```
  –/NO    +/YES
┌─────┬─────┐
└─────┴─────┘
```
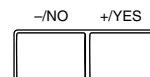
3 **To change the voice, press [➡] until the ⊩ cursor is next to the voice number, then use the [–/NO] and [+/YES] buttons to select a voice.**

```
  ← →                  –/NO    +/YES
┌───┬───┐  ──────▶  ┌─────┬─────┐
└───┴───┘           └─────┴─────┘
```

```
88   05⊩001<GrandPno>Vol=100
8.8. ← 00×_o ooooo ooo__ _  →
```
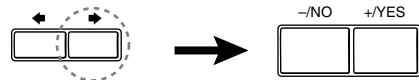
☞ See the Chapter 22 "Internal XG Tone Generator Voice & Drum Kit List" for a listing of basic voices.

Selecting Tracks for the Piano Parts

Normally, the piano plays tracks 1 and 2 which are the left- and right-hand piano parts. However, you can temporarily change this so that the piano plays different tracks. For example, a vibraphone part on track 5, or a marimba part on track 7 can be played by the piano.

These assignments remain active throughout the song. However, when another PianoSoft or Disklavier song is played back, the piano will play tracks 1 and 2 as normal (L=01 and R=02).

The rhythm track (track 10) can also be played on the piano. However, since this is a percussion part, the results are odd, to say the least.

1 **Play back an Ensemble song, then press [➡].**

A display similar to the following appears.

    (00:00) L▶01 R=02 (−,+)
    ← 00x⌣o ooooo ooo__ _   →
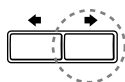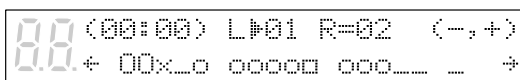
From the above display we can see that the Disklavier is currently set to play tracks 1 and 2. That is, "L=01" (track 1), and "R=02" (track 2).

2 **Press [➡] to select the part whose track you want to change.**
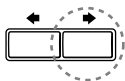
3 **Use the [–/NO] and [+/YES] buttons to choose a different track.**

You can choose from the following options.

Option	Description
##	The piano does not play.
01 - 16	The piano plays the specified track.
Prg	The piano plays the smallest track that contains a piano group voice.
Prg(all)	The piano plays all tracks that contain a piano group voice.

The number of the chosen track appears next to L= or R=, and the ⬠ symbol moves across the display, to indicate which track the Disklavier will play.

Chapter 11
Using the AUX Connectors

You can connect the Disklavier to external audio devices, such as speakers, a tape recorder or a CD player.

AUX OUT

You can output sound through external devices connected to the AUX OUT connectors on the Amplifier mounted to the underside of the piano. For example, this allows you to hook up the Disklavier to your home audio system and bring Ensemble music through remote speakers to other rooms or even outdoors.

Amplifier

AUX OUT   LINE IN   LINE IN
                 AUX OUT

1 **With the Disklavier turned off, use an audio cable (optional) to connect the Disklavier's AUX OUT connectors to the appropriate connectors (LINE IN or AUX IN) on the external device you want to connect to.**

2 **Turn the VOLUME knob on the Silent Control Box all the way down.**

VOLUME

You can also adjust the volume using the Volume knob on the Amplifier.

Note: Volume level is also affected by the settings of the external device.

3 **Turn on the Control Unit first, then turn on the external device.**

Turning on the Disklavier first will prevent any unwanted pops or loud noises which could damage your speakers or tape recorder.

AUX IN

You can also connect an external device such as a CD player or tape recorder to the Disklavier and play along with your favorite recording.
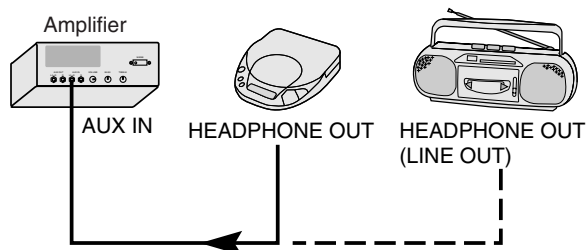
1 **With the Disklavier turned off, use an audio cable (optional) to connect the HEADPHONE jack or LINE OUT jack on the external device to which you want to connect to the AUX IN connectors on the Amplifier.**

2 **Turn on the external device, then turn on the Disklavier.**

3 **Gradually turn up the volume on the external device until a desirable volume is obtained.**

> **Note:** The volume of the Amplifier is linked with the AUX IN connectors. Make sure the VOLUME knob on the Amplifier is set to an appropriately audible level. If it is turned fully counterclockwise, no sound may be produced even when you adjust the volume on the external device.

With many external devices, volume cannot be adjusted for sound that is output from the LINE OUT jack. In this case, use the headphone jack on the external device instead of the LINE OUT jack.

\<For models with *Silent* system\>
You may also need to adjust the volume of the digital piano using the VOLUME knob on the Silent Control Box.

Chapter 12
Storing and Managing Songs on Disks

The Disklavier can play back songs stored on floppy disks, such as PianoSoft and PianoSoft·Plus song disks, or songs copied to its Memory Disks.

The first section of this chapter describes Memory Disks and how to specify a disk for playback. The following sections describe how to copy songs and other song file management utilities common to both floppy disks and Memory Disks.

Memory Disks

Memory Disks use the Disklavier flash memory to store songs. Each Memory Disk has a memory capacity of 1 MB.

Since the Memory Disks have a total of 16 Mbytes of memory, you can copy to the Memory Disks PianoSoft songs or your favorite recordings stored on floppy disks and create your own library of Disklavier songs. This is especially ideal when you want to program your Disklavier to automatically play back many songs continuously as in Chain Play and Timer Play.

☛ See Chapter 13 "Chain Play – Playing Back Memory Disks in a Group" and Chapter 14 "Timer Play" for details.

The Memory Disks are formatted in the SMF (Standard MIDI File) disk format, giving you the most versatility, as both SMF and E-SEQ songs can be stored. They can, however, be re-formatted as E-SEQ type disks.

☛ See "Converting Disk Type" on page 63.

You can also re-format Memory Disks when you want to erase all data in a Memory Disk or when you want to convert an SMF type disk to an E-SEQ type disk.

☛ See "Formatting Disks" on page 61.

Specifying a Disk

In effect, the Disklavier has 17 disks (1 floppy disk and 16 Memory Disks) for storing song data. Therefore, before you can play back songs, you must specify which disk you want to play back.

The 16 Memory Disks are numbered from 0 to 9 and A to F, and the floppy disk is named "Fd." The number or name of the selected disk appears in the display.

■ **Press [DRIVE] as many times as necessary until the desired disk number appears on the left side of the display.**
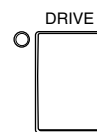
DRIVE

Each press of the [DRIVE] button toggles the floppy disk and Memory Disks (0 to 9 and A to F).

Note: "Fd" appears only when a floppy disk is in the disk drive.

```
A Piano Favorites
  [————] 12x45xx890AbCdEF
```
↑
Flashes
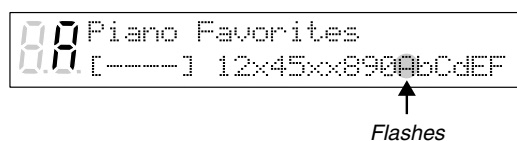
The disk you specify also flashes in the bottom row of the display.

Note: "x" indicates Memory Disks that are unformatted or contain no songs.

Copying Songs

You can copy songs stored on a disk to another one song at a time or all songs at once.

Songs stored on a floppy disk can be copied to the same floppy disk, to another floppy disk or to a Memory Disk.
Songs stored on a Memory Disk can be copied to another Memory Disk or to a floppy disk.

Note: Copy-protected songs, such as PianoSoft songs, cannot be copied to a floppy disk, but can be copied to a Memory Disk.
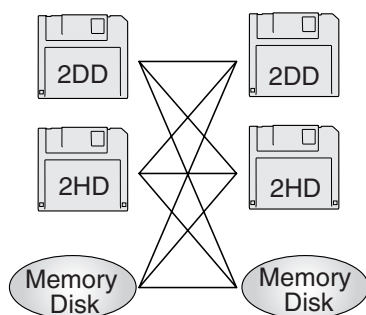
1 **Specify a disk.**

2 **Press [FUNC.].**

The FUNC. indicator lights and the Function menu appears.

```
    ▶Disk      *MIDI Setup
    *M-Tune    *Silent
```

3 **With the ▶ cursor next to the Disk option, press [ENTER].**

The Disk menu appears.

```
    ▶Format    *SongDelete
    *SongCopy  *SongSort  →
```

4 **Press [➡] to position the ▶ cursor next to the Song Copy option, then press [ENTER].**

A display similar to the following appears.

```
    [Song Copy]➡Memory[1]
    ▶ 01 PIANO001.FIL  (ENT)
```

When the source disk is a floppy disk, the parameter next to the arrow shows "Memory [X]"; when the source disk is a Memory Disk, the parameter shows "Other Disk."

5a **TO COPY ALL SONGS**
Press [–/NO] until the following display appears.

```
    [Song Copy] ➡Other Disk
    ▶ ALL Songs        (ENT)
```

Press [➡] then use the [–/NO] and [+/YES] buttons to select the destination disk.

```
    [Song Copy] ▶Other Disk
    > ALL Songs        (ENT)
```
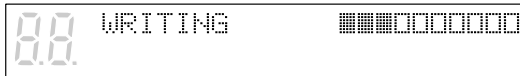
5b **TO COPY ONE SONG**
Use the [–/NO] and [+/YES] buttons to select the song you want to copy.

```
    [Song Copy]➡Memory[1]
    ▶ 02 PIANO002.FIL  (ENT)
```

Then press [➡] and use the [–/NO] and [+/YES] buttons to select the destination disk: Same Disk, Memory [0] - [F], or Other Disk.

6 Press [ENTER].
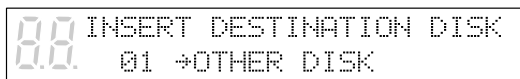
If the destination disk is Same Disk (for floppy disks only) or a Memory Disk, the following display appears.

```
┌─────────────────────────────────┐
│ ┌┐┌┐ WRITING    ▓▓▓□□□□□□□       │
│ └┘└┘                            │
└─────────────────────────────────┘
```

The song number indicator counts down from 99 and a bar graph on the display marks the progress. When the song number indicator reaches 00 and the squares on the bar graph are completely filled, the copy process is complete.
If the destination disk is Other Disk, the following display appears.
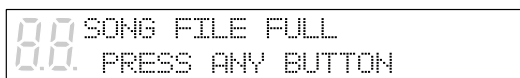
```
┌─────────────────────────────────┐
│ ┌┐┌┐ INSERT DESTINATION DISK     │
│ └┘└┘   01 →OTHER DISK            │
└─────────────────────────────────┘
```

Insert a formatted floppy disk in the disk drive. Song copy begins.

Note: Make sure that the destination disk is formatted and its erasure protection tab is set to "unprotected." See "Formatting Disks" and "Floppy Disk Accidental Erasure Protection" on page 61. If the destination disk has not been formatted in the Disklavier, the message "UNFORMATTED DISK" appears. In this case, cancel the song copy process and format the disk.

The copy process may take several seconds depending on the size of the song files.
If the song files you want to copy are too large, if you are copying too many songs, or if the destination disk becomes full, the following display appears and song copy is canceled.
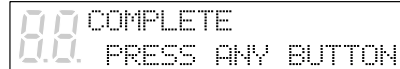
```
┌─────────────────────────────────┐
│ ┌┐┌┐ SONG FILE FULL              │
│ └┘└┘   PRESS ANY BUTTON          │
└─────────────────────────────────┘
```

7 When the copy process is complete, the following display appears.
Press any button to return to the normal display.

```
┌─────────────────────────────────┐
│ ┌┐┌┐ COMPLETE                    │
│ └┘└┘   PRESS ANY BUTTON          │
└─────────────────────────────────┘
```

Copying the Entire Contents of a Disk (Disk Copy)

You can copy the entire contents of a disk to another disk.

Note: The contents of the destination disk will be erased.

Note: You cannot copy a disk that contains copy-protected songs such as PianoSoft songs.

1 Specify a disk.

Note: If you are copying to a floppy disk, its erasure protection tab must be set to "unprotected". See "Floppy Disk Accidental Erasure Protection" on page 61.

2 Press [FUNC.].

The FUNC. indicator lights and the Function menu appears.

```
口口 ▶Disk      ✳MIDI Setup
口口 ✳M-Tune    ✳Silent
```

3 With the ▶ cursor next to the Disk option, press [ENTER].

The Disk menu appears.

```
口口 ▶Format    ✳SongDelete
口口 ✳SongCopy  ✳SongSort    ⇥
```

4 Press [➡] until the ▶ cursor is next to the Disk Copy option, then press [ENTER].

A display similar to the following appears.

```
口口 [Disk Copy]        (-,+)
口口 2DD    ⇥▶Mem      (ENT)
```

5 Use the [–/NO] and [+/YES] buttons to select the destination disk.

6 Press [ENTER].

Disk copy of the source disk begins.
If the destination disk is a floppy disk, the following display appears. Eject the source disk if the source disk is a floppy disk, then insert a formatted destination disk.

```
口口 INSERT DESTINATION DISK
口口
```

Note1: Make sure that the destination disk is formatted and its erasure protection tab is set to "unprotected". See "Formatting Disks" and "Floppy Disk Accidental Erasure Protection" on page 61. If the destination disk has not been formatted in the Disklavier, the message "UNFORMATTED DISK" appears. In this case, cancel the song copy process and format the disk.

Note2: If the destination disk differs from what was specified, the message "WRONG DESTINATION DISK. INSERT 2DD DISK" or similar appears. Insert the correct destination disk to continue, or press [STOP] to cancel disk copy.

Note3: If the destination disk contains songs, the message "DELETE SONGS ON DEST. SURE?" appears. Press [+/YES] if it is okay to erase the contents of the destination disk and continue, or [–/NO] to cancel disk copy.

Note4: When copying between the same medium (ex. from 2HD to 2HD), the contents are copied from track to track.

When copying between different media (ex. from 2DD to 2HD), the contents are copied from file to file.

The copy process may take several seconds depending on the size of the disk content. If the disk content is too large or if the destination disk becomes full, the following display appears and disk copy is canceled.

```
SONG FILE FULL
  PRESS ANY BUTTON
```

7 **When the copy process is complete, the following display appears. Press any button to return to the normal display.**

```
COMPLETE
  PRESS ANY BUTTON
```

Deleting Songs

You can delete songs stored on a disk one song at a time or all songs at once.

If you want to delete all songs on a disk, it may be quicker to re-format the disk. See "Formatting Disks" on page 61.

1 **Specify a disk.**

Note: If you are deleting songs from a floppy disk, be sure that the accidental erasure protection tab is set to "unprotected."

2 **Press [FUNC.].**

The FUNC. indicator lights and the Function menu appears.

```
▶Disk        *MIDI Setup
*M-Tune      *Silent
```

3 **With the ▶ cursor next to the Disk option, press [ENTER].**

The Disk menu appears.

```
▶Format      *SongDelete
*SongCopy    *SongSort    →
```

4 **Press [➡] until the ▶ cursor is next to the Song Delete option, then press [ENTER].**

The following display appears.

```
[Song Delete]        (-,+)
▶ 01 PIANO001.FIL  (ENT)
```

5a **TO DELETE ALL SONGS Press [–/NO] until the following display appears, then press [ENTER].**

```
[Song Delete]        (-,+)
▶ ALL Songs          (ENT)
```

The following display appears.

```
[[ [Song Delete]        SURE?
[[ ▶ ALL Songs          (Y/N)
```

5b **TO DELETE ONE SONG**
Use the [–/NO] and [+/YES]
buttons to select the song that
you want to delete.

```
[[ [Song Delete]        (-,+)
[[ ▶ 01 PIANO001.FIL   (ENT)
```

Then press [ENTER].

A display similar to the following appears.

```
[[ [Song Delete]        SURE?
[[ ▶ 01 PIANO001.FIL   (Y/N)
```

6 **Press [+/YES] to delete the song,**
[–/NO] if you do not want to
delete the song.

Note: Once deleted, songs cannot be retrieved, so take care in selecting which songs to delete.

Note: You cannot delete copy-protected songs in a floppy disk. However, you can delete copy-protected songs in a Memory Disk.

When a song is deleted, subsequent songs are renumbered. For example, if you have six songs on a disk, and song No. 4 is deleted, song No. 5 becomes song No. 4 and song No. 6 becomes song No. 5, and so on.

Songs on a disk

Song 1	Song 2	Song 3	Song 4	Song 5	Song 6

Song No. 4 deleted

Song 1	Song 2	Song 3	Song 4	Song 5
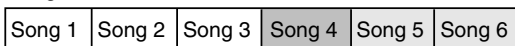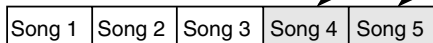
Rearranging the Song Order (Song Sort)

You can rearrange the order of songs on a disk.

1 **Specify a disk.**

2 **Press [FUNC.].**

The FUNC. indicator lights and the Function menu appears.

```
[[ ▶Disk       *MIDI Setup
[[ *M-Tune     *Silent
```

3 **With the ▶ cursor next to the Disk**
option, press [ENTER].

The Disk menu appears.

```
[[ ▶Format     *SongDelete
[[ *SongCopy   *SongSort   →
```

4 **Press [➡] until the ▶ cursor is next**
to the Song Sort option, then
press [ENTER].

The following display appears.

```
[[ [Song Sort]         (-,+)
[[ ▶SONG 02→No 01 (←,→,ENT)
```

5 **Use the [–/NO] and [+/YES]**
buttons to select the song that
you want to move.

6 **When you have selected a song,**
press [➡], then use the [–/NO] and
[+/YES] buttons to select the
destination.

```
[[ [Song Sort]         (-,+)
[[  SONG 03▶No 05 (←,→,ENT)
```

In this example, song No. 3 is being moved to song No. 5.

7 Press [ENTER].

The following display appears.

```
□□    CONTINUE Song Sort?
□.□.      03→   05  (YES,NO)
```

Note: At this point of the procedure, the Disklavier has not saved the sorted song data to disk — it is asking if you want to sort some more songs before saving the sorted song data and exiting the song sort function.

Press [+/YES] if you want to sort more songs.

8 Press [–/NO] to save all the song sort data.

During the sorting process, the selected song is changed to its new song number and all the other songs on the disk are rearranged. For example, the example below shows a disk that contains six songs. If you make song No.6 the first song on the disk (No.1), songs 1 to 5 are renumbered as songs 2 to 6.

Songs on a disk

Song 1	Song 2	Song 3	Song 4	Song 5	Song 6

Song 1	Song 2	Song 3	Song 4	Song 5	Song 6
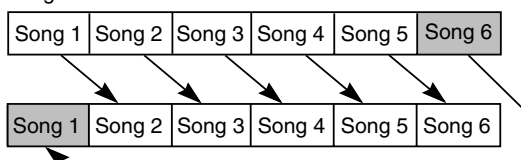
Song No. 6 moved to No. 1

Note: You cannot sort copy-protected songs such as PianoSoft songs on a pre-recorded disk.

9 When sorting is complete, the following display appears. Press any button to return to the normal display.

```
□□  COMPLETE
□.□.   PRESS ANY BUTTON
```

Changing the Counter Display

The counter display of a song can be changed from "measures and beats" (metronome) to "minutes and seconds" or vice versa.

1 Specify a disk.

2 Press [FUNC.].

The FUNC. indicator lights and the Function menu appears.

```
□□  ▶Disk      *MIDI Setup
□.□. *M-Tune    *Silent
```

3 With the ▶ cursor next to the Disk option, press [ENTER].

The Disk menu appears.

```
□□  ▶Format    *SongDelete
□.□. *SongCopy   *SongSort   →
```

4 Press [➡] until the ▶ cursor is next to the Counter option, then press [ENTER].

The following display appears.
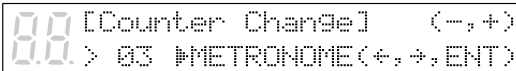
```
□□ [Counter Change]    (-,+)
□.□. ▶ 01 →TIME       (←,→,ENT)
```

5 Use the [–/NO] and [+/YES] buttons to select the song whose time display you want to change.

6 **When you have selected a song, press [➡], then use the [–/NO] and [+/YES] buttons to select the time display.**

TIME: minutes and seconds display
METRONOME: measures and beats display
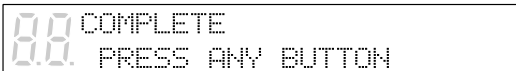
```
 ┌──────────────────────────────────┐
 │ ⎡⎡[Counter Change]    (-,+)│
 │ ⎿⎿> 03 ▶METRONOME(←,→,ENT)│
 └──────────────────────────────────┘
```

7 **Press [ENTER].**

Note: You cannot change the time display of copy-protected songs.

8 **When the following display appears, press any button to return to the normal display.**

```
 ┌──────────────────────────────────┐
 │ ⎡⎡COMPLETE                   │
 │ ⎿⎿ PRESS ANY BUTTON         │
 └──────────────────────────────────┘
```

Chapter 13
Chain Play — Playing Back Memory Disks in a Group

The 16 Memory Disks of the Disklavier are numbered from 0 to 9 and A to F. You can specify and play back one disk, or specify several disks to be played back sequentially. To play several disks, what you actually do is form a group of Memory Disks. Grouping disks enables you to control multiple disks in group units. For example, you may have your favorite classical music on disks number 0, 5, 7, and A. By grouping these four disks under Grp1, all you need to do to play back all your classical songs is set playback to Grp1. You do not need to make settings for the next disk after each disk has finished.
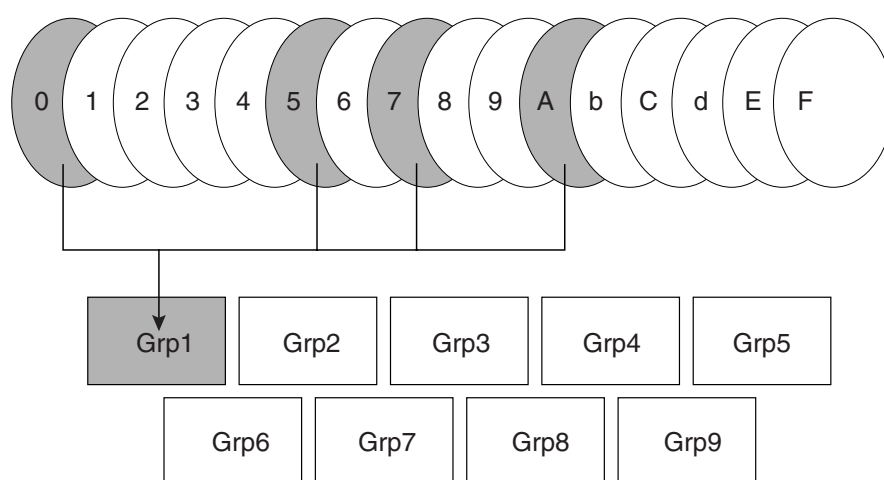
You can have up to 9 groups (1 to 9). Each group can contain a maximum of 16 Memory Disks freely combined to suit your needs. A disk can be part of more than one group, and the content of a group can be changed easily at any time.

Note: Floppy disks cannot be included in a group.

Registering a Group

1 **Hold down [FUNC.] and press [STANDBY / ON].**

The setup menu appears.

```
88 ▶End         *Auto Setup
   *Chain Play *Timer Play→
```

2 **Press [➡] until the ▶ cursor is next to the Chain Play option, then press [ENTER].**

A display similar to the following appears.

```
88  M.Disk Chain Play
   ▶Grp1] 1234567890AbCdEF
```

3 **Use the [–/NO] and [+/YES] buttons to select a group number.**

4 **Use [◄] and [►] to move the cursor to a disk number, then use the [–/NO] and [+/YES] buttons to select or unselect it.**

```
┌─────────────────────────────┐
│ Aria Selections             │
│ [Grp1] 12x4_xx890AbCdEF     │
└─────────────────────────────┘
                ▲
```
Flashes

- The position of the cursor is indicated by the flashing disk number.
- Pressing both [+/YES] and [–/NO] simultaneously selects all disks.
- "x" indicates disks that you included in the group but that contain no songs or are unformatted.
- "_" indicates disks that you did not include in the group.

5 **Press [ENTER].**

The group is set, and the display returns to the setup menu.

```
┌─────────────────────────────┐
│ ▶End            *Auto Setup │
│ *Chain Play *Timer Play▶    │
└─────────────────────────────┘
```
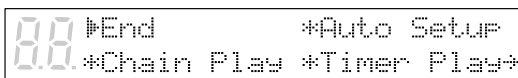
6 **With the cursor at the End option, press [ENTER] to restart the Control Unit.**

This is the same as turning off the Control Unit and then turning it back on.
The standard disk title display appears.

Chain-Playing Disks in a Group

One of the advantages of the group feature is its ability to automatically play back disks in a group consecutively without the need to make settings after each Memory Disk has finished playing. This is called Memory Disk Chain Play. Chain Play can also be set to start from any disk within the group.

Note: Chain Play is not valid for floppy disks.

Note: Prolonged playback may cause your piano to overheat. Insert sufficient breaks between continuous song playback.

1 **Register or select a group.**

☛ See "Registering a Group" on page 52.

2 **Press [DRIVE] and specify the disk from which you want to begin Memory Disk Chain Play.**

The disk you select flashes.

```
┌─────────────────────────────┐
│ Piano Favorites             │
│ [Grp1] 12x4_xx890AbCdEF     │
└─────────────────────────────┘
                     ▲
```
Flashes

The group number you chose in step 1, and its contents, are shown on the bottom line of the display. If [- - - -] is shown instead of a group number, you have not chosen a group correctly.

- "x" indicates disks that are included in the group but that contain no songs or are unformatted.

- "_" indicates disks that are not included in the group.

You can set playback to start from any disk in the group that contain songs.

In the above display, "A" is selected. Therefore, playback begins from disk A and continues to the end of disk F, then stops.

Disks are played back from left to right in the display. The chain will not repeat unless the "All Repeat" setting is made (see Chapter 8 "Repeat Playback" for details). Disks represented by "x" and "_" are skipped.

3 **Press [PLAY/PAUSE] to begin Chain Play from the specified disk.**

You can also press [ENTER] or [STOP] to engage Standby mode.

When playback of the last song on the selected disk finishes, the next disk in the group that contains songs is automatically played back.

Canceling Group Functions

You can choose to manage your disks in disk units instead of group units by setting Memory Disk Chain Play to OFF and selecting a target disk in the Memory Disk selection display. For example, if you want to play disk 7 only, you should set Memory Disk Chain Play to OFF, and select disk 7 using the [DRIVE] button.

1 **Hold down [FUNC.] and press [STANDBY / ON].**

The setup menu appears.

```
88 ▶End        ✳Auto Setup
   ✳Chain Play ✳Timer Play→
```

2 **Press [➡] to move the ▶ cursor to the Chain Play option, then press [ENTER].**

A display similar to the following appears.

```
88   M.Disk Chain Play
   ▶Grp1] 12x4_xx890AbCdEF
```

3 **Press [–/NO] or [+/YES] until OFF appears.**

```
88 Aria Selections
   ▶OFF ] 12x4_xx890AbCdEF
```

4 **Press [ENTER].**
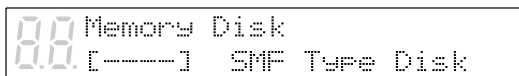
The group is switched off, and the display returns to the setup menu.

```
88 ▶End        ✳Auto Setup
   ✳Chain Play ✳Timer Play→
```

5 **With the cursor at the End option, press [ENTER] to restart the Control Unit.**

This is the same as turning off the Control Unit and then turning it back on.

The standard disk title display appears.

```
88 Memory Disk
88.[————]  SMF Type Disk
```

The disk title display shows [- - - -] to indicate that no group is selected.

Chapter 14
Timer Play

You can program your Disklavier to play back groups of disks at various specified times. All you need to do is register up to a maximum of 99 timer settings, and your Disklavier will perform them unattended. This function is called Timer Play.

The "Timer Play Examples" section provides some examples of programmed playback.

Important: The Control Unit must be turned on in advance in order for Timer Play to function. Timer Play cannot turn on/off the Control Unit.

Note: Prolonged playback may cause your piano to overheat. Insert sufficient breaks between continuous song playback.

Creating a Program

This section takes you through the steps for creating a Timer Play program. Understanding the parameters of Timer Play will enable you to create music programs suited to your needs.

1 **Hold down [FUNC.] and press [STANDBY / ON].**

The setup menu appears.

```
88.  ▶End           *Auto Setup
     *Chain Play *Timer Play▸
```

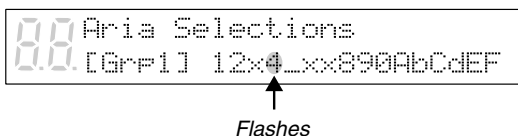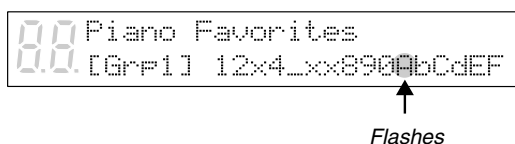**2** **Press [➡] until the ▶ cursor is next to the Timer Play option and press [ENTER].**

The following display appears.

```
              ①          ②
88.  Timer Play▶ON   *SORT
     01:[08:00 >PLAY >Grp1]
       ③     ④  ⑤     ⑥      ⑦
```

The five parameters on the lower row constitute a program. You can create up to 99 programs.

Item	Option	Description
1) Timer switch	ON, OFF	Enables Timer Play.
2) Sort		Pressing [ENTER] sorts the programs in chronological order.
3) Program number	01 - 99	Indicates the number of a program. Only program numbers with programs are displayed.
4) 5) Time	24-hour format	Indicates the time at which a function is to be performed. ##:## temporarily sets the same time as the previous program.
6) Function	- - - -, PLAY, STOP	The function to be performed at the specified time. - - - - omits the program.
7) Grp selection	####, Grp1 - 9	#### means no particular song is specified; the previous program's selection is valid. The difference between selecting the same group number as the previous program and selecting #### is that, in the former, playback begins at the beginning of the group, and in the latter, playback begins with the song that is selected when that program is enabled.

3 **Use [◀] and [▶] to move the cursor sideways to each parameter and the [–/NO] and [+/YES] buttons to set a value.**

4 **Press [▶▶|] to enter the next program.**

The next program appears with ##:## for the time parameter and - - - - for the function parameter. The cursor appears at the function parameter.

```
    01:[08:00  >PLAY  >Grp1]
    02:[##:## ▶───────     ]
```

5 **Press [◀] to go to the time parameter.**

```
    01:[08:00  >PLAY  >Grp1]
    02:▶08:00  >───────     ]
```

##:## automatically changes to the time setting of the preceding program.

6 **Use the [–/NO] and [+/YES] buttons to set a time.**

```
    01:[08:00  >PLAY  >Grp1]
    02:▶09:00  >───────     ]
```

7 **Press [▶] to go to the function parameter, and use the [–/NO] and [+/YES] buttons to select either PLAY or STOP.**

```
    01:[08:00  >PLAY  >Grp1]
    02:[09:00  ▶PLAY  >####]
```

When PLAY is selected, #### automatically appears as the Grp parameter.

8 **Press [▶] to go to the Grp parameter, and use the [–/NO] and [+/YES] buttons to set a group.**

9 **Repeat steps 4 to 8 to set as many programs as necessary.**

Pressing [|◀◀] and [▶▶|] scrolls the display vertically through the programs.

10 **Press [ENTER] after you set all parameters for the programs you need.**

The programs are sorted in chronological order, and the display returns to the setup menu.
Each program is activated at the specified time.

Important: The Control Unit must be turned on in advance in order for Timer Play to function. Timer Play cannot turn on/off the Control Unit.

Error Check

When you set a program and go to the next program, the Disklavier automatically checks for other programs that are set to occur at the same time.

For example, in the following display, Grp7 and Grp1 are both set to start playback at 8:00.

```
    01:[08:00  >PLAY  >Grp7]
    02:[08:00  >PLAY  ▶Grp1]
```

When [▶▶|] is pressed to proceed to program 3, the following message appears.

```
    SAME TIME EVENT EXISTS!
      CHANGE THE TIME
```

In this case, press any key and set program 2 to a different time.

Timer Play Examples

With a little creativity, you can use Timer Play in a variety of ways. You can also set Timer Play in conjunction with Repeat playback.

This section gives you just a few simple ideas of how you can use Timer Play.

Note: Prolonged playback may cause your piano to overheat. Insert sufficient breaks between continuous song playback.

Example 1

Location: Hotel lobby

06:50	Turn on Control Unit (manually)
07:00	01:[07:00 > PLAY > Grp1]
12:00	02:[12:00 > PLAY > Grp2]
17:00	03:[17:00 > PLAY > Grp3]
21:00	04:[21:00 > STOP]
21:30	Turn off (manually)

Memory Disk 1 - 4 .... Grp1
Memory Disk 5 - A Grp2
Memory Disk b, d, F Grp3
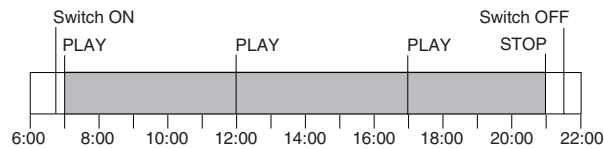
The Disklavier above is set to play at 7:00 a.m., 12:00 p.m. and 5:00 p.m., and set to stop at 9:00 p.m. At each of the specified time, it plays a group of songs until all the disks in the group are played back. The Disklavier will stop playing at 9:00 p.m. even if Grp3 is still playing.

Example 2

Location: Cocktail bar

Repeat = RND

16:50	Turn on Control Unit (manually)
17:00	01:[17:00 > PLAY > Grp1]
19:00	02:[19:00 > STOP]
19:30	03:[19:30 > PLAY > ####]
21:00	04:[21:00 > STOP]
21:30	05:[21:30 > PLAY > ####]
23:00	06:[23:00 > STOP]
23:05	Turn off (manually)

Memory Disks 1 - 6 .... Grp1
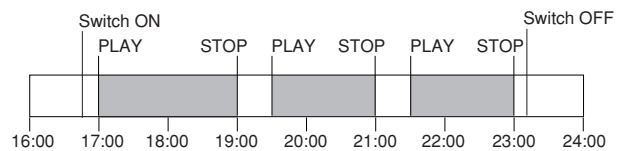
The Disklavier above is set to play songs continuously from 5:00 p.m. to 11:00 p.m., with interruptions for live performances at 7:00 p.m. and 9:00 p.m. for 30 minutes each.

Grp1 is played back at 5:00 p.m. and stopped at 7:00 p.m. At 7:30 p.m., playback of Grp1 picks up where it last left off. It stops again at 9:00 p.m., and at 9:30 p.m., it starts playback again from where it left off.

Only one group is registered, but since it contains many disks, and is set to RND playback, it will last through the evening.

Example 3

Location: store

07:55	Turn on Control Unit (manually)	
08:00	Opening (1 song)	01:[08:00 > PLAY > Grp1]
10:00	Time (1 song)	02:[10:00 > PLAY > Grp2]
12:00	Lunch (continuous)	03:[12:00 > PLAY > Grp3]
13:00	Lunch end	04:[13:00 > STOP]
15:00	Time (1 song)	05:[15:00 > PLAY > Grp2]
17:00	Closing (3 songs)	06:[17:00 > PLAY > Grp4]
17:15	Turn off (manually)	

Memory Disk 1: 1 song for opening of store Grp1
Memory Disk 2: 1 song to be played on the hour Grp2
Memory Disk 3: several songs for continuous play during lunch Grp3
Memory Disk 4: continuation of disk 3 ....Grp3
Memory Disk 5: 3 songs for closing of store Grp4
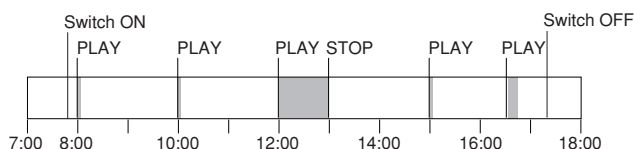
The Disklavier above is turned on at 7:55 a.m., and Timer Play starts at 8:00 a.m. with the opening of the store. Songs are set to be played at 8:00 a.m. for the opening of the store, at 10:00 a.m. and 3:00 p.m. to signify the time, during lunch, and at 5:00 p.m. for the closing of the store.

Chapter 15
Disk and Song File Utilities

This chapter describes the song formats and disk types that the Disklavier uses to control song data on disks. This information is relevant to using the Disklavier song data with other Yamaha instruments or MIDI equipment.

Song Format

Song format refers to the format in which songs are recorded. The Disklavier supports both the most commonly used Standard MIDI File (SMF) format and Yamaha's E-SEQ format.

Disk Types

You can format the Memory Disks and floppy disks in either SMF or E-SEQ format, in accordance with how else you plan to use the disk. SMF type disk is recommended if you plan to edit Disklavier songs on a MIDI instrument or computer. E-SEQ is recommended if you plan to play back the disk on earlier Disklavier models or the Clavinova series.
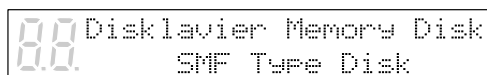
Memory Disks are formatted as SMF type disks as a factory presetting.

Note: The terms "SMF type disk" and "E-SEQ type disk" are unique to the Yamaha Disklavier, and should not be confused with SMF and E-SEQ song formats. Nevertheless, with the Disklavier, song format and disk type have much to do with each other.

SMF Type Disks

SMF type disks can store both SMF abd E-SEQ songs.

If a disk is formatted as an SMF type disk, the following display should appear as the disk title display.
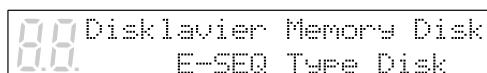
```
88  Disklavier Memory Disk
         SMF Type Disk
```

Up to 99 songs can be recorded onto an SMF type disk, depending on the size of the song file.

E-SEQ Type Disks

E-SEQ type disks can only be used for E-SEQ songs. It is not possible to copy SMF songs to an E-SEQ type disk. E-SEQ disks can be played back by earlier Disklavier models as well as by the Disklavier.

If a disk is formatted as an E-SEQ type disk, the following display should appear as the disk title display.

```
88  Disklavier Memory Disk
         E-SEQ Type Disk
```

Up to 60 songs can be recorded onto an E-SEQ type disk.

Cl and Other Type Disks

Disks formatted by instruments other than the Disklavier may be displayed as a Cl Type Disk or Other Type Disk.

Formatting Disks

The procedure below allows you to format new unformatted floppy disks and to reformat both the Memory Disks and formatted floppy disks. New floppy disks must be formatted before they can be used with the Disklavier.

Formatting a disk erases all the data previously stored on the disk, so always make sure the disk you are going to format does not contain songs you want to keep.

Floppy Disk Accidental Erasure Protection

Floppy disks have an erasure protection tab located on the reverse side of the disk, in the bottom right-hand corner. When formatting a disk, make sure that its erasure protection tab is set to "unprotected".

Protected
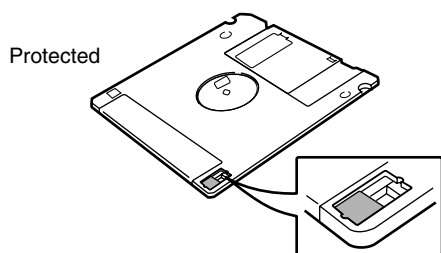
When the tab window is open, formatting and recording are not possible.
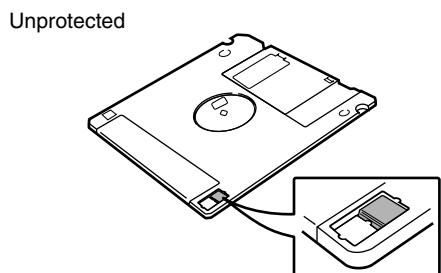
Unprotected

When the tab window is closed, formatting and recording are possible.

1 **Press [DRIVE] and specify the disk to format.**

Note: If you are formatting a floppy disk, make sure that the floppy disk's erasure protection tab is set to "unprotected".

If the disk has not been formatted, the following display appears.

```
日日 UNFORMATTED DISK
日日
```
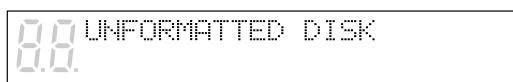
If the disk contains songs, it might be worth checking them to see if there are any you want to keep.

2 **Press [FUNC.].**

The FUNC. indicator lights and the Function menu appears.

3 **With the ▶ cursor next to the Disk option, press [ENTER].**

The Disk menu appears.

```
日日 ▶Format      *SongDelete
日日 *SongCopy    *SongSort    →
```
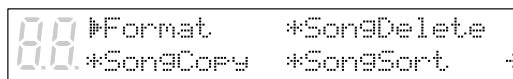
4 **With the ▶ cursor next to the Format option, press [ENTER].**

The following display appears.

```
日日 [Disk Format]
日日 ▶SMF Type Disk
```
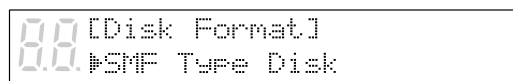
5 **Use the [–/NO] and [+/YES] to select a disk type: SMF Type Disk or E-SEQ Type Disk. Then press [ENTER].**

SMF type disk is recommended if you are not going to be using this disk with other Disklavier models. For more information on disk types, see "Disk Types" on page 60. A display similar to the following appears.

```
88 [Disk Format]      SURE?
88.  SMF Type Disk  (YES,NO)
```

6 **Press [+/YES] to start the disk formatting process.**

If you do not want to continue with the formatting process, press [–/NO].

7 **Formatting is complete when the following display appears.**

```
88 COMPLETE
88.  PRESS ANY BUTTON
```

Press any button to return to the normal display.

Converting Song Format

SMF songs can be converted to E-SEQ songs and vice versa.

Note: When converting songs from SMF to E-SEQ song format, if there is an instrumental part on track 3, incremental pedal data will be lost to accommodate the instrumental part on track 3.

1 **Specify a disk.**

2 **Press [FUNC.].**

The FUNC. indicator lights and the Function menu appears.

```
88 ▶Disk       *MIDI Setup
88. *M-Tune     *Silent
```

3 **With the ▶ cursor next to the Disk option, press [ENTER].**

The Disk menu appears.

```
88 ▶Format     *SongDelete
88. *SongCopy   *SongSort   ⇢
```

4 **Press [➡] until the ▶ cursor is next to the Song Convert option, then press [ENTER].**

The following display appears.

```
88 ⇠*DiskCopy ▶SongConvert
88. *Counter  *DiskConvert
```

5 **Use the [–/NO] and [+/YES] buttons to select the song that you want to convert.**

6 **When you have selected the song, press [→] until the ⊪ cursor is next to the arrow. Then use the [–/NO] and [+/YES] buttons to select a song format: E-SEQ, SMF0 or SMF1.**

Symbol	Song format
E-SEQ	E-SEQ format
SMF0	Standard MIDI File format 0
SMF1	Standard MIDI File format 1

```
88 [Song Convert]    (ENT)
8.8. ▶ 01 PIANO001.MID▶E-SEQ
```

7 **Press [ENTER].**

A display similar to the following appears.

```
88 [Song Convert]SURE?(Y/N)
8.8.   01 PIANO001.MID→E-SEQ
```

8 **Press [+/YES] to begin song conversion.**

If you do not want to convert the song, press [–/NO].

9 **When song conversion is completed, the following display appears. Press any button to return to the normal display.**

```
88 COMPLETE
8.8.   PRESS ANY BUTTON
```

When a song format is converted, the file name extension changes.

Converting Disk Type

SMF type disks can be converted to E-SEQ type disks and vice versa. This can be helpful when you want to play back a song recorded in the SMF format on an earlier Disklavier model, or when you want to use song data recorded in the E-SEQ format with other MIDI instruments.

1 **Specify a disk.**

2 **Press [FUNC.].**

The FUNC. indicator lights and the Function menu appears.

3 **With the ⊪ cursor next to the Disk option, press [ENTER].**

The Disk menu appears.

```
88 ▶Format     *SongDelete
8.8. *SongCopy   *SongSort    →
```

4 **Press [→] until the ⊪ cursor is next to the Disk Convert option, then press [ENTER].**

```
88 ←*DiskCopy *SongConvert
8.8.  *Counter  ▶DiskConvert
```

The following display appears.

```
88 [DiskConvert]
8.8.   SMF→▶E-SEQ Type (ENT)
```
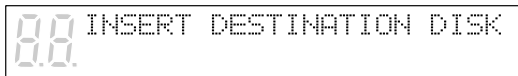
5 **Use the [–/NO] and [+/YES] buttons to select a song format.**

E-SEQ type disks can be converted to SMF type disks or Piano1 disks.
SMF type disks can be converted to E-SEQ type disks or Piano1 disks.

Note: Piano1 is a format that can be played back by all Disklaviers. In the display, disk type for a Piano1 type disk will be shown as E-SEQ.

6 **Press [ENTER].**

The following display appears.

```
┌─────────────────────────────────┐
│ ⸬⸬ INSERT DESTINATION DISK       │
│ ⸬⸬                               │
└─────────────────────────────────┘
```

Insert the destination disk.
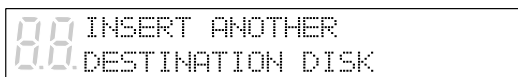
Depending on the size of the disk, the following display may appear.

```
┌─────────────────────────────────┐
│ ⸬⸬ INSERT SOURCE DISK            │
│ ⸬⸬                               │
└─────────────────────────────────┘
```
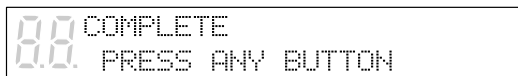
Eject the destination disk and insert the source disk. You may need to repeat this several times until the conversion is complete.

If all data cannot fit onto one disk, the following display appears. Insert another floppy disk and conversion will continue.

```
┌─────────────────────────────────┐
│ ⸬⸬ INSERT ANOTHER                │
│ ⸬⸬ DESTINATION DISK              │
└─────────────────────────────────┘
```

7 **When the conversion process is complete, the following display appears. Press any button to return to the normal display.**

```
┌─────────────────────────────────┐
│ ⸬⸬ COMPLETE                      │
│ ⸬⸬  PRESS ANY BUTTON             │
└─────────────────────────────────┘
```

Chapter 16
The Disklavier & MIDI

This chapter describes how the Disklavier can be used with other MIDI instruments. The Disklavier's MIDI functions are quite flexible, so there are many different connection possibilities. This chapter provides a few examples. Even if your particular application is not among these examples, you should be able to derive the information required to create your own setup by reading through these setup examples.

Note: For the MIDI setups described in this chapter, it is recommended that you connect your MIDI instrument to the MIDI OUT connector and set the HOST SELECT switch to MIDI so that the Disklavier functions properly. See "Setting the HOST SELECT Switch" on page 73.

Start/Stop Control of a MIDI Instrument with the Disklavier

In this setup, song disks are played back on the Disklavier and a MIDI drum machine or sequencer plays in synchronization. When [PLAY] is pressed, the MIDI instrument starts to play. It can also be paused and stopped via the Disklavier. In addition, the tempo of the MIDI instrument will change as the tempo of the Disklavier is adjusted.

1 **Connect the Disklavier's MIDI OUT to the MIDI instrument's MIDI IN connector using a MIDI cable.**
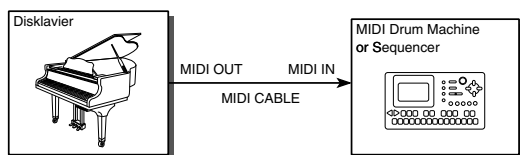
2 **Set the MIDI instrument to synchronize with the incoming MIDI clock, sometimes called "MIDI SYNC".**

Refer to its operating manual for details.

3 **Press [FUNC.].**

The FUNC. indicator lights and the Function menu appears.

```
    ▶Disk        *MIDI Setup
    *M-Tune      *Silent
```

4 **Press [➡] until the ▶ cursor is next to the MIDI Setup option, then press [ENTER].**

The following display appears.

```
    ▶Piano Part *MIDI Out
    *Remote
```

5 **Press [➡] until the ▶ cursor is next to the Remote option, then press [ENTER].**

The following display appears.

```
    ▶Remote Out=OFF
    >Remote In=OFF
```

6 **Press [+/YES] to set the Remote Out parameter to ON.**

7 **Press [FUNC.] or [STOP] to exit the MIDI setup.**

The Disklavier can now be used in the sequencer system.

Receiving Data from a MIDI Sequencer

In this setup, the Disklavier is connected to a MIDI sequencer for song recording and playback. In this way you can use a MIDI sequencer's powerful recording and editing functions for creating your Disklavier songs. The sequencer can be a dedicated music sequencer, a MIDI data recorder, or a MIDI sequencer program running on a computer.

A 500 millisecond delay is applied to the incoming MIDI data so that the Disklavier plays more fluently. Because of the delay, beware that the beat indicator on the sequencer is slightly ahead of the actual sounds being produced. Be aware of this. To control the Disklavier in real time, see "Controlling the Disklavier in Real Time" on page 68.

The Disklavier's Piano Rcv Ch parameter must be set to match that of the sequencer track that contains the piano parts. For example, if the piano part is recorded on sequencer track 7 and track 7 is transmitting on MIDI channel 12, the Disklavier should be set to receive on MIDI channel 12. The Piano Rcv Ch parameter has the following options.

Option	Description
##	MIDI IN data is played by just the internal tone generator.
01 - 16	MIDI IN data is played by the piano on the specified MIDI channel.
HP	MIDI IN data is played by the piano. Left-hand part on MIDI channel 1, right-hand part on MIDI channel 2 and half pedal data on MIDI channel 3.
1+2	MIDI IN data is played by the piano. Left-hand part on MIDI channel 1, right-hand part on MIDI channel 2.
Prg	MIDI IN data is played by the piano on the channel with the smallest number containing a piano group voice.
Prg(all)	All channels that contain a piano group voice in the MIDI IN data is played by the piano.

1 **Connect the MIDI sequencer's MIDI OUT to the Disklavier's MIDI IN with a MIDI cable.**

2 **Press [FUNC.].**

The FUNC. indicator lights and the Function menu appears.

3 **Press [➡] until the c cursor is next to the MIDI Setup option, then press [ENTER].**

The following display appears.

```
┌──────────────────────────────┐
│ ▶Piano Part *MIDI Out        │
│ *Remote                      │
└──────────────────────────────┘
```

4 **With the ▶ cursor next to the Piano Part option, press [ENTER].**

The following display appears.

```
┌──────────────────────────────┐
│ ▶Piano Rcv Ch=01           → │
│ >Delay In(500ms)=ON          │
└──────────────────────────────┘
```

5 **Use the [–/NO] and [+/YES] buttons to select a MIDI channel.**

☞ See page 66 for a list of available options.

6 **Press [➡] until the ▶ cursor is next to the Delay In parameter, then use the [–/NO] and [+/YES] buttons to set the Delay In (500 ms) to ON.**

```
┌──────────────────────────────┐
│ >Piano Rcv Ch=1+2          → │
│ ▶Delay In(500ms)=ON          │
└──────────────────────────────┘
```

☞ For more information on the 500 ms delay function, see "Controlling the Disklavier in Real Time" on page 68.

7 **Press either [FUNC.] or [STOP] to return to the normal display.**

The Disklavier can now be used in the sequencer system.

Controlling the Disklavier in Real Time

As the Disklavier uses a mechanical system for driving the piano keys, incoming MIDI data cannot be played instantly. For this reason a fixed delay of 500 ms is usually applied to all incoming MIDI data. For most applications this delay will not be a problem.

If you want to play the Disklavier in "real time" via a MIDI master keyboard, synthesizer, or MIDI guitar controller, this fixed delay can be turned off. However, it will still take the Disklavier time to respond to incoming MIDI data and the Disklavier piano response time will vary based on the velocity of the notes and is not user-controllable.

You need to set the Delay In parameter to OFF and set the Piano Rcv Ch parameter to match that of the other keyboard's MIDI transmit channel. If the channels do not match, the Disklavier will not respond to the MIDI data.

☞ Refer to the other keyboard's user guide for information on setting its transmit MIDI channels.

1 **Connect the MIDI controller's MIDI OUT to the Disklavier's MIDI IN using a MIDI cable.**

2 **Press [FUNC.].**

The FUNC. indicator lights and the Function menu appears.

3 **Press [➡] until the ▶ cursor is next to the MIDI Setup option, then press [ENTER].**

The following display appears.

```
88  ▶Piano Part ⊕MIDI Out
88  ⊕Remote
```

4 **With the ▶ cursor next to the Piano Part option, press [ENTER].**

The following display appears.

```
88  ▶Piano Rcv Ch=01        →
88  >Delay In(500ms)=ON
```

5 **Use the [–/NO] and [+/YES] buttons to select a MIDI channel.**

☞ See page 66 for a list of available options.

6 **Press [➡] until the ▶ cursor is next to the Delay In parameter, then use the [–/NO] and [+/YES] buttons to set the Delay In (500 ms) to OFF.**

```
88  >Piano Rcv Ch=1+2       →
88  ▶Delay In(500ms)=OFF
```

7 **Press [FUNC.] or [STOP] to return to the normal display.**

Sending Song Data to a MIDI Instrument

The parts of an Ensemble song are usually played by the internal XG tone generator. However, because the song data that is sent to the internal XG tone generator is simultaneously sent to the MIDI OUT connector, you can also output the song file to an external tone generator or a MIDI instrument such as a synthesizer.

When playing back songs from a computer, for example, it is a good idea to connect an external tone generator if the song has more than 16 channels. In this case, the Disklavier will play channels 1 to 16 and the rest of the channels will be played by the external tone generator. See "Playing Back More than 16 Channels" on page 74.

For the best compatibility, your external MIDI instrument should support Yamaha XG, General MIDI (GM), or both.

1 **Connect the Disklavier's MIDI OUT to the external MIDI instrument's MIDI IN connector using a MIDI cable.**

2 **Press [FUNC.].**

The FUNC. indicator lights and the Function menu appears.

3 **Press [➡] until the ▮ cursor is next to the MIDI Setup option, then press [ENTER].**

The following display appears.

4 **Press [➡] until the ▮ cursor is next to the MIDI Out option, then press [ENTER].**

5 **Use the [–/NO] and [+/YES] buttons to select ESBL Out.**

6 **Press [FUNC.] or [STOP] to exit the MIDI Setup mode.**

Playing Back Import Files

Songs recorded onto floppy disks using MIDI equipment other than the Disklavier can be played back with the Disklavier. These are called "import files". For these files, you must specify the tracks to be played by the Disklavier piano, as piano parts in import files may be stored on any track.

1 **Insert the song disk into the disk drive.**

2 **Press [FUNC.].**

The FUNC. indicator lights and the Function menu appears.

3 **Press [➡] until the ▸ cursor is next to the MIDI Setup option, then press [ENTER].**

The following display appears.

```
00  ▸Piano Part  *MIDI Out
0.0.*Remote      *Local
```

4 **With the ▸ cursor next to the Piano Part option, press [ENTER]. Then, press [➡] until the following display appears.**

```
00  ⬅Import File L▸01  R=##
0.0.  PianoPart ESBL Out=OFF
```

5 **Use the [–/NO] and [+/YES] buttons to set the piano part channels.**

Option	Description
##	The import file is played by the tone generator only.
01 - 16	The import file is played by the piano on the specified MIDI channel.
Prg	The import file is played by the piano on the channel with the smallest number containing a piano group voice.
Prg(all)	All channels that contain a piano group voice in the import file is played by the piano.

6 **Press [PLAY] to play back the song disk.**

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Chapter 17
The Disklavier & Personal Computers

Creating music with computers used to be a job for professionals only. However, in this age of multimedia and personal computers, almost anyone can enjoy creating music.

General MIDI and Standard MIDI File (SMF) formats supported by the Disklavier are formats common to most personal computers and MIDI instruments. For example, use your personal computer to download SMF data from the Internet and play it on the Disklavier.

The Disklavier can be connected to a personal computer using the TO HOST connector. It can also be connected via MIDI IN/OUT connectors, but a separate MIDI interface is required. The TO HOST connector allows you to connect your Disklavier to a personal computer without the MIDI interface.
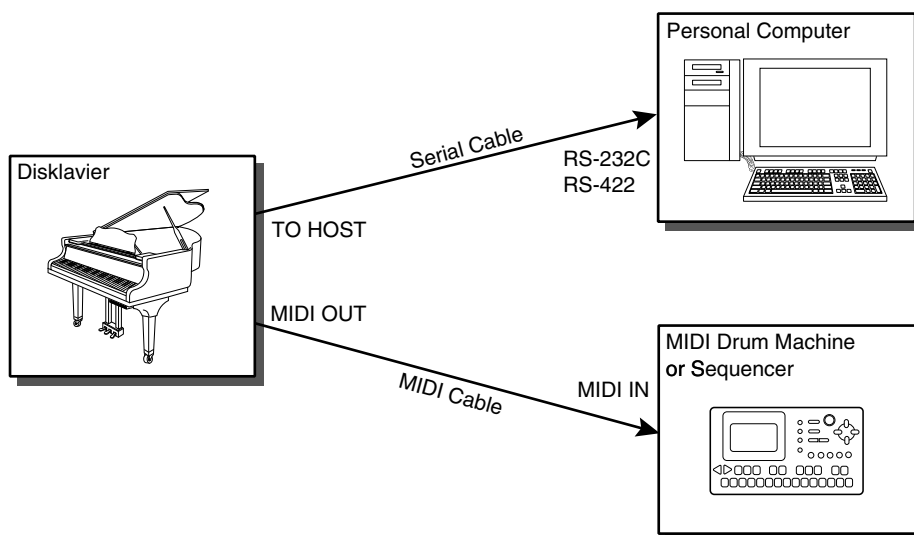
Note: To use the Disklavier properly with the computer setups described in this chapter, it is recommended that you connect your computer to the TO HOST connector and set the HOST SELECT switch to PC1, PC2, or MAC depending on your computer type. See "Setting the HOST SELECT Switch" on page 73.

Connecting to a Personal Computer

Specifically, Apple Macintosh, IBM PC/AT, and NEC PC-9801/9821 series computers can be directly connected to the Disklavier. Connect the RS-232C or RS-422 connector on your computer to the TO HOST connector on the Control Unit using the specified cables shown below (available separately). Also refer to your computer's operating manual to make sure the connection is made properly.

Your computer may also require a serial port driver for this function. This software is used for controlling the MIDI interface. For further information, please consult your Yamaha dealer.

Note: Be sure to turn the computer and Disklavier power switches off before making the connections and setting the HOST SELECT switch.

Connecting to an Apple Macintosh Series Computer

Use a standard Macintosh 8-pin system peripheral cable.

Mini DIN 8-pin

1	2 (HSK 1)
2	1 (HSK 0)
3	5 (RxD-)
4	4 (GND)
5	3 (TxD-)
6	8 (RxD+)
7	7 (GP 1)
8	6 (TxD+)
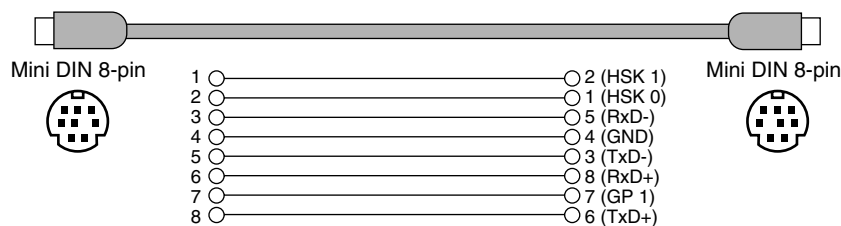
Mini DIN 8-pin

Connecting to an NEC PC-9801/9821 Series Computer

Use a standard 8-pin MINI DIN ➔ 25-pin D-SUB cross cable.

Mini DIN 8-pin

1	5 (CTS)
2	4 (RTS)
3	3 (RxD)
4	7 (GND)
8	
5	2 (TxD)

D-SUB 25-pin

Male connector
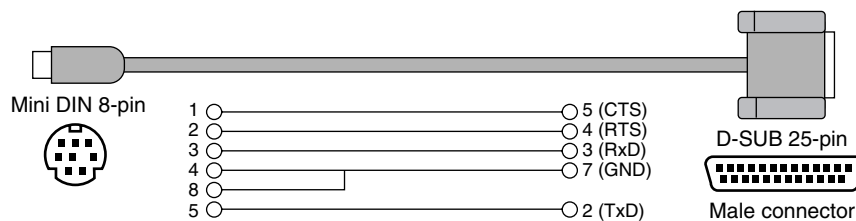
Connecting to an IBM PC/AT Series Computer

(a) Use a standard 8-pin MINI DIN ➔ 9-pin D-SUB cross cable.

Mini DIN 8-pin

1	8 (CTS)
2	7 (RST)
3	2 (RxD)
4	5 (GND)
8	
5	3 (TxD)

D-SUB 9-pin

Female connector

(b) Use a standard 8-pin MINI DIN ➔ 25-pin D-SUB cross cable.

Mini DIN 8-pin

1	5 (CTS)
2	4 (RTS)
3	3 (RxD)
4	7 (GND)
8	
5	2 (TxD)

D-SUB 25-pin

Female connector
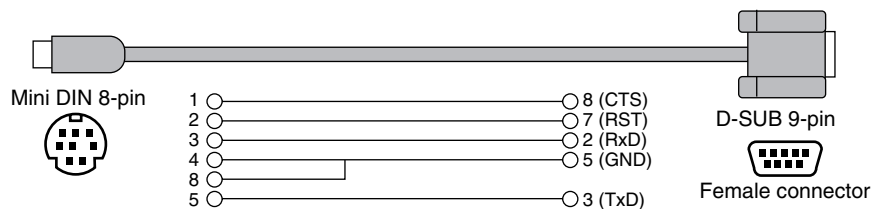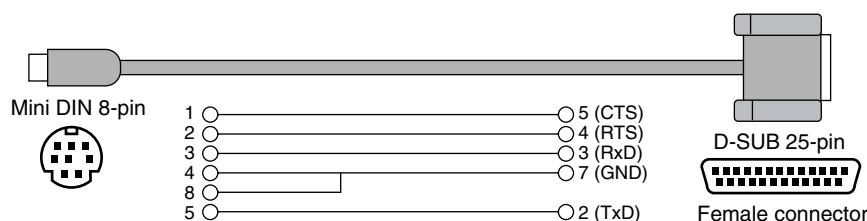
Setting the HOST SELECT Switch

Set the HOST SELECT switch on the rear panel of the Control Unit according to your computer type.

HOST SELECT

```
PC1 ┌─┐ ┌─ PC2
MIDI ┐│ │┌ MAC
     └─┘
     [ ]
```
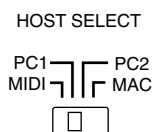
HOST SELECT	Computer type	Baud rate	Remarks
MAC	Apple Macintosh series	31,250	On the computer side, set the clock speed to 1 MHz.
PC1	NEC PC-9801/9821 series	31,250	Some software require the HOST SELECT switch to be set to PC2 (38,400 bps) in order to function properly.
PC2	IBM PC/AT series	38,400	
MIDI	General MIDI equipment	31,250	MIDI data is sent/received via MIDI OUT/IN connectors, and not the TO HOST connector.

* Apple and Macintosh are trade marks of Apple Computer, Inc.
* IBM PC/AT is a trademark of International Business Machines Corporation.
* PC-9801/9821 is a trademark of NEC Corporation.

Playing Back Songs Created in a Computer

Songs created and stored in your computer system can be played back by the Disklavier.

1 Press [FUNC.].

The FUNC. indicator lights and the Function menu appears.

2 Press [➡] until the ▸ cursor is next to the MIDI Setup option, then press [ENTER].

The following display appears.

```
88 ▸Piano Part *MIDI Out
88 *Remote
```

3 With the ▸ cursor next to the Piano Part option, press [ENTER].

The following display appears.

```
88 ▸Piano Rcv Ch=01      →
88 >Delay In(500ms)=ON
```

4 With the ▸ cursor next to the Piano Rcv Ch parameter, use the [–/NO] and [+/YES] buttons to select the channel for the piano part.

The selected channel will be played by the Disklavier piano, and the other channels by the internal XG tone generator. See "Receiving Data from a MIDI Sequencer" on page 66 for details on MIDI channels.

5 Press [➡] until the ▶ cursor is next to the Delay In parameter, then use the [–/NO] and [+/YES] buttons to set it.

```
88 >Piano Rcv Ch=1+2
88 ▶Delay In(500ms)=ON
```

Option	Description
ON	A delay of 500 ms is applied to all incoming MIDI data from the computer so that the timing of the piano and the internal XG tone generator match for smooth playback.
OFF	The delay is not applied, and the piano is played in "real time". However, playback will not be smooth. When Piano Rcv Ch is set to ##, all channels are played by the internal XG tone generator, so Delay In is automatically set to OFF.

☞ For more information on the 500 ms delay function, see "Controlling the Disklavier in Real Time" on page 68.

6 Press [FUNC.] or [STOP] to return to the normal display.

Playing Back More than 16 Channels

You can play back from a computer song data that contains up to 32 channels by connecting the Disklavier's TO HOST connector to the serial port on a computer and its MIDI OUT connector to a MIDI instrument. The 32 channels are sent to the Disklavier using software corresponding to port signals. The Disklavier plays channels 1 to 16 (port 1), and channels 17 to 32 (port 2) are output to an external MIDI instrument.

1 Press [FUNC.].

2 Press [➡] until the ▶ cursor is next to the MIDI Setup option, then press [ENTER].

The following display appears.

```
88 ▶Piano Part *MIDI Out
88 *Remote
```

3 Press [➡] until the ▶ cursor is next to the MIDI Out option, then press [ENTER].

The following display appears.

```
88 ▶MIDI Out=ESBL Out
88
```

4 With the ▶ cursor next to the MIDI Out parameter, use the [–/NO] and [+/YES] buttons to select "Thru Port2".

5 Press [FUNC.] or [STOP] to return to the normal display.

Chapter 18
Resetting Your Disklavier

If you want to return your Disklavier to its initial factory settings, follow the Reset function below.

Resetting Your Disklavier

You can reset all settings, the Memory Disks, or both.

1 **Specify a disk.**

When you select a Memory Disk, the reset function will be effective for the selected disk only.
If you select Memory Disk 0, the disk is reset in SMF format, and an "opening" song is automatically re-recorded on the disk. If you select Memory Disk 1 to F, the disks are reset in SMF format, and nothing is recorded on the disk.

2 **Press [FUNC.].**

The FUNC. indicator lights and the Function menu appears.

3 **Press [➡] until the ▶ cursor is next to the Reset option, then press [ENTER].**

The following display appears.

```
8.8.  ==Reset==      (-,+,ENT)
        ▶MemoryDisk[2]+Setup
```

4 **Use the [–/NO] and [+/YES] buttons to select the item that you want to reset. Then press [ENTER].**

Option	Description
Setup	All settings (See next page.)
Memory Disk [X] + Setup	Memory disk number [X] and all settings (SMF format; sample song included) (See also next page.)
Memory Disk [X]	Memory disk number [X] only (SMF format; sample song included)

The following display appears.

```
8.8.  ==Reset==  SURE?(YES,NO)
        ▶MemoryDisk[2]+Setup
```

5 **Press [+/YES] to reset the settings.**

If you do not want to reset the settings, press [–/NO].

The following table lists the defalt settings for the items that can be reset.

Parameter	Default	Options
General		
Volume	0	-10 to 0
Tempo	0	-50 to +20
Transpose	0	-24 to +24
Repeat	OFF	ALL, RPT, RND, A-B
Pedal Cancel	PD on	PDoff, PD on
Metronome		
Click	ON	OFF, ON
Tempo	117	30 to 400
Beat	4/4	1/4 to 9/4
Pedal Count	OFF	OFF, ON
Vol (for models with *Silent* system playback)	100	50 to 127
M-Tune		
TG Master Tune	00	-50 to 00 to +50
BALANCE		
TG Master Balance	100	0 to 127, OFF
MIDI Setup		
Piano Rcv Ch	01	##, 01 - 16, 1+2, Prg, Prg(all)
Delay In (500 ms)	ON	ON, OFF
Import File L	Prg	##, 01 - 16, Prg, Prg(all)
Import File R	Prg	##, 01 - 16, Prg
Piano Part ESBL Out	OFF	OFF, ON
MIDI Out	ESBL OUT	ESBL Out, Thru Port2
Out Ch	01	01 to 16
Split	OFF	OFF, A-1 to C-7
Trans L	00	-60 to 00 to +60
Trans R	00	-60 to 00 to +60
Remote Out	OFF	OFF, ON
Remote In	OFF	OFF, ON
***Silent* Functions** (for models with *Silent* system playback)		
Reverb type	HALL1	ROOM, HALL1, HALL2
Keyboard movement	ON	ON, OFF
Polyphony	32	32, 64

Chapter 19
Troubleshooting

If you are having difficulty operating your Disklavier, see if any of the symptoms listed below apply to your problem and follow the recommended remedy.

Power

You cannot turn on the Disklavier.
*   Make sure the power cord is connected to a suitable AC outlet.
*   Switch on the Disklavier's "MAINS" switch.
*   Press the [STANDBY / ON] button and turn on the Control Unit.
*   If the Disklavier still cannot be turned on, disconnect it from the AC wall outlet, and consult your Disklavier dealer.
☞ *See "Turning On the Disklavier" on page 11.*

Control Unit

The Control Unit does not appear to work correctly.
*   Turn off the Control Unit, wait 5 seconds, then turn it back on.
    If the problem continues, consult your Disklavier dealer.

Remote Control

You cannot control the Disklavier using the remote control.
*   Make sure that you are pointing the remote control at the Control Unit's remote control sensor.
*   Make sure that you are within the remote control's specified operating range.
☞ *See "Using the Remote Control" on page 2.*

*   Make sure that the remote control's batteries have been installed correctly.
☞ *See "Installing Batteries in the Remote Control" on page 2.*
*   Check the condition of the remote control's batteries.
☞ *See "Battery Replacement" on page 2.*

Playback

None of the playback functions can be used.
*   Insert a Disklavier song disk into the disk drive.

Songs are played back at the wrong tempo or in the wrong key.
*   Reset the tempo or transposition functions. Once the tempo or transposition functions have been set, they will affect playback of all songs until another disk is inserted, or they are reset.

Songs are not played back in the normal song order.
*   Check that the "RND" and "RPT" repeat functions are off.
☞ *See "All Song, Single Song, Random Repeat" on page 29.*

You selected a song using the remote control's number pad, but the last song on the disk is selected.
*   If a song number higher than the last song number on the disk is specified, the last song will be selected.

A search time is specified using the remote control, but the end of the song is selected.

• If a time value higher than the total length of the song is specified, the end of the song will be selected.

During playback, complex note trills and faint pianissimo passages are occasionally missed.

• Increase the Disklavier's volume level. The Disklavier lowers the playback volume by reducing the force applied to each hammer. So for notes that are already quiet (pianissimo, etc.), when the playback volume is reduced there may not be enough force applied to a hammer for it to strike the strings.

The metronome does not sound during song playback.

• Check that the song uses a measures and beats time format. If not, the metronome will not sound.

The keyboard does not sound in *Quiet* or *Silent* mode.

• You can only play back songs from a disk in *Quiet* and *Silent* modes. Neither the acoustic piano nor digital piano can be played.

☞ *See "Quiet Mode and Silent Mode" on page 23.*

Pedal

During playback, the pedals do not operate.

• Check that the pedal cancel function is not set to "PDoff."

☞ *See "Operating the Pedals Yourself" on page 34.*

Tone Generator (Ensemble Playback)

During Ensemble song playback, the Ensemble parts cannot be heard.

• Make sure that the amp's volume control is set to an appropriate level.

• Readjust the volume balance.

☞ *See "Balancing the Ensemble Volume (TG Master Balance)" on page 21.*

The pitch of the Disklavier and internal XG tone generator do not match.

• Use the TG Master Tune function to tune the internal XG tone generator.

☞ *See "Tuning the Tone Generator (TG Master Tune)" on page 38.*

The TG Master Balance function does not adjust the volume of the internal XG tone generator.

• Make sure that the BALANCE parameter is set to OFF.

☞ *See "Balancing the Ensemble Volume (TG Master Balance)" on page 21.*

Connection with External Devices

The Disklavier cannot send and receive MIDI data with other MIDI instruments.

• Make sure the MIDI cables are connected properly.

Disk Utilities

You cannot copy a song in a Memory Disk onto a floppy disk.

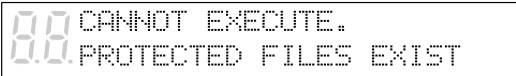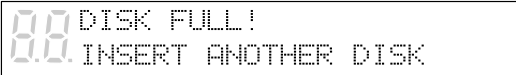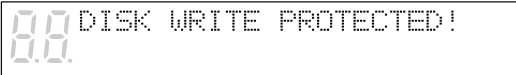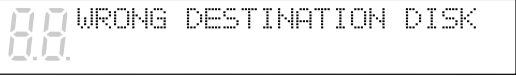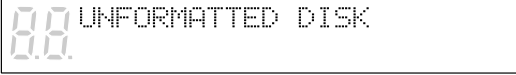• Copy-protected songs in a Memory Disk cannot be copied onto a floppy disk. They can only be copied onto another Memory Disk.

• Make sure that the floppy disk's erasure tab is set to "unprotected."

☞ *See "Floppy Disk Accidental Erasure Protection" on page 61.*

Chapter 20
Display Error Messages

While operating your Disklavier, an error message may appear in the display. If an error message appears, refer to the table below for an explanation of the message.

Note: This table does not explain every error message.

`CANNOT EXECUTE.` `PROTECTED FILES EXIST`	The current function cannot be executed because protected files exist on the floppy disk.
`DISK FULL!` `INSERT ANOTHER DISK`	No more song data can be copied to the selected disk because the disk is full. Use another disk.
`DISK WRITE PROTECTED!`	The current function cannot be performed because the floppy disk's erasure protection tab is set to "protected." Set the disk's erasure protection tab to "unprotected." ☞ See "Floppy Disk Accidental Erasure Protection" on page 61.
`NOT ENOUGH DISK SPACE`	No more song data can be copied onto the disk because the disk is nearly full.
`SONG FILE NOT FOUND`	The current function cannot be performed because this disk contains no songs or only one song.
`WRONG DESTINATION DISK`	A wrong floppy disk has been inserted as the destination disk. Insert the correct floppy disk.
`UNFORMATTED DISK`	The disk is either new and has not yet been formatted for use with the Disklavier or uses a format not recognized by the Disklavier. Format the disk. ☞ See "Formatting Disks" on page 61.
`UNSUITABLE DISK FORMAT`	In order to be copied, the destination disk must be the same format as the floppy disk.
`ONLY E-SEQ FILES` `CAN BE COPIED`	Only E-SEQ files can be copied onto an E-SEQ type disk.
`ERROR HAS OCCURRED!` `(PRESS STOP KEY!)`	The disk may be damaged. Press the Stop key to clear the message. If this message appears frequently with other disks as well, contact your nearest Yamaha service representative.

Chapter 21
Glossary

This glossary provides basic definitions of terms used frequently in Disklavier manuals.

bpm
An abbreviation for beats per minute

Chain Play
A Disklavier function for playing back multiple disks sequentially.

Clavinova™
A series of Yamaha digital pianos.

Continuous Pedal
See "Incremental Pedal".

Cursor
The "✛" symbol that is used on the LCD to show the currently selected function or option. When entering song or disk titles, the cursor will be the "_" symbol. Do not confuse this with the [◀] and [▶] buttons.

Disk
Storage media for data. For clarity in the Disklavier manuals, "disk" is used as a generic term to refer to both the floppy disk and Memory Disks.

Ensemble Song
A song which contains piano parts and accompanying instrumental voices.
An Ensemble song contains the same left and right-hand parts as an L/R song, and in addition, up to 13 accompanying instrument tracks. These extra tracks are played by the internal XG tone generator. The accompanying tracks may be used for acoustic bass, drums, strings, vibes, etc.

E-SEQ Song Format
A song file format developed by Yamaha for saving songs.

E-SEQ Type Disk
One of two disk types that the Disklavier uses to format disks. E-SEQ type disks are compatible with earlier Disklavier models.

Fast Forward & Reverse
Two Disklavier functions that allow you to quickly locate a position within a song. This is faster than preview and review, but the Disklavier does not play.

Fast Preview & Review
Two Disklavier functions that allow you to search quickly through a song with the Disklavier playing.

Floppy Disk
The magnetic storage medium that the Disklavier uses to save songs. The Disklavier uses the 3.5 inch 2DD and 2HD floppy disks commonly used for computers.

Formatting
New disks must be formatted before they can be used with the Disklavier. Formatting prepares the disk so that it is ready to store Disklavier song data.

General MIDI (GM)
An addition to the MIDI standard that simplifies the transfer of MIDI song files between instruments of different manufacturers. A MIDI song recorded using a GM compatible tone generator should play back correctly when used with any GM compatible tone generator. The standard specifies that a GM compatible tone generator must support 24-note polyphony, 16 parts, and 128 standard voices.

Half Pedal
See "Incremental Pedal".

Import File
Songs recorded onto floppy disks using MIDI equipment other than the Disklavier and played back by the Disklavier.

Incremental Pedal
Piano pedals are not always completely up or down, and may be held somewhere in-between. Using incremental pedal data (also called continuous or half pedal data), the Disklavier precisely reproduces the up and down movement of the piano pedals.

LCD
Liquid Crystal Display. The Control Unit has an LCD that shows 2 large characters and 2 lines of 24 small characters. For clarity in the Disklavier manuals, the LCD is referred to as the "display".

LED
Light Emitting Diode. The Control Unit's front panel indicators are LEDs.

L/R Song
In a L/R song, the left-hand piano part is stored on track 1 (L) and the right-hand piano part is stored on track 2 (R). During playback you can cancel either part, and then play that part yourself.

Memory Disk
The Disklavier has 16 internal Memory Disks that allow you to store song data without a floppy disk. Each Memory Disk has a memory capacity of 1MB.

Metronome
A built-in device designed to mark exact time by a regularly repeated click and flashing LED.

MIDI
An acronym for Musical Instrument Digital Interface. MIDI allows electronic musical instruments to communicate with each other.

Piano Parts
Refers to the left- and right-hand piano parts of a song. The left-hand piano part is recorded onto track 1 and the right-hand piano part is recorded onto track 2. These track assignments are the default settings and can be changed.

PianoSoft™
The PianoSoft Disk Collection is a library of prerecorded song disks made by Yamaha specifically for use with the Disklavier.

PianoSoft·Plus™
PianoSoft·Plus disks contain Ensemble songs that can be played back on the Disklavier.

Polyphony
The maximum number of voices (or sounds) that can be produced at a time from MIDI instruments.

Program Change Message
A type of MIDI message that is used for selecting programs or voices. When an Ensemble song starts playing, Program Change messages are sent to the tone generator to select the correct instrument voices for each ensemble track.

Quiet Mode (for models with *Silent* system playback)
A *Silent* system mode in which sound is output through the speakers, enabling you to freely adjust the volume of the piano.

Reverb (for models with *Silent* system playback)
Short for "reverberation." The effect that adds a more realistic feel to a sound by simulating the reflection of the sound in rooms and halls of various sizes.

Rhythm Track
Tracks of an ensemble song designated for the accompanying rhythm. The rhythm track is unaffected by the playback transposition function.

Search
A Disklavier function that allows you to start playback from a specific point within a song. This function is set using the remote control.

Sequencer

A sequencer can be used with the Disklavier to play back and record MIDI data.

Silent Mode (for models with *Silent* system playback)

A *Silent* system mode in which sound is output through connected headphones so that you can listen to songs or play the piano without disturbing people around you.

Silent System (for models with *Silent* system playback)

Yamaha's innovative system in which a push of the [SILENT] button keeps the hammers from striking the strings, effectively silencing the acoustic piano. Sound is sent to the digital piano tone generator and output through the speakers (*Quiet* mode) or headphones (*Silent* mode).

SMF

Abbreviation for Standard MIDI File.

SMF Song Format

A song file format supported by MIDI sequencers and music software.

SMF Type Disk

One of two disk types that the Disklavier uses to format disks.

Song

Normally, a short piece of music with lyrics. However, for clarity in Disklavier manuals, the term is used to refer to any piece of music of any genre.

Song Format

The method used to store song data in a file. PianoSoft and PianoSoft·Plus songs use the E-SEQ format. The Disklavier also supports songs in the Standard MIDI File (SMF) format.

Song Number

All songs on a Disklavier disk are numbered sequentially. The currently selected song number is shown in the LCD. Songs can be selected directly by entering the song number using the remote control's number pad.

Song Sort

A Disklavier function that allows you to rearrange the order of songs on a disk.

Split Point

When a keyboard split point is set before recording, notes played on the left-hand side of the split point are saved as the left-hand part and notes played on the right-hand side of the split point are saved as the right-hand part. This allows you to play the left- and right-hand parts simultaneously, but on different tracks.

Standard MIDI File (SMF)

A file of MIDI data that can be read and used by a number of different MIDI devices and computers. The Disklavier supports all SMF playback functions.

System Exclusive Messages

MIDI messages used for sending system data to a connected MIDI device. For example, when tuning the internal XG tone generator or an external tone generator, System Exclusive Messages are sent via MIDI.

TG Master Balance

A function that allows you to balance the volume levels of the Disklavier and the internal XG tone generator.

TG Master Tune

The function that allows you to tune the internal XG tone generator, and if connected, an external tone generator simultaneously so that their tunings match that of the Disklavier.

Timer Play

A Disklavier function for automatically playing back groups of disks at pre-set times.

Tone Generator

An electronic device that can generate tones or instrument voices.

Track

Disklavier ensemble song data is organized as tracks. One song can be composed of up to 16 tracks.

Transpose

Changing the key of a song. For example, a song in the key of C is transposed to the key of D when it is moved up two semitones.

Velocity

Because the loudness of a piano note is determined by the speed (velocity) with which a string is struck by a hammer, note loudness is referred to as velocity.

Voice

The sounds produced by a tone generator expressing various instruments. See Chapter 22 "Internal XG Tone Generator Voice & Drum Kit List" for a listing of basic voices.

XG

Yamaha XG is an extension of the GM (General MIDI) format. Its greater polyphony, more voices, and use of effects enhances the compatibility between MIDI devices. When a song in the Yamaha XG format is played on another XG-compatible tone generator or synthesizer, it plays and sounds as the original composer/creator intended.

Chapter 22
Internal XG Tone Generator Voice & Drum Kit List

The following table lists the basic voices for the internal XG tone generator. These voices are available on any XG compatible generator or synthesizer.

Internal XG Tone Generator Basic Voice List

Voice #	Display Name	Full Name	Voice #	Display Name	Full Name
Piano			**Bass**		
001	GrandPno	Acoustic Grand Piano	033	Aco.Bass	Acoustic Bass
002	BritePno	Bright Acoustic Piano	034	FngrBass	Electric Bass fingered
003	E.Grand	Electric Grand Piano	035	PickBass	Electric Bass picked
004	HnkyTonk	Honky-tonk Piano	036	Fretless	Fretless Bass
005	E.Piano1	Electric Piano 1	037	SlapBas1	Slap Bass 1
006	E.Piano2	Electric Piano 2	038	SlapBas2	Slap Bass 2
007	Harpsi.	Harpsichord	039	SynBass1	Synth Bass 1
008	Clavi.	Clavichord	040	SynBass2	Synth Bass 2
Chromatic Percussion			**Strings**		
009	Celesta	Celesta1	041	Violin	Violin
010	Glocken	Glockenspiel	042	Viola	Viola
011	MusicBox	Music Box	043	Cello	Cello
012	Vibes	Vibraphone	044	Contrabs	Contrabass
013	Marimba	Marimba	045	Trem.Str	Tremolo Strings
014	Xylophon	Xylophone	046	Pizz.Str	Pizzicato Strings
015	TubulBel	Tubular Bells	047	Harp	Orchestral Harp
016	Dulcimer	Dulcimer	048	Timpani	Timpani 1
Organ			**Ensemble**		
017	DrawOrgn	Drawbar Organ	049	Strings1	String Ensemble1
018	PercOrgn	Percussive Organ	050	Strings2	String Ensemble2
019	RockOrgn	Rock Organ	051	Syn.Str1	Synth Strings 1
020	ChrchOrg	Church Organ	052	Syn.Str2	Synth Strings 2
021	ReedOrgn	Reed Organ	053	ChoirAah	Choir Aahs
022	Acordion	Accordion	054	VoiceOoh	Voice Oohs
023	Harmnica	Harmonica	055	SynVoice	Synth Voice
024	TangoAcd	Tango Accordion	056	Orch.Hit	Orchestral Hit
Guitar			**Brass**		
025	NylonGtr	Acoustic Nylon Guitar	057	Trumpet	Trumpet
026	SteelGtr	Acoustic Steel Guitar	058	Trombone	Trombone
027	Jazz Gtr	Electric Jazz Guitar	059	Tuba	Tuba
028	CleanGtr	Electric Clean Guitar	060	Mute.Trp	Muted Trumpet
029	Mute.Gtr	Electric muted Guitar	061	Fr.Horn	French Horn
030	Ovrdrive	Overdriven Guitar	062	BrasSect	Brass Section
031	Dist.Gtr	Distortion Guitar	063	SynBras1	Synth Brass 1
032	GtrHarmo	Guitar Harmonics	064	SynBras2	Synth Brass 2

Voice #	Display Name	Full Name
Reed		
065	SprnoSax	Soprano Sax
066	Alto Sax	Alto Sax
067	TenorSax	Tenor Sax
068	BariSax	Baritone Sax
069	Oboe	Oboe
070	Eng.Horn	English Horn
071	Bassoon	Bassoon
072	Clarinet	Clarinet
Pipe		
073	Piccolo	Piccolo
074	Flute	Flute
075	Recorder	Recorder
076	PanFlute	Pan Flute
077	Bottle	Bottle Blow
078	Shakhchi	Shakuhachi
079	Whistle	Whistle
080	Ocarina	Ocarina
Synth Lead		
081	SquareLd	Lead 1 (square)
082	Saw.Lead	Lead 2 (saw tooth)
083	CaliopLd	Lead 3 (calliope)
084	Chiff Ld	Lead 4 (chiff)
085	ChranLd	Lead 5 (charang)
086	Voice Ld	Lead 6 (voice)
087	Fifth Ld	Lead 7 (fifths)
088	Bass &Ld	Lead 8 (bass+lead)
Synth Pad		
089	NewAgePd	Pad 1 (new age)
090	Warm Pad	Pad 2 (warm)
091	PolySyPd	Pad 3 (polysynth)
092	ChoirPad	Pad 4 (choir)
093	BowedPad	Pad 5 (bowed)
094	MetalPad	Pad 6 (metallic)
095	Halo Pad	Pad 7 (halo)
096	SweepPad	Pad 8 (sweep)

Voice #	Display Name	Full Name
Synth Effect		
097	Rain	SFX 1 (rain)
098	SoundTrk	SFX 2 (soundtrack)
099	Crystal	SFX 3 (crystal)
100	Atmosphr	SFX 4 (atmosphere)
101	Bright	SFX 5 (brightness)
102	Goblin	SFX 6 (goblins)
103	Echoes	SFX 7 (echoes)
104	Sci-Fi	SFX 8 (sci-fi)
Ethnic		
105	Sitar	Sitar
106	Banjo	Banjo
107	Shamisen	Shamisen
108	Koto	Koto
109	Kalimba	Kalimba
110	Bagpipe	Bag pipe
111	Fiddle	Fiddle
112	Shanai	Shanai
Percussive		
113	TnklBell	Tinkle Bell
114	Agogo	Agogo
115	SteelDrm	Steel Drums
116	WoodBlok	Woodblock
117	TaikoDrm	Taiko Drum
118	MelodTom	Melodic Tom
119	Syn.Drum	Synth Drum
120	RevCymbl	Reverse Cymbal
Sound Effects		
121	FretNoiz	Guitar Fret Noise
122	BrthNoiz	Breath Noise
123	Seashore	Seashore
124	Tweet	Bird Tweet
125	Telphone	Telephone Ring
126	Helicptr	Helicopter
127	Applause	Applause
128	Gunshot	Gun Shot

Internal XG Tone Generator Drum Kit List

Kit #	Display Name	Full Name
001	StandKit	Standard Kit
002	Stnd2Kit	Standard Kit #2
009	Room Kit	Room Kit
017	Rock Kit	Rock Kit
025	ElectKit	Electronic Kit
026	AnalgKit	Analog Kit

Kit #	Display Name	Full Name
033	Jazz Kit	Jazz Kit
041	BrushKit	Brush Kit
049	ClascKit	Classic Kit
001	SFX Kit 1	SFX Kit1
002	SFX Kit 2	SFX Kit2

Chapter 23
Specifications

		Playback models	Playback models with *Silent* system
Sensor System	Pedal Sensors	Sustain & shift: incremental, position-sensing, optical Sostenuto[1]: on/off, optical	
Drive System	Keys	New, high-power, high-efficiency solenoids; 16-note polyphonic	
	Pedals	Sustain & shift: trapwork-integrated solenoids; incremental response	
Data Storage	Internal Memory	1 MB × 16 flash memory disks (16 MB total); up to 9 groups and 99 program sets; built-in calendar/clock/timer	
	File Format	Standard MIDI File (format 0, 1) / E-SEQ	
Removable Media	Floppy Disk	3.5" 2DD (720 KB) or 2HD (1.44 MB) floppy disk	
Control Unit	Main Display	Song number plus 24-character × 2-line LCD	
	Function Indicators	LEDs	
	Drive	Floppy disk	
	Switches	Power, Host Select (MIDI, PC1, PC2, Mac)	
	Dimensions (WHD)	227 × 64 × 180 mm (9" × 2 1/2" × 7")	
	Weight	1.6 kg (3.5 lbs)	
Amplification		60W × 2; tone and volume controls	
	Speakers	16 cm (6 1/4") woofer × 2, 2.5 cm (1") tweeter × 2	
Connectors		MIDI In/Out, AUX In/Out (R, L/Mono), Headphones[2] × 2, To Host (serial port), To Piano, Foot Controller	
Ensemble Tone	Type	Advanced Wave Memory 2 (AWM2)	
	Polyphony	32-note max.	
	Ensemble Parts	16	
	Voice Module Modes	XG, GM	
	Normal Voices	676 (480 selectable)	
	Drum Voices	21 kits total (11 selectable)	
	Pitch	Set at A=440, tunable ±50 cents in 1-cent increments	Set at A=440, tunable ±50 cents in 1-cent increments (in unison with digital piano tone)
Silent System	Silencing Mechanism	—	Motor-driven hammer shank stopper (switch control)
	Action Compensation	—	*Quick Escape* mechanism
	Piano Tone	—	AWM2 digital stereo sampling (CFIIIS concert grand); 16 MB wave memory w/sustain pedal resonance effects
	Polyphony	—	32-note stereo sampling/ 64-note stereo
Power Source		Local AC current	

Supplied Accessories	Wireless remote control unit w/batteries, PianoSoft sample disk, blank 3.5" 2HD floppy disk, owner's manuals, control unit suspension bracket	Wireless remote control unit w/batteries, PianoSoft sample disk, blank 3.5" 2HD floppy disk, owner's manuals, control unit suspension bracket, HPE-170 headphones
Optional Accessories	FC-4, FC-5 foot switches, FC-7 foot controller	FC-4, FC-5 foot switches, FC-7 foot controller

Function & Controls

Playback Functions	Media Select	Floppy disk, Memory Disks (1 to 16), CD
	Song Select	Rev/fwd, song by song; numerical selection
	Music Search	Rev/fwd, w/ or w/o sound; direct by time or measure
	Repeat	Disk, song, random, segment A~B, segment A~
	Programming	9 disk groups, 99 program sets, chain play, timer play
	Others	L/R part select, auto start, space playback
Playback Controls	Volume	11 levels (0 ~ -10)
	Tempo	-50 ~ +20 in 1 % steps
	Transposition	±24 semitones (2 octaves) in 1-semitone steps
	Balance	Balancing volume of ensemble voices and piano
	Others	Keyboard cancel, pedal cancel, pedal count-in
Recording Functions	Tracks	16 (including 2 for piano)
	L/R Dual Recording	Separate L/R or assignable split point
	Quantize	1/4, 1/6, 1/8, 1/12, 1/16 of a quarter note
	Others	Re-recording
Silent System Controls	Power	On/ off (w/ pilot lamp)
	Volume	Continuous
	Reverb	3 modes, depth control
Metronome	Range	30 ~ 400 beats per minute
	Time Signatures	1/4, 2/4, 3/4, 4/4, 5/4, 6/4, 7/4, 8/4, 9/4
	Function	Audible (tick, on/off, volume controllable in the *Silent* system), visual (LEDs)
Editing Functions	Track	Mix, move, copy, delete, transpose
Utility Functions	Song	Copy, sort, delete, type convert (SMF, E-SEQ, earlier Disklavier), time format convert
	Disk	Format, copy, type convert
	Calendar/Clock/Timer	Current time display, time/date stamp for recording
	Title Entry	Disk: 64 characters max. Song: 32 characters max.

Notes: 1 Not applicable to models with other center pedal functions.

2 Models with Silent system only.

Specifications are subject to change without prior notice.

Function...		Transmitted	Recognized	Remarks
Basic Channel	Default Changed	✕ ✕	1-16 1-16	Memorized
Mode	Default Messages Altered	✕ ✕ ****************	3 3, 4 (m=1) *2, *3 ✕	
Note Number :	 True voice	✕ ****************	0-127 0-127	
Velocity	Note ON Note OFF	✕ ✕	○ v=1-127 ○	
After Touch	Key s Ch s	✕ ✕	○ *1, *2 ○ *1, *2	
Pitch Bend		✕	○ 0-24 semi *1, *2	
Control Change	0, 32	○	○ *1, *2	Bank Select
	7, 11	○	○ *1	
	1, 5, 10	✕	○ *1, *2	
	6, 38	✕	○ *2	Data Entry
	64	✕	○	Hold1 (Sustain)
	65	✕	○ *2	Portament
	66	✕	○ *2	Sostenuto
	67	✕	○	Soft (Shift) Pedal
	71-74, 84	✕	○ *2	
	91, 93, 94	✕	○ *2	Effect Depth
	96-101	✕	○ *1, *2	
Prog Change : True #		○ 0-127 ****************	○ 0-127 *2	
System Exclusive		○	○	
Common	: Song Pos : Song Sel : Tune	○ *1 ○ *1 ✕	○ *1 ○ *1 ✕	
System Real Time	: Clock : Commands	○ ○ *1	✕ ○ *1	
Aux Mes- sages	: All Sound OFF : Reset All Cntrls : Local ON/OFF : All Notes OFF : Active Sense : Reset	○ ✕ ✕ ○ ○ ✕	○ (120, 126, 127) ○ (121) ○ ○ (123-125) ○ ✕	
Notes	*1 = Received (transmitted) if switch is on. *2 = Only ESBL Part can recognize. *3 = m is always treated as 1 regardless of its value.			

Mode 1 : OMNI ON. POLY   Mode 2 : OMNI ON. MONO   ○ : Yes
Mode 3 : OMNI OFF. POLY   Mode 4 : OMNI OFF. MONO   ✕ : No