Startone*

MK-300
keyboard

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keyboard

1 General information

This manual contains important instructions for the safe operation of the unit. Read and follow the safety instructions and all other instructions. Keep the manual for future reference. Make sure that it is available to all those using the device. If you sell the unit please make sure that the buyer also receives this manual.

Our products are subject to a process of continuous development. Thus, they are subject to change.

1.1 Further information

On our website (*www.thomann.de*) you will find lots of further information and details on the following points:

Download	This manual is also available as PDF file for you to download.
Keyword search	Use the search function in the electronic version to find the topics of interest for you quickly.
Online guides	Our online guides provide detailed information on technical basics and terms.
Personal consultation	For personal consultation please contact our technical hotline.
Service	If you have any problems with the device the customer service will gladly assist you.

1.2 Notational conventions

This manual uses the following notational conventions:

Letterings

The letterings for connectors and controls are marked by square brackets and italics.

Examples: *[VOLUME]* control, *[Mono]* button.

Displays

Texts and values displayed on the device are marked by quotation marks and italics.

Examples: *'24ch'*, *'OFF'*.

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Instructions

The individual steps of an instruction are numbered consecutively. The result of a step is indented and highlighted by an arrow.

Example:

1. ▶ Switch on the device.

2. ▶ Press *[Auto]*.

⇨ Automatic operation is started.

3. ▶ Switch off the device.

Cross-references

References to other locations in this manual are identified by an arrow and the specified page number. In the electronic version of the manual, you can click the cross-reference to jump to the specified location.

Example: See ↰ *'Cross-references' on page 6*.

1.3 Symbols and signal words

In this section you will find an overview of the meaning of symbols and signal words that are used in this manual.

Signal word	Meaning
DANGER!	This combination of symbol and signal word indicates an immediate dangerous situation that will result in death or serious injury if it is not avoided.
CAUTION!	This combination of symbol and signal word indicates a possible dangerous situation that can result in minor injury if it is not avoided.
NOTICE!	This combination of symbol and signal word indicates a possible dangerous situation that can result in material and environmental damage if it is not avoided.

Warning signs	Type of danger
	Warning – danger zone.

2 Safety instructions

Intended use

This device is intended to be used for electronic sound generation using a piano keyboard. Use the device only as described in this user manual. Any other use or use under other operating conditions is considered to be improper and may result in personal injury or property damage. No liability will be assumed for damages resulting from improper use.

This device may be used only by persons with sufficient physical, sensorial, and intellectual abilities and having corresponding knowledge and experience. Other persons may use this device only if they are supervised or instructed by a person who is responsible for their safety.

Safety

DANGER!

Danger for children

Ensure that plastic bags, packaging, etc. are disposed of properly and are not within reach of babies and young children. Choking hazard! Ensure that children do not detach any small parts (e.g. knobs or the like) from the unit. They could swallow the pieces and choke! Never let children unattended use electrical devices.

CAUTION!

Possible hearing damage

With loudspeakers or headphones connected, the device can produce volume levels that may cause temporary or permanent hearing impairment. Do not operate the device permanently at a high volume level. Decrease the volume level immediately if you experience ringing in your ears or hearing impairment.

NOTICE!

Operating conditions

This device has been designed for indoor use only. To prevent damage, never expose the device to any liquid or moisture. Avoid direct sunlight, heavy dirt, and strong vibrations.

NOTICE!

External power supply

The device is powered by an external power supply. Before connecting the external power supply, ensure that the input voltage (AC outlet) matches the voltage rating of the device and that the AC outlet is protected by a residual current circuit breaker. Failure to do so could result in damage to the device and possibly the user. Unplug the external power supply before electrical storms occur and when the device is unused for long periods of time to reduce the risk of electric shock or fire.

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3 Features

The keyboard is characterized by the following features:

- Keyboard: 61 keys with adjustable touch velocity
- 64-voice polyphony
- 390 voices
- 100 styles
- 110 rehearsal songs
- 8 demo songs
- Record and playback function
- 4 memory locations
- Reverb
- Chorus
- Split mode
- Metronome
- Transpose function
- Speaker: 2 × 10 W
- Connections: Headphones output, sustain pedal, USB
- Automatic shutoff

4   Assembly instructions

Unpack and carefully check that there is no transportation damage before using the unit. Keep the equipment packaging. To fully protect the device against vibration, dust and moisture during transportation or storage use the original packaging or your own packaging material suitable for transport or storage, respectively.

Set up the device in the desired location.

Operating voltage supply
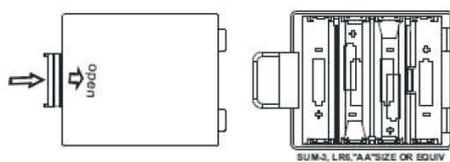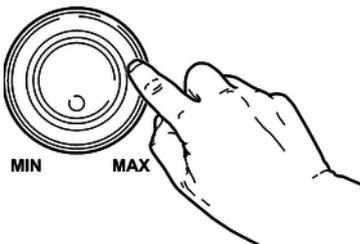
The device can be powered by batteries or with the included AC adapter.

Batteries

1. ▸ Make sure that the device is turned off before you connect it to the power supply or disconnect it.

2. ▸ Turn the volume knob counter-clockwise to minimum before connecting the keyboard to the power supply or to other devices. This is to protect the speakers from damage.

3. ▸ Take off the battery compartment cover on the underside of the keyboard.

4. ▸ Insert six AA/R6 size batteries. Pay attention to the correct polarity according to the marks.

> **! NOTICE!**
> **Possible damage by leaking batteries**
> Leaking batteries can cause permanent damage to the device.
>
> Take batteries out of the device if it is not going to be used for a longer period.

Always use batteries of the same type and do not use new and used batteries at the same time.

5. ▸ Reattach the battery compartment cover and snap it into place.

Power adapter

1. ▸ Make sure that the device is turned off before you connect it to the power supply or disconnect it.
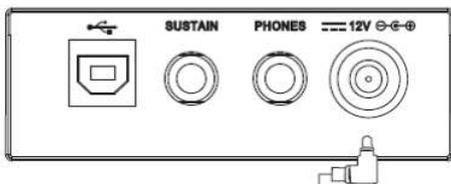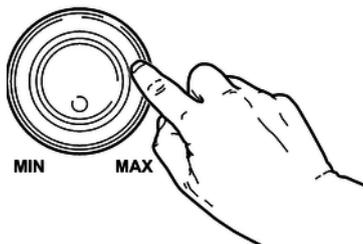
2. ▶ Turn the volume knob counter-clockwise to minimum before connecting the keyboard to the power supply or to other devices. This is to protect the speakers from damage.

3. ▶ Connect the cable from the power adapter outlet to the input socket *[12V]* on the rear panel of the keyboard.

Plug the power adapter into a properly wired mains wall outlet.

5 Control panel and connections

Overview
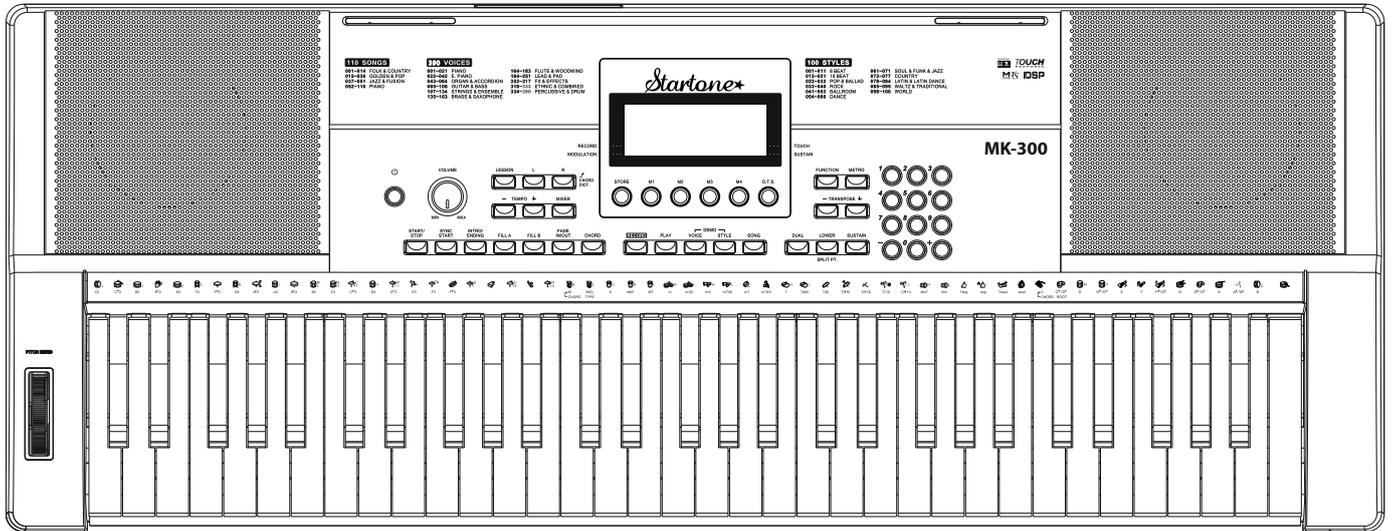
Operating panel
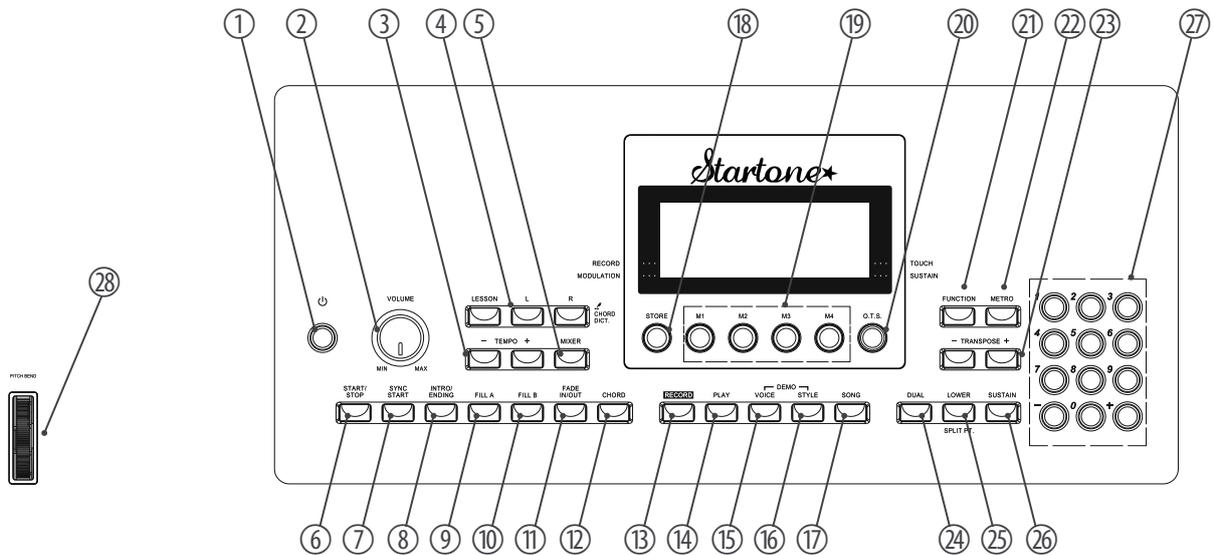
1	Button to turn the keyboard on and off.
2	Rotary control *[VOLUME]* to set the volume.
3	*[TEMPO +]/[TEMPO –]* buttons to increase / decrease the tempo.
4	*[CHORD DICT./LESSON]* buttons to activate the learning mode and call the chord dictionary.
5	*[MIXER]* button to adjust the volume of each component.

6	*[START/STOP]* button to play the rehearsal songs in *[SONG]* mode and to start and stop Styles in *[STYLE]* mode.
7	*[SYNC START]* for activating and deactivating the synchronous start of the Auto Accompaniment.
8	*[INTRO/ENDING]* button selecting an Intro or Ending.
9	*[FILL A]* button to select Fill A/Main A.
10	*[FILL B]* button to select Fill B/Main B.
11	*[FADE IN/OUT]* button to fade the currently playing Style in or out.
12	*[CHORD]* button for setting up the chord recognition mode.
13	*[RECORD]* button to start or stop a real time recording.
14	*[PLAY]* button to play the recorded User song.
15	*[VOICE]* button to call up the *[VOICE]* mode. Pressing both *[VOICE]* and *[STYLE]* buttons simultaneously will start the automatic playback of the demo songs.
16	*[STYLE]* button to call up the *[STYLE]* mode. Pressing both *[STYLE]* and *[VOICE]* buttons simultaneously will start the automatic playback of the demo songs.
17	*[SONG]* button to call up the *[SONG]* mode.
18	*[STORE]* button to save the current settings to a specific memory location.
19	*[M1]* to *[M4]* buttons to call up the saved settings.
20	*[O.T.S.]* button (One Touch Setting) for sound pre-assignment.
21	*[FUNCTION]* button to enter the function menu and fine tuning of parameters.
22	*[METRO]* button to turn the Metronome function on and off.
23	*[TRANSPOSE +]* and *[TRANSPOSE –]* buttons.
24	*[DUAL]* button to turn the Dual mode on and off.
25	*[LOWER]* button to turn the key assignment for the left hand on and off.
26	*[SUSTAIN]* button to turn the Sustain effect on and off.
27	Numeric buttons to select a number or a parameter setting.
28	Pitch bend wheel for changing the pitch.

Display
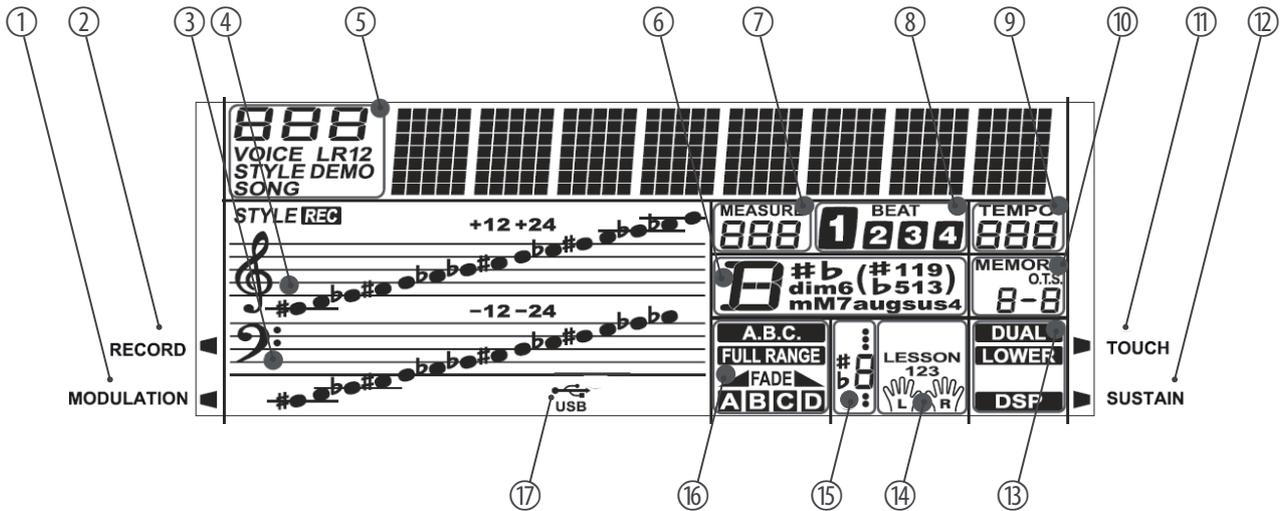
	1	LED *[MODULATION]* Lights up on Modulation.
	2	LED *[RECORD]* Lights up when recording.
	3	Bass clef.
	4	Treble clef.
	5	*'VOICE/STYLE/DEMO/SONG'* Voice/Style/Demo/Song number display.
	6	*'CHORD'* Chord display.
	7	*'MEASURE'* Measure display.
	8	*'BEAT'* Beat display within the bar.
	9	*'TEMPO'* Tempo display.
	10	*'MEMORY1/2/3/4 / O.T.S.'* Memory location display 1 to 4 and O.T.S.
	11	LED *[TOUCH]* Lights up when the velocity sensitivity is being adjusted.

12	LED *[SUSTAIN]*
	Lights up when a Sustain pedal is connected.
13	*'DUAL/LOWER/DSP'*
	Display for Dual mode, left hand assignment and DSP.
14	*'LESSON 123 / L/R'*
	Learning mode display for left and right hand.
15	Note display.
16	*'A.B.C. / FADE / A/B'*
	Display of automatic bass accompaniment / Fade / A/B.
17	*'USB'*
	Lights up when the USB port of the device is connected to a computer.

Rear panel connections
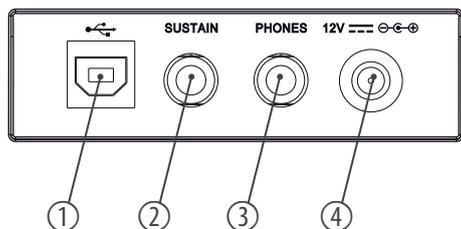
1	*[USB]*
	USB/MIDI interface to connect a computer.
2	*[SUSTAIN]*
	Sustain pedal connection.
3	*[PHONES]*
	Output for headphones or external audio devices like active speakers or amplifiers.
4	*[12V]*
	Connection for the power adapter.

6   Connectivity options

Headphones
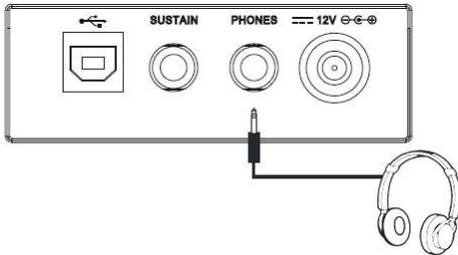
On the back of the keyboard, you can connect headphones to the *[PHONES]* output socket.

When you connect headphones, the internal speakers of the keyboard are automatically disconnected.

External audio devices
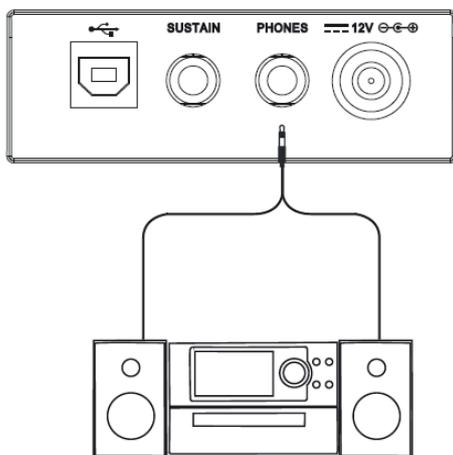
Use the *[PHONES]* output socket to connect the keyboard to an amplifier, stereo device, mixing console or recording device. Plug one end of the audio cable into the *[PHONES]* socket on the rear panel of the keyboard and the other end into the input of the respective audio device.

> **! NOTICE!**
> To prevent damage to the speakers, turn the volume down to 'Minimum' before you connect other devices to the keyboard.

Computer
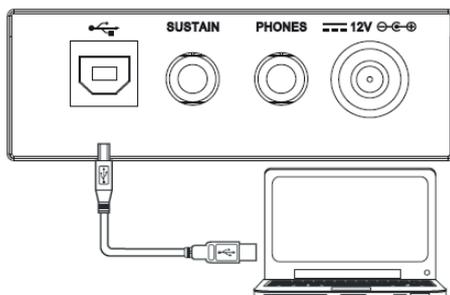
MIDI data is sent and received through the USB/MIDI interface.

7 Switching on / off and basic operation

7.1 Powering up the keyboard

7.1.1 Normal switching on / off

Press the power button on the far left of the operating panel to turn the keyboard on or off.

7.1.2 Automatic shutoff

When the keyboard is not being used for 30 minutes, it switches off automatically. To turn it on again, press the power button on the unit.

The automatic shutoff is activated automatically when powering up the keyboard.

7.2 Adjusting the volume
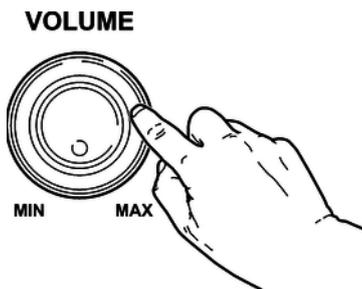
Adjust the rotary control *[VOLUME]* for a pleasant volume for playback and rehearsal. Turn this control clockwise to increase the volume. Turn it counter-clockwise to reduce the volume.

7.3 Demo songs
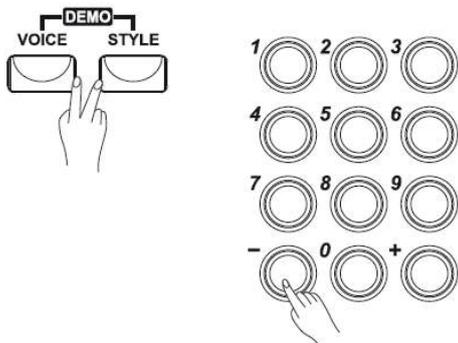
The eight demo songs built-in in the keyboard show the sound and the pitch range of the instrument (see ↳ *Chapter 12 'Demo List' on page 48*).

1. ▷ Press the *[STYLE]* and *[VOICE]* buttons simultaneously to enter the DEMO mode.

2. ▷ Select a demo song using the numeric keys or the *[+]* and *[–]* buttons.

   After four beats, the first demo song starts and all eight demo songs will be played in an endless loop.

3. ▷ Press the buttons *[STYLE]* and *[VOICE]* again or the *[START/STOP]* button, to stop playback and exit the DEMO mode.

8 Functions

8.1 Using the Sustain pedal
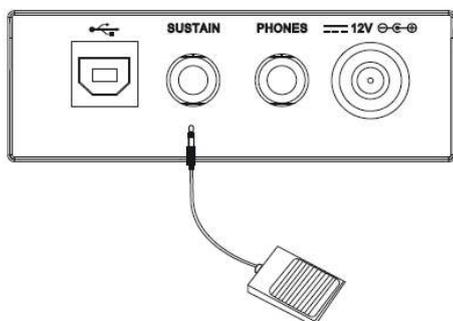
By using a Sustain pedal, you can make your playing more expressive and let tones linger after you lift your fingers from the keys of the keyboard. The sustain effect is activated when you step on the pedal and deactivated when you release it.

8.2 Voices and effects

8.2.1 Selecting voices

The instrument offers 390 exceptionally realistic voices including piano, guitar, strings, brass and other sounds (see ↪ *Chapter 9 'Voice List' on page 37*).
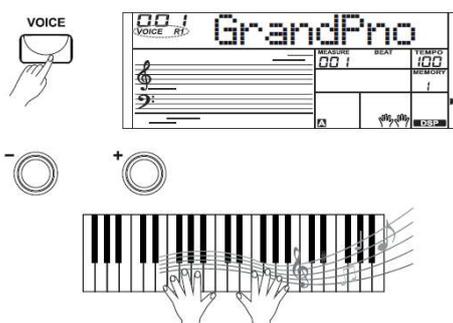
1. ▶ The default and displayed *'VOICE R1 '* is number *'001 '* with the corresponding shortname *'GrandPno'* .

2. ▶ To select another voice press the *[+]* and *[–]* buttons or the numeric buttons.

> *If Dual or Split mode is turned on, you can repeatedly press the [VOICE] button to navigate through the current selection for the first right hand voice 'VOICE R1', the second right hand voice 'VOICE R2 ' and left hand voice 'VOICE L' .*

8.2.2 Dual mode
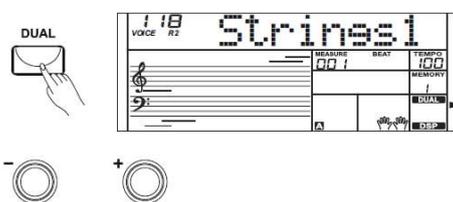
In Dual mode, you can play two voices simultaneously.

1. ▶ Press the *[DUAL]* button to enter Dual mode. The display shows *'VOICE R2 '* and the symbol *'DUAL '* is lit. The currently set second voice also appears in the display. If you now press a key, both voices sound simultaneously.

2. ▶ Press the *[+]* or *[–]* buttons or the numeric buttons to select the desired voice.

3. ▶ Press the *[DUAL]* button again to exit Dual mode. *'VOICE R2'* is deactivated and you only hear the voice set for *'VOICE R1 '* .

> ℹ️ *When the keyboard is split, the Dual mode affects only the keys to the right of the keyboard split point.*

8.2.3 Split mode
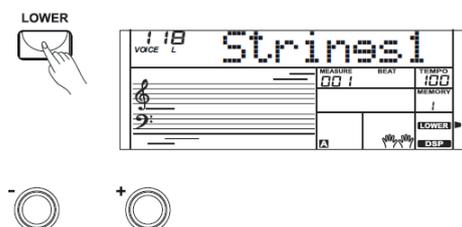
With this function, you can assign different voices to certain keyboard areas.

1. ▶ Press the *[LOWER]* button in order to activate the split mode and thus the left hand voice. The indicators *'VOICE L'* and the shortname for the voice appear simultaneously in the display.

2. ▶ Press the *[+]* or *[–]* buttons or the numeric buttons to select the desired voice.

3. ▶ Press the *[LOWER]* button again to exit Split mode. The symbol *'LOWER'* turns off in the display.

8.2.4 Sustain
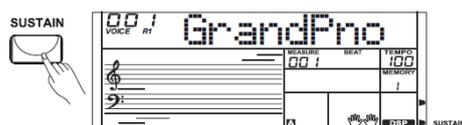
When the Sustain function is turned on, all tones played on the keyboard linger.

Press the *[SUSTAIN]* button to turn the Sustain effect on or off.

8.2.5 Transposing
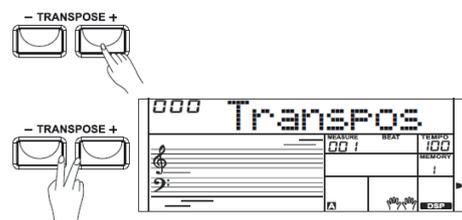
With this function, you can adjust the pitch of the keyboard in 12 semitone steps up to one octave up or down.

▶ Press the *[TRANSPOSE +]* and *[TRANSPOSE –]* buttons to adjust the keyboard pitch in semitone steps up or down. The display shows *'XXX Transpos'* .

> ℹ️ – *Press the [TRANSPOSE +] and [TRANSPOSE –] buttons simultaneously to restore the default setting (no transposition).*

8.2.6 Pitch bend wheel
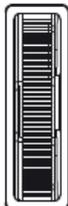
While playing the keyboard, you can roll the Pitch bend wheel upward and downward to vary the pitch up or down. After releasing, the Pitch Bend wheel automatically returns to its default position.

8.3 Style operation and Auto Accompaniment

The keyboard offers a total of 100 different styles from a variety of different musical genres (see ✥ *Chapter 10 'Style List' on page 44*).

The Auto Accompaniment feature gives you a full backing band. To use it, you only need to play chords with your left hand while playing with your right hand.

8.3.1 Starting Auto Accompaniment (rhythm track only)
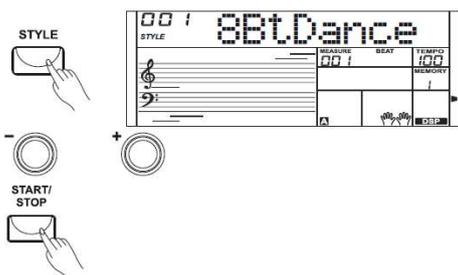
1. ▶ Press the *[STYLE]* button to enter *[STYLE]* mode. The display shows *'STYLE'* and the currently selected Style.

2. ▶ Select the desired Style using the buttons *[+]* and *[–]* or the numeric buttons.

3. ▶ Press the *[START/STOP]* button to start the Auto Accompaniment's rhythm track.

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8.3.2 Starting Auto Accompaniment (all tracks)
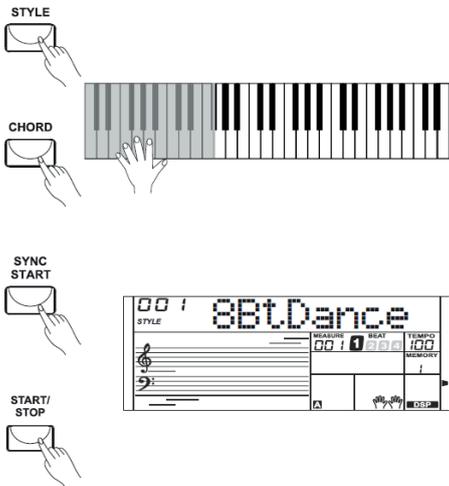
1. ▶ Press the *[STYLE]* button to enter *[STYLE]* mode. The display shows *'STYLE'* and the currently selected Style.

2. ▶ Select the desired Style using the buttons *[+]* and *[–]* or the numeric buttons.

3. ▶ Press the *[CHORD]* button to enter Chord Recognition mode. The area defined for the left hand becomes the Auto Accompaniment area and chords played here are automatically recognized and used as a base for the Auto Accompaniment with the selected Style.

4. ▶ Press the *[SYNC START]* button to turn on the Synchronous Start function. The indicators for the beats within the bar are flashing in the display according to the set tempo. Once you play a chord with your left hand, Auto Accompaniment will start.

5. ▶ Try playing other chords with your left hand.

6. ▶ Press the *[START/STOP]* button again to stop the Auto Accompaniment.

8.3.3 Auto Accompaniment patterns
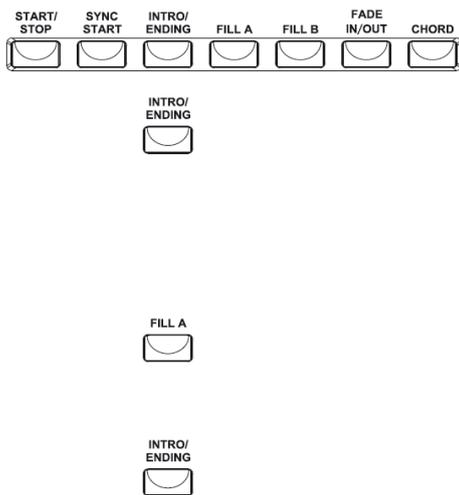
Auto Accompaniment is controlled via several patterns: Intro, Main, Fill-in (A, B), and Ending.

1. ▶ **INTRO**

   To insert an Intro, press the *[INTRO/ENDING]* button before beginning to play. Depending on the selected Style, the rhythm starts with two to four bars, followed by the main part.

2. ▶ **MAIN**

   The main part is an Accompaniment pattern of several bars that is repeated indefinitely until a button is pressed to call another pattern of the Auto Accompaniment.

3. ▶ **FILL**

   With activated Auto Accompaniment, you can press the *[FILL A]* or *[FILL B]* button to insert a Rhythm or Accompaniment part.

4. ▶ **ENDING**

   If you press the *[INTRO/ENDING]* button while Auto Accompaniment is activated, an ending part suitable for the Accompaniment is started, finishing the song.

8.3.4 Varying with different Accompaniment patterns
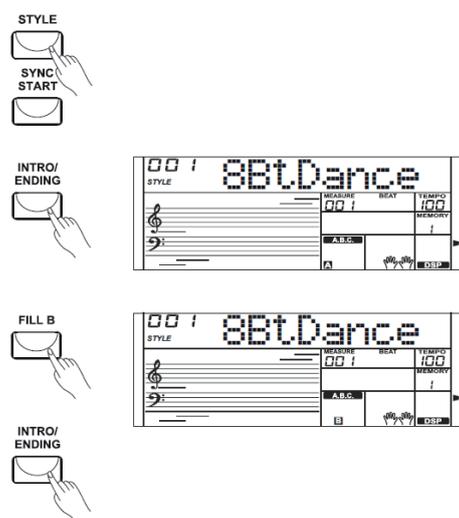
1. ▶ Press the *[STYLE]* button and select a Style.

2. ▶ Press the *[CHORD]* button to turn on the chord recognition mode and press the *[SYNC START]* button.

3. ▶ Press the *[FILL A]* button.

4. ▶ Press the *[INTRO/ENDING]* button. The symbol *'A'* is flashing in the display. This indicates that the Intro is ready to start.

5. ▶ Once you play a chord with your left hand, Auto Accompaniment will start. If the intro is finished, the Auto Accompaniment flows seamlessly into main part A.

6. ▶ Press the *[FILL B]* button.

A Fill part is inserted, that flows seamlessly into main part B.

7. ▶ Press the *[INTRO/ENDING]* button to conclude the song with an Ending. The style stops after the ending.

> ⓘ *Hold the [FILL A] or [FILL B] button pressed while a Style is being played, so the selected fill pattern is played until you release the key.*

8.3.5 Tempo
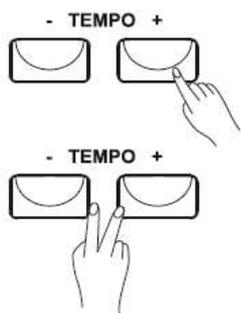
1. ▶ Each style of the instrument is programmed with a preset default tempo, but you can change it using the *[TEMPO+]* and *[TEMPO–]* buttons.

2. ▶ Press the *[TEMPO+]*/*[TEMPO–]* buttons simultaneously, then the tempo is reset to the factory default setting.

8.3.6 Fade
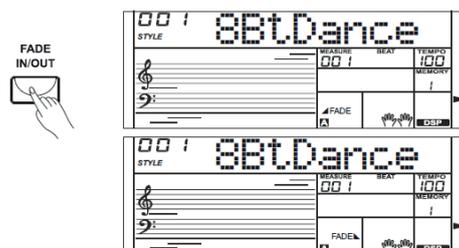
1. ▶ FADE IN

Press the *[FADE IN/OUT]* button while no Style is played.

When the Style begins to play, the Style volume is increased slowly from 0 to normal volume.

2. ▶ FADE OUT

Press the *[FADE IN/OUT]* button while a Style is played. The Style volume is slowly decreased from normal volume to 0. Then the Style playback is stopped.

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8.3.7 One Touch Setting

One Touch Setting (O.T.S. or one-key operation) is a convenient function that allows you to immediately reconfigure all settings with just one single key press. This is about rhythm-based compilations of instrument voices. With this function, four parameter types (M1 to M4) can be loaded.
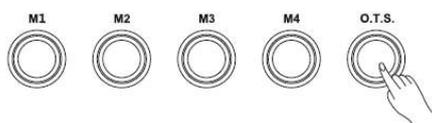
1. ▶ Press the *[O.T.S.]* button to enter this mode. *'O.T.S.'* appears in the display. Press one of the keys *[M1]* to *[M4]*, then the device loads the corresponding parameter types that match the current Style. The ABC mode is automatically turned on at that.

2. ▶ Press the *[O.T.S.]* button again to exit O.T.S. mode.
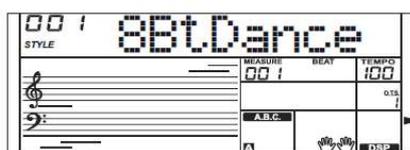
8.3.8 Chord recognition and fingering techniques

How the chords are played or displayed for the left hand in the auto accompaniment on your keyboard is called chord fingering. A distinction is made between single and multi-finger chords on one hand and the chord detection over the entire keyboard range.
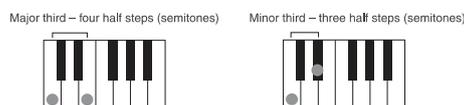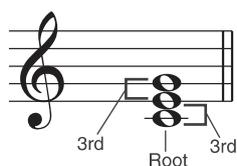
- Chord basics

  A chord consists of three or more notes played together. The most commonly used chord is the triad consisting of three notes: Root, third and fifth of the corresponding scale. The C major chord for example is formed from the notes C (root), E (the third note of the C major scale), and G (the fifth note of the C major scale). In the C major chord shown, the lowest note is the root (this is the basic form of the chord - if you play other notes of the chord as the lowest note, this is called 'chord inversion'). The root is the central sound of the chord on which the other chord notes are built upon. The interval between adjacent notes and the root determines whether the result is a major or minor third.

- Chord structure

  The lower interval in our triad (between root and third) determines whether the result is a major or minor triad. In addition, we can shift the highest note by a half step up or down to produce two additional chords.

  The basic characteristic of the triad remains even if we change the order of the notes to create different inversions. Consecutive chords can be softly connected in a chord progression, e.g. by choosing suitable chord inversions (also called 'voicings').

Cm

Root note   Chord type
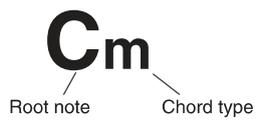
■ Chord names
Chord names will tell you everything you need to know about a chord. Through the chord name, you know the root, whether it is a major, minor, or diminished chord, whether a large or flatted seventh is needed and what changes or tensions are used - all at a glance.

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Chord recognition modes

With the chord recognition mode you can determine how the fingered chords are interpreted within the auto accompaniment. Press *[CHORD]* to activate the A.B.C. mode (chord recognition). The keyboard will automatically detect single or multi-finger chords being played.

■ Single finger chords

With this method, you can play chords with only one, two or three fingers within the capabilities of the auto accompaniment. Here we show you some examples of single finger chords (C, Cm, C7 and Cm7).

■ Multi-finger chords

With this method, you can play chords with normal fingering within the capabilities of the auto accompaniment. Here we show you 32 chords using the example of C chords.

The notes in brackets are optional; the chords will also be recognised without them.

■ Chord recognition throughout the entire keyboard range

The name of the recognized chords throughout the entire range of the keyboard appears on the display. Split Point setting for Auto Accompaniment will be ignored.

If you press the *[CHORD]* button twice, the symbol *'FullRange'* lights up in the display.

If you press the *[CHORD]* button twice, the Full Range mode is being activated and the *'FullRange'* symbol lights up in the display. In this mode, chords being played over the entire keyboard range are being detected. The split point setting for the auto accompaniment will be ignored.

8.4 Function menu

Press the *[FUNCTION]* button to enter the function menu. The first function to appear each time after activation is *'Octave'*. Press the *[FUNCTION]* button repeatedly to select the desired option. Then you can change the parameters using the numeric buttons or the *[+] / [–]* buttons.

Option	Display	Control range	Default value
Octave shift	*'XXX Octave'*	−1 to +1	0
Digital effects	*'DSP'*	ON/OFF	ON

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Option	Display	Control range	Default value
Reverb effect	*'XXX Rev Type'*	0 to 7	4
Reverb effect depth	*'XXX Rev Level'*	0 to 32	9
Chorus effect	*'XXX Chr Type'*	0 to 7	
Chorus effect depth	*'XXX Chr Level'*	0 to 32	
Vibrato	*'Modul'*	ON/OFF	
Touch sensitivity	*'Touch'*	OFF, 1, 2, 3	2
Beat	*'XXX Beat'*	0, 2 to 9	4
Fine tuning	*'XXX Tune'*	−50 to 50	
MIDI receive channel	*'Midi In'*	01 to 16, ALL	
MIDI send channel	*'Midi Out'*	01 to 16	
Automatic shutoff	Power Off	030, 060, OFF	030

> *If you don't press any key within five seconds after entering the function menu, the menu is automatically closed.*

8.4.1 Octave shift
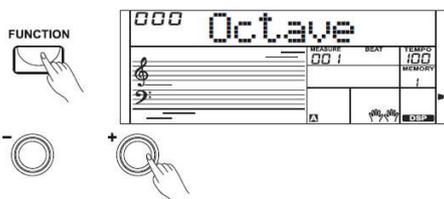
1. ▶ First, press the *[FUNCTION]* button to enter the *'Octave menu'*. The display shows the current setting *'XXX Octave'*.

2. ▶ Press the *[+]* or *[−]* buttons or the numeric buttons to shift the keyboard setting by one octave up or down. The default value here is *'000'*.

8.4.2 DSP

With the built-in digital effects, you can give your music more expression and depth in many ways, e.g. by using reverb effects or adding harmonies.

1. ▶ First, press the *[FUNCTION]* button to enter the menu *'DSP'*. The current setting appears on the display.

2. ▶ Press the *[+]* or *[−]* buttons to turn the digital effects on or off. The default value when turning the keyboard on is *'ON'*.

8.4.3 Reverb effect

The Reverb effect lets you simulate the acoustic effects of different environmental conditions.

1. ▶ Press the *[FUNCTION]* button to select the setting for the Reverb effect. The display shows the current setting *'XXX Rev Type'*.

2. ▶ Press the *[+]* or *[–]* buttons to change the Reverb type in a range from 0 to 7.

8.4.4 Reverb effect depth
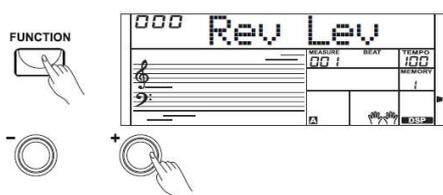
1. ▶ Press the *[FUNCTION]* button to select the setting for the Reverb effect depth. The display shows the current setting *'XXX Rev Level'*.

2. ▶ Press the numeric buttons or the *[+] / [–]* buttons to change the Reverb effect depth in a range from 0 to 32.

8.4.5 Chorus effect

The Chorus effect lets you simulate the acoustic effects of different environmental conditions.

1. ▶ Press the *[FUNCTION]* button to select the setting for the Chorus effect. The display shows the current setting *'XXX Chr Type'*.

2. ▶ Press the *[+]* or *[–]* buttons to change the Chorus type in a range from 0 to 7.

8.4.6 Chorus effect depth
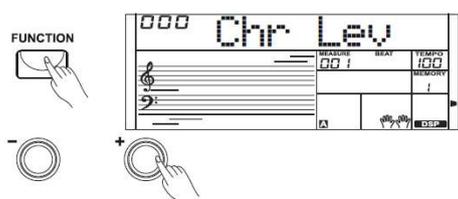
1. ▶ Press the *[FUNCTION]* button to select the setting for the Chorus effect depth. The display shows the current setting *'XXX Chr Level'*.

2. ▶ Press the numeric buttons or the *[+] / [–]* buttons to change the Chorus effect depth in a range from 0 to 32.

8.4.7 Vibrato effect

The Vibrato effect modulates the tones played on the keyboard.
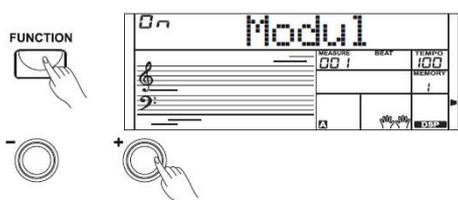
1. ▶ Press the *[FUNCTION]* button to select the setting for the Vibrato effect. The current setting appears on the display.

2. ▶ Press the *[+]* or *[–]* buttons to turn the Vibrato effect on or off.

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> ⓘ *The Vibrato effect does not affect the Percussion voices.*

8.4.8 Touch sensitivity

With this function you can adjust the touch response of the keyboard at four different levels.

Parameter	Description
'OFF'	Touch sensitivity is off. This can be very recommendable when playing the organ voice.
'001'	Soft In this setting, the volume is higher than usual even when playing with a soft touch.
'002'	Normal This setting corresponds to the usual touch response of a keyboard.
'003'	Hard In this setting, the volume is lower than usual even when playing with a hard touch.
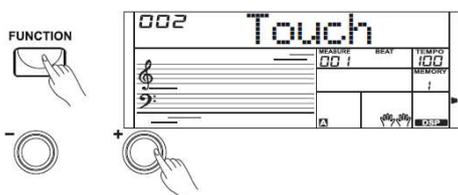
1. ▶ Press *[FUNCTION]* until the display shows the setting *'TOUCH'*.

Use *[+]* or *[–]* to adjust the Touch sensitivity.

2. ▶ If you select *'OFF'*, the Touch sensitivity is disabled.

8.4.9 Beats
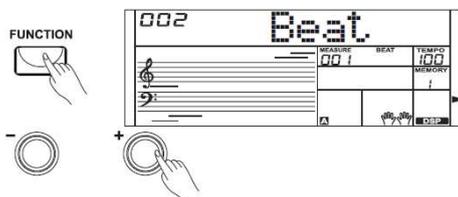
With this function you can set the beats in a range from 0 to 9.

1. ▶ Press the *[FUNCTION]* button to select the setting for the Beats. The display shows the current setting *'XXX Beat'*.

2. ▶ Use the numeric buttons and the *[+]* or *[–]* buttons to adjust the Beats.

8.4.10 Fine tuning
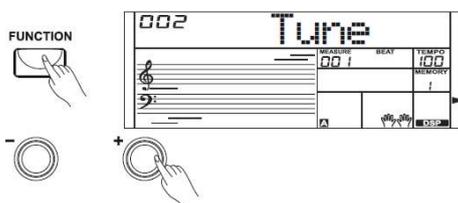
With this function you can fine tune the entire keyboard in cent steps.

1. Press the *[FUNCTION]* button to select the setting for the Fine Tuning. The display shows the current setting *'XXX Tune'*.

2. Use the *[+]* or *[–]* buttons to adjust the tuning in a range from −50 to +50 cents. Each time a key is pressed, the value changes by 1 cent. If you press the buttons *[+]* and *[–]* simultaneously, the tuning is reset to the default value.

> *The fine tuning affects both keyboard and styles.*

8.4.11 MIDI channels
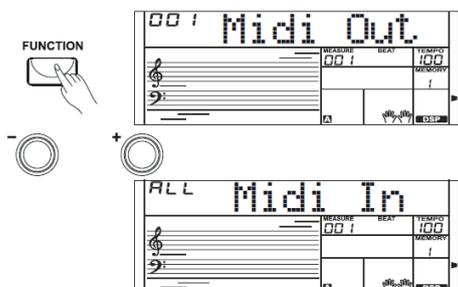
Press the *[FUNCTION]* button to select the setting for the MIDI channels. The display shows the current setting *'XXX Midi In'* and *'XXX Midi Out'*. In the function menu *'Midi In'* you can define on which MIDI channels the Keyboard receives MIDI information from other devices. Use the numeric buttons or the *[+]* / *[–]* buttons to select the MIDI Receive channel(s).

> *Parameter range: Channels 1 to 16 or 'ALL' for all channels. Default setting: 'ALL'.*

Press the *[FUNCTION]* button to select the setting for the MIDI channels. The display shows the current setting *'XXX Midi In'* and *'XXX Midi Out'*. In the function menu *'Midi Out'* you can define on which MIDI channels the Keyboard sends MIDI information to other devices. Use the numeric buttons or the *[+]* / *[–]* buttons to select the MIDI Send channel.

> *Parameter range: Channels 1 to 16. Default setting: '001'.*

8.4.12 Automatic shutoff
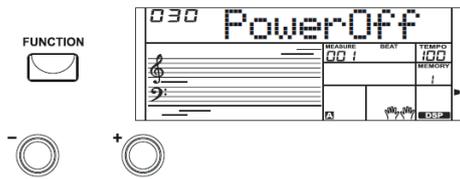
If the keyboard is not in use, it shuts off automatically after 30 minutes.

1. ▶ Press the *[FUNCTION]* button to select the setting for the Automatic shutoff. The display shows the current setting *'XXX Power Off'* .

2. ▶ Use the *[+]* or *[–]* buttons to choose one of these options:

   ▪ *'030'* (automatic shutoff after 30 minutes)
   ▪ *'060'* (automatic shutoff after 60 minutes)
   ▪ *'OFF'* (no automatic shutoff).

   If you press the buttons *[+]* and *[–]* simultaneously the default setting (automatic shutoff after 30 minutes) is reselected.

8.5 Mixer menu
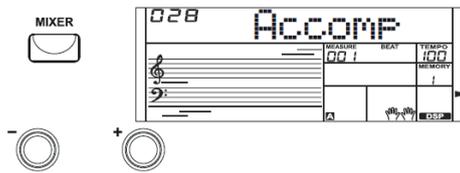
This menu is used to adjust the volume of the various style elements.

1. ▶ Press the *[MIXER]* button to enter the Mixer menu. By default, when you open this menu the option *'Accomp'* appears.

2. ▶ Press the *[MIXER]* button repeatedly to select the desired option. Then you can adjust the selected parameter using the *[+]* or *[–]* buttons.

> If you don't press any key within five seconds after entering the Mixer menu, the menu is automatically closed.

Tab. 1: Adjustable options and parameters

Option	LCD	Control range	Description
Accompaniment Volume	*'XXX Accomp'*	000 to 032	Accompaniment volume
Rhythm_s Volume	*'XXX Rhythm_s'*	000 to 032	Percussion instrument 1
Rhythm_m Volume	*'XXX Rhythm_m'*	000 to 032	Percussion instrument 2
Bass Volume	*'XXX Bass'*	000 to 032	Bass
Chord 1 Volume	*'XXX Chord1'*	000 to 032	Polyphonic Melody 1
Chord 2 Volume	*'XXX Chord2'*	000 to 032	Polyphonic Melody 2
Chord 3 Volume	*'XXX Chord3'*	000 to 032	Polyphonic Melody 3
Phrase 1 Volume	*'XXX Phrase1'*	000 to 032	Intermezzo1
Phrase 2 Volume	*'XXX Phrase2'*	000 to 032	Intermezzo 2
Voice R1 Volume	*'XXX Voice R1'*	000 to 032	Right hand voice

Option	LCD	Control range	Description
Voice R2 Volume	*'XXX Voice R2 '*	000 to 032	Second right hand voice in Dual mode
Voice L Volume	*'XXX Voice L'*	000 to 032	Left hand voice

8.6 Metronome
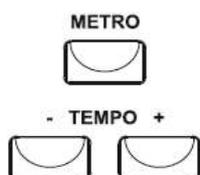
1. ▶ Press the *[METRO]* button to turn the Metronome on or off.
2. ▶ Press the *[TEMPO +]* or *[TEMPO –]* button to adjust the Metronome tempo.

8.7 Memory

You can store the control panel configuration in the memory of the keyboard and recall the data any time, if required.

8.7.1 Load / save parameters
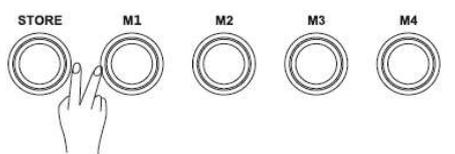
1. ▶ Hold the *[STORE]* button pressed and simultaneously press one of the *[M1]* to *[M4]* buttons. The data are then stored in the respective memory location (M1 to M4). Please note that any data previously stored there will be deleted.
2. ▶ Press one of the *[M1]* to *[M4]* buttons. The data are then loaded from the corresponding memory and replace the current settings thereby.
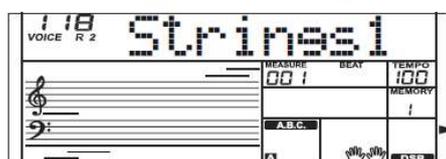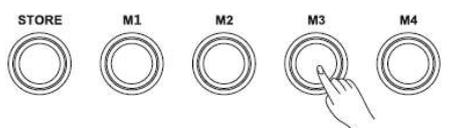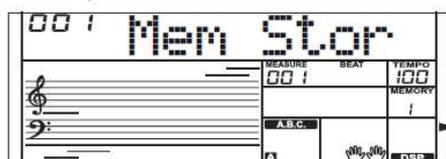
> *Memory data can not be retrieved if the O.T.S. function is turned on. The stored data will be reset to the default values when you turn off the keyboard.*

8.8 Record

The keyboard lets you record your playing together with the accompaniment.
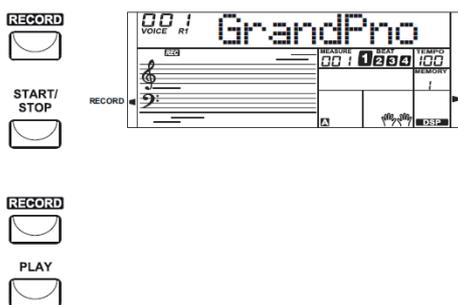
1. ▶ Press the *[RECORD]* button. The record icon left of the display is lit and the beats are flashing in time.

2. ▶ Play the notes you want to record or press the *[START/STOP]* button to start recording. If you want to record your playing with style accompaniment, turn on the auto accompaniment and play the chords with your left hand on the keyboard.

3. ▶ Press the *[RECORD]* button again to stop the recording. The record icon turns off.

4. ▶ Press the *[PLAY]* button to play back the recording.

5. ▶ Press the *[PLAY]* button again to stop the playback. If you press the *[PLAY]* button while recording, the recording is stopped and played back.

> *If you turn off the keyboard, the recorded data will be lost.*

8.9 Rehearsal songs

8.9.1 Selecting, playing and stopping rehearsal songs
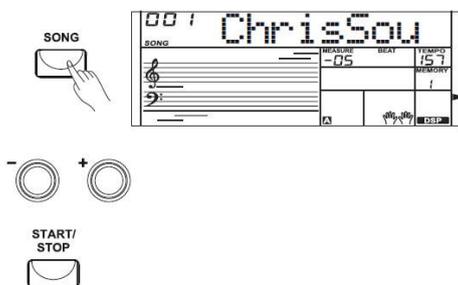
The digital piano offers 110 rehearsal songs in total (see ✆ *Chapter 11 'Song List' on page 46*). Each song can be practised in learning mode.

1. ▶ Press the *[SONG]* button to enter the playback mode for rehearsal songs. All rehearsal songs are played in an endless loop. The display shows *'SONG'* and the number of the currently playing song.

2. ▶ In *'SONG'* mode, use the numeric buttons or the *[+]* and *[–]*, *[START/STOP]* buttons to select a rehearsal song.

3. ▶ If you press the *[START/STOP]* button, this song is repeated in an endless loop until you press the *[START/STOP]* button again. This will not quit the mode for rehearsal song playback.

8.10 Learning mode

When practising, it is especially important to play the right **notes** at the right **time** . In this mode you can check your progress. There are three training stages.

Lesson 1 - playing in time

Press the *[SONG]* button. Quit the onset of playback with the *[START / STOP]* button. Then press the *[LESSON]* button to call the learning mode. *'LESSON 1'* appears in the display. In this mode, it is only rated whether you play the notes at the right time, but not whether you hit the right notes.

1. ▹ In the right hand symbol in the display, a *'R'* appears, meaning the right hand is to be practised. Press the *[L/R Part]* button if you want to practise the left hand. Then an *'L'* appears in the left hand symbol. Press the *[L/R Part]* button again if you want to practise both hands. *'L'* and *'R'* then appear in the display's hand symbols.

2. ▹ Press the *[START/STOP]* button, to start practising.

3. ▹ If you press *'R'* the right hand voice is muted and you have to play the right hand yourself. As long as you are in time, you will hear the right hand voice. If you press *'L'* the left hand voice is muted and you have to play the left hand yourself. As long as you are in time, you will hear the left hand voice. If *'L'* and *'R'* are selected the voices for both hands are muted. You then have to play in time with both hands.

4. ▹ After completing the exercise, you will learn the result.

Lesson 2 - hitting the right notes

Press the *[LESSON]* button again to enter the learning mode 2. *'LESSON 2'* appears in the display. In this mode, it is only rated whether you hit the right notes, but not whether you play them at the right time. The rehearsal song continues only when you play the right note.

▹ After completing the exercise, you will learn the result.

Lesson 3 - hitting the right notes at the right time.

Press the *[LESSON]* button again to enter the learning mode 3. *'LESSON 3'* appears in the display. In this mode, it is rated whether you play the right notes at the right time. The rehearsal song continues only when both is correct.

▹ After completing the exercise, you will learn the result.

Rating

The rating is based on the level you have achieved during practising:

- Level 1: Try it again.
- Level 2: OK.
- Level 3: Well done.
- Level 4: Outstanding.

After the rating, the rehearsal song will be played again and you can go on practising.

8.11 Chord dictionary
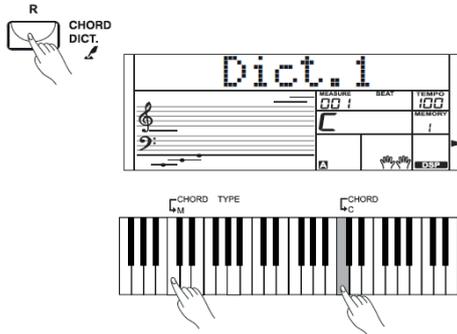
The Chord dictionary is basically a built-in 'Chord book' assisting you to find the right tones of a chord if you e.g. know only the chord name, but not how to play it.

1. ▶ DICT 1 (chord learning mode)

Keep the *[CHORD DICT.]* button pressed for two seconds to enter the *'DICT.1'* mode. In this mode, the keys from C4 on are used to assign the chord type, and the keys from C6 to assign the root note. If you have pressed the keys for chord type and root note, the display shows the chord name and the individual notes in the notation system.

For example, If you want to play a Cm7 chord, press the C6 key (root note C in the Cm7 chord). You will hear no sound, but the root note is displayed.

Press the A4 key (chord type for minor-seventh chord, 'm7'). You will hear no sound, but the chord name and the notes you should play for the specified chord appear in the display.

2. ▶ DICT 2 (chord testing mode)

Press the *[CHORD DICT.]* button again to enter the *'DICT.2'* mode. The display shows a randomly generated chord name, but not its individual notes in the notation system. If you play the right chord within three seconds, the next randomly generated chord name appears. If this does not happen, the individual notes of the chord in the notation system appear automatically in the display.

3. ▶ Press the *[CHORD DICT.]* button a third time to exit the chord dictionary.

In the chord dictionary, the 12 root notes and 24 chord types are presented as follows:

Key names	Root note	Key names	Root note
C6	C	F$^{\#}$6	F$^{\#}$/G$_b$
C$^{\#}$6	C$^{\#}$/D$_b$	G6	G
D6	D	A$_b$6	G$^{\#}$/A$_b$
E$_b$6	D$^{\#}$/E$_b$6	A6	A
E6	E	B$_b$6	A$^{\#}$/B$_b$
F6	F	B6	B

Key names	Chord type	Key names	Chord type
C4	M	C5	7$_b$9
C$^{\#}$4	M(9)	C$^{\#}$5	7(9)
D4	6	D5	7($^{\#}$9)

Key names	Chord type	Key names	Chord type
E_b4	mM7	E_b5	7_b13
E4	M7	E5	7(13)
F4	m	F5	$7(^\#11)$
$F^\#4$	m(9)	$F^\#5$	dim7
G4	m6	G5	dim
A_b4	m7(9)	A_b5	7aug
A4	m7	A5	aug
B_b4	$m7_b5$	B_b5	7sus4
B4	7	B5	sus4

8.12 MIDI functions

8.12.1 What is MIDI?

1. With MIDI connections, the device that controls other devices is referred to as 'Master'. A device that is controlled via MIDI is called 'Slave'. The MIDI output of the master is to be connected to the MIDI input of the slave. You can not connect the MIDI output of a device to the MIDI input of the same device.

2. MIDI stands for 'Musical Instrument Digital Interface' and represents the standard interface between a computer and electronic instruments.

3. You can use the USB connection to exchange MIDI data with computers or other USB devices that support USB audio via USB cable.

4. MIDI data from computers or other USB devices can be reproduced by the sound module of the keyboard.

8.12.2 USB connection
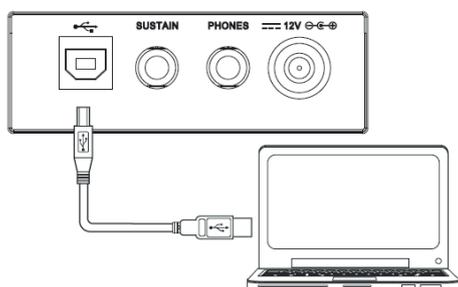
1. System requirements

   - CPU: 300 MHz, Pentium 2 or higher.
   - RAM: 64 MB min.
   - 2 MB free hard disc space.
   - Operating system: Windows® 2000/XP, Vista, Windows 7, Windows 8.

2. Connecting

   Connect the USB port on the rear panel of the keyboard to the USB port on your computer using a standard USB cable (not included).

3. ▶ USB precautions

Please heed the following instructions when connecting USB instruments to computers. Otherwise, the instrument or the computer may 'crash', which can result in data loss. If a 'crash' should occur, turn off computer and instrument and restart them after a few seconds.

> – *If the computer is in standby or hibernation, wake the computer before connecting the USB cable.*
> – *Establish the USB connection between computer and instrument before turning on the instrument.*

8.13 Troubleshooting

Problem	Possible causes and solutions
You hear a 'pop' sound from the speakers when switching the digital piano on and off.	This is normal. No need to worry.
No sound can be heard when playing the piano.	Make sure that the volume control is set appropriately.
Malfunction occurs when using a mobile phone.	Using a mobile phone near the keyboard may cause interference. To prevent this, turn off the mobile phone or use it only at a safe distance.
The Auto Accompaniment does not start although the Sync Start function is enabled and a key is pressed.	Maybe you try to start the Auto Accompaniment by pressing a button in the right hand area. Auto Accompaniment with Sync Start function can only be started by pressing a key in the left hand chord area.

9 Voice List

No.	Long description	Display		No.	Long description	Display
Piano				29	EP legend	EPLegend
1	Acoustic Grand Piano	GrandPno		30	Phase EP 1	PhaseEP1
2	Acoustic Grand Piano /wide	GrandPnW		31	Phase EP 2	PhaseEP2
3	Acoustic Grand Piano /dark	GrandPnD		32	Funk EP	FunkEP1
4	Bright Acoustic Piano	BritePno		33	Tremolo EP	TremoEP1
5	Bright Acoustic Piano /wide	BritePnW		34	Wah EP	WahEP1
6	Octave Grand Piano 1	OctPno1		35	Warm EP	WarmEP1
7	Octave Grand Piano 2	OctPno2		36	Modern EP 1	ModenEP1
8	Piano & Strings 1	Pno&Str1		37	Choir EP	ChoirEP1
9	Piano & Pad 1	Pno&Pad1		38	EP & Strings 1	EP&Str1
10	Piano & Choir 1	Pno&Cho1		39	Clavi	Clavi
11	Piano & EP 1	Pno&EP1		40	Pulse Clavi	PluseClv
12	Electric Grand Piano	E.Grand		41	Phase Clavi	PhaseClv
13	Electric Grand Piano /wide	E.GrandW		42	Wah Clavi	WahClavi
14	Electric Grand Piano /dark	E.GrPnoD		**Organ & Accordion**		
15	Honky Tonk Piano	HnkyTonk		43	Drawbar Organ	DrawOrgn
16	Honky Tonk Piano /wide	HnyTonkW		44	Detuned Drawbar Organ	DeDraOrg
17	Honky Tonk Piano /dark	HonkToDa		45	Italian 60's Organ	60'sOrgn
18	Harpsichord	Harpsi		46	Drawbar Organ 2	DrawOrg2
19	Harpsichord /octave mix	HarpsiO		47	Percussive Organ	PercOrgn
20	Harpsichord /wide	HarpsiW		48	Detuned Percussive Organ	DePerOrg
21	Harpsichord /with key off	HarpsiOf		49	Percussive Organ 2	PercOrg2
E. Piano				50	70's Percussive Organ	70'sPcOr
22	Electric Piano 1	E.Piano1		51	Rock Organ	RockOrgn
23	Electric Piano 2	E.Piano2		52	Rock Organ 2	RockOrg2
24	Detuned Electric Piano 1	DetunEP1		53	Rotary Organ 1	RotaOrg1
25	Detuned Electric Piano 2	DetunEP2		54	Church Organ	ChurOrgn
26	60's Electric Piano	60'sEP		55	Church Organ /octave mix	ChurOrgO
27	Electric Piano 1 /velocity mix	E.PnoV1		56	Detuned Church Organ	DeChuOr1
28	Electric Piano 2 /velocity mix	E.PnoV2		57	Church Organ 2	ChurOrg2

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No.	Long description	Display		No.	Long description	Display
58	Reed Organ	ReedOrgn		88	Distorted Rhythm Guitar	DistRyth
59	Puff Organ	PuffOrgn		89	Guitar Harmonics	GtrHarmo
60	Accordion	Acordion		90	Guitar Feedback	GtrFedbk
61	Accordion 2	Acordin2		91	Acoustic Bass	AcoBass
62	Harmonica	Harmnica		92	Electric Bass /finger	FngrBass
63	Harmonica 2	Harmnic2		93	Finger Slap Bass	FngrSlap
64	Tango Accordion	TangoAcd		94	Electric Bass /pick	PickBass
Guitar & Bass				95	Fretless Bass	Fretless
65	Acoustic Guitar /nylon	NylonGtr		96	Slap Bass 1	SlapBas1
66	Ukulele	Ukulele		97	Slap Bass 2	SlapBas2
67	Acoustic Guitar /nylon + key off	NylGtrOf		98	Synth Bass 1	SynBass1
68	Acoustic Guitar /nylon 2	NylonGt2		99	Synth Bass 2	SynBass2
69	Velocity Nylon Guitar	NylnGtVe		100	Synth Bass /warm	WarmBass
70	Acoustic Guitar /steel	SteelGtr		101	Synth Bass 3 /resonance	ResoBass
71	12-Strings Guitar	12StrGtr		102	Clavi Bass	ClavBass
72	Mandolin	Mandolin		103	Hammer	Hammer
73	Mandolin 2	Mandoli2		104	Synth Bass 4 /attack	AtackBas
74	Steel Guitar with Body Sound	SteelBdy		105	Synth Bass /rubber	RubbBass
75	Electric Guitar /jazz	JazzGtr		106	Attack Pulse	AtackPls
76	Electric Guitar /pedal steel	PedalGtr		**Strings & Ensemble**		
77	Electric Guitar /clean	CleanGtr		107	Violin	Violin
78	Electric Guitar /detuned clean	DetClnGt		108	Violin /slow attack	SlViolin
79	Mid Tone Guitar	MidTonGt		109	Viola	Viola
80	Electric Guitar /muted	MutedGtr		110	Cello	Cello
81	Electric Guitar /funky cutting	FunkGt		111	Contrabass	Contrabs
82	Electric Guitar /muted velo-sw	MutVelGt		112	Tremolo Strings	TremStr
83	Jazz Man	JazzMan		113	Tremolo Strings 2	TremStr2
84	Overdriven Guitar	Ovrdrive		114	Pizzicato Strings	PizzStr
85	Guitar Pinch	GtPinch		115	Orchestral Harp	Harp
86	Distortion Guitar	DistGtr		116	Yang Chin	YangChin
87	Distortion Guitar /with feedback	FeedbkGt		117	Timpani 1	Timpani1

No.	Long description	Display		No.	Long description	Display
118	String Ensembles 1	Strings1		148	Synth Brass 1	SynBras1
119	String Ensembles 2	Strings2		149	Synth Brass 2	SynBras2
120	Strings & Brass	Str&Bras		150	Synth Brass 3	SynBras3
121	60's Strings	60'sStr		151	Synth Brass 4	SynBras4
122	Synth Strings 1	SynStrs1		152	Analog Synth Brass 1	AnaBras1
123	Synth Strings 2	SynStrs2		153	Analog Synth Brass 2	AnaBras2
124	Synth Strings 3	SynStrs3		154	Jump Brass	JumpBras
125	Choir Aahs	ChoirAah		155	Soprano Sax	SprnoSax
126	Choir Aahs 2	ChoirAh2		156	Soprano Sax 2	SprnSax2
127	Voice Oohs	VoiceOoh		157	Alto Sax	AltoSax
128	Humming	Humming		158	Alto Sax 2	AltoSax2
129	Synth Voice	SynVoice		159	Tenor Sax	TenorSax
130	Anlong Voice	AnlVoice		160	Tenor Sax 2	TenoSax2
131	Orchestra Hit	OrchHit		161	Baritone Sax	BariSax
132	Bass Hit Plus	BassHit		162	Baritone Sax 2	BariSax2
133	6th Hit	6thHit		163	Sax Band	SaxBand
134	Euro Hit	EuroHit		**Flute & Woodwind**		
Brass & Saxophone				164	Oboe	Oboe
135	Trumpet	Trumpet		165	Oboe 2	Oboe2
136	Dark Trumpet Soft	DarkTrp		166	English Horn	EngHorn
137	Trombone	Trombone		167	English Horn 2	EngHorn2
138	Trombone 2	Trmbone2		168	Bassoon	Bassoon
139	Bright Trombone	BritBone		169	Bassoon 2	Bassoon2
140	Tuba	Tuba		170	Clarinet	Clarinet
141	Muted Trumpet	MuteTrp1		171	Clarinet 2	Clarine2
142	Muted Trumpet 2	MuteTrp2		172	Piccolo	Piccolo
143	French Horn	FrHorn		173	Piccolo 2	Piccolo2
144	French Horn 2 /warm	FrHorn2		174	Flute	Flute
145	Brass Section	Brass		175	Flute 2	Flute2
146	Brass Section 2 /octave mix	Brass2		176	Sweet Flute	SweeFlut
147	Brass Section 3	Brass3		177	Recorder	Recorder

No.	Long description	Display		No.	Long description	Display
178	Pan Flute	PanFlute		208	Pad 7 /halo	HaloPad
179	Sweet Pan Flute	SwPanFlu		209	Pad 8 /sweep	SweepPad
180	Blown Bottle	Bottle		210	Square	Square
181	Shakuhachi	Shakhchi		211	Slow Square Lead	SlwSquLd
182	Whistle	Whistle		212	Sine Solo	SineSolo
183	Ocarina	Ocarina		213	Square Lead	SquareLd
Lead & Pad				214	Wavy Sawtooth	WavySaw
184	Lead 1 /square	SquareLd		215	Super Analog	SuperAna
185	Lead 1a /square 2	SquarLd2		216	Big Lead	BigLead
186	Lead 1b /sine	SineLead		217	Bauble Lead	BaubleLd
187	Lead 2 /sawtooth	SawLead1		218	PWM 4th	Rezz4th
188	Lead 2a /sawtooth 2	SawLead2		219	PWM 4th Soft	Rezz4thS
189	Lead 2b /saw + pulse	SawPlsLd		220	Synth Calliope Soft	CalioLdS
190	Lead 2c /double sawtooth	DubSawLd		221	Chiffer Lead 2	ChiffLd2
191	Lead 2d /sequenced analog	SquAnaLd		222	Chiffer Lead 3	ChiffLd3
192	Lead 3 /calliope	CaliopLd		223	Charang 2	CharaLd2
193	Lead 4 /chiff	ChiffLd		224	Wire Lead 2	WireLd2
194	Lead 5 /charang	CharanLd		225	Charang 3	CharaLd3
195	Lead 5a /wire lead	WireLead		226	Soft Vox	SVoiceLd
196	Lead 6 /voice	VoiceLd		227	5th SawWave 2	FifthLd2
197	Lead 7 /fifths	FifthsLd		228	Fifth Lead Soft	FiftLdSf
198	Lead 8 /bass + lead	BassLead		229	Fifth Lead	FifLead
199	Lead 8a /soft wrl	SftWrlLd		230	Massiness	Massin
200	Pad 1 /new age	NewAgePd		231	Delayed Lead 2	DlyLead2
201	Pad 2 /warm	WarmPad		232	Delayed Lead 3	DlyLead3
202	Pad 2a /sine pad	SinePad		233	New Age Pad 2	NewAgPd2
203	Pad 3 /polysynth	PolySyPd		234	New Age Pad 3	NewAgPd3
204	Pad 4 /choir	ChoirPad		235	Warm Pad 2	WarmPad2
205	Pad 4a /itopia	ItopiaPd		236	PWM Pad	PWMPad
206	Pad 5 /bowed	BowedPad		237	Warmly Pad	WarmlyPd
207	Pad 6 /metallic	MetalPad		238	Poly Synth 2	PlySyPd2

No.	Long description	Display		No.	Long description	Display
239	Click Pad	ClickPad		269	FX 8 /sci-fi	Sci-Fi
240	Analog Pad	AnaloPad		270	Sci-Fi 2	Sci-Fi2
241	Space Voice	ChoirPd2		271	Guitar Fret Noise	FretNoiz
242	Bowed Pad 2	BowedPd2		272	Guitar Cutting Noise	GtCtNoiz
243	Bowed Pad 3	BowedPd3		273	Acoustic Bass String Slap	BsStSlap
244	Metallic Pad 2	MetalPd2		274	Guitar Fret Noise 2	FreNoiz2
245	Pan Pad 1	PanPad1		275	Guitar Cutting Noise 2	GtCtNoz2
246	Pan Pad 2	PanPad2		276	Acoustic Bass String Slap 2	BsStSlp2
247	Halo Pad 2	HaloPad2		277	Breath Noise	BrthNoiz
248	Halo Pad 3	HaloPad3		278	Flute Key Click	FlKeyClk
249	Sweep Pad 2	SweepPd2		279	Breath Noise 2	BrthNoz2
250	Dipolar Pad	DipolPad		280	Flute Key Click 2	FlKeyCk2
251	Rising	Rising		281	Seashore	Seashore
FX & Effects				282	Rain	Rain
252	FX 1 /rain	FXRain		283	Thunder	Thunder
253	FX 2 /soundtrack	Soundtrk		284	Wind	Wind
254	Prelude	Prelude		285	Stream	Stream
255	FX 3 /crystal	Crystal		286	Bubble	Bubble
256	FX 3a /synth mallet	SynMalet		287	Seashore 2	Seashor2
257	Crystal 2	Crystal2		288	Bird Tweet	Tweet
258	FX 4 /atmosphere	Atmosphr		289	Dog	Dog
259	Warm Air	WarmAir		290	Horse Gallop	HouseGlp
260	FX 5 /brightness	Bright		291	Bird Tweet 2	Tweet2
261	Smog	Smog		292	Telephone Ring	Telphone
262	FX 6 /goblins	Goblins		293	Telephone Ring 2	Telphon2
263	Goblin 2	Goblins2		294	Door Creaking	DoorCrek
264	FX 7 /echoes	Echoes		295	Door	Door
265	FX 7a /echo bell	EchoBell		296	Scratch	Scratch
266	FX 7b /echo pan	EchoPan		297	Wind Chime	WindChim
267	Echo Drops 2	Echoes2		298	Helicopter	Helicptr
268	Echo Bell 2	EchoBel2		299	Car Engine	CarEngin

No.	Long description	Display		No.	Long description	Display
300	Car Stop	CarStop		330	Fiddle	Fiddle
301	Car Pass	CarPass		331	Fiddle 2	Fiddle2
302	Car Crash	CarCrash		332	Shanai	Shanai
303	Siren	Siren		333	Shanai 2	Shanai2
304	Train	Train		**Percussive & Drums**		
305	Jetplane	Jetplane		334	Celesta	Celesta
306	Starship	Starship		335	Celesta 2	Celesta2
307	Burst Noise	BurtNoiz		336	Glockenspiel l	Glocken
308	Applause	Applause		337	Glockenspiel 2	Glocken2
309	Laughing	Laughing		338	Music Box	MusicBox
310	Screaming	Scream		339	Music Box 2	MusicBo2
311	Punch	Punch		340	Vibraphone	Vibra
312	Heart Beat	HeartBet		341	Vibraphone /wide	VibraW
313	Footsteps	Footstep		342	Marimba	Marimba
314	Gunshot	Gunshot		343	Marimba /wide	MarimbaW
315	Machine Gun	MachnGun		344	Xylophone	Xylophon
316	Lasergun	Lasergun		345	Xylophone 2	Xylopho2
317	Explosion	Explosio		346	Tubular Bells	TubulBel
Ethnic & Combined				347	Church Bell	ChurBell
318	Sitar	Sitar		348	Carillon	Carillon
319	Sitar 2 /bend	Sitar2		349	Dulcimer	Dulcimer
320	Banjo	Banjo		350	Santur	Santur
321	Banjo 2	Banjo2		351	Tinkle Bell	TnklBell
322	Shamisen	Shamisen		352	Tinkle Bell 2	TnkBell2
323	Shamisen 2	Shamise2		353	Tinkle Bell 3	TnkBell3
324	Koto	Koto		354	Agogo	Agogo
325	Taisho Koto	TaishoKt		355	Agogo 2	Agogo2
326	Kalimba	Kalimba		356	Agogo 3	Agogo3
327	Kalimba 2	Kalimba2		357	Steel Drums	SteelDrm
328	Bag Pipe	Bagpipe		358	Steel Drums 2	StelDrm2
329	Bag pipe 2	Bagpipe2		359	Steel Drums 3	StelDrm3

No.	Long description	Display		No.	Long description	Display
360	Woodblock	WoodBlok		376	Rhythm Box Tom	RhythBox
361	Castanets	Castanet		377	Electric Drum	ElecDrum
362	Woodblock 2	WoodBlo2		378	Electric Drum 2	ElecDrm2
363	Castanets 2	Castant2		379	Electric Drum 3	ElecDrm3
364	Woodblock 3	WoodBlo3		380	Electric Drum 4	ElecDrm4
365	Castanets 3	Castan3		381	Reverse Cymbal	RevCymbl
366	Taiko Drum	TaikoDrm		382	Standard Set	StandSet
367	Taiko Drum 2	TaikDrm2		383	Room Set	RoomSet
368	Taiko Drum 3	TaikDrm3		384	Power Set	PowerSet
369	ConcertBass Drum	ConBasDm		385	Electronic Set	ElectSet
370	ConcertBass Drum 2	ConBasD2		386	Analog Set	AnalgSet
371	ConcertBass Drum 3	ConBasD3		387	Jazz Set	JazzSet
372	Melodic Tom	MelodTom		388	Brush Set	BrushSet
373	Melodic Tom 2 /power	MeldTom2		389	Orchestra Set	OrcheSet
374	Melodic Tom 3	MeldTom3		390	SFX Set	SFXSet
375	Synth Drum	SynDrum				

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10 Style List

No.	Long description	Display		No.	Long description	Display
8BEAT				27	Pop Beat	PopBeat
1	8Beat Dance	8BtDance		28	Soft Ballad	SoftBald
2	8Beat Piano 1	8BtPian1		29	Natural Ballad	NatulBld
3	8Beat Piano 2	8BtPian2		30	Love Ballad	LoveBld
4	Guitar Pop 1	GtPop1		31	Slow Ballad	SlowBald
5	8Beat Ballad	8BtBld		32	Sweet Pop	SweetPop
6	8Beat Pop	8BtPop		**ROCK**		
7	Pop Funk	PopFunk		33	Slow Rock	SlowRock
8	Rhythm & Beat	Rhy&Bt		34	Soft Rock	SoftRock
9	Guitar Pop 2	GtPop2		35	Pop Rock 2	PopRock2
10	8Beat 1	8Beat1		36	Easy Rock	EasyRock
11	8Beat 2	8Beat2		37	New Shuffle	NewShufl
16BEAT				38	R'N'R 1	R'N'R1
12	16Beat 1	Pop16Bt1		39	Rock Shuffle 1	RockShf1
13	16Beat R&B	16BtR&B		40	Rock Shuffle 2	RockShf2
14	Pop 16Beat 2	Pop16Bt2		**BALLROOM**		
15	16Beat Funk 2	16BtFuk2		43	Tango	Tango
16	16Beat Dance	16BtDanc		44	Slow Fox	SlowFox
17	Pop 16Beat 3	Pop16Bt3		45	Slow Waltz 1	SlowWlz1
18	16Beat 1	16Beat1		46	Salsa 1	Salsa1
19	Cool Beat	CoolBeat		47	Cha Cha 1	ChaCha1
20	16Beat 2	16Beat2		48	Cha Cha 2	ChaCha2
21	Pop Shffle	PopShfl		49	Beguine 1	Beguine1
POP & BALLAD				50	Rhumba 1	Rhumba1
22	6/8 Pop	6/8Pop		51	Samba 1	Samba1
23	Pop Dance	PopDance		52	Samba 2	Samba2
24	Pop Fusion	PopFusn		53	Jive	Jive
25	Fusion Shuffle	FusShufl		**DANCE**		
26	Analog Night	AnalogNt		54	Down Beat	DownBeat

No.	Long description	Display		No.	Long description	Display
55	Techno	Techno		**LATIN/LATIN DANCE**		
56	Hip Hop 1	HipHop1		78	Bossa Nova	BosaNov
57	Rap	Rap		79	Latin	Latin
58	Disco Party	DscParty		80	Dance Reggae	DanRegga
59	Sky	Sky		81	Pasodoble	Pasodobl
60	Hip Hop 2	HipHop2		82	Rumba 2	Rumba2
SOUL & FUNK & JAZZ				83	Pop Cha Cha	PChaCha
61	Big Band	BigBand		84	Salsa 2	Salsa2
62	Jay R&B	JayR&B		**WALTZ & TRADITIONAL**		
63	Gospel Swing	GopSwing		85	Waltz	Waltz
64	Groove Funk	GrooveFk		86	Italian Mazurka	ItaMazuk
65	Hip Hop Beat	HipHopBt		87	Mariachi Waltz	MariWltz
66	R & B	R&B		88	Vienna Waltz	VinaWltz
67	Swing	Swing		89	Slow Waltz 2	SlowWlz2
68	Cool Jazz Ballad	CoolJzBd		90	Polka 1	Polka1
69	Big Band 40's	Band40's		91	German Polka	GerPolka
70	Modern Jazz Ballad	MdJzBald		92	March 1	March1
71	Orchestra Swing	OrhSwing		93	Polka 2	Polka2
COUNTRY				94	US March	USMarch
72	Modern Country	ModernCt		95	Mazurka	Mazurka
73	Bluegrass	Bluegras		**WORLD**		
74	Country Pop 1	CntyPop1		96	Enka Ballad	EnkaBald
75	Country Pop 2	CntyPop2		97	Venezia	Venezia
76	2/4 Country	2/4Cntry		98	6/8 Flipper	6/8Flipp
77	Country Folk	CntyFolk		99	Norteno	Norteno
				100	Dangdut	Dangdut

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11 Song List

No.	Long description	Display		No.	Long description	Display
FOLK & COUNTRY				28	Entertainer	Entertai
1	Christmas Sound	ChrisSou		29	Annie Laurie	AnnieLau
2	Red River Valley	RedRiver		30	Rumba Romance	Romance
3	Susanna	Susanna		31	Last Rose Of Summer	LastRose
4	Wave Of Danube	Danube		32	The Old King Cole	OldKingC
5	Long Long Ago	LongAgo		33	Auld Lang Syne	AuldLaSy
6	Jambalaya	Jambalay		34	Ding! Dong! Merrily On High	DingDong
7	Bridge	Bridge		35	Christmas Coming	ChrisCom
8	Battle Hymne Of The Republic	Battle		36	Go Tell It On The Mountain	GoTellIt
9	The Old Gray Mare	GrayMare		**JAZZ & FUSION**		
10	American Patrol	USPatrol		37	You Are My Sunshine	MySun
11	In The Rain	InRain		38	June Samba	JunSamba
12	Sippin'Cider Through A Straw	SCTStraw		39	Funk	Funk
13	Country	Country		40	I Can......	ICan…
14	Old Folks at Home	OldFolks		41	Sea Shore	SeaShore
GOLDEN & POP				42	Guitar&Saxphone	Gt&Sax
15	On London Bridge	LdBridge		43	The Hip Hop's Night	HipHopNt
16	House Of Rising Sun	HouseSun		44	Blue Lunch	BluLunch
17	The Blue-Bells Of Scotland	BlueBell		45	Cobweb	Cobweb
18	It's Been A Long Long Time	LongTime		46	Wine	Wine
19	Edelweiss	Edelweis		47	Jazz Old Man	JzOldMan
20	Der Deitcher's Dog	DerDDog		48	Dark Eyes	DarkEyes
21	Silent Night	SltNight		49	Carlos	Carlos
22	Ave Maria	AveMaria		50	Sad	Sad
23	Five Hundred Miles	FHMiles		51	Beautiful Awakening	Awaken
24	It's Beginning To Look A Lot Like Christmas	LikeXmas		**PIANO**		
25	Jeanie With The Light Brown Hair	LighHair		52	Für Elise1	FurElise
26	Song Of The Pearlfisher	SongOfTP		53	Robot Doll	RobtDoll
27	The Stage Coach	TheStage		54	Habanera	Habanera

No.	Long description	Display		No.	Long description	Display
55	Turkish March	TukMarch		83	Austria Variation	AustVari
56	Consolation	Consolat		84	Schos Doll's Dance No. 7	DollDan7
57	2-Part Invention #13 In A Minor.B.W. Iii	Invntion		85	The Rag-Time Dance	Rag-Time
58	Minuet In G Major (BWV Anh. 114)	MinuetG1		86	Minuet In G Major (BWV Anh. 116)	Minuet
59	Turkish March 2	TukMarh2		87	Schos Doll's Dance No. 2	DollDan2
60	Barcarolle	Barcarle		88	Italian Polka	ItaPolka
61	Norwegian Dance No.2	NwnDance		89	Piano Sonata In C Major, K.330. III	Sonata
62	Moseta Dance	MosetaDn		90	To A Wild Rose	WildRose
63	Bulie Dance	BulieDn		91	Gavotte I	Gavottel
64	The Small Gathering	Party		92	Waltz	Waltz
65	The Return	Return		93	Tarantella	Taratela
66	The Wagtail	Wagtail		94	Inquietude	Inquietu
67	Tender Blossom	Blossom		95	Frankness	Franknes
68	Grace	Grace		96	Mazurka	Mazurka
69	Cherish The Memories	Memories		97	Tchaikovsky Waltz	TchWaltz
70	Chopsticks	Chopstik		98	Harmony Of The Angels	Harmony
71	Four Little Swans	FLSwans		99	Gavotte	Gavotte
72	Old France	OldFranc		100	Neapolitan Song	Neapolit
73	Progress	Progress		101	Minuet In D Major	Minuet
74	Eclogue	Eclogue		102	Prelude In E Major	Prelude
75	The Limpid Stream	Stream		103	The Chase	TheChase
76	Brave Cavalier	Cavalier		104	Piano Sonata In A Major, K.331. I	Sonata2
77	The Chatterbox	Chatbox		105	Waltz For Piano In G-Sharp Minor	Waltz2
78	Ave Maria 2	AveMari2		106	Moment Musical	Moment
79	Prelude In C-Sharp Major	Prelude		107	Tender Grieving	Grieving
80	Innocence	Innocenc		108	Waltzes	Waltzes
81	The Happy Farmer	HapFarme		109	The Farewell	Farewell
82	L' Arabesque	L'Arabes		110	Suite Dance	SuitDanc

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12   Demo List

No.	Long description	Display
1	Ballad	Ballad
2	Funk	Funk
3	Jazz Band	JazzBand
4	Dancing Melody	DanceMld
5	Mystic River	MystRivr
6	Jazz Piano	JazzPiano
7	Dream Of Freedom	Dream
8	Fusion	Fusion

13 Chord List

	Chord name	Normal chord structure	Chord symbol	Representation in the display
0	Major chord [M]	1–3–5	C	C
1	Major six-five chord [6]	1–(3)–5–6	C6	C6
2	Major seventh chord with major seventh [M7]	1–3–(5)–7	CM7	CM7
3	Major seventh chord with augmented eleventh [M7#11]	1–(2)–3–#4–(5)–7	CM7#11	CM7(#11)
4	Major chord with additional ninth [Madd9]	1–2–3–5	CMadd9	CM(9)
5	Major seventh chord with ninth [M9]	1–2–3–(5)–7	CM9	CM7(9)
6	Major sixth-ninth chord [6 9]	1–2–3–(5)–6	C6 9	C6(9)
7	Augmented chord [aug]	1–3–#5	Caug	Caug
8	Minor chord [m]	1–b3–5	Cm	Cm
9	Minor six-five chord [m6]	1–b3–5–6	Cm6	Cm6
10	Minor seventh chord with flat seventh [M7]	1–b3–(5)–b7	Cm7	Cm7
11	Flat minor seventh chord with diminished fifth [m7b5]	1–b3–b5–b7	Cm7b5	Cm7(b5)
12	Minor chord with additional ninth [madd9]	1–2–b3–5	Cmadd9	Cm(9)
13	Minor ninth chord [m9]	1–2–b3–(5)–b7	Cm9	Cm7(9)
14	Minor eleventh chord [m11]	1–(2)–b3–4–5–(b7)	Cm11	Cm7(11)
15	Minor seventh chord with major seventh [mM7]	1–b3–(5)–7	CmM7	CmM7
16	Minor seventh chord with ninth [mM9]	1–2–b3–(5)–7	CmM9	CmM7(9)
17	Diminished chord [dim]	1–b3–b5	Cdim	Cdim
18	Diminished seventh chord [dim7]	1–b3–b5–6	Cdim7	Cdim7
19	Major seventh chord with flat seventh [7]	1–3–(5)–b7	C7	C7
20	Flat major seventh chord with suspended fourth [7sus4]	1–4–5–b7	C7sus4	C7sus4
21	Flat major seventh chord with diminished fifth [7b5]	1–3–b5–b7	C7b5	C7(b5)
22	Flat major seventh ninth chord [79]	1–2–3–(5)–b7	C7 9	C7(9)
23	Flat major seventh chord with augmented eleventh [7#11]	1–2–3–#4–(5)–b7 or 1–(2)–3–#4–5–b7	C7#11	C7(#11)
24	Flat major seventh chord with thirteenth [7 13]	1–3–(5)–6–b7 or 2–3–5–6–b7	C7 13	C7(13)

	Chord name	Normal chord structure	Chord symbol	Representation in the display
25	Flat major seventh chord with diminished ninth [7b9]	1–b2–3–(5)–b7	C7b9	C7(b9)
26	Flat major seventh chord with diminished thirteenth [7b13]	1–3–5–b6–b7	C7b13	C7(b13)
27	Flat major seventh chord with augmented ninth [7#9]	(1)–#2–3–(5)–b7	C7#9	C7(#9)
28	Major seventh chord with augmented fifth [M7aug]	1–3–#5–7	CM7aug	CM7aug
29	Flat major seventh chord with augmented fifth [7aug]	(1)–3–#5–b7	C7aug	C7aug
30	Suspended fourth [sus4]	1–4–5	Csus4	Csus4
31	Suspended second [1+2+5]	1–2–5	C1+2+5	C

14   MIDI implementation chart

Function		Sent	Received	Notes
Basic Channel	Default	1	ALL	
	Changed	1-16	1-16	
Mode	Default	No	Mode 3	
	Messages	No	No	
	Altered	********	No	
Note Number		0 – 127	0 – 127	
	True voice	********	0 – 127	
Velocity Note	Note ON	Yes, 9nH, v = 1 – 127	Yes, 9nH, v = 1 – 127	
	Note OFF	No, 9nH, v = 0	Yes, 9nH, v = 0 or 8nH, v = 0 – 127	
After Touch	Keys	No	No	
	Channels	No	No	
Pitch Bend		Yes	Yes	
Control Change	0	Yes	Yes	Bank Select
	1	Yes	Yes	Modulation
	5	No	Yes	Portamento Time
	6	No	Yes	Data Entry
	7	No	Yes	Volume
	10	No	Yes	Pan
	11	Yes	Yes	Expression
	64	Yes	Yes	Sustain Pedal
	65	No	Yes	Portamento ON/OFF
	66	No	Yes	Sostenuto Pedal
	67	No	Yes	Soft Pedal
	80	No	Yes	Reverb Program
	81	No	Yes	Chorus Program
	91	No	Yes	Reverb Level
	93	No	Yes	Chorus Level
	120	No	Yes	All Sound Off
	121	No	Yes	Reset All Controllers
	123	Yes	Yes	All Notes Off

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Function		Sent	Received	Notes
Program Change	True #	Yes ********	Yes 0 – 127	
System Exclusive		No	Yes	
System Common	Song Position Pointer	No	No	
	Song Select	No	No	
	Tune Request	No	No	
System Real Time	Clock	Yes	No	
	Commands	No	No	
Aux Messages	Local ON/OFF	No	No	
	ALL Notes OFF	No	Yes	
	Active Sensing	Yes	Yes	
	System Reset	No	Yes	

MIDI channel modes

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

15   Technical specifications

Input connections	Power supply	Plug for external power adapter
	Sustain pedal	1 × 1/4" jack socket
Output connections	Headphones, external audio devides	1 × 1/4" jack socket
	MIDI port	in / out / thru
Keyboard	61 keys with adjustable touch velocity	
Polyphony	64-note	
Voices	390	
Styles	100	
Effects	Hall, Chorus	
Pedal	Sustain	
Operating elements	On / off switch, volume control, start / stop button, numeric keypad and buttons to select Learning Mode, left hand, right hand, Chord Dictionary, Tempo, Mixer, Saving, Memory Locations M1 to M4, O.T.S., Dual Mode, Split Mode, Metronome, Touch Sensitivity, Transposition, Fine Tuning.	
Auto Accompaniment	[START/STOP], [SYNC START], [INTRO]/[ENDING]/ [FILL A/B], [FADE IN/OUT],[CHORD]	
Recording function	Record and playback	
Rehearsal songs	110	
Demo songs	8	
Speaker	2 × 10 W, 4 Ω	
Power supply	External power adapter, 100 - 240 V ∼ 50/60 Hz or Batteries: 6 × NiMH type AA/R6 (not included)	
Operating voltage	12 V ⎓ / 1000 mA, centre positive	
Operating system	Windows® 2000/XP, Vista, Windows® 7, Windows® 8 and higher	
Dimensions (W × H × D)	955 mm × 145 mm × 360 mm	
Weight	4.5 kg	
Colour	Black	
Ambient conditions	Temperature range	0 °C…40 °C
	Relative humidity	20 %…80 % (non-condensing)

Further information

Sustain pedal	suitable sustain pedal optionally available (item no. 320312)
Cover	suitable covers optionally available (item no. 486652 and item no. 493056)

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Technical specifications

Keyboard	61 keys with adjustable touch velocity
Display	Multifunction LCD
Polyphony	64-voice
Voices	390
Styles	100
Rehearsal songs	110
Demo songs	8
Operating elements	On / off switch, volume control, start / stop button, numeric keypad and buttons to select Learning Mode, left hand, right hand, Chord Dictionary, Tempo, Mixer, Record, Saving, Memory Locations M1 to M4, O.T.S., Playback, Voices, Styles, Demo and Rehearsal songs, Dual Mode, Split Mode, Metronome, Reverb and Chorus effects, Touch Sensitivity, Transposition, Fine Tuning.
Auto Accompaniment	*[START/STOP], [SYNC START], [INTRO]/[ENDING]/ [FILL A/B], [FADE IN/OUT], [CHORD]*
Recording function	Record and playback
Connections	DC IN, headphones (1/4"), USB, Sustain pedal
Speaker	2 × 10 W, 4 Ω
Operating voltage supply	Power adapter: 12 V ⎓ (inner pole = plus)
Dimensions (W × H × D)	955 mm × 145 mm × 360 mm
Weight	4.5 kg

16 Plug and connection assignment

Introduction

This chapter will help you select the right cables and plugs to connect your valuable equipment in such a way that a perfect sound experience is ensured.

Please note these advices, because especially in 'Sound & Light' caution is indicated: Even if a plug fits into the socket, an incorrect connection may result in a destroyed power amp, a short circuit or 'just' in poor transmission quality!

Balanced and unbalanced transmission

Unbalanced transmission is mainly used in semi-professional environment and in hifi use. Instrument cables with two conductors (one core plus shielding) are typical representatives of the unbalanced transmission. One conductor is ground and shielding while the signal is transmitted through the core.

Unbalanced transmission is susceptible to electromagnetic interference, especially at low levels, such as microphone signals and when using long cables.

In a professional environment, therefore, the balanced transmission is preferred, because this enables an undisturbed transmission of signals over long distances. In addition to the conductors 'Ground' and 'Signal', in a balanced transmission a second core is added. This also transfers the signal, but phase-shifted by 180°.

Since the interference affects both cores equally, by subtracting the phase-shifted signals, the interfering signal is completely neutralized. The result is a pure signal without any noise interference.

1/4" TRS phone plug (stereo, unbalanced)

1	Signal (left)
2	Signal (right)
3	Ground

17   Protecting the environment

Disposal of the packaging material

For the transport and protective packaging, environmentally friendly materials have been chosen that can be supplied to normal recycling.

Ensure that plastic bags, packaging, etc. are properly disposed of.

Do not just dispose these materials with your normal household waste, but make sure that they are fed to a recovery. Please follow the notes and markings on the packaging.

Disposal of batteries

Batteries must not be disposed of as domestic waste or thrown into fire. Dispose of the batteries according to national or local regulations regarding hazardous waste. To protect the environment, dispose of empty batteries at your retail store or at appropriate collection sites.

Disposal of your old device

This product is subject to the European Waste Electrical and Electronic Equipment Directive (WEEE) in its currently valid version. Do not dispose with your normal household waste.

Dispose this device through an approved waste disposal firm or through your local waste facility. When discarding the device, comply with the rules and regulations that apply in your country. If in doubt, consult your local waste disposal facility.

Notes