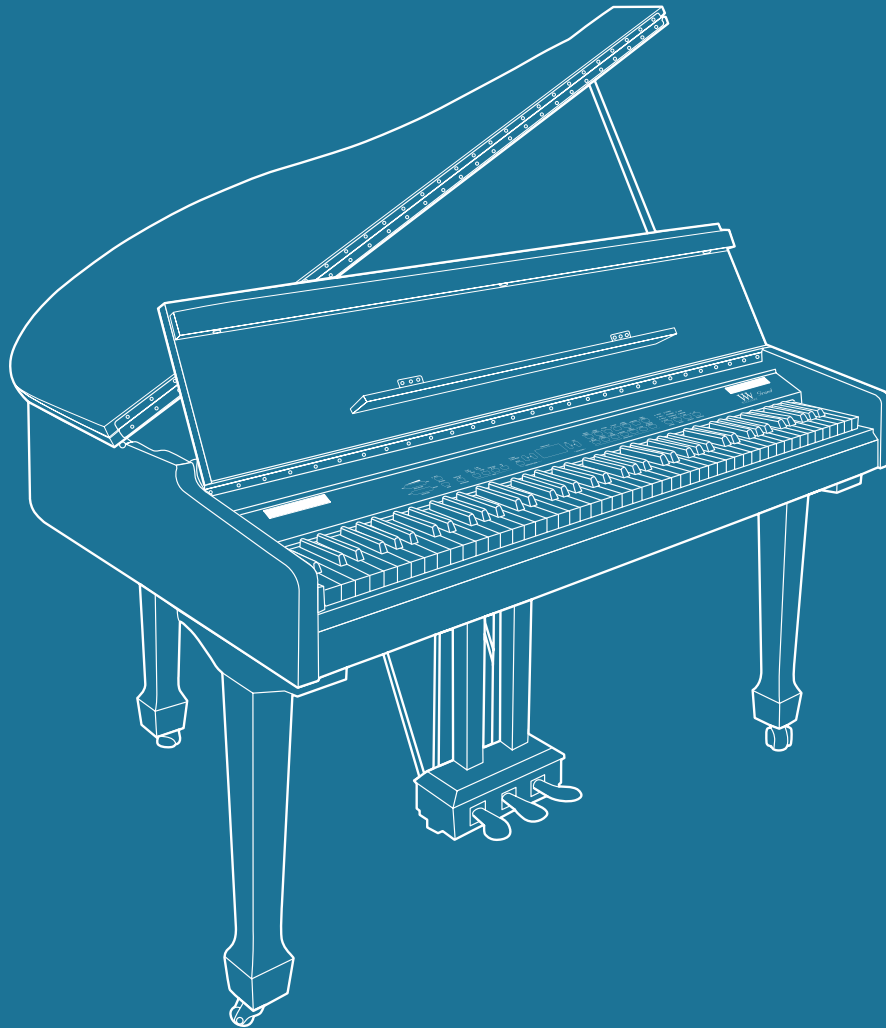


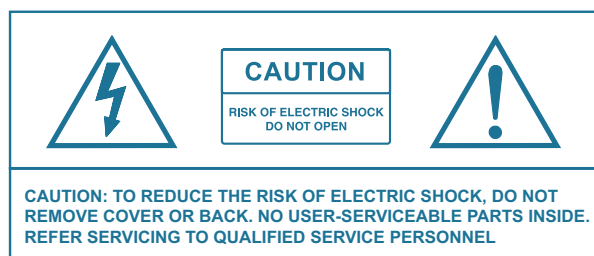
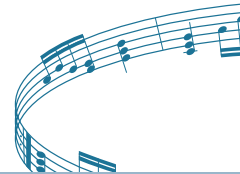


*Williams Grand Piano*  
*User's Manual*



*Sound. Style. Value.*





## IMPORTANT SAFETY INSTRUCTIONS

Do not use near water.

Clean only with a soft dry cloth. Visit [www.williams pianos.com](http://www.williams pianos.com) for detailed cleaning instructions.

Do not block any ventilation openings.

Do not place near any heat sources such as radiators, heat registers, stoves, or any other apparatus (including amplifiers) that produce heat.

Do not remove the polarized or grounding-type plug.

Protect the power cord from being walked on or pinched.

Only use the included attachments/accessories.

Unplug this apparatus during lightning storms or when unused for a long period of time.

Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

## FCC STATEMENTS

- 1) Caution: Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.
- 2) Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:
  - Reorient or relocate the receiving antenna.
  - Increase the separation between the equipment and receiver.
  - Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
  - Consult the dealer or an experienced radio/TV technician for help.

We would like to express our appreciation, and congratulate you for purchasing this Williams Grand digital piano. With proper care, this piano will provide you with years of musical enjoyment. Williams' advanced state of the art electronics are combined with an elegant cabinet that adds beauty and sophistication to any home environment.

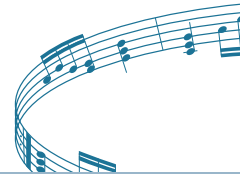
**Some features include:**

- Authentic acoustic piano feel
- Williams' acclaimed stereo imaging
- Acoustic instrument voices offering unmatched realism
- Metronome feature with variable tempo to facilitate practice
- Two track recorder that allows you to record and playback your performances
- Digital effects to further enhance the instrument voices

**29 demo songs**

- MIDI In/Out Connections
- Two Stereo line outputs and two headphone outputs
- Stereo line input
- Sustain, soft, and Sostenuto pedals

In order to make the most of your piano, we suggest that you take a few minutes to read this user's manual, then save it for later reference.



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## INTRODUCTION

Congratulations! With the Williams Grand, you have purchased a state of the art digital piano which is on a par with its acoustic counterpart in terms of sound and feel. The keyboard features 88 weighted keys with hammer action, in combination with a stereo sound generator that gives you an unparalleled playing experience. High-quality modulation and room effects as well as a 2 x 40-Watt loudspeaker system produce a very natural and spacious sound. The 2-track sequencer for recording and practicing also includes a metronome and adds the finishing touch to the overall concept.

### Before You Get Started

#### Shipment

Your piano was carefully packed at the factory, and the packaging was designed to protect the unit from rough handling. Nevertheless, we recommend that you carefully examine the packaging and its contents for any signs of physical damage that may have occurred during transit.

- If the unit is damaged, please do NOT return it to Williams. Instead, notify your dealer and the shipping company immediately. Otherwise, claims for damage or replacement may not be honored.
- Always use the original packing carton to prevent damage during storage or transport.
- Make sure that no children are left unsupervised with the piano or its packaging.
- Please ensure proper disposal of all packing materials.

#### Initial Operation

Be sure that there is enough space around the unit for cooling and please do not place the piano on high temperature devices such as radiators etc. To avoid overheating.

Blown fuses must be replaced by fuses of the same type and rating! Please refer to the "SPECIFICATIONS" for details.

The mains connection of the piano is made by using the enclosed mains cable and a standard IEC receptacle. It meets all of the international safety certification requirements.

Please make sure that all units have a proper ground connection. For your own safety, never remove or disable the ground conductor from the unit or of the AC power cord.

This is an electronic piano. Unlike an acoustic piano, this instrument does not need to be tuned.

The sound quality may diminish within the range of powerful broadcasting stations and high-frequency sources. Increase the distance between the transmitter and the device and use shielded cables for all connections.

## QUICK START

### Power On/Off

Power is required to operate the piano. The following section describes how to connect the unit to power.

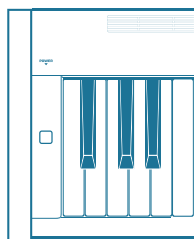
**The POWER switch to the left of the keyboard must be in the "off" position when you connect the unit to power.**

#### Fuse Holder / IEC Receptacle

The piano is connected to the AC mains using a standard IEC receptacle. A matching power cable is included with the unit. Blown fuses must be replaced with a fuse of the same type and rating.

Connect the power cable supplied with the unit to the connector provided on the underside of the instrument and to a wall socket.

Press the POWER switch to the left of the keyboard to switch the instrument on or off. The LED on the front panel lights up when the piano is ready for operation.



After playing, switch off the unit with the POWER switch. The POWER LED on the front panel will go out. Please note: Merely switching the unit off does not mean that it is fully disconnected from the mains. If you do not plan to use your piano for a prolonged period of time, please disconnect it from the mains by unplugging the power cable from the wall outlet.

## Adjusting the Volume

The volume of the built-in loudspeakers and headphones can be adjusted as follows:

Set the MAIN VOLUME control to mid-travel position, between MIN and MAX.



Adjust the volume as desired by moving the control to the right (up) or left (down).

**!** *The piano is capable of producing extreme volumes. Please bear in mind that high sound pressures not only temporarily affect your sense of hearing, but can also cause permanent damage. Be careful to select a suitable volume at all times, particularly when you are playing with headphones.*

## Demo Playback

The piano offers you 14 sound and 15 piano music demos. These music pieces give you an impression of the instrument's versatility and range of sounds.

### Playing Back the Sound Demos

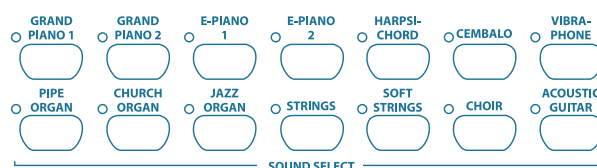
This section describes how to play back the 14 sound demos. These demos are specially designed to

highlight the various sounds and their features and show you what can be done with your instrument.

Press the DEMO button.



Press one of the 14 buttons in the SOUND SELECT section to play back an audio demo of the selected sound color.



Press the DEMO button again to quit DEMO mode.

During demo playback the piano does not receive or send MIDI data.

The music sequencer (see piano p.18) must not be set to playback or record-ready mode when you switch to DEMO mode.

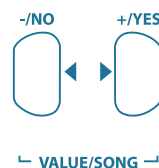
### Playing Back the Piano Music Demos

The following section describes how to play back the 15 piano music demos. These demos show you the versatility of the piano's sounds.

Press the DEMO button.



Use the -/NO and +/YES buttons in the VALUE/SONG section to select the music piece of your choice.



The display reads:

1 ... 15: Number of the selected music piece.

ALL: Playback of all music pieces. The pieces are

# Williams Grand Piano

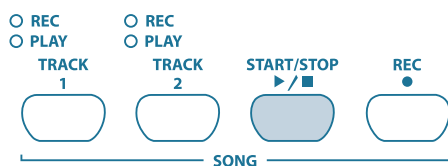
played in chronological order.

**SHF:** Playback of all music pieces. The pieces are played in random order.

Press the **START/STOP** button in the **SONG** section to start playback.



Press the **START/STOP** button again to stop playback.



Repeat steps 2 to 4 to play back other pieces.

Press the **DEMO** button again to quit **DEMO** mode.

A list of all the music pieces can be found on page 37.

The music sequencer (see p.18) must not be set to playback or record-ready mode when you switch to **DEMO** mode.

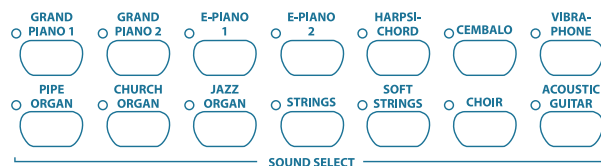
You can adjust the playback tempo of the piano music demos using the tempo/edit mode buttons (◀▶).

Select any sound you like to accompany the piano music demos; you can also add the room, modulation and brilliance effects (see p.12). Select and set the sound color before you enter **DEMO** mode.

## Selecting & Playing Sounds

The piano comes with 14 different sound colors covering a wide spectrum of sounds. You can select a sound in the **SOUND SELECT** section.

Press one of the 14 buttons in the **SOUND SELECT** section to select the sound of your choice.



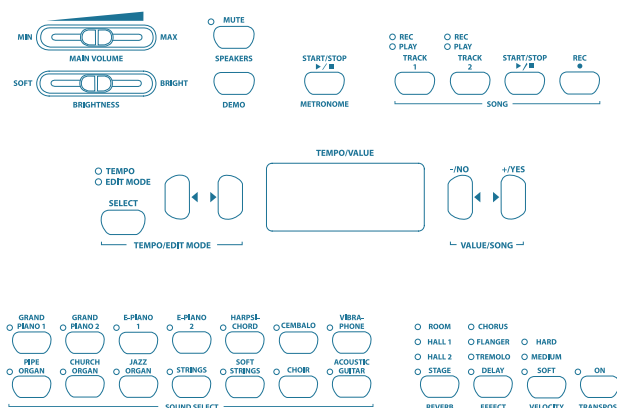
The LED above the sound button lights up to show that the corresponding sound has been selected. The selected sound can be played over the entire keyboard.

The volume of the sound depends on how heavily you play the keys (not applicable to **HARPSICHORD**, **CEMBALO**, **JAZZ ORGAN**, **CHURCH ORGAN** and **PIPE ORGAN**).

**TIP:** You can also select two sounds at the same time.

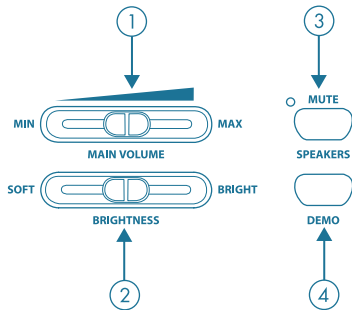
## CONTROL ELEMENTS AND CONNECTIONS

### Control Panel

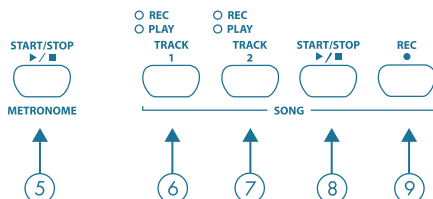


### Control Elements of the Piano

The control elements of the piano are described below. To give you a clear overview of the control panel, its elements have been grouped in separate sections.

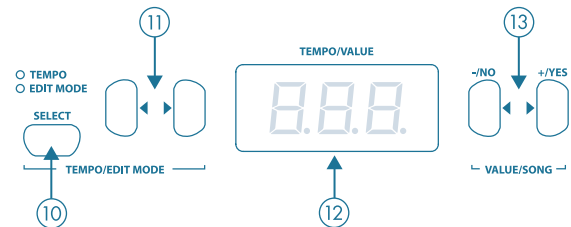


- ① **MAIN VOLUME:** Is used to adjust the volume of the built-in loudspeakers, headphone outputs and LINE OUT 1/4" TRS jacks.
- ② **BRIGHTNESS:** Varies the sound character from soft (left) to bright (right).
- ③ **SPEAKERS:** Switches the built-in loudspeakers on and off. The MUTE LED lights up only when the built-in loudspeakers are switched off. When you insert your headphones this will automatically switch off the built-in loudspeakers.
- ④ **DEMO:** Enables/disables DEMO mode.

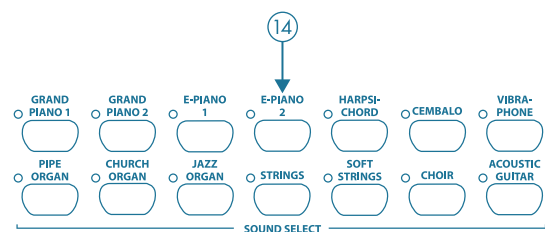


- ⑤ **METRONOME:** Is used to start/stop the metronome click.
- ⑥ **TRACK 1:** Selects track 1 for playback or recording. The REC LED lights up when the track has been activated for recording. The PLAY LED lights up when the track has been set for playback and already contains musical data.
- ⑦ **TRACK 2:** Selects track 2 for playback or recording. The REC LED lights up when the track has been activated for recording. The PLAY LED lights up when the track has been set for playback and already contains musical data.

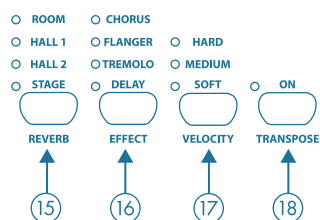
- ⑧ **START/STOP:** Is used to start/stop playback or recording of the music sequencer.
- ⑨ **REC:** Activates record mode.



- ⑩ **SELECT:** Selects the TEMPO parameter and menu pages for EDIT mode. The EDIT MODE LED shows in EDIT mode, the TEMPO LED in TEMPO mode.
- ⑪ Depending on which mode you have selected with the SELECT button (◀▶), these two buttons can be used to enter the tempo or to scroll through the EDIT mode menu pages.
- ⑫ **Display:** Depending on the function used, the display reads the tempo, menu numbers or parameter values.
- ⑬ **-/NO, +/YES:** Is used to raise/lower the parameter values shown in the display. Additionally, the +/YES button executes certain EDIT functions.



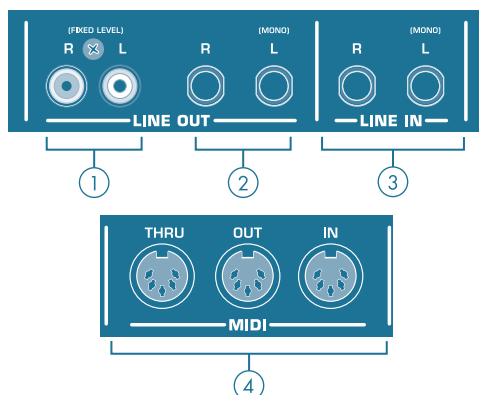
- ⑭ **SOUND SELECT:** These 14 buttons are used for sound selection. In DEMO mode they are used to select individual sound color demos.



- ⑮ **REVERB:** Selects one of four room effects (ROOM, HALL 1, HALL 2, STAGE) for the selected sound. An LED shows which effect is currently active. If no LED lights up, no room effect is active.
- ⑯ **EFFECT:** Is used to select one of four modulation effects (CHORUS, FLANGER, TREMOLO, DELAY) for the selected sound. An LED shows which effect is currently active. If no LED lights up, no modulation effect is active.
- ⑰ **VELOCITY:** Is used to set the key velocity to SOFT, MEDIUM or HARD. An LED shows which setting is currently active. If no LED lights up, no key velocity has been selected and playing a key always triggers a fixed volume level, irrespective of how hard you play the key.
- ⑱ **TRANSPOSE :** Is used for setting keyboard/ pitch transposition.

## Connectors

The connectors on the piano are located on the underside of the playing console (center).



Connectors of the Williams Grand piano

- ① **RCA output jacks:** The RCA jacks solely provide the sounds of the piano, but at a fixed volume level. Signals fed in via the LINE IN jack are not present here.
- ② **1/4" output jacks:** Use the 1/4" jacks to route the sounds of devices connected to the LINE IN jacks to the output of the piano. The level of the output signal depends on the position of the MAIN VOLUME control.
- ③ **LINE IN:** Is used to connect feeding devices such as CD players, sound cards or drum machines. The connected signal sources are routed to the LINE OUT 1/4" jacks and to the built-in loudspeakers.
- ④ **MIDI:** The three MIDI jacks enable you to connect external MIDI devices such as synthesizers, sequencers, etc. to the piano.

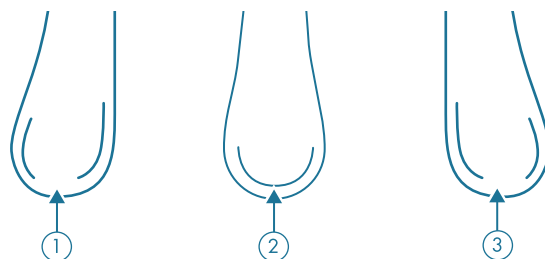
MIDI data controlling the sound generator of the piano are received at the MIDI IN jack.

MIDI data generated by the keyboard, pedals and some control elements of the piano are sent from the MIDI OUT jack.

Use the THRU jack to route MIDI data received at the MIDI IN to the MIDI OUT without changing them. This jack can be used to connect additional MIDI devices.

## Foot Pedals

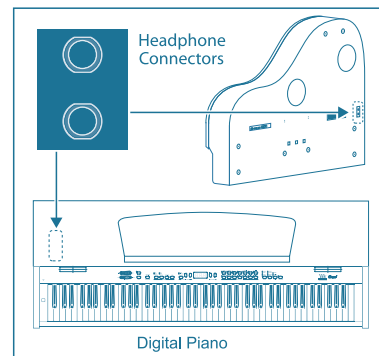
The piano has three pedals similar to those found on acoustic grand pianos.



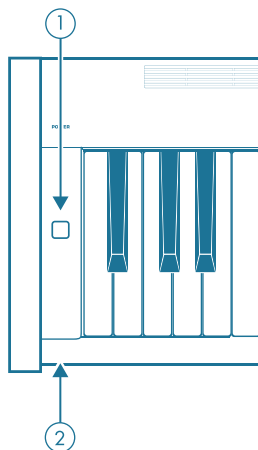
- ① **Soft/Piano pedal:** Is used for passages to be played very softly.



- ② **Sostenuto pedal:** Is used to sustain tones that have been played before the pedal is pressed, but have not yet decayed. All tones played after the pedal is pressed decay normally.
- ③ **Damper/Forte pedal:** Is used to sustain tones already played but not yet decayed. All tones played after the pedal is pressed will also be sustained.



## Power Supply



- ① **POWER:** Switches the piano on and off.
  - Merely switching the unit off does not mean that it is fully disconnected from the mains. If you do not plan to use your piano for a prolonged period of time, please disconnect it from the mains by unplugging the power cable from the wall outlet.
- ② **LED:** Lights up when the piano is ready for operation.

## Headphone Connectors

The headphone connectors are located on the underside of the playing console (front left behind the left leg).

Use these jacks to connect your headphones. It is not possible to control the volume separately.

## BASIC OPERATION

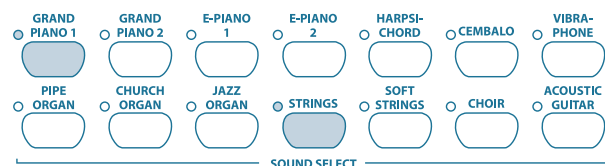
The following chapters describe some further basic functions which you can use in addition to those already explained.

### Using Two Sounds (Layer Mode)

Instead of a single sound you can also play two sounds simultaneously on the piano. These sounds are layered and can be played together over the entire keyboard.

In the SOUND SELECT section, simultaneously press the buttons of the sounds to be layered.

The LEDs above the buttons light up to show that the associated sounds have been selected.



In our example, the sounds "GRAND PIANO 1" and "STRINGS" are layered.

- To quit layer mode, press any button in the SOUND SELECT section. This will also select one single sound again.

## Changing the Sound Character

You can change the sound character by using a room and a modulation effect as well as a brightness equalizer.

### Brightness Equalizer

Use the brightness equalizer to change the sound character and make it softer or more brilliant.

Change the sound character with the BRIGHTNESS control as follows:

- Move the control to the left (SOFT) for a softer sound that is darker in tone.
- Move the control to the right (BRIGHT) for a more brilliant sound.



### Room Effects

The piano provides room effects simulating four reverbs of different room sizes. When you select a sound, the piano also selects an appropriate effect. If required, however, you can always select any other effect. The following reverb room simulations are available:

- ROOM:** Simulates a small room.
- HALL 1:** Simulates a small concert hall.
- HALL 2:** Simulates a large concert hall.
- STAGE:** Simulates a typical stage ambience.

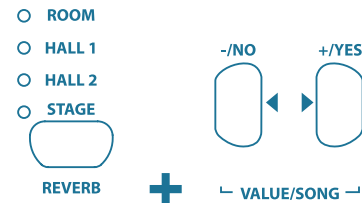
Keep pressing the REVERB button until the effect of your choice has been selected.



The active effect is shown by an LED lighting up next to the effect name.

- If none of the four LEDs lights up, the room effect is disabled.

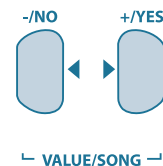
Keep the REVERB button pressed while adjusting the original vs. effect signal ratio in the VALUE/SONG section using the -/NO and +/YES buttons.



The display reads:

0 ... 20: Effect intensity  
(0 = no effect, 20 = maximum effect)

If you want to restore the default settings, keep the REVERB button pressed, then press -/NO and +/YES simultaneously.



### Modulation Effects

The piano provides a modulation effect featuring four different types of effect. When you select a sound, the piano automatically adds an appropriate effect for some of the sounds. If required, however, you can always select any other effect. The following modulation effects are available:

- CHORUS:** Chorus effect. "Widens" the sound.
- FLANGER:** Time-shifted layering of sounds. Produces a "floating" sound.
- TREMOLO:** Rapid, constantly repeated changes in the volume of the sound.
- DELAY:** Echo effect. Produces time-shifted repetitions of the sound that decay over time.

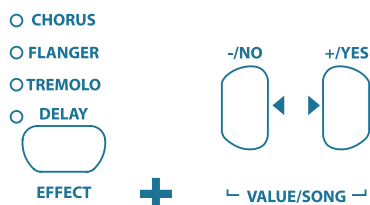
Keep pressing the EFFECT button until the effect of your choice has been selected.



The selected effect is shown by an LED lighting up next to the effect name.

- If none of the four LEDs lights up, the modulation effect is disabled.

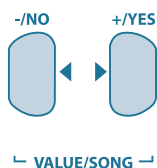
Keep the EFFECT button pressed while adjusting the original vs. effect signal ratio in the VALUE/SONG section using the -/NO and +/YES buttons.



The display reads:

0 ... 20: Effect intensity  
(0 = no effect, 20 = maximum effect)

If you want to restore the default settings, keep the EFFECT button pressed, then press -/NO and +/YES simultaneously.



## Using the Pedals

The piano is equipped with three foot pedals performing the same functions as the pedals on an acoustic grand piano. Normally, the pedals are used in accordance with the instructions given in the music, where they are marked by special symbols. It is useful to know how sound is produced on an acoustic piano to better understand how the pedals work.

When you strike a key, a hammer hits several strings for each note; the strings produce a tone with a

defined pitch. When you let go of the key, a damper felt falls down on the strings to stop them from vibrating any longer. As a result, the tone decays quickly. However, if the key is held down, the tone is sustained for a while before it decays completely. In this case, the tone decays only after a certain time.

This decay characteristic can be influenced using the three foot pedals.

- **Soft/piano pedal (left):** The soft pedal produces a soft and intimate sound. Use this pedal for particularly soft musical passages (pianissimo).

On an acoustic piano this soft sound results from a smaller distance between hammer and strings. On a grand piano, however, the position of the hammer changes, so that the hammer does not hit all strings.

Press the pedal to soften all tones played afterwards with the pedal down.

Let go of the pedal for normal playing.

You can adjust the effect of the soft pedal (see p. 24).

- **Sostenuto pedal (middle):** Use the sostenuto pedal to sustain individual tones. The notes already played – as long as they have not yet decayed – will be sustained as soon as you press the pedal. All notes played subsequently will be dampened as described above. This allows you to play and sustain a certain note using the pedal, while all subsequent tones will be played in a staccato (detached) manner.

When you sustain single notes on an acoustic piano using the sostenuto pedal, the damper felts of the notes already played do not dampen the strings when you release the keys, but are held in their position.

Play the notes to be sustained.

Press the pedal to sustain the tones you just played.

Play the next notes. These are played with normal decay.

Release the pedal for normal playing.

- **Damper/Forte pedal (right):** The damper pedal allows you to sustain the notes already played (and held) plus all subsequent notes, without having to hold the keys down. The damper pedal is often used to achieve a richer sound. This is the pedal that is used most often. You can also use it very subtly, for example, by holding it down only half-way.

On the acoustic piano notes are sustained by keeping all the damper felts in their raised position even after releasing the keys. This allows the notes played to decay quite naturally.

Play the notes to be sustained.

Press the pedal to sustain the notes you just played plus all subsequent notes.

Release the pedal for normal playing.

## Using Headphones

The piano is equipped with two headphone jacks located on the underside of the playing console (front left). Headphones are ideal for practicing without disturbing others. The second headphone jack allows another person, for example a music teacher, to listen as well so that piano lessons can also be held using headphones.

Use the MAIN VOLUME control to turn the volume down (move the slide control to the left half of its control range).



Connect your headphones to a free headphone jack on the underside of the playing console.

While playing adjust the volume as desired using the MAIN VOLUME control.



If required, the SPEAKERS button allows you to switch the built-in loudspeakers of the piano on or off.



- The built-in loudspeakers of the piano are switched off as soon as you connect a pair of headphones; the MUTE LED above the SPEAKERS button lights up.
- When you disconnect your headphone from the headphones jack, the built-in loudspeakers of the piano are switched on again and the MUTE LED above the SPEAKERS button goes out.

## ADVANCED OPERATION

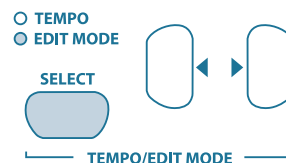
The following chapters provide information on advanced operating functions of the piano.

### Using Edit Mode

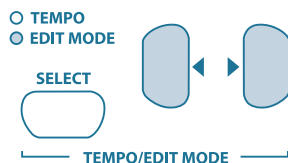
Many advanced operating functions of the piano are available in EDIT mode. The following sections describe how to adjust these functions in EDIT mode.

- Whenever you are prompted to enter EDIT mode, please follow the step-by-step instructions given below to select a function and adjust its parameters.

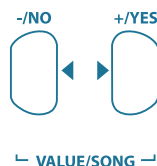
Keep pressing the SELECT button in the TEMPO/EDIT MODE section until the EDIT MODE LED lights up.



Scroll through the functions using the (◀▶) buttons, until the appropriate function (e.g. EI) has been selected.



Use the -/NO- and +/YES buttons in the VALUE/ SONG section to adjust the value of your choice.



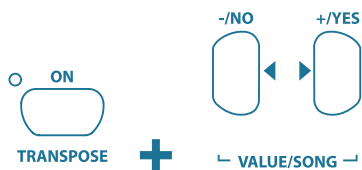
## Transposition

The sounds produced by the piano can be transposed up or down by half-tones (key by key). This is useful, for example if you want to play a piece in a key that is easier to play because it has few or no accidentals at all (e.g. C major), but is in a difficult key with lots of accidentals (e.g. D flat major).

**Example:** D flat major has five flats (accidentals). In this key you would have to play a lot of black keys. However, if you transpose the sounds up by one half-tone, you can easily play the piece on the white keys (C major).

It can be helpful to transpose the keyboard by an octave (12 half-tones), for example to play low notes in the middle register where they can be played more comfortably.

Press and hold the TRANSPOSE button and use the -/NO and +/YES buttons in the VALUE/SONG section to adjust the transposition value of your choice in half-tone steps.



The display reads:

0: No transposition  
(default setting)

- 1 ... 12: Keyboard is transposed up by the number of half-tones selected.
- 1 ... -12: Keyboard is transposed down by the number of half-tones selected.

Release the TRANSPOSE button when the desired value has been selected.

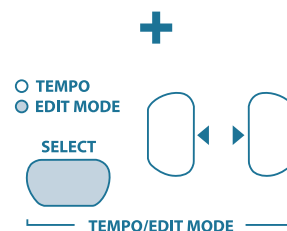
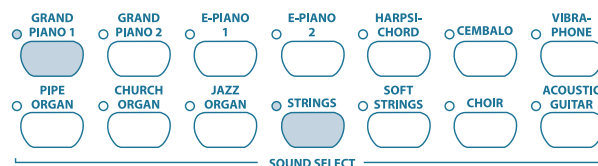
- The LED above the TRANSPOSE button lights up when the transposition feature is active, i.e. when a value other than zero has been set.
- If a transposition interval has already been set, you can enable/disable the transposition function using the TRANSPOSE button.

## Layer Mode Settings

### Quick Access to Layer Mode Functions

Use the following operating procedure for direct access to the layer mode menu pages.

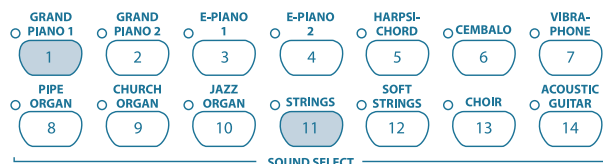
- Press and hold down the two sound buttons selected for layer mode (e.g. GRAND PIANO 1 and STRINGS) and press the SELECT button in the TEMPO/EDIT MODE section.



The EDIT MODE LED lights up and the EDIT page E3.1 is displayed.

In layer mode you can effect additional settings for advanced playing with two sounds at the same time.

All sounds are numbered internally from 1 through 14. This order of sounds determines which sound is addressed internally as voice #1, voice #2, etc., which in turn is important for making changes to the sounds selected.



In our example the two sounds GRAND PIANO 1 and STRINGS are being used in layer mode. Internally, GRAND PIANO 1 is #1, STRINGS is #11. The sound with the lower number is addressed internally as voice #1 (here: GRAND PIANO 1), the sound with the higher number as voice #2 (here: STRINGS).

- Please note the order of voices used in the sound combination selected, in order to understand which settings apply to which voice in the examples below.
- A layer combination consisting of two sounds must be set up before you can adjust the following functions (see p. 11).

## Volume Ratio

Use this function to adjust the volume ratio of the selected sounds.

- Please enter EDIT mode (see p. 14) and select the following function.

Function:	E3.1
Value:	0 ... 20
Description:	10: Same volume for voice #1 and voice #2 ...10 >: Voice #2 louder than voice #1 < 10 ... : Voice #1 louder than voice #2

## Detune

This function allows you to detune the selected sounds slightly against each other.

- Please enter EDIT mode (see p. 14) and select the following function.

Function:	E3.2
Value:	-10 ... 10
Description:	0: Same pitch for voice #1 and voice #2 ... 0: Voice #2 higher than voice #1 0 ... : Voice #1 higher than voice #2

## Transposition

Use this function to transpose the selected sounds up or down by one octave. Depending on which sounds are used in a combination, the transpose function can help make the sounds more homogeneous.

**Example:** In a combination of GRAND PIANO 1 and STRINGS the STRINGS sound too low. In this case, it helps to transpose the STRINGS up by one octave.

- Please enter EDIT mode (see p. 14) and select the following function.

Function:	E3.3
Value:	-1 ... 1
Description:	0: No transposition -1: Transposition down by one octave 1: Transposition up by one octave

## Effect Intensity

This function allows you to edit the effect intensity of the modulation effect for the selected sounds.

- Please enter EDIT mode (see p. 14) and select the following function.



Function:	E3.5 (effect intensity voice #1) E3.6 (effect intensity voice #2)
Value:	0 ... 20
Description:	1 ... 20: Effect intensity (default setting)  0: No effect

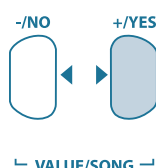
## Reset

Use this function to reset all settings in layer mode.

- Please enter EDIT mode (see p. 14) and select the following function.

Function:	E3.7
Value:	-
Description:	

Press the +/-YES button to execute this function.



## Using the Metronome

The piano features a built-in metronome which can be used for practicing or to make recordings with the internal music sequencer.

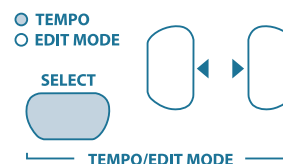
To use the metronome, please proceed as follows :

- 1) Press the METRONOME button to start or stop the metronome.

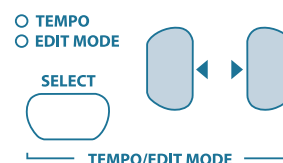


The metronome beats are shown by flashing dots on the display. At the beginning of a measure all dots light up simultaneously.

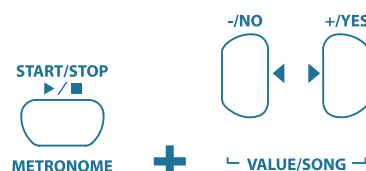
- 2) Keep pressing the SELECT button in the TEMPO/EDIT MODE section until the TEMPO LED lights up.



- 3) Use the two (◀▶) buttons to adjust a tempo of your choice.



- 3) Press and hold the METRONOME button while adjusting the number of beats per measure using the -/NO and +/-YES button in the VALUE/SONG section.



The display reads:

- |                         |  |
|-------------------------|--|
| 04:                     | No stressed beats<br>(default setting) |
| 24, 34, 44, 54, 64, 74: | Quarter meter (e. g. 2/4)              |
| 38, 68, 78, 98, 128:    | Eighth-note meter (e. g. 3/8)          |

## Metronome Volume

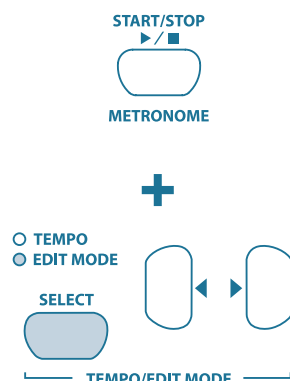
Use this function to adjust the metronome volume.

- Please enter EDIT mode (see p. 14) and select the following function.

Function:	E5
Value:	1 ... 20
Description:	1 ... 20: Metronome volume (1 = low, 20 = high)

Proceed as follows for direct access to the metronome volume menu page.

- Press and hold the METRONOME button, then hit the SELECT button in the TEMPO/EDIT MODE section.



The EDIT MODE LED lights up and the EDIT page E5 is displayed.

## Music Sequencer

The piano provides a built-in 2-track sequencer which allows you to record and play back a piece of music. For each of the two tracks you can select one or two sounds for recording. This means that the music sequencer can play back up to four sounds at the same time. While playing back a music piece you can also play on the keyboard to produce complex performances with up to six different sounds.

What is more, you can use the music sequencer for practicing. For example, you could record the left and right-hand parts of a piece separately on the two tracks. During playback switch off one track (hand) and play the muted part yourself. Thus, you can practice each part individually within its musical context.

### Recording Pieces of Music

This section describes how to record music pieces with the built-in music sequencer.

Press the REC button. The REC LED above the

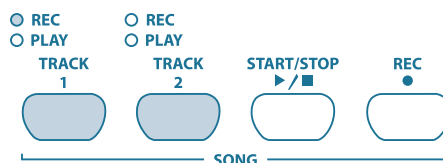
TRACK-1 or TRACK-2 button lights up. The dots in the display start flashing in the adjusted metronome tempo, thus indicating the beat. Now, the piano is set to record mode.



- The memory of the music sequencer can store up to 10,000 notes. However, this number can decrease depending on how much pedal information is stored.
- You can quit record mode by pressing the REC button again.

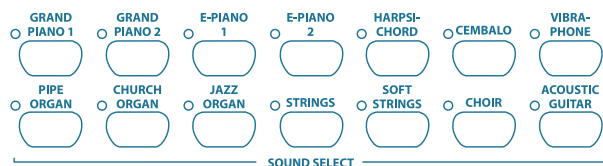
If necessary, adjust the metronome tempo and meter as described on page 17.

Keep pressing the TRACK-1 button until the REC LED above the corresponding button lights up red. Now, track 1 is selected for recording. If you did a recording take before, the last track selected will be used for recording. Depending on which track is currently used, you will have to select the other track for recording.



- **TIP:** If the PLAY LED for one of the tracks lights up, this warns you that notes have already been recorded on this track. If you select this track again for recording (REC LED lights up red), the previous recording will be lost.

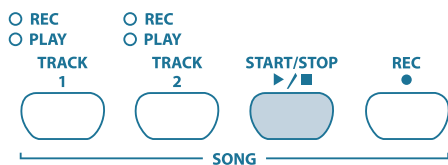
Select a sound in the SOUND SELECT section. You can also use a sound layer (see p. 11) for recording.



Switch on the acoustic metronome signal by pressing the METRONOME button, if you want to make a metronome-backed recording.

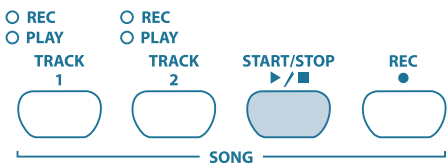


Start recording by pressing the START/STOP button or simply start playing on the keyboard. The current meter is counted in the display.



- If the display starts flashing during recording and reads the message FUL, this is to warn you that the recording memory has been used up. All data recorded up to this point will be stored, but the recording process will be terminated.

Once your recording is finished stop the sequencer by pressing the START/STOP button again.



- Recording mode will thus be canceled automatically.

Repeat the whole procedure to record a second track. This time, however, select TRACK 2 instead of TRACK 1 in step #3.

- TIP: If the right-hand part of a music piece you want to practice has been recorded on track 2 and the left-hand part on track 1

(for example, by your piano teacher), you can mute one of the two tracks during playback to practice the corresponding part.

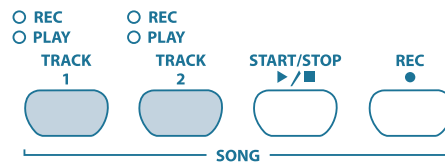
- TIP: Press the METRONOME button again to stop the metronome click.

## Editing Pieces of Music

This section describes how to edit a recording by replacing a recorded track with a new recording. What is more, you can see how to record a track without playing back the second track, which can be useful when you record two different pieces of music.

- You must have recorded at least one track before you can carry out the steps described below.
- If you are not sure whether a track has been recorded or not, check this by pressing the TRACK 1 and TRACK 2 button, BEFORE you enter record mode. If one of the PLAY LEDs above the TRACK buttons light up, this shows you that something has been recorded on this track.

If you do not want to hear the previously recorded track while you record the second one, press the TRACK button of the track until its green PLAY LED goes out. Do this BEFORE you enter record mode. If you want to hear the previously recorded track, continue with step #2.

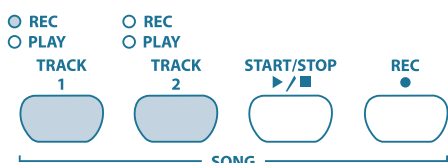


Press the REC button. The REC LED above the TRACK 1 or TRACK 2 button lights up. The dots on the display start flashing in the metronome tempo that has been set, thus indicating the beat. Now, the piano is set to record mode



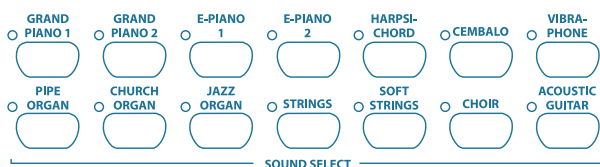
- The memory of the music sequencer can store up to 10,000 notes. However, this number can decrease depending on how much pedal information is stored.
- You can quit record mode by pressing the REC button again.

Press the TRACK button of the track you want to record until the REC LED above the button lights up red. Now the selected track is record-ready. If you did a recording take before, the last track selected will be used for recording. Depending on which track is currently used, you will have to select the other track for recording.



- Tip: If you select a track for recording, which already contains note information, all previously recorded notes on this track will be erased!

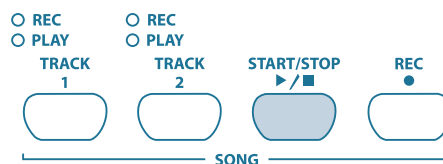
Select a sound in the SOUND SELECT section. You can also use a sound layer (see p. 11) for recording.



Switch on the acoustic metronome signal by pressing the METRONOME button, if you want to make a metronome-backed recording.



Start recording by pressing the START/STOP button or simply start playing on the keyboard. The current meter is constantly shown in the display.



- If the display starts flashing during recording and reads the message **FUL**, this is to warn you that the recording memory has been used up. All data recorded up to this point will be stored, however, but recording process will be terminated.

Once your recording is finished stop the sequencer by pressing the START/STOP button again.

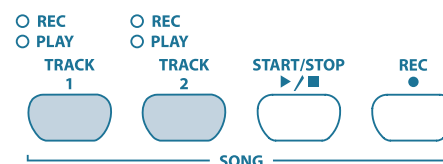


- Recording mode will thus be canceled automatically.

## Playing Back Pieces of Music

This section describes how to play back the music piece you have just recorded.

Press the TRACK 1 and TRACK 2 buttons until the green PLAY LED above the buttons lights up. This is to activate the tracks for recording.

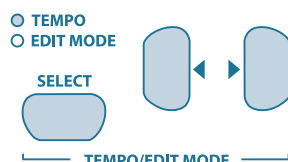


- You can only activate those tracks for playback which actually contain note information.

If you want to have a metronome-backed playback, press the METRONOME button to switch on the metronome.

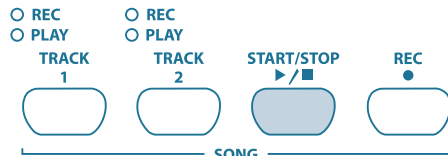


Press the SELECT button in the TEMPO/EDIT MODE section until the TEMPO LED lights up, then use the two (◀▶) buttons to adjust the playback tempo.



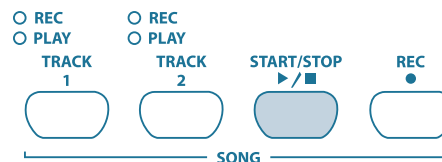
- You can play back a recording at its original tempo by pressing the two (◀▶) buttons at the same time.

Press the START/STOP button to play back the recording. The current meter is constantly shown in the display.



- During playback the two tracks can be switched on/off at any time.
- You can accompany the music sequencer playback with the currently selected sound.
- TIP: If the right-hand part has been recorded on track 2 and the left-hand part on track 1, you can switch off either of the tracks and practice its part live during playback. The volume of the muted track is adjustable. If necessary you can play it back in the background at low volume for support (see p. 22).

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

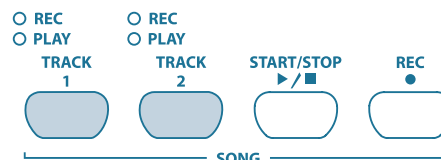


## Repeating Musical Passages for Practicing

The following section describes how to play back a specific passage of a recorded music piece repeatedly. This function is ideal for practicing a specific difficult passage recorded by your piano teacher.

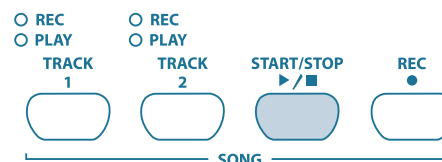
- To make the best use of this function, the left and right-hand parts should be recorded separately on tracks 1 and 2. In this case, you can play back one part only with the music sequencer, while you practice the other part.

Select the track to be played back, so that the PLAY LED above the corresponding TRACK button lights up.

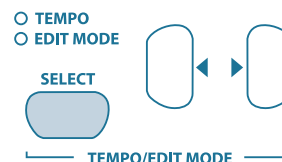


- The volume of a muted track is adjustable (see p. 22).

Press the START/STOP button to play back the selected track.



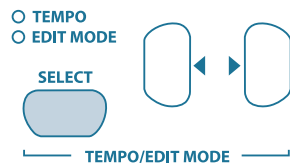
Press the SELECT button in the TEMPO/EDIT MODE section when the playback has reached the point from which you want to start repeating a passage.



The display reads:

A-: Starting point of the loop is set.

Press the SELECT button again when the playback reaches the point where you want to end the repetition of a passage.

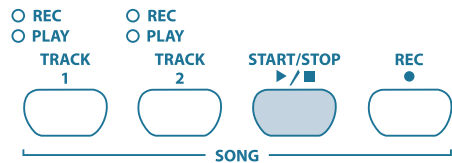


The display reads:

A-B: Ending point of the loop is set.

The musical passage is now repeated continuously, so that you can practice it to perfection.

When you want to stop practicing, press the START/STOP button again to stop the playback.



- Press the SELECT button again to quit repetition mode.
- The passage marked as a loop for repetition is automatically erased when you quit music sequencer mode.

### Setting the Volume of Muted Tracks

This function allows you to set the volume of muted tracks.

- Please enter EDIT mod and select the following function.

Function:	E6
Value:	0 ... 20
Description:	1 ... 20: Volume of muted track (default setting: 5)  0: Muted tracks are not audible

### Editing the Music Sequencer Settings

The following paragraphs explain how to edit the playback settings of recordings made with the music sequencer.

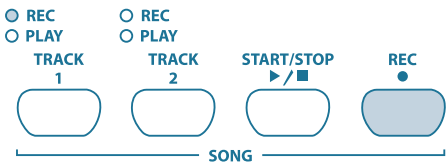
The following settings can be edited separately for each of the two tracks:

- Sound (see p. 8)
- Room effect intensity (see p. 12)
- Modulation effect intensity (see p. 12)
- Layered sounds (see p. 11 and p. 15)

The following global settings can be made for the whole music piece:

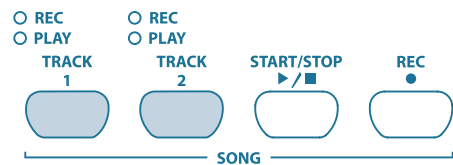
- Tempo (see p. 21)
- Meter (see p. 17)
- Type of room effect (see p. 12)
- Type of modulation effect (see p. 12)

Press the REC button in the SONG section to enter record mode. The REC LED above the TRACK 1 or TRACK 2 buttons lights up and the dots in the display start flashing in the rhythm of the selected metronome tempo, thus indicating the beat.



- Be sure not to press the START/STOP button during the following steps. Otherwise, a new recording would be made on the selected track erasing all the data recorded before.

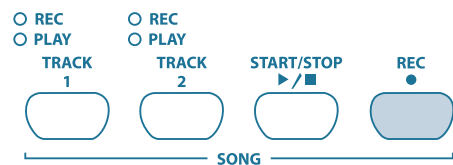
Use the TRACK button to select the track whose settings you wish to edit. If you want to edit global settings (e.g. tempo, measure, etc.) you can select either one of the two tracks.



Edit the settings as described in the chapters mentioned above.

If necessary, repeat step 2 for the second track.

Press the REC button to quit record mode.

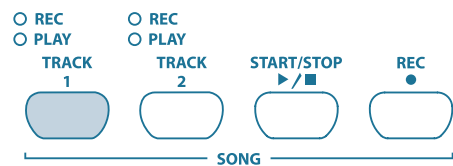


The changes made have now been stored in the music sequencer. When you play back the music piece, the new settings will be effective. All previous settings are deleted.

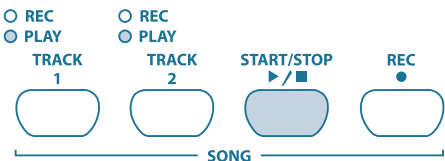
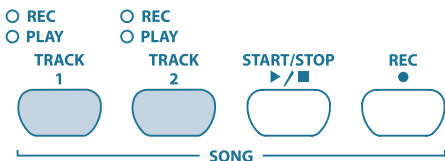
Sync Start

You can set the music sequencer to be "playback-ready," so that it will start playback as soon as you play a key on the keyboard. This function can be very helpful when the music sequencer is used as an "accompanist." The function is also available in DEMO mode.

Make sure that the playback tracks are active (PLAY LED above the corresponding TRACK button lights up green). If necessary, activate the tracks by pressing their TRACK buttons in the SONG section.



Press and hold one of the active TRACK buttons, then press the START/STOP button in the SONG section.



A dot in the lower right-hand corner of the display starts flashing in the tempo of the metronome, thus signaling that the instrument is set to sync start mode. The sequencer starts playback as soon as you play a key on the keyboard.

- If you want to quit sync start mode, simply repeat step 2.

Start the Music Sequencer With Foot Pedal

This function allows you to reprogram the left soft pedal, so that it can be used to start/stop the music sequencer. This is useful when you are playing a music piece live and want to start a sequencer accompaniment at a later point during the piece. When the pedal has been set accordingly, you can also use it to start/stop playback in DEMO mode.

- Please enter EDIT mode (see p. 14) and select the following function.

Function:	E4.1
Value:	1, 2
Description:	1: Soft pedal function (default setting) 2: Music sequencer START/STOP

System Settings

The piano provides several setting options to control the global functions of the instrument. Please read

below which options are available and how you can edit their settings.

Key Velocity

This parameter determines the volume of the sounds with reference to the key velocity applied, i.e. you can set here how hard you have to strike a key to achieve maximum volume.

The following section describes how to change the key velocity.

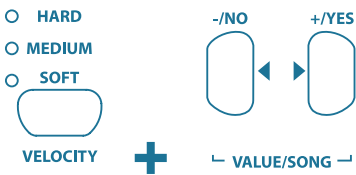
Press the VELOCITY button to select one of the following settings:

- HARD:** The keys must be played very hard to achieve maximum volume.
- MEDIUM:** The keys must be played with medium velocity to achieve maximum volume (default setting).
- SOFT:** The keys must be played only lightly to achieve maximum volume.
- OFF:** If none of the LEDs lights up, each key stroke will produce a defined volume, irrespective of how hard you play the keys.



An LED above the button lights up to show the current setting. If all LEDs are out, key velocity is switched off. In this case you can adjust a fixed volume level as follows:

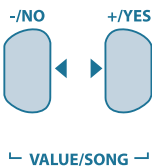
Press and hold the VELOCITY button, then use the -/NO and +/YES buttons to set the volume level to be produced when you play a key on the keyboard, irrespective of the key velocity applied.



The display reads:

- 1 ... 127: Fixed volume level produced when you play a key on the keyboard (default setting: 64)

Keep the VELOCITY button pressed, then press the -/NO and +/YES buttons simultaneously to recall the standard setting.



- The key velocity setting has no effect on the following sounds: HARPSICHORD, CEMBALO, JAZZ ORGAN, CHURCH ORGAN and PIPE ORGAN.
- TIP: young pianists might find it easier to use a SOFT key velocity setting.

Soft Pedal Intensity

Use this function to adjust the intensity of the soft pedal effect.

- Please enter EDIT mode (see p. 14) and select the following function.

Function:	E4.2
Value:	1 ... 5
Description:	3: Normal soft pedal intensity (default setting)  1: Low soft pedal intensity  5: High soft pedal intensity

- The function will be effective only if the left pedal is used as a soft pedal, but NOT to start/stop the music sequencer (see p. 23).



## Fine Tuning

The piano can be detuned slightly to adapt it to other instruments or tunings. The setting made here affects the pitch of all keys.

The following section describes how to adjust the fine tuning of the piano. The tuning shown in the display is referenced to the concert pitch "A" in Hertz (Hz).

- Please enter EDIT mode (see p. 14) and select the following function.

Function:	E1
Value:	427 ... 453
Description:	440: Western European equal tuning (default setting) 453: Maximum detuning upwards 427: Maximum detuning downwards

1/5-Hz steps are shown as follows  
(figures separated by one or two dots):

440: 440 Hz

4.40: 440.2 Hz

44.0: 440.4 Hz

440.: 440.6 Hz

4.40.: 440.8 Hz

## Tunings

The piano provides different tunings developed during the past few centuries. The tuning used most often today is called equal tuning and has been a characteristic element of the music composed from the 19<sup>th</sup> century up to the present. However, for some baroque pieces (e.g. by J. S. Bach) it can be interesting to use an older tuning system.

In the history of music, the development of the individual tunings can be traced back to the development of scales and polyphony and the resulting adaptation of instruments and their

tuning. Apart from these historical reasons the limited tuning aids available in former times played an important role for the practical implementation of tunings.

The piano provides the following tunings:

### *Equal tuning (default setting)*

Equal tuning divides one octave into twelve intervals of equal size or spacing. Thus, each half-tone is detuned slightly to the same extent, with the octave being the only perfect interval. This has been the most common tuning since the 19<sup>th</sup> century, as it makes it possible to play all twelve major/minor keys.

### *Pure major/minor intonation*

This tuning is based on the perfect tuning of the seven notes of one scale (e.g. C major). Triads played one fifth above or below are also perfect, since they use the notes of the basic key. However, all other keys are not playable, since their frequency relationships change depending on the basic note. This tuning can only be used for music that strictly follows a classical cadence comprising tonic, dominant and subdominant.

### *Pythagorean tuning*

The Pythagorean tuning is based on perfect fifths. As a consequence, all thirds are impure.

This tuning was used for early music up to the late Middle Ages. The homophonic or two-part polyphonic music of the time did not use any thirds, but only perfect unison, fourth, fifth and octave intervals.

### *Meantone tuning*

Meantone tuning resulted from the change in the perception of dissonant intervals during the Renaissance period and from the beginnings of chromaticism and polyphony. Polyphony made the third the most important interval in music. Therefore, meantone tuning is based on perfect thirds rather than perfect fifths to tune the twelve notes of a scale. However, this also means that some scales are unplayable.

Today, the meantone tuning can still be used for works from the early 16<sup>th</sup> and 17<sup>th</sup> centuries (e.g. G. F. Handel).

## Werckmeister/Kirnberger tuning

The Werkmeister and Kirnberger tunings result from first attempts to realize a well-tempered tuning which – unlike the Pythagorean and meantone tunings – allows for playing in all twelve keys. The advantages of the Pythagorean and meantone tunings, i.e. the slight detuning of some fifth intervals, have also been included in the Werkmeister/Kirnberger tunings

Both tunings are interesting to use for works from the baroque period (e.g. J. S. Bach). Werkmeister is a popular tuning for organ works.

The following section describes how to change the tuning of the piano.

- Please enter EDIT mode (see p.14) and select the following function.

Function:	E2.1
Value:	1 ... 7
Description:	1: Equal tuning (default setting) 2: Pure major tuning 3: Pure minor tuning 4: Pythagorean tuning 5: Meantone tuning 6: Werckmeister tuning 7: Kirnberger tuning

With the exception of equal tuning, all tunings must be marked by a basic note.

Here's how to set the basic note:

Function:	E2.2
Value:	C ... B
Description:	Altered notes are marked by dashes above or below the note name. A dash above the note name raises a note, a dash below the note lowers it.

The display shows:

C<sub>#</sub>      c sharp (C<sub>#</sub>)

E<sub>b</sub>      e flat (E<sub>b</sub>)

## Saving Parameter Settings

The piano allows you to save the changes made to the instrument's settings, so that they won't get lost when the unit is powered down. When the save function is not active, all changes made to the settings – except for the music sequencer data – will be lost when you switch the piano off. When switched back on, the piano recalls the factory default settings.

The save function can be activated separately for the following groups of functions: sounds, MIDI, tuning and damper pedal.

- Please enter EDIT mode (see p. 14) and select the following function.

### Sounds

You can save the following settings for this group of functions:

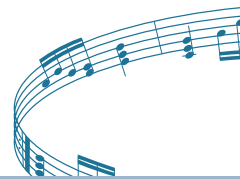
- Sounds (see p. 8)
- Layer mode settings (see p. 11 and p. 15)
- Type of room effect and intensity (see p. 12)
- Type of modulation effect and intensity (see p. 12)
- Key velocity (see p. 24)
- Metronome meter and tempo (see p. 17)
- Dimmed volume (see p. 22)

Function:	E8.1
Value:	ON, OFF
Description:	OFF: Save function for sounds is disabled (default setting)  ON: Save function for sounds is enabled

### MIDI

You can save the following settings for this group of functions:

- All MIDI settings (see p. 29)



Function:	E8.2
Value:	ON, OFF
Description:	<p>OFF: Save function for MIDI settings is disabled (default setting)</p> <p>ON: Save function for MIDI settings is enabled</p>

## Tuning

You can save the following settings for this group of functions:

- Transposition (see p. 15)
- Fine tuning (see p. 25)
- Tuning (see p. 24)

Function:	E8.3
Value:	ON, OFF
Description:	<p>OFF: Save function for tuning settings is disabled (default setting)</p> <p>ON: Save function for tuning settings is enabled</p>

## Soft pedal

You can save the following settings for this group of functions:

- Soft pedal function (see p. 23)
- Soft pedal intensity (see p. 24)

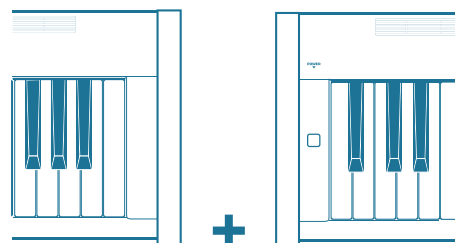
Function:	E8.4
Value:	ON, OFF
Description:	<p>OFF: Save function for soft pedal settings is disabled (default setting)</p> <p>ON: Save function for soft pedal settings is enabled</p>

## Restoring the Factory Default Settings

Use the following procedure to recall the factory default settings.

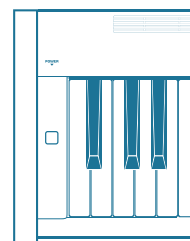
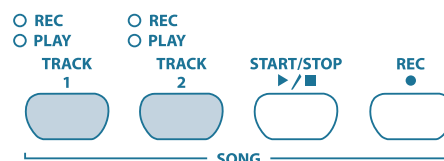
- Tip: All saved parameters as well as the music sequencer data will be lost during either one of the following procedures.

- 1) Use the POWER switch to switch the instrument off (if not already done).
- 2) Play and hold down the top C key on the keyboard, then switch the piano back on.



An alternative procedure is described below:

- 3) Use the POWER switch to switch the instrument off (if not already done).
- 4) Press and hold down the TRACK 1 and TRACK 2 buttons, then switch the piano back on.



- 5) Let go of the TRACK buttons after about 5 seconds.

## CONNECTION TO EXTERNAL EQUIPMENT

The piano provides a variety of connectors for connecting the instrument to external devices.

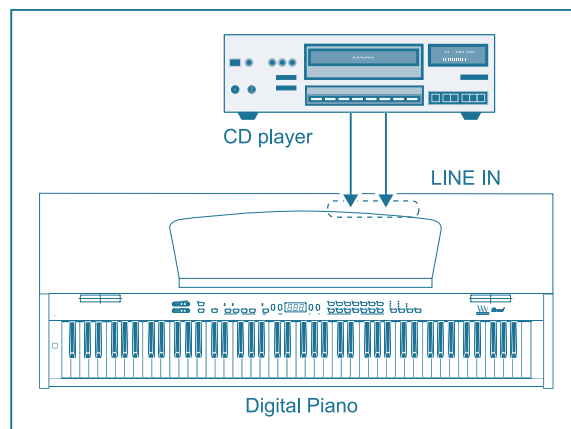
**!** *Be sure that all devices are switched off before you make any connection.*

**NEVER** connect the LINE IN connectors of the piano to its LINE OUT connectors. This will cause a feedback loop producing high volume levels which could damage both the instrument and your hearing!

### Connecting External Sound Sources

The piano is equipped with a stereo LINE IN connector for connecting external sound sources to your digital piano. These signals are reproduced through the internal loudspeakers and connected headphones. If you wish to practise with musical accompaniment, you can use this input to connect a CD player or drum computer. In the same way, you could connect an external synthesizer or sound module and use its sound generator with your instrument. An additional MIDI connection enables you to play an external sound generator from the keyboard of the piano (see p. 29).

The following diagram shows a wiring example comprising the piano and a CD player. You need one or two cables fitted with 1/4" or cinch plugs (see p. 36). As an alternative, you can also use a cinch or 1/4" cable with an appropriate adapter plug.



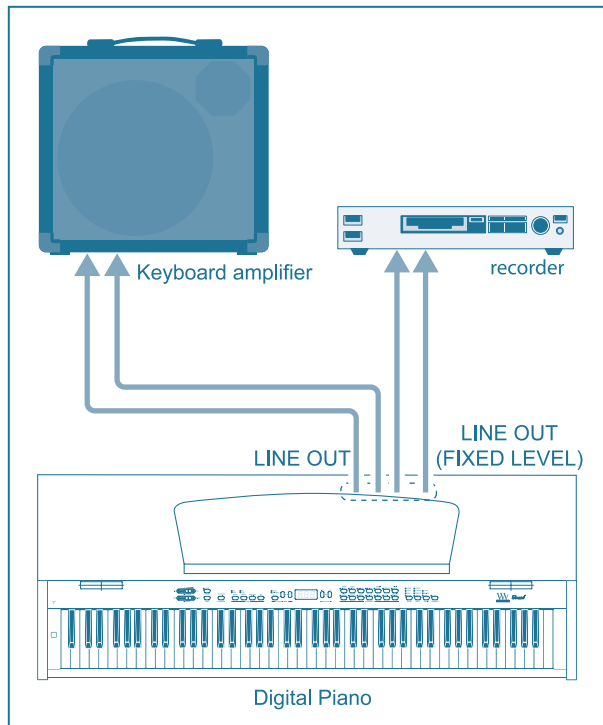
Connecting external signal sources

- Connect the outputs of the CD player to the LINE IN connectors of the piano.
- For a mono connection use the LINE IN L (MONO) connector on the piano.

### Connection to Amplifiers and Recording Equipment

The piano is equipped with two LINE OUT connectors for connecting the digital piano to external keyboard amplifiers, P.A. systems or home stereo systems. For performances in larger rooms (e.g. stages, hall) it can be necessary to use external amplifiers.

You can also use the outputs to connect recording equipment (e.g. computer, cassette recorder, MD recorder). Unlike the built-in music sequencer, recording on external audio equipment gives you the advantage that you can play back your music completely independently of the piano. For example, you can give your friends a recorded CD or MD or archive music pieces on any recording medium.



Connecting amplifiers and recording equipment

Connect the LINE OUT jacks to the inputs of an external amplifier.

- For a mono connection use the LINE OUT L (MONO) connector on the piano.

Connect the LINE OUT cinch jacks to the inputs of an external recording device.

**!** *Be sure to switch the piano on, BEFORE you switch on the external amplifier, so as to avoid switch-on thumps being amplified. Such signals could damage the amplifier and the loudspeakers. Switch off the equipment in reverse order.*

## MIDI Functions

MIDI is an interface and protocol for transmitting of playing data to other MIDI equipment. The most important playing data are pitch and length of notes, key velocity and channel volume, program changes and various controller data generated, for example, by controllers such as the pedals.

The MIDI interface does not transmit electrical audio signals but control data only. The MIDI protocol provides for the transmission of data on 16 independent channels. Playing data are always channel-specific data.

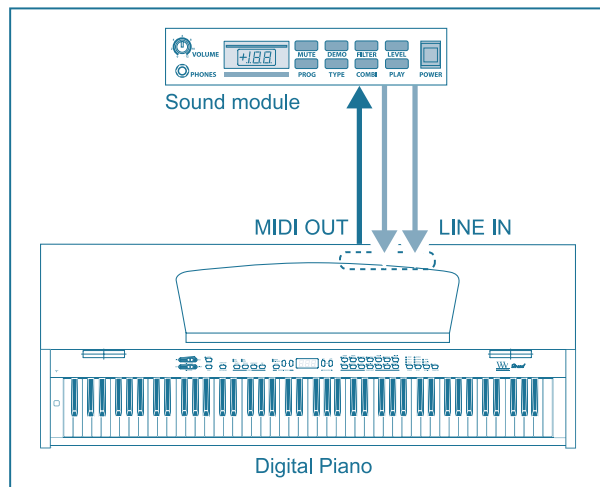
The piano is equipped with three MIDI jacks for connecting additional MIDI sound modules or software/hardware sequencers:

- Use the MIDI OUT to connect additional synthesizers or a music computer receiving MIDI data from the piano.
- Use the MIDI IN to send playing data from other MIDI controller keyboards or a music computer to the sound generator of the piano.
- The MIDI THRU jacks passes on the MIDI data received via the MIDI IN jack without modification. In combination with a music computer you can thus integrate another keyboard or sound module into the MIDI chain comprising piano and music computer.

## MIDI Connection to Other Sound Modules

You can use the piano to control external sound modules via MIDI. This allows you to use the keyboard and pedals of the digital piano to control the sound generators of other synthesizers or sound modules not equipped with a keyboard. When you also connect the audio signal of the external sound module to the piano, as described on page 27., all sounds played in addition to the sounds of the piano can be heard through the loudspeakers of the digital piano.

The following illustration shows a set-up comprising the piano and an external sound module.



Controlling external MIDI sound modules

Connect the MIDI OUT jack of the piano to the MIDI IN jack of the external sound module.

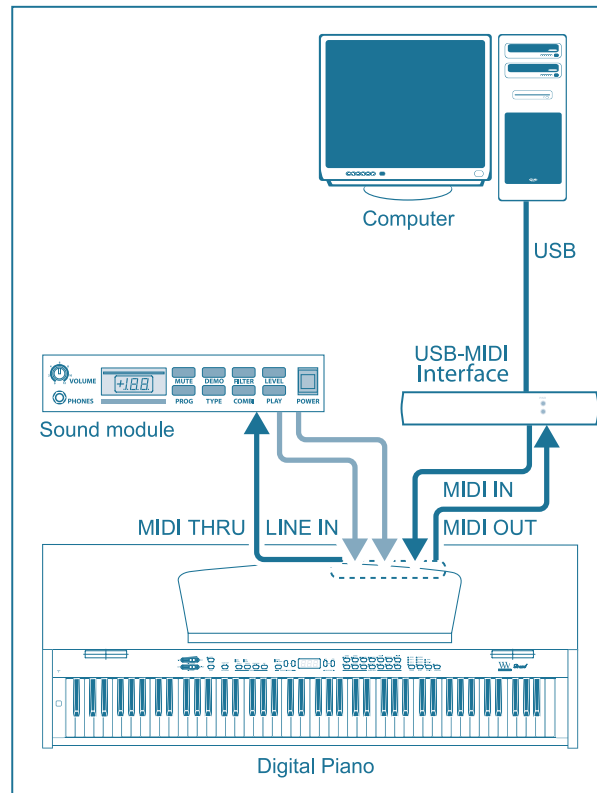
Be sure to set the MIDI transmit/receive channels of both instruments to the same number (see p. 31).

Connect the audio outputs of the sound module to the LINE IN jacks of the piano, if you want to play back the sounds of the external device through the digital piano loudspeakers.

## MIDI Connection to a Computer With Sequencing Software

You can operate the piano in combination with a sequencing program such as ProTools, Logic, or Cubase. Sequencing software gives you a wealth of powerful functions to record and process MIDI data. For example, you can record several tracks to create complex music pieces. Additional options are the production/printing of sheet music or playback of music pieces. What is more, you can transfer the data of the built-in music sequencer to your computer for permanent archiving.

The following illustration shows a set-up comprising the piano and a music computer. The connection of an external sound module is optional.



MIDI set-up including a sequencer and external sound module

Connect the MIDI OUT jack of the piano to the MIDI IN jack of a MIDI interface.

Connect the MIDI IN jack of the piano to the MIDI OUT jack of the interface.

Connect the MIDI IN jack of the sound module to the MIDI THRU jack of the piano.

Connect the audio outputs of the sound module to the LINE IN jacks of the piano, if you want to play back the sounds of the external device through the digital piano loudspeakers.

## MIDI Settings

The piano provides eight different function to determine how the instrument processes MIDI information.

- Please enter EDIT mode (see p. 14) and select the following function.



## Setting the MIDI Transmit Channel

Use this function to set the transmit channel on which the piano is to send MIDI data. MIDI devices must send and receive on the same MIDI channels to ensure successful MIDI communication.

Function:	E7.1
Value:	1 ... 16, OFF
Description:	1 ... 16: The piano transmits MIDI data on the specified MIDI channel. (Default setting: 1)  OFF: The piano transmits no MIDI data

- In layer mode voice #1 transmits MIDI data on the specified MIDI channel, while voice #2 transmits on the next higher channel.
- Demo song and music sequencer data are not transmitted via the MIDI output. However, you can transmit a music piece recorded with the built-in music sequencer using the MIDI dump feature (see "Sending Music Sequencer Data" below).

## Setting the MIDI Receive Channel

Use this function to set the receive channel on which the piano is to receive MIDI data. MIDI devices must transmit and receive on the same MIDI channels to ensure successful MIDI communication. Select the default setting ALL for proper operation in combination with a music computer.

Function:	E7.2
Value:	ALL, 1-2, 1 ... 16
Description:	ALL: Simultaneous multi-timbral reception of MIDI data on all 16 MIDI channels. (Default setting)  1-2: Reception of MIDI data on channels 1 and 2  1 ... 16: Reception of MIDI data on the specified MIDI channel

- The multi-timbral reception of MIDI data allows you to use the piano in combination with a sequencing program as a sound generator for multi-track recordings (see p. 29).

## Enable/Disable Sound Generator (Local on/off)

This function allows you to determine whether the built-in sound generator directly plays the notes you play on the keyboard or whether it only responds to MIDI note information received via the MIDI IN jack. The latter setting is quite useful, for example, in sequencer mode. In a closed MIDI chain the looping through of MIDI signals could otherwise lead to double sounds, i.e. when you hit a key on the keyboard, the piano plays the note directly only to play it again shortly after, when the MIDI commands sent to the sequencer come back via the MIDI IN of the piano. When the piano is set to Local Off, the MIDI data are only sent to the sequencer. The notes are played only once when the MIDI signals come back from the sequencer.

Function:	E7.3
Value:	ON, OFF
Description:	ON: Sound generator responds to keyboard and MIDI notes (default setting)  OFF: Sound generator does not respond to the keyboard but to MIDI notes only

## Accept/ignore Program Changes

Use this function to determine how the piano responds to MIDI program change commands. These commands are used, for example, to select sounds of the piano using MIDI commands sent from a sequencing program. Conversely, program change commands can be sent via the MIDI output of the piano whenever you select a sound in the SOUND SELECT section (see p. 38).

Function:	E7.4
Value:	ON, OFF
Description:	<p>ON: Program change commands are sent and received (default setting)</p> <p>OFF: Program change commands are neither sent nor received</p>

## Accept/ignore MIDI Controller Information

Use this function to determine how the piano responds to MIDI controller data. MIDI uses a variety of controller information to control sound changes (e.g. pedal status, volume, effect intensity).

Function:	E7.5
Value:	ON, OFF
Description:	<p>ON: Controller data are sent and received (default setting)</p> <p>OFF: Controller data are neither sent nor received</p>

- The piano only responds to the commands listed in the MIDI implementation chart if controller data are enabled (see p. 39).

## MIDI Transposition

This function determines whether outgoing MIDI data are transposed independently of the built-in sound generator. This can be useful to play the sounds of an external sound module whose sound generator is controlled from the keyboard of the piano in a different pitch than the internal sounds of the piano.

Function:	E7.6
Value:	-12 ... 12
Description:	<p>0: No transposition of the pitch at the MIDI output (default setting)</p> <p>1 ...12: Pitch is transposed up by the number of half-tones selected</p> <p>-1 ... -12: Pitch is transposed down by the number of half-tones selected</p>

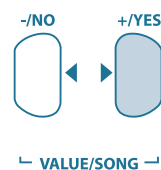
- This setting has no effect on the sound generator of the piano.

## Send Control Panel Settings (Snapshot)

Use this function to transmit the current settings of the piano (e.g. sounds and effects, channel volume) via the MIDI output. This type of transmission only includes system-exclusive data packages (MIDI dump).

Function:	E7.7
Value:	-
Description:	

- 1) Connect the piano to a computer or hardware sequencer as described on page 28.
- 2) Set the MIDI sequencer to reception-ready mode.
- 3) Select the function E7.7 in EDIT mode.
- 4) Press the +/YES button to execute the transmission.



When the transmission is complete, the display shows **END**.

- You can send the data back to the piano at a later date. To do this, use the MIDI IN jack to connect the piano to the device that received the data before. As soon as you start the transmission from the MIDI sequencer, the piano will automatically receive the data. Make sure that neither DEMO, EDIT or music sequencer mode is active!

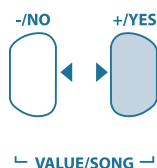


## ***Sending Music Sequencer Data***

Use this function to send music sequencer data via the MIDI output of the piano. This allows you to archive recorded music pieces on your music computer or hardware MIDI sequencer. This type of transmission is only for system-exclusive data packages (MIDI dump), but not for MIDI playing data.

Function:	E7.8
Value:	-
Description:	

- 1) Connect the piano to a computer or hardware sequencer as described on page 30.
- 2) Set the MIDI sequencer to reception-ready mode. Select the function E7.8 in EDIT mode.
- 3) Press the +/-YES button to execute the transmission.

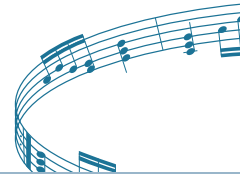


When the transmission is complete, the display shows **END**.

- You can send the data back to the piano at a later date. To do this, use the MIDI IN jack to connect the piano to the device that received the data before. As soon as you start the transmission from the MIDI sequencer, the piano will automatically receive the data. Make sure that neither DEMO, EDIT or music sequencer mode is active.

## TROUBLESHOOTING

Problem	Remedy
The instrument cannot be switched on	Check the connection between mains plug and wall outlet.
No sound	Check the position of the MAIN VOLUME control. Check the SPEAKER button status. Check that the sound generator is switched on.
The foot pedals do not work properly	Check that the pedal cable is properly connected to the PEDAL jack on the underside of the piano.
The left foot pedal has no effect	Check in EDIT menu E4.1 that the soft pedal function is enabled.
Audio signal is distorted	Cut back the volume using the MAIN VOLUME control.
Sound is too low/high	Check whether the LED above the TRANSPOSE switch is lit. If so, transposition is active. Press the button to switch it off.
Effect is not audible	Perhaps no effect has been selected or its intensity is too low. Check that the REVERB and EFFECT LEDs are lit and select an appropriate effect intensity.
Music sequencer/DEMO mode cannot be selected	DEMO mode must not be active when you switch to music sequencer mode. Conversely, the music sequencer must be off before you can switch to DEMO mode.
The music recorded with the music sequencer has been lost	When you re-record a track this will automatically erase the previously recorded data on this track.
Music sequencer playback cannot be started	Playback can only be started when the memory of the music sequencer contains data. Perhaps no data have been recorded. Perhaps no tracks have been activated for recording.
The music sequencer has not stored the entire recording	The music sequencer is limited in its capacity (approx. 10,000 notes). When the memory is full, all further data will be lost. Play only as many notes as the sequencer can store before the display starts flashing, thus signaling that the memory is full.
The display shows FUL	The memory of the music sequencer is full. If you do not want to erase/re-record your recording, be sure to save the recorded song via MIDI to a music computer before you start a new recording.
The music piece recorded on the music sequencer plays back too slow/fast	The playback tempo of the music sequencer follows the current tempo setting. Press the SELECT button until the TEMPO LED lights up, then simultaneously press the two < > buttons to play back the recording at its original tempo.
The tuning of the instrument does not match the tuning of other instruments	Check the settings in the EDIT menus E1 and E2.1 and adjust them if necessary. Standard setting: 440 Hz, equal tuning.
Key velocity does not work properly	Check whether one of the LEDs above the VELOCITY button is lit. If necessary activate the dynamic response of your choice by pressing the VELOCITY button. Some sounds do not respond to key velocity.
When the instrument is switched off all settings are lost	When first switched on, the piano always uses the default settings. To save your personal settings please set the memory function.
The piano does not play back notes received via MIDI IN	Set the receive channel, on which the piano is to receive MIDI data, in the EDIT menu E7.2.
The piano does not transmit MIDI data via MIDI OUT	Set the transmit channel, on which the piano is to send MIDI data, in the EDIT menu E7.1. Demo and music sequencer data are not transmitted via MIDI.
The piano does not respond to all MIDI commands	The piano supports only those commands listed in the MIDI Implementation Chart. Be sure that the device sending MIDI data and the piano do not have a MIDI filter activated.
The piano sounds strange	Check whether one of the LEDs above the EFFECT button is lit, i.e. whether a modulation effect is active. If so, press the button until all LEDs are off, i.e. no effect is active. Perhaps you have selected two sounds at the same time. Press one of the sound buttons in the SOUND SELECT section to select a single sound.
The display shows ERR	An internal error has occurred. Switch the instrument off, wait for about 30 seconds, then switch it back on.



## SPECIFICATIONS

### KEYBOARD:

88 weighted keys with hammer action (A1 to C7)

### SOUND GENERATION:

RSM (Real Sound Modeling) stereo sampling, 16MB ROM

### POLYPHONY:

64 notes max.

### SOUNDS:

14

### EFFECTS:

Room effects - 4 types (ROOM, HALL 1, HALL 2, STAGE)

Modulation effects - 4 types (CHORUS, FLANGER, TREMOLO, DELAY)

### SEQUENCER TYPE:

2-track

### MEMORY:

1 song, approx. 10,000 notes

### PEDALS:

3 (soft-, sostenuto-, damper)

### LINE IN:

Connectors - 1/4" TS jack, unbalanced

Impedance - approx. 10k  $\Omega$

### LINE OUT:

Connectors - RCA, unbalanced, 1/4" TRS jack, impedance-balanced

Impedance - approx. 100  $\Omega$ , unbalanced, approx. 200  $\Omega$ , balanced

Max. output level - +7 dBu

### PHONES:

Connectors - 1/4" TRS jack

Max. output level - +13 dBu/120mW @ 100  $\Omega$  load

MIDI - IN, OUT, THRU

### AMPLIFIER:

Output power - 2 x 40 Watts

### POWER SUPPLY:

Mains voltages and fuse values

100 - 120 V, 50/60 Hz - T 2.50 A H 250 V

220 - 230 V, 50/60 Hz - T 1.25 A H 250 V

### POWER CONSUMPTION:

approx. 135 Watts

### DIMENSIONS (H x W x D):

approx. 843 (closed) / 1,490 (opened) x 1,378 x 1005 mm

approx. 33.19" (closed) / 58.66" (opened) x 54.25" x 39.57"

### WEIGHT:

approx. 90.6 kg

approx. 199.7 lbs

## APPENDIX

### Cables

Below you will find an overview of all cables you need to connect your digital piano. The cables are not supplied with the piano.

Depending on the intended use, adapter cables will be necessary to interface the various connectors. You can use adapter cables or plugs (e.g. 1/4" to RCA phono). Cable adapters are better than adapter plugs, as the latter may affect the signal quality due to insufficient contact of the plugs with each other.

#### Unbalanced 1/4" cable

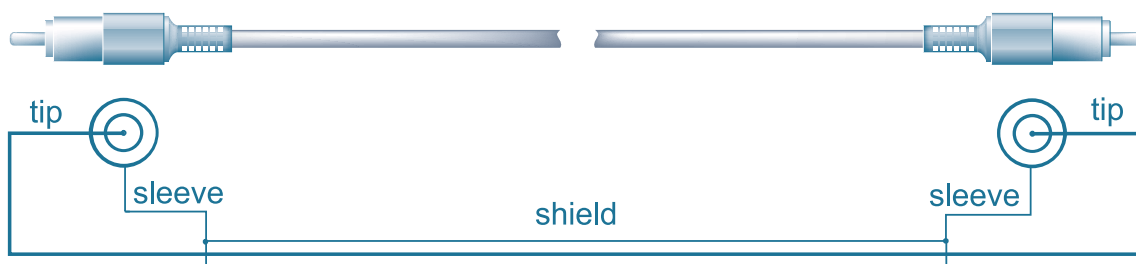
Unbalanced 1/4" cables are equipped with a 1/4" TS plugs at each end. They are used to connect external keyboard amps and devices with 1/4" outputs (e.g. synthesizers, drum computers) to the piano.



*Unbalanced 1/4" cable with 1/4" TS plugs*

#### RCA cables

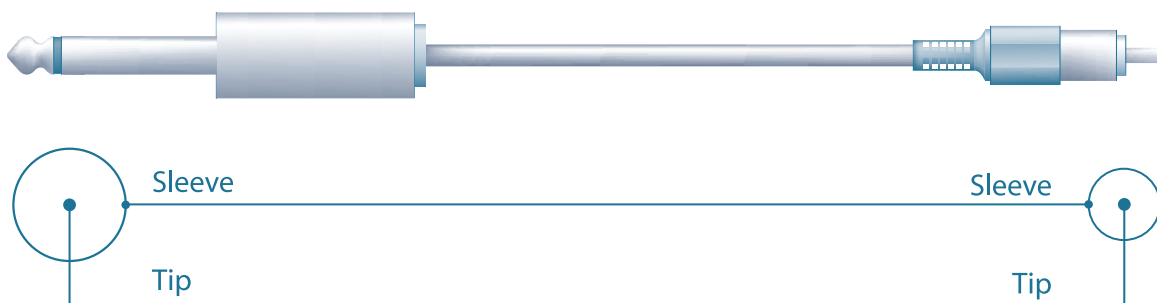
RCA phono cables are often used for hi-fi applications to connect CD players, recorders and other devices to home stereo systems. You will need this type of cable to connect the piano to hi-fi recording equipment. Usually, these cables are supplied in pairs to form one stereo cable. The plugs are in most cases red (right) and white (left). Make sure that the wiring between recording device and piano follows this color code, so as not to mix up the left/right signals.





## 1/4" to RCA cable

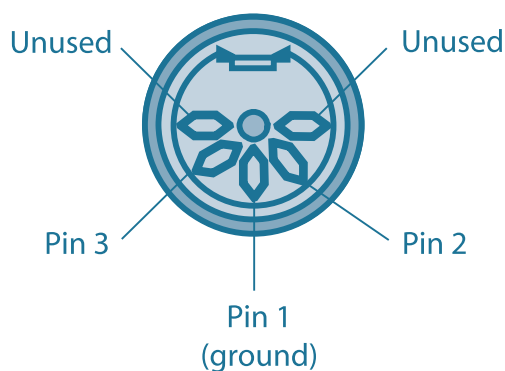
1/4" to RCA phono cables are required for connecting a hi-fi playback device (e.g. CD player) to the piano. As an alternative, you can also use an unbalanced 1/4" cable with an appropriate RCA adapter.



*1/4" to RCA cable*

## MIDI cables

MIDI cables are required for connecting MIDI equipment. These cables have a 5-pin DIN plug at each end. Be sure to use cables marked as MIDI cables (wiring as shown), since there are also similar cables with a different wiring available for hi-fi equipment. MIDI cable lengths should be as short as possible. Avoid cable lengths exceeding 10 m, as these could lead to errors during the transmission of signals.



*MIDI plug pin assignment*

## PRESETS ON THE WILLIAMS GRAND PIANO

Sound	Description	Stereo samples	Key velocity	Dynamic samples	Release samples	MIDI commands	
						MSB/LSB	Program change commands
<b>GRAND PIANO 1</b>	Classic sound of a concert grand piano with a soft tonal character	✓	✓			0/122	0
<b>GRAND PIANO 2</b>	Brilliant sound of a concert grand piano, particularly suited to pop and rock music	✓	✓			0/112	0
<b>E-PIANO 1</b>	Typical bell-like FM electric piano of the 80's		✓			0/122	5
<b>E-PIANO 2</b>	Nostalgic retro sound of a classic electric piano		✓	✓		0/122	4
<b>HARPSICHORD</b>	Typical sound of a baroque harpsichord	✓			✓	0/122	6
<b>CEMBALO</b>	Full dual-octave harpsichord sound	✓			✓	0/123	6
<b>VIBRAPHONE</b>	Extremely dynamic vibraphone sound	✓	✓			0/122	11
<b>PIPE ORGAN</b>	Soft wooden pipe sound of a small baroque organ					0/123	19
<b>CHURCH ORGAN</b>	Sound of full-size church organ with all registers					0/122	19
<b>JAZZ ORGAN</b>	Sound of a typical jazz organ with percussive attack					0/122	16
<b>STRINGS</b>	Natural sound of a big string orchestra	✓	✓			0/122	48
<b>SOFT STRINGS</b>	Soft sound of a string ensemble with slow attack	✓	✓			0/122	49
<b>CHOIR</b>	Mixed choir with pitch-dependent combination of voices		✓			0/122	52
<b>ACOUSTIC GUITAR</b>	Sound of a classical concert guitar with a warm character	✓	✓			0/122	24



## MIDI IMPLEMENTATION CHART

Function		Transmitted	Recognized	Remarks
Basic Channel	Default Changed	1 1 - 16	1 1 - 16	
Mode	Default Messages Altered	3 X X	1 X X	Poly mode only
Note Number	True Voice	9-120, v=1-127 X	0-127, v=1-127 0-127	
Velocity	Note ON Note OFF	O X	O X	
After Touch	Keys Channels	X X	X X	
Pitch Bend		X	X	
Control Change	0.32	O	O	Bank select
	7	O	O	Volume
	11	O	O	Expression
	64	O	O	Damper
	66	O	O	Sostenuto
	67	O	O	Soft pedal
	91	O	O	Reverb depth
	94	O	O	Effect depth
Program Change		O	O	
System Exclusive		O	O	
System Common	Song Pos. Song Sel. Tune	X X X	X X X	
System Real Time	Clock Commands	O O	O O	
Aux Messages	Local ON/OFF All notes OFF Active Sense Reset All sound off Reset all ctrl	X O O X O O	O (122) O (123-125) O X O (120, 126, 127) O (121)	

### Notes

O = YES, X = NO

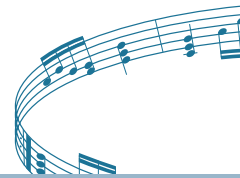
Mode 1:

Mode 3:

OMNI ON,  
POLY  
OMNI OFF,  
POLY

## LIST OF DEMO MUSIC PIECES INCLUDED

No.	Piece	Composer
1	Invention no. 1, C major, BWV 772	Johann Sebastian Bach
2	Piano sonata no. 16, 1st movement, C major, KV 545	Wolfgang Amadeus Mozart
3	Piano sonata, op. 13, no. 8 "Pathétique", 2nd mvt., A flat major	Ludwig van Beethoven
4	Piano sonata, op. 49, no. 2, 1st movement, G major	Ludwig van Beethoven
5	Impromptu, op. 90, no. 2, E flat major	Franz Schubert
6	Frühlingslied ("Spring Song"), op. 62, no. 6, A major	Felix Mendelssohn Bartholdy
7	Fantasie Impromptu, op. 66, c sharp minor	Frédéric Chopin
8	Prelude, op. 28, no. 15 "Raindrop", D flat major	Frédéric Chopin
9	Etude, op. 10, no. 12 "Revolution", c minor	Frédéric Chopin
10	Waltz, op. 64, no. 1 "Minute Waltz/Petit chien", D flat major	Frédéric Chopin
11	Waltz, op. 64, no. 2, c sharp minor	Frédéric Chopin
12	Liebestraum no. 3, A flat major	Franz Liszt
13	Arabesque no. 1, E major	Claude Debussy
14	Children's Corner: Golliwog's Cakewalk, E flat major	Claude Debussy
15	Maple Leaf Rag, A flat major	Scott Joplin



## EDIT PARAMETERS

Category	Abbreviated name	Description	Function	Values	Default setting
<b>Tuning</b>	Fine tuning	General fine tuning in 1/5-Hz steps	E1	427 - 453	440
<b>Tuning</b>	<b>Tuning</b>	<b>Selection of temperament (scale)</b>	E2.1	1 ... 7	1 (EQUAL TEMPER)
	<b>Basic note</b>	<b>Selection of basic note of temperament</b>	E2.2	C ... B	C
<b>Layer mode</b>	Volume	Volume ratio of voice #1 vs. voice #2	E3.1	0 ... 20	-*
	Detune	Detuning of voice #1 vs. voice #2	E3.2	-10 ... 10	-*
	Octave transposition voice #1	Octave position of voice #1	E3.3	-1, 0, 1	-*
	Octave transposition voice #2	Octave position of voice #2	E3.4	-1, 0, 1	-*
	Effect intensity voice #1	Portion of voice #1 volume channeled to the effect	E3.5	0 ... 20	-*
	Effect intensity voice #2	Portion of voice #2 volume channeled to the effect	E3.6	0 ... 20	-*
	Reset	Reset of layer mode settings	E3.7	-	-
<b>Soft pedal</b>	<b>Function</b>	<b>Function of soft pedal: 1) soft pedal, 2) music sequencer</b>	E4.1	1, 2	1
	<b>Effect</b>	<b>Intensity of soft pedal on sound</b>	E4.2	1 ... 5	3
<b>Metronome</b>	Volume	Volume of metronome click	E5	1 ... 20	10
<b>Sequencer</b>	<b>Dimmed volume</b>	<b>Volume of the muted track in music sequencer mode</b>	E6	0 ... 20	5
<b>MIDI</b>	Transmit channel	MIDI channel on which MIDI data are transmitted	E7.1	1 ... 16, OFF	1
	Receive channel	MIDI channel on which MIDI data are received	E7.2	ALL, 1-2, 1 ... 16	ALL
	Sound generator (Local on/off)	Enables/disables the built-in sound generator for keyboard data	E7.3	ON, OFF	ON
	Program change	Accept or ignore program change data (send/receive)	E7.4	ON, OFF	ON
	Controller commands	Accept or ignore controller commands (send/receive)	E7.5	ON, OFF	ON
	Transposition	Transposition of notes during MIDI transmission	E7.6	-12 ... 12	0
	Control panel settings	MIDI transmission of all current settings (dump)	E7.7	-	-
	Music sequencer data	MIDI transmission of music sequencer data (dump)	E7.8	-	-
<b>Save</b>	<b>Sounds</b>	<b>Permanent saving of sound settings</b>	E8.1	ON, OFF	OFF
	<b>MIDI</b>	<b>Permanent saving of MIDI settings</b>	E8.2	ON, OFF	OFF
	<b>Tuning</b>	<b>Permanent saving of transposition and tunings</b>	E8.3	ON, OFF	OFF
	<b>Soft pedal</b>	<b>Permanent saving of soft pedal settings</b>	E8.4	ON, OFF	OFF

\*Default settings depend on the selected sound combination

## WARRANTY INFORMATION

### 1 Year Parts & Labor Warranty

#### Limited Warranty

Williams provides the following limited warranty, to the original purchaser: this piano is warranted to be free from electronic and/or structural defects in materials and workmanship for a period of one (1) year from the date of original purchase. If this Williams piano is defective, at its option during the warranty period, subject to the terms of this limited warranty and upon proof of purchase, Williams will either repair or replace the listed piano with a same or similar model of equal age or newer. Any repairs or modifications must be completed by Williams and/or an authorized agent of Williams. The warranty obligations as set forth herein shall be performed free of charge with the exception of all delivery and shipping expenses. This limited warranty will not apply to this product in the case of misuse, abuse, neglect, alterations, normal wear and tear or other circumstance not directly attributed to electronic and/or structural defects in materials or workmanship. Without limiting the foregoing, this limited warranty will also be inapplicable to products that have not been maintained or replaced in accordance with the manufacturer's instruction, or to products from which the serial number has been removed or altered. If covered defects are found, contact your authorized Williams dealer with regard to the alleged defect within ten (10) days of discovery of the problem.

The foregoing repair or replacement obligation for defective products shall be the sole and exclusive remedy

of this limited warranty. All warranties including, but not limited to, the express warranty and the implied warranties of merchantability and fitness for a particular purpose are limited to the one (1) year warranty period. Some states do not allow limitation on how long an implied warranty lasts, so the above limitation may not apply to you. There are no express warranties beyond those stated here. In the event that applicable law does not allow the limitation of the duration of the implied warranties to the warranty period, then the duration of the implied warranties shall be limited to as long as is provided by applicable law. No warranties apply after that period.

California Prop 65 Warning. This product may contain a chemical(s) known to the state of California to cause cancer or birth defects or other reproductive harm.

Retailer and manufacturer shall not be liable for damages based upon inconvenience, loss of use of product, loss of time, interrupted operation or commercial loss or any other incidental or consequential damages including but not limited to lost profits, downtime, goodwill, damage to or replacement of equipment and/or property.

Register online at [www.williamspianos.com](http://www.williamspianos.com), or fill out the form below.

A copy of this warranty must be mailed to WILLIAMS within 10 days of receipt.  
Williams Pianos, P.O. Box 5111, Thousand Oaks, CA. 91359-5111

Customer Name: \_\_\_\_\_  
Telephone: \_\_\_\_\_  
Address/City/State/Zip: \_\_\_\_\_  
Dealer Name: \_\_\_\_\_  
Dealer City: \_\_\_\_\_  
Make: \_\_\_\_\_  
Model: \_\_\_\_\_  
Serial #: \_\_\_\_\_  
Date of Purchase: \_\_\_\_\_  
Customer Signature: \_\_\_\_\_  
Date: \_\_\_\_\_





*Sound. Style. Value.*