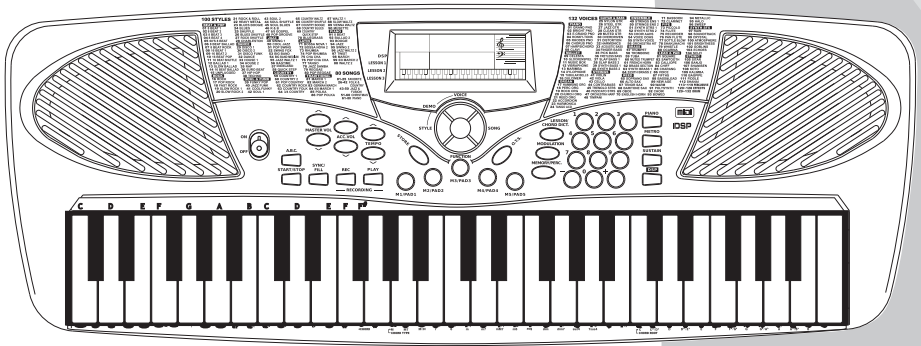


# ELECTRONIC KEYBOARD



## Owner's Manual

## THE FCC REGULATION WARNING (for USA)

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.

Unauthorized changes or modification to this system can void the user's authority to operate this equipment.

### CAUTION

The normal function of the product may be disturbed by Strong Electro Magnetic Interference. If so, simply reset the product to resume normal operation by following the owner's manual. In case the function could not resume, please use the product in other location.

## PRECAUTIONS

### PLEASE READ CAREFULLY BEFORE PROCEEDING

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

#### Power Supply

Please connect the designated AC adaptor to an AC outlet of the correct voltage.

Do not connect it to an AC outlet of voltage other than that for which your instrument is intended.

Unplug the AC power adaptor when not using the instrument, or during electrical storms.

#### Connections

Before connecting the instrument to other devices, turn off the power to all units. This will help prevent malfunction and / or damage to other devices.

#### Location

Do not expose the instrument to the following conditions to avoid deformation, discoloration, or more serious damage:

- Direct sunlight
- Extreme temperature or humidity
- Excessive dusty or dirty location
- Strong vibrations or shocks
- Close to magnetic fields

#### Interference with other electrical devices

Radios and televisions placed nearby may experience reception interference. Operate this unit at a suitable distance from radios and televisions.

#### Cleaning

Clean only with a soft, dry cloth. Do not use paint thinners, solvents, cleaning fluids, or chemical-impregnated wiping cloths.

#### Handling

Do not apply excessive force to the switches or controls.

Do not let paper, metallic, or other objects into the instrument. If this happens, unplug the AC adaptor from the wall outlet. Then have the instrument inspected by qualified service personnel.

Disconnect all cables before moving the instrument.

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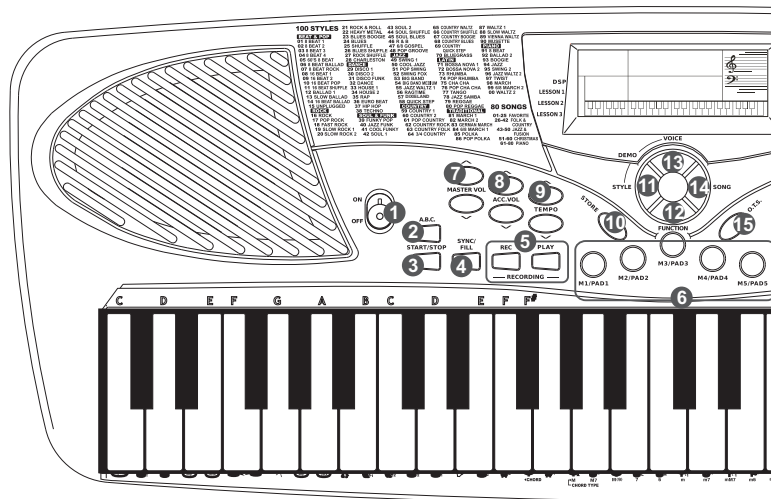
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# Panel & Display Description

## Front Panel



### 1. POWER ON/OFF

Turn the power on and off.

### 2. A.B.C.

Turn the Chord Mode on and off.

### 3. START/STOP

Start or stop playing the song in Song Mode.

Start or stop playing the style in Style Mode.

### 4. SYNC/FILL

Turn the SYNC START on and off.

Play the FILL

### 5. RECORDING

RECORD: Enter the Record Mode.

PLAY: Play back the recorded performance.

### 6. M1-M5/PAD1-PAD5

Recall the memory settings.

Play the percussion sound.

### 7. MASTER VOL

Adjust the master volume.

### 8. ACC.VOL

Adjust the accompaniment volume.

### 9. TEMPO

Adjust the current tempo.

### 10. STORE

Register the memory.

### 11. STYLE

Enter the Style Mode.

### 12. FUNCTION

Change the adjusted function.

### 13. VOICE

Enter the Voice Mode.

### 14. SONG

Enter the Song Mode.

### 15. O.T.S.

Enter the One Touch Setting Mode.

## Rear Panel

### 24. DC 9V

Connect DV 9V power adaptor (optional).

### 25. PHONES/OUTPUT

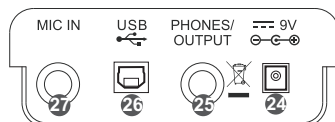
Connect a pair of headphones.  
Connect the audio equipment.

### 26. USB

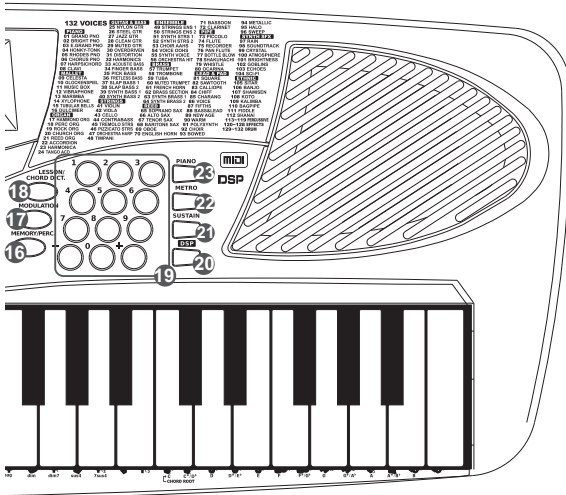
Connect to a computer

### 27. MIC IN

Connect a microphone.



# Panel & Display Description



- 16. MEMORY/PERC.**  
Switch the M1-M5/PAD1-PAD5's function between memory and percussion.
- 17. MODULATION**  
Turn the Modulation effect on and off.
- 18. LESSON/CHORD DICT.**  
Change the Lesson mode.  
Enter the Chord Dictionary.
- 19. NUMBER KEYS**  
Select the number or adjust the parameters.
- 20. DSP**  
Turn the DSP effect on and off.
- 21. SUSTAIN**  
Turn the Sustain effect on and off.
- 22. METRO**  
Turn the metronome on and off.
- 23. PIANO**  
Enter the Piano Mode.

## Display

- |   |  |   |
|---|--|---|
| <ul style="list-style-type: none"> <li>1. DSP</li> <li>2. LESSON 1</li> <li>3. LESSON 2</li> <li>4. LESSON 3</li> <li>5. CHORD DIRECT</li> <li>6. AUTO BASS CHORD</li> <li>7. TREBLE CLEF</li> <li>8. BASS CLEF</li> <li>9. BEAT</li> </ul> | <ul style="list-style-type: none"> <li>10. TEMPO/COUNT</li> <li>11. ACCOMP VOLUME/MASTER VOLUME</li> <li>12. METRO</li> <li>13. MEMORY/PERCUSSION</li> </ul> | <ul style="list-style-type: none"> <li>14. RECORD/PLAY</li> <li>15. ONE TOUCH SETTING</li> <li>16. SUSTAIN</li> <li>17. KEYBOARD</li> </ul> |
|---|--|---|



# Setup

This section contains information about setting up your instrument and preparing to play. Please go through this section carefully before turning the power on.

## Power Supply

You can power the unit either by batteries or by power adaptor. Follow the instructions described below.

### Using Batteries

6 pieces of C size (SUM-2 or R-14) or equivalent alkaline batteries must first be installed into the battery compartment.

1. Open the battery compartment cover located on the bottom cabinet of the unit.
2. Insert the batteries, carefully follow the polarity markings on the cabinet.
3. Replace the compartment cover, making sure that it locks firmly in place.

#### Note:

Do not mix old and new batteries.  
Always use same types of batteries.  
Always remove the batteries from the unit when it is not being used for an extended period of time.

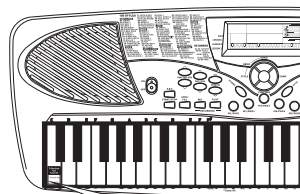
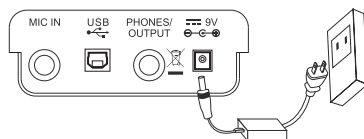
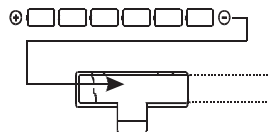
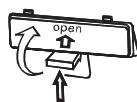
### Using Power Adapter

1. First, please make sure that POWER ON/OFF switch of the instrument is set to OFF.
2. Connect the AC adaptor to the power supply jack.
3. Plug the AC adaptor into an AC outlet. And when turning the power OFF, simply reverse the procedure please. This will automatically cut off the battery power supply.
4. Turn the power ON.

#### Note:

When the keyboard is not in use or in the time of thunderstorm, please disconnect the power for safety purpose.  
A prompt voice sounds every two minutes if there is no operation.

In order to save energy, we have designed the "Automatic Shutdown" function to the keyboard. With this function, the keyboard will shutdown automatically when you have left it idle for more than 30 minutes. If you don't need this feature, just press and hold the [C2] key (the 1st key) and turn it on.



To Deactivate  
Auto  
Power Off

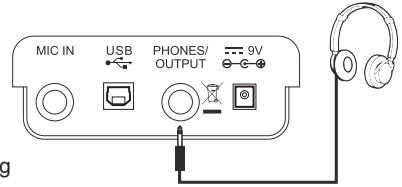
1. Hold this Key
2. Power On

## Connecting a pair of Headphones

A standard pair of stereo headphones can be connected to the PHONES jack for private practice or late-night playing. The internal stereo speaker system is automatically shut off when a pair of headphones is plugged into this jack.

**Note :**

Do not listen with the headphones at high volume for long periods of time. Doing so may cause hearing loss.

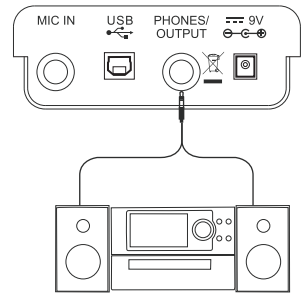


## Connecting an Amplifier

Plug an audio cord into the OUTPUT jack. Then plug the other end of the cord into LINE IN or AUX IN of the amplifier.

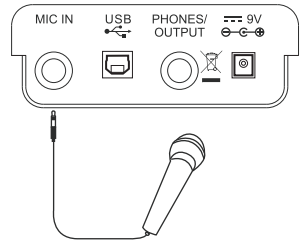
**Note:**

To avoid damaging the speakers, please ensure that the volume has been set to the minimum level before connecting the power and other devices.



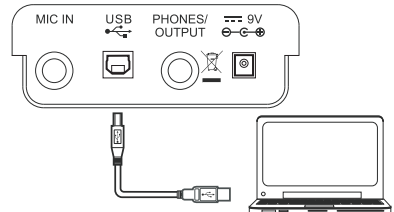
## Connecting a Microphone

You can connect an external microphone to MIC IN jack.



## Connecting a Computer

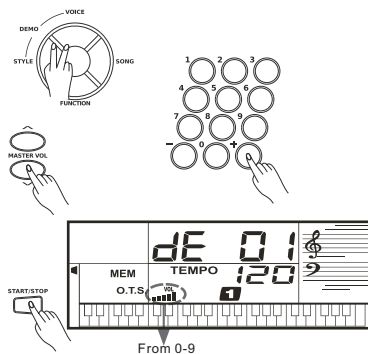
The instrument receives and transmits MIDI messages via the USB connector.



# Playing the Demos

The instrument features 80 demo songs.

1. Press the [STYLE] and [VOICE] buttons simultaneously to start playing the demo.
2. Select a demo song.  
Use the number keys, the [+ ] button or the [- ] button to select the desired demo song.
3. Adjust the volume with the [MASTER VOLUME] buttons.  
Repeatedly press [MASTER VOL] up or down to increase or decrease the volume. The volume ranges from 0 (no sound) to 9 (Maximum) and the current volume level appears on the display.
4. Press the [STYLE] and [VOICE] buttons simultaneously again or press the [START/STOP] button to stop playing and exit the demo mode.



## Note:

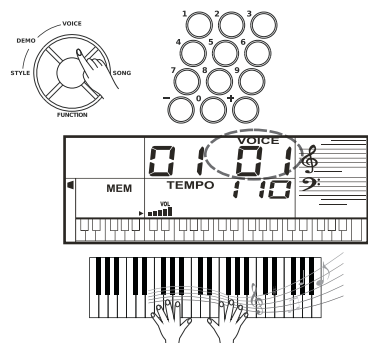
In the DEMO mode, all buttons except START/STOP, TEMPO+, TEMPO-, Number Keys, +/YES, -/NO, MASTER VOL+, MASTER VOL-, POWER ON/OFF will not be available.

# Playing Voices

The instrument features 132 voices, including 4 drum kits. Please refer to **Voice List**.

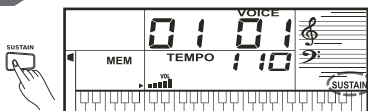
## Selecting a Voice

1. Press the [VOICE] button.  
Enter the VOICE mode. LCD shows "VOICE" and the voice number.
2. Select a voice.  
Use the number keys, the [+ ] button, the [- ] button to select the voice you want to play.
3. Play the voice.  
You can play the keyboard and listen to the selected voice.



## Sustain

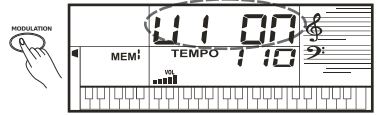
When the Sustain features in ON, all notes played on the keyboard would have a longer sustain. Press the [SUSTAIN] button to turn the SUSTAIN effect ON or OFF.





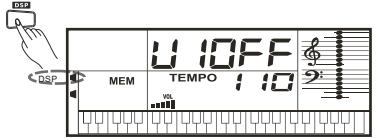
## Modulation

The Modulation function applies a vibrato effect to notes played on the keyboard. Press the [MODULATION] button while playing the keyboard then you will hear the vibrato effect.



## DSP Effect

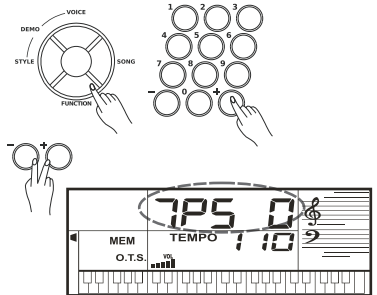
This function allows you to perform the overall sound in a more realistic effect. The DSP effect is set to ON when keyboard power on. Press the [DSP] button to turn on/off the DSP effect.



## Transpose

Transpose function allows the overall pitch of the instrument to be transposed up or down by a maximum of one octave in semitone increments.

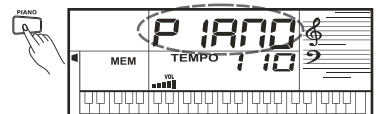
1. Press the [FUNCTION] button until “7PS 0” displays.
2. Press the [+] or [-] button to adjust the pitch of the instrument within 6 semitone.
3. Press the [+] and [-] buttons simultaneously to reset the transpose to 0.



## Piano

No matter what setting you’ve made from the panel, you can instantly call up the piano setting by a single button press.

1. Press [PIANO] button to enter piano and exit piano mode.
2. In the PIANO mode, you can start a style. Press the [START/STOP] button to play.



# Playing the Styles

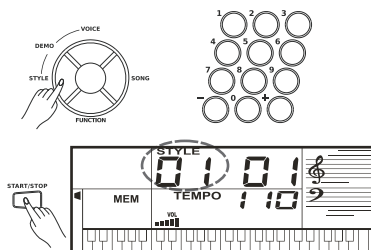
The instrument features 100 styles in a variety of different musical genres. Try selecting some of the different styles (Refer to **Style List**) and play with the auto accompaniment.

## Note:

The styles (91-99 and 00) are the piano styles. If you don't turn on A. B. C. and play a chord, the auto accompaniment does not work.

## Selecting a Style

1. Press the [STYLE] button.  
Enter the STYLE mode. LCD shows "STYLE" and the style number.
2. Use the number keys, the [+] button, the [-] button to select the style you want to play.
3. Press the [START/STOP] button to start the rhythm tracks of the auto accompaniment.

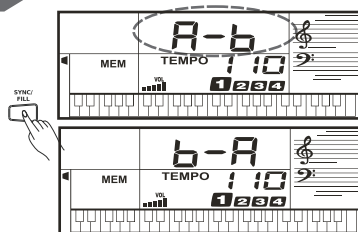


## Playing a Fill

Simply press the [FILL] button, while the style is playing. The keyboard inserts a variation, then the original style automatically resumes at the end of the current measure.

## Note:

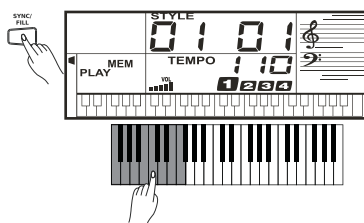
For inserting a longer variation, hold down the [FILL] button. The keyboard play the variation until you release the [FILL] button.



## Sync

While the style is not playing, press the [SYNC] button. The black dots below the tempo and the metronome flash, indicating the standby mode of the keyboard.

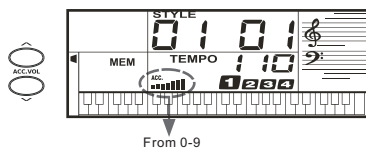
1. If the A.B.C. is OFF, pressing any key will automatically begins to play the style (rhythm track).
2. If the A.B.C. is ON, pressing any key in the left-hand range of the keyboard will automatically begins to play the style (all tracks).



## Accompaniment Volume

Adjust the volume of the accompaniment with the [ACC.VOL] buttons.

Repeatedly press [ACC.VOL] up or down to increase or decrease the volume. The volume ranges from 0 (no sound) to 9 (Maximum) and the current accompaniment volume level appears on the display.



From 0-9

## Tempo

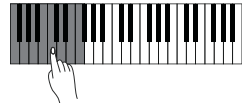
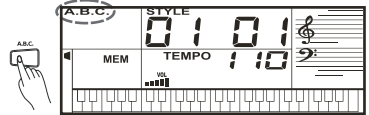
Each style of the instrument has been programmed with a default tempo; however, this can be changed by using the [TEMPO+] or [TEMPO-] buttons.

1. Use the [TEMPO+] or [TEMPO-] button to change the tempo. The value ranges from 40 to 240.
2. Hold down the [TEMPO] buttons can change the tempo quickly.
3. Press the [TEMPO+] and [TEMPO-] buttons simultaneously to restore the default tempo setting.



## Chord Fingering

1. Press the [A.B.C] button, "A.B.C" appears on the left side of the display. Now, the keyboard is divided two parts. The 19 keys on the left of the keyboard are called accompaniment keys. The accompaniment keys you pressed determine the type of chords that you played.
2. Press the accompaniment keys, the corresponding chord will display on LCD.



### Single Finger

Single finger type not only can detect single finger but also can detect multi finger. And the single finger makes it easily to play chords through only one, two or three keys. Including major, minor, seventh, and minor seventh chord. Refer to relevant picture on the right for details.

C		* Major Triad Only press the root note on the keyboard.
Cm		* Minor Triad Press the root note and the nearest left black key simultaneously.
C7		* Seventh chord Press the root note and the nearest left white key simultaneously.
Cm7		* Minor seventh chord Press the root note and the nearest left white and black keys simultaneously.

### Multi Finger

Multi finger type only can recognize those chords have listed in the chord list, and also can be found in the dictionary function.

0 C	1 C <sub>6</sub>	2 Cm <sub>7</sub>	3 Cm <sub>7</sub> (#11)	4 Cm(9)	5 Cm <sub>7</sub> (9)
6 C <sub>6</sub> (9)	7 C <sub>6</sub> UG	8 Cm	9 Cm <sub>6</sub>	10 Cm <sub>7</sub>	11 Cm <sub>7</sub> (b5)
12 Cm(9)	13 Cm <sub>7</sub> (9)	14 Cm <sub>7</sub> (11)	15 C <sub>7</sub> (b9)	16 CmM <sub>7</sub> (9)	17 Cdim
18 Cdim <sub>7</sub>	19 C <sub>7</sub>	20 C <sub>7</sub> UG	21 C <sub>7</sub> (b5)	22 C <sub>7</sub> (9)	23 C <sub>7</sub> (#11)
24 C <sub>7</sub> (13)	25 C <sub>7</sub> (9)	26 C <sub>7</sub> (b13)	27 C <sub>7</sub> (#9)	28 Cm <sub>7</sub> UG	29 C <sub>7</sub> UG
30 C <sub>6</sub> UG	31 C <sub>1</sub> +2+5	Notes enclosed in parentheses are optional, the chords could be recognized without them.			

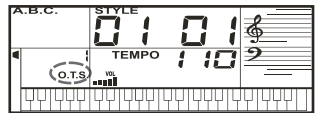
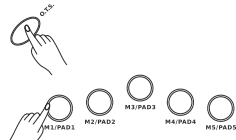
# Playing the Styles

## One Touch Setting

One Touch Setting is a convenient function that allows you to automatically play a preset voice to match a selected style you have changed.

Follow these steps to activate One-Touch Setting.

1. Press the [O.T.S.] button to turn on the One Touch Setting for current style. "O.T.S." appears.
2. Press one of the ONE TOUCH SETTING buttons [M1]-[M4]. Voice match the selected style can be instantly recalled with just a single button press.
3. Press the [O.T.S.] button again to quit One Touch Setting mode, "O.T.S." disappears.



### Note:

A.B.C. is automatically turned on in O.T.S. mode.

When the style is changed, the matched voice will be changed automatically in O.T.S. mode.

# Memory/Percussion

Press the [MEMORY/PERC.] button to switch the buttons [M1] - [M5] function between memory function to percussion function. The default function is memory when power is turned on.



## Memory

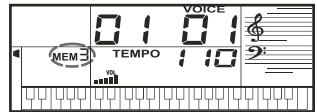
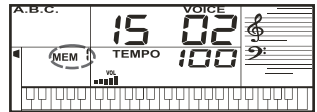
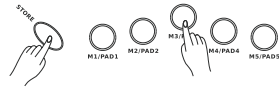
There are 5 memories (M1-M5).

1. While holding the [STORE] button, press one of the MEMORY buttons: [M1] - [M5] to register the panel settings. The new settings will replace the previous memory data. The settings include the number of voice, the number of style, tempo, beat value, sustain effect, etc.

2. Press one of the MEMORY buttons: [M1] - [M5] to recall the panel settings.

### Note:

The stored settings can not be recalled when the One Touch Setting function is on. The stored settings will be returned to the default settings after you turned off the power.

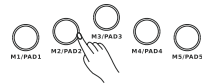


## Percussion

There are 5 percussion pads : Bass drum, snare drum, hi-hat open, hi-hat close, and high tom-tom.

1. Press the [MEMORY/PERC.] button to enter the percussion function. The LCD will display PERC.

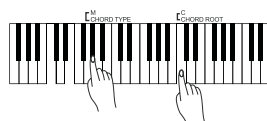
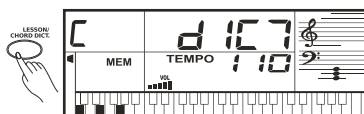
2. Press the [PAD] buttons to play the percussion sounds.



# Chord Dictionary

If you know the name of a chord but don't know how to play it, you can use the Chord Dictionary function.

1. Press the [CHORD DICT.] button to enter this mode, the LCD displays "d 1E7", the Chord Type and Chord Notes.
2. In this mode, the key above #G3 are used to assign the Chord Type, the keys above C5 are used to assign the Chord Root. When the Chord Type and Chord Root are confirmed, the LCD will display the Chord and its keyboard position.
3. Play the chords on the keyboard according to the display. If you press the correct notes, you will hear a prompt applause sound.



## Metronome

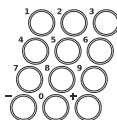
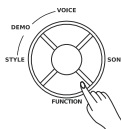
### Turning on the Metronome

1. Press the [METRO] button to turn on the metronome.
2. Press the [METRO] button again to turn off the metronome.
3. Press the [TEMPO+] / [TEMPO-] button to change the tempo of the metronome.



### Selecting the Beat

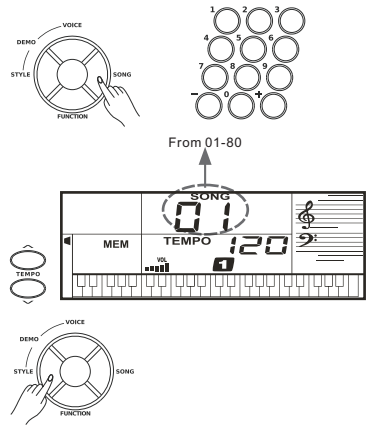
1. Press the [FUNCTION] button until "bE7 4" displays.
2. Press the [+] or [-] button to change the beat value: 0 2 3 4 5 6 7 8 9. The default value is 4.



The instrument features 80 songs (Refer to **Song List**). Each song can be practiced in LESSON mode.

## Listening to the Songs

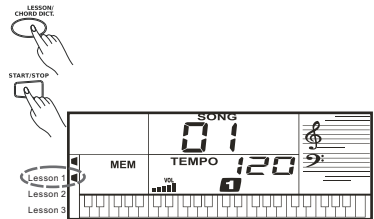
1. Press the [SONG] button to enter the song mode. It will play all songs circularly. The display indicates "SONG" and the number of the current song. Press the [SONG] button again, it will stop the song and exit the song mode.
2. In song mode, use the number keys, [+ ] or [- ] button to select a song.
3. Once you start playing a song by pressing [START/STOP] button, it will play current song repeatedly. Press the [START/STOP] button again, it will stop the current song but not exit the song mode.
4. Use the [TEMPO+] or [TEMPO-] button to change the tempo of the current song.
5. When the song is stopped, press [STYLE], [VOICE], [DEMO] to exit the song mode.



## Lesson Mode

In the instrument, there are 3 different ways to practice the songs: time value training, note correction training, melody off. And the keyboard has a grading system to help you to know well about your progress.

1. In Song mode, press the [LESSON] button to enter the lesson mode or switch the lesson mode.
2. Press the [START/STOP] button to start learning. The LCD will display the note need to be played.
3. Press the [START/STOP] button again to stop learning.
4. There are 3 lesson modes and a grading system.



**Lesson 1:** the keyboard only grades the time value of the playing, don't care the correction of the note.

**Lesson 2:** the keyboard only grades your practice by the note; don't care about the correctness of the timing. Only when you play the correct note, the song will continue to the next note.

**Lesson 3:** the keyboard will score your practice by the correction of the time value and note.

**Grade:** In lesson mode, when you finished learning the current the song, the keyboard will play the prompt sound to tell you the level you get.

**Level 1:** Ok

**Level 2:** Good

**Level 3:** Very Good

**Level 4:** Excellent

After grading, the song will be playing again, you can learn it again.

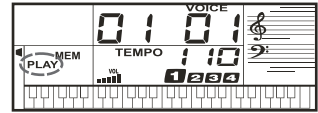
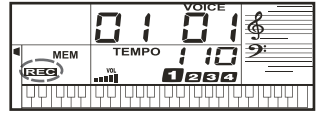
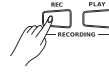
# Recording and Playback

You can record your performance (up to 200 notes), and the accompaniment.

1. Press the [REC] button, the "REC" appears, the beat flashes.
2. Play the notes you want to record or press the [START/STOP] button to start recording. If you want to record your performance accompanied with the style, please turn on the A.B.C, and play the chords on the left of the keyboard.
3. Press the [REC] button again to stop recording. The "REC" disappears.
4. Press the [PLAY] button to play the notes you recorded. The "PLAY" appears.
5. Press the [PLAY] button again to stop it. The "PLAY" disappears.

**Note:**

If you turned off the keyboard, the data you have recorded will be lost.





By using the MIDI functions you can expand your musical possibilities. This section explains what MIDI is, and what it can do, as well as how you can use MIDI on your instrument.

## What's MIDI?

MIDI (short for Musical Instrument Digital Interface) allows a wide variety of electronic musical instruments, computers and other related devices to connect and communicate with one another. MIDI carries event messages that specify notation, pitch and velocity, control signals for parameters such as volume, vibrato, audio panning, and program change information to change the voice selections.

The instrument can output the real-time playback information via MIDI and control external MIDI devices. The instrument can also accept incoming MIDI messages and generate sound accordingly.

## MIDI Terminals

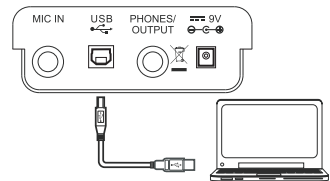
### MIDI Connection

The electronic keyboard is equipped with a standard USB interface instead of conventional MIDI IN and MIDI OUT connectors. The USB interface allows the keyboard to be connected to a computer without the need to separately purchase a MIDI interface for the computer. Most computers will automatically recognize the keyboard as a MIDI interface, allowing MIDI messages to be received from, or sent to, music programs running on the computer.

To connect the keyboard to a computer you will need a standard USB A-B cable (not supplied) and suitable software such as a music sequencing program (not supplied).

#### **Note:**

Activate the computer from a sleep/suspended/standby mode before connecting the USB cable. Connect the USB cable to the instrument and a computer before turning the power of the instrument on.



# Troubleshooting

<b>Problem</b>	<b>Possible Cause and Solution</b>
The speakers produce a "pop" sound whenever the power is turned ON or OFF.	This is normal and is no cause for alarm.
No sound results when the keyboard is played.	Make sure the master volume is set at appropriate levels.
When using a mobile phone, noise is produced.	Using a mobile phone in close proximity to the instrument may produce interference. To prevent this, turn off the mobile phone or use it further away from the instrument.
The auto accompaniment does not play back even Sync is in standby condition and a key is pressed.	You may be trying to start accompaniment by playing a key in the right-hand range of the keyboard. To start the accompaniment with Sync Start, make sure to play a key in the left-hand range of the keyboard.

## Specifications

### Keyboard

49

### Display

Multi-functional LCD

### Polyphony

32

### Voice

132, including 4 drum kits

### Style

100

### Song

80

### Demo

80

### Tempo

40-240

### Registration Memory

5

### Control button

Power on/off switch, Master Volume+/-, ACC. Volume+/-, Tempo+/-, A.B.C, Function, Style, Voice, Song, Lesson, Store, M1-M5, O.T.S., Modulation, Memory/Perc., +/-, Piano, Metro, Sustain, DSP.

### Accompaniment Control

Start/Stop, Sync/Fill.

### Record Function

Record, Play.

### Connectors

DC IN, Headphones / Output, USB, MIC IN.

### Power Supply

DC 9V

### Speaker

2W + 2W

### Dimensions

667 (W)X245 (D)X82 (H) mm

### Weight

2.2KG (without batteries)

\* All specifications and appearances are subject to change without notice.

# Voice List

No.	Name	abbr.						
<b>PIANO</b>			44	Contrabass	Contrabass	88	Lead 8 (Bass&Lead)	Bass&Lead
1	Acoustic Grand Piano	Grand Pno	45	Tremolo Strings	Tremolo Strs	89	Pad 1 (New Age)	New Age
2	Bright Acoustic Piano	Bright Pno	46	Pizzicato Strings	Pizzicato Strs	90	Pad 2 (Warm)	Warm
3	Electric Grand Piano	E.Grand Pno	47	Orchestra Harp	Orchestra Harp	91	Pad 3 (Polysynth)	Polysynth
4	Honky-Tonk Piano	Honky-Tonk	48	Timpani	Timpani	92	Pad 4 (Choir)	Choir
5	Rhodes Piano	Rhodes Pno	<b>ENSEMBLE</b>			93	Pad 5 (Bowed)	Bowed
6	Chorus Piano	Chorus Pno	49	Strings Ensemble 1	Strings Ens 1	94	Pad 6 (Metallic)	Metallic
7	Harpichord	Harpichord	50	Strings Ensemble 2	Strings Ens 2	95	Pad 7 (Halo)	Halo
8	Clavichord	Clavi	51	Synth Strings 1	Synth Strs 1	96	Pad 8 (Sweep)	Sweep
<b>MALLET</b>			52	Synth Strings 2	Synth Strs 2	<b>SYNTH SFX</b>		
9	Celesta	Celesta	53	Choir Aahs	Choir Aahs	97	FX 1 (Rain)	Rain
10	Glockenspiel	Glockenspiel	54	Voice Oohs	Voice Oohs	98	FX 2 (Soundtrack)	Soundtrack
11	Music Box	Music Box	55	Synth Voice	Synth Voice	99	FX 3 (Crystal)	Crystal
12	Vibraphone	Vibraphone	56	Orchestra Hit	Orchestra Hit	100	FX 4 (Atmosphere)	Atmosphere
13	Marimba	Marimba	<b>BRASS</b>			101	FX 5 (Brightness)	Brightness
14	Xylophone	Xylophone	57	Trumpet	Trumpet	102	FX 6 (Goblins)	Goblins
15	Tubular Bells	Tubular Bells	58	Trombone	Trombone	103	FX 7 (Echoes)	Echoes
16	Dulcimer	Dulcimer	59	Tuba	Tuba	104	FX 8 (Sci-Fi)	Sci-Fi
<b>ORGAN</b>			60	Muted Trumpet	Muted Trumpet	<b>ETHNIC</b>		
17	Hammond Organ	Hammond Org	61	French Horn	French Horn	105	Sitar	Sitar
18	Percussive Organ	Perc Org	62	Brass Section	Brass Section	106	Banjo	Banjo
19	Rock Organ	Rock Org	63	Synth Brass 1	Synth Brass 1	107	Shamisen	Shamisen
20	Church Organ	Church Org	64	Synth Brass 2	Synth Brass 2	108	Koto	Koto
21	Reed Organ	Reed Org	<b>REED</b>			109	Kalimba	Kalimba
22	Accordion	Accordion	65	Soprano Sax	Soprano Sax	110	Bagpipe	Bagpipe
23	Harmonica	Harmonica	66	Alto Sax	Alto Sax	111	Fiddle	Fiddle
24	Tango Accordion	Tango Acd	67	Tenor Sax	Tenor Sax	112	Shanai	Shanai
<b>GUITAR&amp;BASS</b>			68	Baritone Sax	Baritone Sax	<b>PERCUSSIVE</b>		
25	Acoustic Guitar (Nylon)	Nylon Gtr	69	Oboe	Oboe	113	Tinkle Bell	Tinkle Bell
26	Acoustic Guitar (Steel)	Steel Gtr	70	English Horn	English Horn	114	Agogo	Agogo
27	Electric Guitar (Jazz)	Jazz Gtr	71	Bassoon	Bassoon	115	Steel Drums	Steel Drums
28	Electric Guitar (Clean)	Clean Gtr	72	Clarinet	Clarinet	116	Woodblock	Woodblock
29	Electric Guitar (Muted)	Muted Gtr	<b>PIPE</b>			117	Taiko Drum	Taiko Drum
30	Overdriven Guitar	Overdriven	73	Piccolo	Piccolo	118	Melodic Tom	Melodic Tom
31	Distortion Guitar	Distortion	74	Flute	Flute	119	Synth Drum	Synth Drum
32	Guitar Harmonics	Harmonics	75	Recorder	Recorder	<b>EFFECTS</b>		
33	Acoustic Bass	Acoustic Bass	76	Pan Flute	Pan Flute	120	Effects 1	Effects 1
34	Electric Bass (Finger)	Finger Bass	77	Bottle Blow	Bottle Blow	121	Effects 2	Effects 2
35	Electric Bass (Pick)	Pick Bass	78	Shakuhachi	Shakuhachi	122	Effects 3	Effects 3
36	Fretless Bass	Fretless Bass	79	Whistle	Whistle	123	Effects 4	Effects 4
37	Slap Bass 1	Slap Bass 1	80	Ocarina	Ocarina	124	Effects 5	Effects 5
38	Slap Bass 2	Slap Bass 2	<b>LEAD &amp; PAD</b>			125	Effects 6	Effects 6
39	Synth Bass 1	Synth Bass 1	81	Lead 1 (Square)	Square	126	Effects 7	Effects 7
40	Synth Bass 2	Synth Bass 2	82	Lead 2 (Sawtooth)	Sawtooth	127	Effects 8	Effects 8
<b>STRINGS</b>			83	Lead 3 (Calliope lead)	Calliope	128	Effects 9	Effects 9
41	Violin	Violin	84	Lead 4 (Chiff lead)	Chiff	<b>DRUM</b>		
42	Viola	Viola	85	Lead 5 (Charang)	Charang	129	Standard Kit	Standard
43	Cello	Cello	86	Lead 6 (Voice)	Voice	130	Room Kit	Room
			87	Lead 7 (Fifths)	Fifths	131	Power Kit	Power
						132	Electronic Kit	Electronic

# Style List

No.	Name	abbr.
<b>BEAT &amp; POP</b>		
1	8 Beat 1	8 Beat 1
2	8 Beat 2	8 Beat 2
3	8 Beat 3	8 Beat 3
4	8 Beat 4	8 Beat 4
5	60's 8 Beat	60's 8 Beat
6	8 Beat Ballad	8 Beat Ballad
7	8 Beat Rock	8 Beat Rock
8	16 Beat 1	16 Beat 1
9	16 Beat 2	16 Beat 2
10	16 Beat Pop	16 Beat Pop
11	16 Beat Shuffle	16 Beat Shuffle
12	Ballad 1	Ballad 1
13	Slow Ballad	Slow Ballad
14	16 Beat Ballad	16 Beat Ballad
15	Unplugged	Unplugged
<b>ROCK</b>		
16	Rock	Rock
17	Pop Rock	Pop Rock
18	Fast Rock	Fast Rock
19	Slow Rock 1	Slow Rock 1
20	Slow Rock 2	Slow Rock 2
21	Rock & Roll	Rock & Roll
22	Heavy Metal	Heavy Metal
23	Blues Boogie	Blues Boogie
24	Blues	Blues
25	Shuffle	Shuffle
26	Blues Shuffle	Blues Shuffle
27	Rock Shuffle	Rock Shuffle
28	Charleston	Charleston
<b>DANCE</b>		
29	Disco 1	Disco 1
30	Disco 2	Disco 2
31	Disco Funk	Disco Funk
32	Dance	Dance
33	House 1	House 1
34	House 2	House 2
35	Rap	Rap
36	Euro Beat	Euro Beat
37	Hip Hop	Hip Hop
38	Techno	Techno
<b>SOUL &amp; FUNK</b>		
39	Funky Pop	Funky Pop
40	Jazz Funk	Jazz Funk
41	Cool Funky	Cool Funky
42	Soul 1	Soul 1
43	Soul 2	Soul 2
44	Soul Shuffle	Soul Shuffle
45	Soul Blues	Soul Blues
46	R & B	R & B
47	6/8 Gospel	6/8 Gospel
48	Pop Groove	Pop Groove
<b>JAZZ</b>		
49	Swing 1	Swing 1

50	Cool Jazz	Cool Jazz
51	Pop Swing	Pop Swing
52	Swing Fox	Swing Fox
53	Big Band	Big Band
54	Big Band Medium	Big Band Medium
55	Jazz Waltz 1	Jazz Waltz 1
56	Ragtime	Ragtime
57	Dixieland	Dixieland
58	Quick Step	Quick Step
<b>COUNTRY</b>		
59	Country 1	Country 1
60	Country 2	Country 2
61	Pop Country	Pop Country
62	Country Rock	Country Rock
63	Country Folk	Country Folk
64	3/4 Country	3/4 Country
65	Country Waltz	Country Waltz
66	Country Shuffle	Country Shuffle
67	Country Boogie	Country Boogie
68	Country Blues	Country Blues
69	Country Quick Step	Country Quick Step
70	Bluegrass	Bluegrass
<b>LATIN</b>		
71	Bossa Nova 1	Bossa Nova 1
72	Bossa Nova 2	Bossa Nova 2
73	Rhumba	Rhumba
74	Pop Rhumba	Pop Rhumba
75	Cha Cha	Cha Cha
76	Pop Cha Cha	Pop Cha Cha
77	Tango	Tango
78	Jazz Samba	Jazz Samba
79	Reggae	Reggae
80	Pop Reggae	Pop Reggae
<b>TRADITIONAL</b>		
81	March 1	March 1
82	March 2	March 2
83	German March	German March
84	6/8 March 1	6/8 March 1
85	Polka	Polka
86	Pop Polka	Pop Polka
87	Waltz 1	Waltz 1
88	Slow Waltz	Slow Waltz
89	Vienna Waltz	Vienna Waltz
90	Musette	Musette
<b>PIANO</b>		
91	8 Beat	8 Beat
92	Ballad 2	Ballad 2
93	Boogie	Boogie
94	Jazz	Jazz
95	Swing 2	Swing 2
96	Jazz Waltz 2	Jazz Waltz 2
97	Twist	Twist
98	March	March
99	6/8 March 2	6/8 March 2
00	Waltz 2	Waltz 2

No.	Name
<b>FAVORITE</b>	
1	The Old Gray Mare
2	In The Rain
3	Jeanie With The Light Brown Hair
4	American Patrol
5	Heidenroslein
6	Music Box Dancer
7	Rondo
8	The Melody Of Yesterday
9	It's Been A Long, Long Time
10	Chant Sans Paroles
11	Water Music
12	The Entertainer
13	О г о н е к
14	Five Hundred Miles
15	Old Folks At Home
16	O Sole Mio
17	Sonata
18	Allegro In bB
19	The Red Sarafan
20	Dance De Mirlitons
21	Nocturne
22	Air On The G String
23	Canon
24	Minuet In G
25	Beautiful Dreamer
<b>FOLK &amp; COUNTRY</b>	
26	Danny Boy
27	My Bonnie
28	Skip To My Lou
29	Katyusha
30	Red River Valley
31	The Sideway
32	Dance Of Russia
33	House Of Rising Sun
34	Starlight Waltz
35	Home On The Range
36	The Blue Bells Of Scotland
37	Annie Laurie
38	Trumpet
39	Country
40	Jambalaya

41	Bridge
42	Sippin' Cider Through A Straw
<b>JAZZ &amp; FUSION</b>	
43	June Samba
44	Guitar & Saxphone
45	The Hip Hop's Night
46	Blue Lunch
47	Cobweb
48	Wine
49	Jazz Old Man
50	Carlos
<b>CHRISTMAS</b>	
51	Ave Maria
52	Joy To The World
53	Santa Claus Is Coming To Town
54	Silent Night
55	Amazing Grace
56	Oh! Susanna
57	Battle Hymn Of The Republic
58	Carry Me Back To Old Virginny
59	Camptown Races
60	Dark Eyes
<b>PIANO</b>	
61	Fur Elise
62	Bagatelle No. 3
63	Musette in D
64	Prelude in G
65	Turkish Rondo
66	Four Little Swans
67	Did You Ever See A Lassie
68	Spring
69	Impromptu
70	Gavotte
71	Nocturne
72	Pizzicato Polka
73	Moment Musical
74	The Rag-Time Dance
75	All Kind Of My Everything
76	Valse No. 6 "Petit Chien"
77	Rondeau
78	The Chrysanthemum
79	Invention A 2 Voix
80	Jesus, Saviour, Pilot Me

# Chord List

No.	Chord Name/[Abbreviation]	Normal Voicing	Chord (C)	Display
0	Major [M]	1-3-5	C	C
1	Major sixth [6]	1-(3)-5-6	C6	C6
2	Major seventh [M7]	1-3-(5)-7	CM7	CM7
3	Major add ninth [Madd9]	1-2-3-5	Cmadd9	CM9
4	Augmented [aug]	1-3-#5	Caug	Caug
5	Minor [m]	1-b3-5	Cm	Cm
6	Minor sixth [m6]	1-b3-5-6	Cm6	Cm6
7	Minor seventh [m7]	1-b3-(5)-b7	Cm7	Cm7
8	Minor major ninth [mM7]	1-b3-(5)-7	CmM7	CmM7
9	Diminished [dim]	1-b3-b5	Cdim	Cdim
10	Diminished seventh [dim7]	1-b3-b5-6	Cdim7	Cdim7
11	Seventh [7]	1-3-(5)-b7	C7	C7
12	Seventh suspended fourth [7sus4]	1-4-5-b7	C7sus4	C7sus4
13	Suspended fourth [sus4]	1-4-5	Csus4	Csus4

# MIDI Implementation Chart

Function		Transmitted	Recognized	Remarks
Basic Channel	Default Changed	1ch x	1-16ch x	
Mode	Default Messages Altered	x x *****	3 3 x	
Note Number	True voice	0—127 *****	0—127 0—127	
Velocity	Note on Note off	○ 9nH,V=64 x(9nH,V=0)	○ 9nH,V=1-127 x(9nH,V=0; 8nH,V=0-127)	
After Touch	Keys Chs	x x	x x	
Pitch Bend		x	○	
Control Change	0 1 5 6 7 10 11 64 65 66 67 80 81 91 93 120 121 123	x x x x x x x x x x x x x x x x x	○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○	Bank Select Modulation Portamento Time Data Entry Volume Pan Expression Sustain Pedal Portamento ON/OFF Sostenuto Pedal Soft Pedal Reverb Program Chorus Program Reverb Level Chorus Level All Sound Off Reset All Controllers All Notes Off
Program Change	:true	○ *****	○ 0—127	
System	Exclusive	x	x	
System Common	:Song Position :Song Select :Tune	x x x	x x x	
System Real Time	:Clock :Commands	x x	x x	
Aux Messages	:Local ON/OFF :All Notes Off :Active Sense :Reset	x x x x	x ○ ○ ○	
Note:				

- Mode 1: OMNI ON, POLY
- Mode 2: OMNI ON, MONO

- Mode 3: OMNI OFF, POLY
- Mode 4: OMNI OFF, MONO

- : YES
- ×: NO

