BOSTON

DSP-488

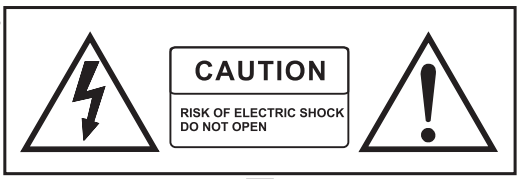
Digital Piano

User's Manual

Precaution

Thank you for purchasing this digital instrument.For perfect operation and security,please read the manual carefully and keep it for future reference.

Safety Precautions



The lightning flash with arrowhead symbol within an equilateral triangle is in tended to alert the user to the presence of uninsulated “dangerous voltage” within the product s enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance(servicing) instructions in the literature accompanying the product.

Important Safety Instructions

(Figure 1)

1) Read these instructions.
2) Keep these instructions.
3) Heed all warnings.
4) Follow all instructions.
5) Do not use this apparatus near water.
6) Clean only with dry cloth.
7) Do not block any ventilation openings,install in accordance with the manufacturer s instructions.
8) Do not install near any heat sources such as radiators, heat registers,stoves,or other apparatus (including am plifiers) that produce heat.
9) Do not defeat the safety purpose of the polarized or grounding-type plug.A polarized plug hase two blades with one wider than the other.A grounding type plug has two blades and a third grounding prong.The wide blade or the third prong are provided for your safety,if the provided plug does not fit into your outlet.consult an elec trician for replacement of the obsolete outlet.
10) Protect the power cord from being walked on or pinched particularly at plugs.convenience receptacles,and the point where they exit from the apparatus.
11) Only use attachments/accessories specified by the manufacturer.
12) Use only with the cart,stand,tripod,bracket,or table specified by the manufacturer,or sold with the apparatus.When a cart is used,use caution when moving the cart/apparatus combination to avoid injury from tip-over (Figure 1).
13) Unplug this apparatus during lightning storms or when unused for a long periods fo time.
14) Refer all servicing to qualified service personnel.Servicing is required when the apparatus has been dam aged in any way,such as power-supply cord or plug is damaged,liquid has been spilled or objects have fallen into the apparatus,the apparatus has been exposed to rain or moisture,does not operate normally,or has been dropped.

WARNING: To reduce the risk of fire or electric shock,do not expose this apparatus to rain or moisture.
CAUTION:Apparatus shall not be exposed to dripping or splashing and no objects filled with liquids,such as vases,shall be placed on the apparatus.

WARNING: This product contains chemicals, including lead, known to the State of California to cause cancer, and birth defects or other reproductive harm. Wash hands after handling.

Thanks For Using Our Digital Piano

Your digital piano is a high-quality digital piano with 88 standard touch sensitivity keyboard and combines the most advanced PCM tone generation technology. This digital piano lets you record your performances. In order to obtain maximum performance and enjoyment, please read this manual thoroughly while trying out the various features described.

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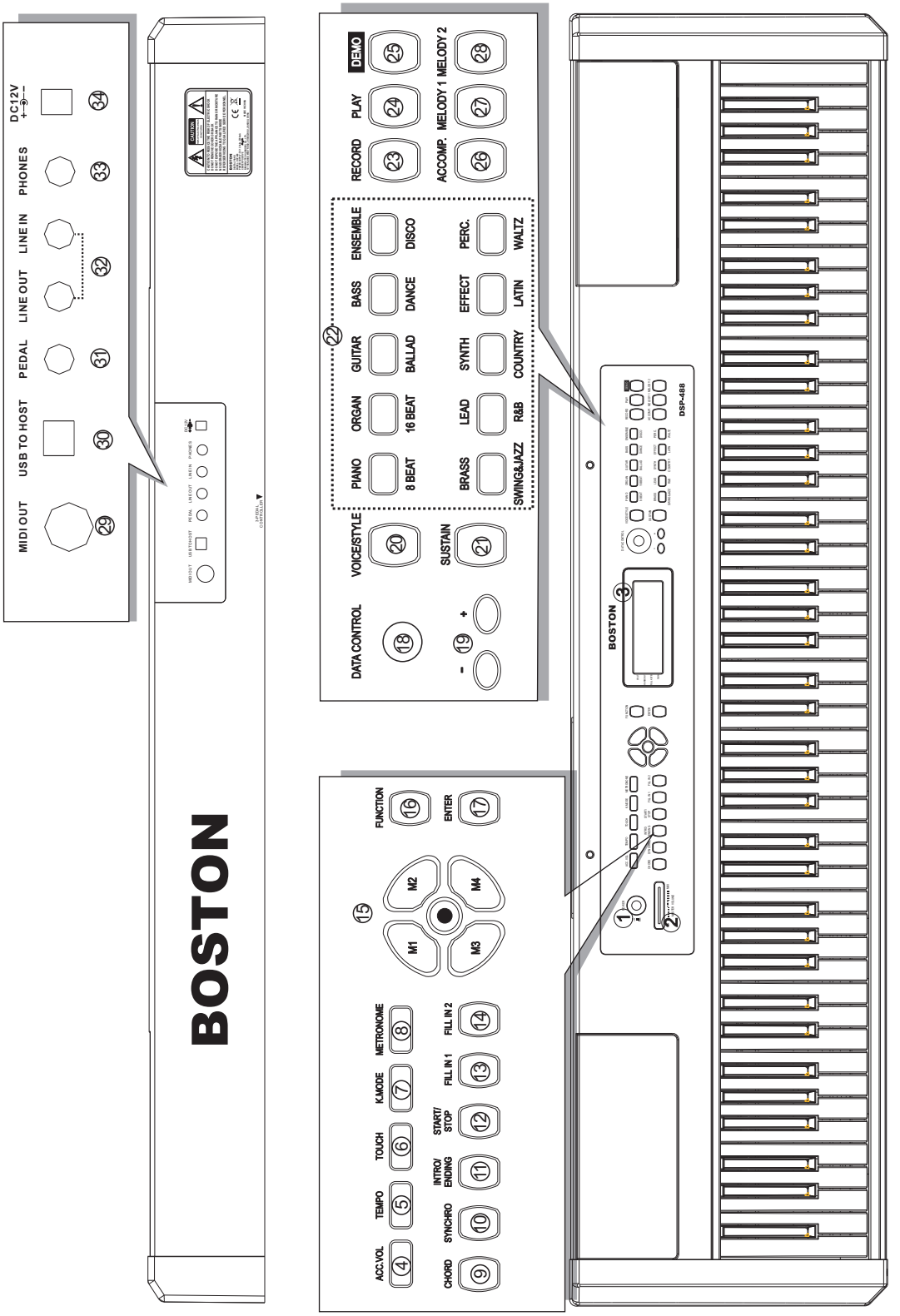
Panel Contents



Panel Contents

Top Panel

1. Power On/Off
2. MASTER VOLUME
3. LCD DISPLAY
4. [ACC.VOL] Button
5. [TEMPO] Button
6. [TOUCH] Button
7. [K.MODE] Button
8. [METRONOME] Button
9. [CHORD] Button
10. [SYNCHRO] Button
11. [INTRO/ENDING] Button
12. [START/STOP] Button
13. [FILL IN 1] Button
14. [FILL IN 2] Button
15. [MEMORY] Button
    [M1-M4] Buttons
16. [FUNCTION] Button
17. [ENTER] Button
18. [DATA CONTROL] Knob
19. [+/-] Buttons
20. [VOICE/STYLE] Button
21. [SUSTAIN] Button
22. VOICE and STYLE SELECT
23. [RECORD] Button
24. [PLAY] Button
25. [DEMO] Button
26. [ACCOMP.] Button
27. [MELODY 1] Button
28. [MELODY 2] Button

Rear Panel

29. MIDI OUT Jacks
30. USB TO HOST Jacks
31. PEDAL Jack
32. LINE OUT /IN Jacks
33. PHONES Jack
34. DC 12V Jack

Connection

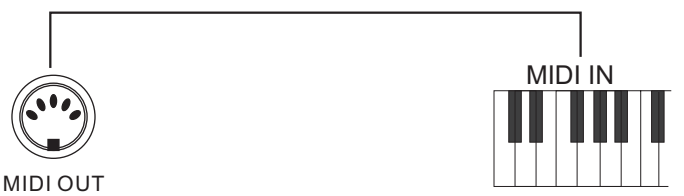
Using Line Out/In Jacks

Connect the external sound system to the Line In jack. The audio signal from the external sound system can be mixed with the sound of your piano. This function is convenient when you want to play along with a favourite song.

The Line Out jack can be used to transmit the audio signal of the piano to a keyboard amplifier, stereo sound system, mixing console or tape recorder.

Using Midi Out Jacks

MIDI (Musical Instrument Digital Interface) is a world-standard communication interface which allows electronic musical instruments to communicate with each other, by sending and receiving compatible note, program change and other types of MIDI data.

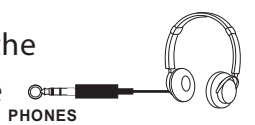


NOTE

MIDI OUT Transmits MIDI data to another MIDI device.

Phones jack

Plug a set of stereo headphone into the phones jack, and the internal speaker system is automatically shut off when the headphone is plugged.

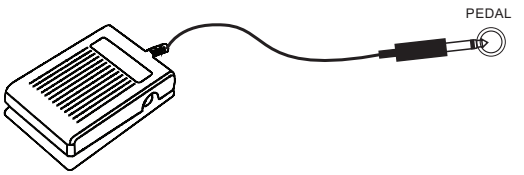


NOTE

Never use headphones in high volume, as it may hurt your ears.

Sustain Pedal(supplied)

The foot pedal included with your digital piano will cause piano key sounds to decay slowly as if they were being held down. A piano-style pedal may optionally be used. The jack will auto-detect the polarity of the sustain pedal.



NOTE

Ensure the piano is turned off before connecting the pedal.Otherwise, it will affect the piano sound.
As standard, the pedal will affect the note playing after pressed. To change polarity, hold the foot pedal down during power up.

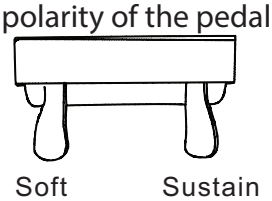
Double Pedal(optional)

This digital piano can be used with a Double pedal.

Soft Pedal(left): The Soft Pedal controls the sound volume. Press the pedal to decrease the output sound volume.

Sustain(right): It performs the same function as the damper pedal on an actual acoustic piano, letting you sustain the sound of the voices even after releasing your fingers from the keys.

The jack will auto-detect the polarity of the pedal.



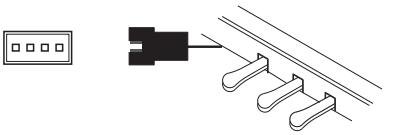
NOTE

As standard, the pedal will affect the note playing after pressed. To change polarity, hold the foot pedal down during power up.

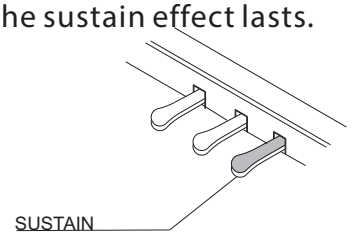
3-Foot Pedal(optional)

This digital piano can be used with a 3-Foot pedal.

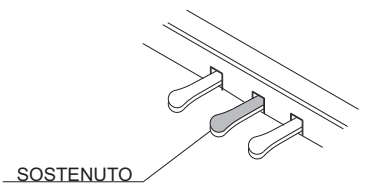
Connect the plug of the foot pedal unit to the pedal jack in the button panel.



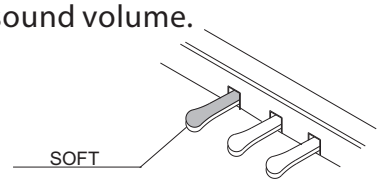
Damper Pedal (Right): It performs the same function as the damper pedal on an actual acoustic piano, letting you sustain the sound of the voices even after releasing your fingers from the keys.
Your piano has Half-pedal function. You may release your foot from the pedal to different position to change the sustain time. The less you release your foot from the pedal, the longer the sustain effect lasts.



Sostenuto Pedal (Center): If you play a note or chord on the keyboard and press the sostenuto pedal while the notes are held, those notes will be sustained as long as the pedal is held, but all subsequently played notes will not be sustained.



Soft Pedal (Left): The Soft Pedal controls the sound volume. Press the pedal to decrease the output sound volume.



NOTE

As standard, the pedal will affect the note playing after pressed. To change polarity, hold the foot pedal down during power up.

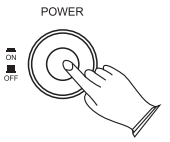
DC IN

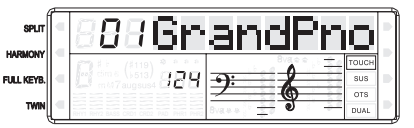
Connection for the included DC power adapter. Please use only the provided adapter.

Basic Operation

Power Switch

Turn on the power by pressing the POWER switch before playing, the panel LCD display will light.





Adjust the Volume

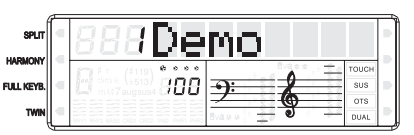
Initially set the [MASTER VOLUME] at the middle between the"MIN" and "MAX" . You can adjust the volume to accommodate your playing.

Demo Play

There are 10 demo songs that you can play individually. Here's how you can select and play the demo songs.

Listen to the Demo Song

Press [DEMO] button to Play the demo songs in sequence. Use [+] and [-] buttons or [DATA CONTROL] knob to select the number of the song you want to play.



Stop Playing

Press [DEMO] button again to stop playing.

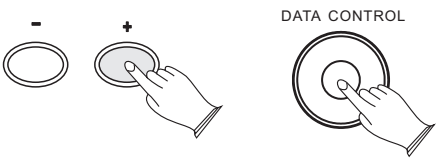
Voices

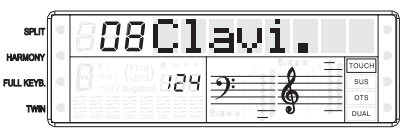
Your instrument has 128(01-128) GM standard voices, 8(129-136) different drum percussion kits and 1 set of sound effect that you can select and play.

Selecting a Voice

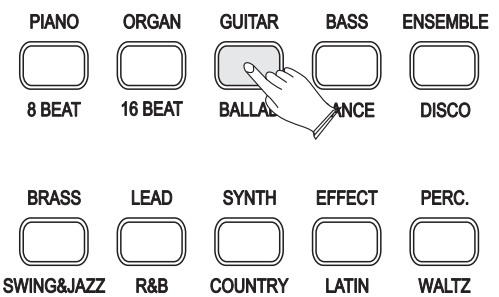
Press [VOICE/STYLE] button, when the button is unlight, the voice mode is selected and the current voice number and the name will display on the LCD Display section.

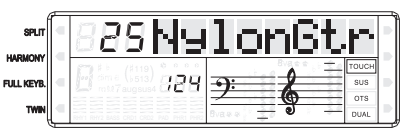
Use [+] and [-] button or [DATA CONTROL] knob to select the desired voice according to the voice list.





When [VOICE/STYLE] button is unlight, you can use the Direct Select Button to select a voice.





NOTE

The name above the Direct Select Button is the voice name.

Sustain Mode

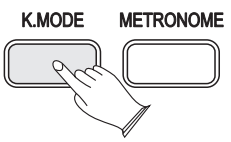
Press [SUSTAIN] button, the button will light. It can be used as a damper pedal. Turning sustain on to sustain notes after the keys are released.

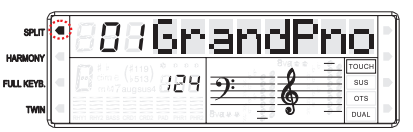
Press [SUSTAIN] button again to turn sustain off.

[K.MODE] Mode

Select Split Mode

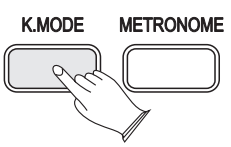
Press [K.MODE] button repeatedly to select split mode, the Split cursor is flashing. Your keyboard will be split into two sections which means different voices can be played with the left and right hands at the same time.





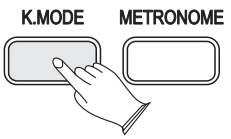
Select Harmony Mode

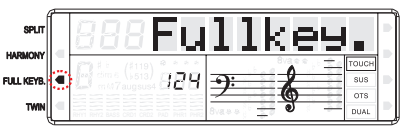
Press [K.MODE] button repeatedly again to select Harmony mode, the Harmony cursor on the display.
The Harmony is derived from the chords you have played if you use Automatic Accompaniment or turn on the Chord function.



Select Full Keyboard Mode

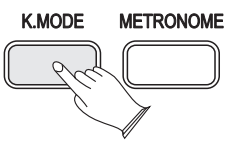
This feature allows you to play automatic chords in the full length of the keyboard. Press the button and dedicated arrow will indicate it on the display.
When in full keyboard the chords played by the Auto Accompaniment System will not be displayed on the screen.
Press [K.MODE] button again to select Full Keyboard mode, the Full Keyboard cursor on the display.

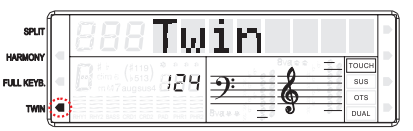




Select Twin Mode

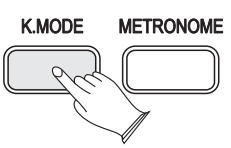
Press [K.MODE] button repeatedly again to select TWIN mode. In this mode, the keyboard will be separated into two playing areas.
Right: from C#3 to C7 Left: from A-1 to C3
This will be very helpful when the instrument is used by two players at the same time (example: Teacher and Student) and they will be able to play the same piano sound in the same octave.
While the TWIN feature is selected using the optional 3 lever pedal, the pedals automatically switch in a different configuration where there are 2 Sustain pedals, one for the left and one for the right part of the keyboard.

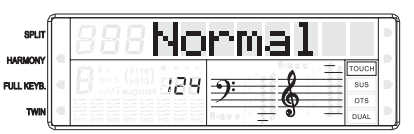




Select Normal Mode

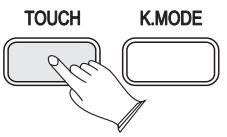
Press [K.MODE] button repeatedly again to select Normal mode, the LCD display "Normal" means your keyboard is in Normal playing mode.



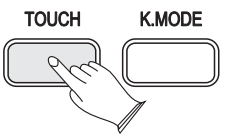


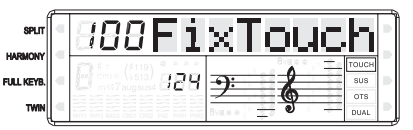
Touch Button

The touch function provides 3 different types of keyboard touch sensitivity that can be selected to match different playing styles.
Press the [TOUCH] button, when the cursor is lighting , use [+]and[-] button or turn the [DATA CONTROL] knob to select the touch sensitivity type in the range of 00 to 03. Default:02 Touch.



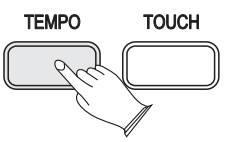
When touch is set to off, the same volume is produced no matter how strongly or softly you play the keyboard. You can press [TOUCH] for few seconds. LCD will show this volume value and you can adjust it by [+] or [-] button.

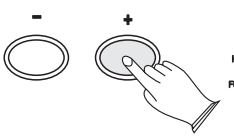




Tempo Button

The tempo of style can be adjust over a range of 20~280 bmp (beats per minute).
Press the [TEMPO] button, then use the [DATA CONTROL] knob or [+] and[-] button to increase or decrease the value.





Function

Press [FUNCTION] button to enter the menu of function.
press [FUNCTION] button repeatedly and turn the [DATA CONTROL] knob or use [+] and [-] button select the option to be set. Press [ENTER] to set the parameter.
The option and the parameters are as the follows:

Option	LCD Display	Range	Default
Func.?	Dual?	on~off	off
	D.Voice?	01~137	49
	OTS?	on~off	off
	S.Point?	00~87	34
	C.Point?	00~87	34
	Local?	on~off	on
Perf.?	Trans?	-12~12	00
	Tune?	-64~63	00
	M.Pan?	-64~63	00
	S.Pan?	-64~63	00
	D.Pan?	-64~63	00
	M.Oct?	-2~2	0
	S.Oct?	-2~2	0
	D.Oct?	-2~2	0
	M.Vol?	00~127	127
	S.Vol?	00~127	127
	D.Vol?	00~127	75
Effect?	Reverb?	00~08	05
	Chorus?	00~08	00
	M.RVol?	00~63	18
	S.RVol?	00~63	18
	D.RVol?	00~63	18
	M.CVol?	00~63	18
	S.CVol?	00~63	18
	D.CVol?	00~63	18
Midi?	MidIn(01?~16?)	on~off	on
	MidMain?	01~16,off	01
	MidLeft?	01~16,off	02
	MidDual?	01~16,off	03

NOTE

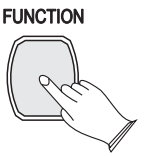
If you don't press any button for 5 seconds after entering the function menu, it will quit this menu automatically.

Dual

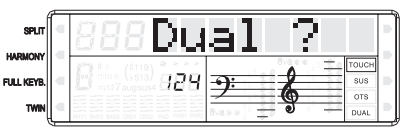
This function is capable of enhancing the delicacy of your music by playing two voices of musical instruments simultaneously; new combinations of voices and music could be created then.

When the dual function is off, the voice indicated is Main VOICE. When the dual function is on, the voice indicated is Dual VOICE.

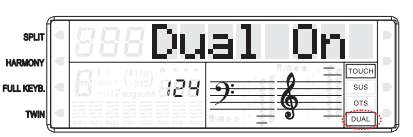
Press [FUNCTION] button to select “Func.?”.



Then press [ENTER] button to confirm, select “Dual?”.

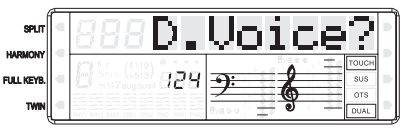


Press [ENTER] button to confirm, and use [+] and [-] buttons or [DATA CONTROL] knob to select “Dual On” or “Dual Off”. When set “Dual On”, the “DUAL” signal lightened simultaneously



Dual Voice

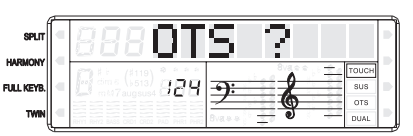
In “Func.?” function, press [ENTER] button to confirm, use [+] and [-] buttons or [DATA CONTROL] knob to select “D.Voice?” .



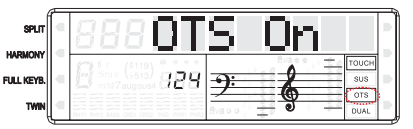
Press [ENTER] button to again, the “DUAL” signal is flashing, use [+] and [-] buttons or [DATA CONTROL] knob to select the second voice.

OTS

This function is actually a convenient feature which automatically selects a suitable voice for you when you select a style.
In “Func.?” function, press [ENTER] button to confirm, use [+] and [-] buttons or [DATA CONTROL] knob to select “OTS?” .



Press [ENTER] button to again, use [+] and [-] buttons or [DATA CONTROL] knob to select “OTS On” or “OTS Off”. When set “OTS On”, the “OTS” signal lightened simultaneously



Split and Chord Point

In this section, you can set the split or chord point when your keyboard is in Split or Chord mode.

In “Func.?” function function, press [ENTER] button to confirm, use [+] and [-] buttons or [DATA CONTROL] knob to select “S. Point?” or “C. Point?”.

S. Point?------Split Point
C. Point?------Chord Point

Press [ENTER] button to confirm, and use [+] and [-] buttons or [DATA CONTROL] knob to set the Point. Range: 00~87.

Local

In this function, you can turn on or turn off the speaker system of your piano.
In “Func.?” function function, press [ENTER] button to confirm, use [+] and [-] buttons or [DATA CONTROL] knob to select “Local ?”

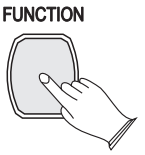
Press [ENTER] button to confirm, and use [+] and [-] buttons or [DATA CONTROL] knob to select “Local On” or “Local Off”.

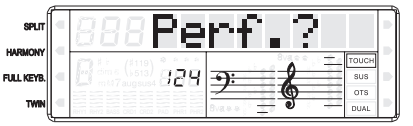
Local on------ Normal operation. Keyboard and Controllers are sent to the Sound Engine.

Local off------ There will be no sound produced by the brain's tone generator. MIDI function can work as usual.

Transpose

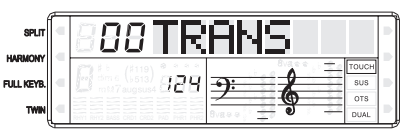
In this function allows you to change the pitch of the instrument in semitone steps, up to a maximum setting of 12 semitones (a maximum of one octave up or down).
Press [FUNCTION] button to select “Perf.?”.





Press [ENTER] button to confirm to select "Trans?".

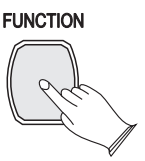
Press [ENTER] button to confirm, and use [+] and [-] buttons or [DATA CONTROL] knob to set the Transpose value.

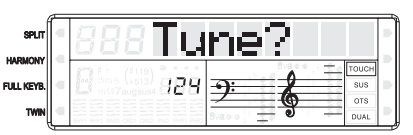


Tune

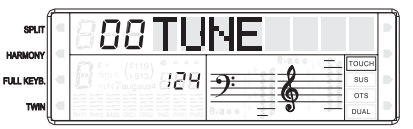
This function makes it possible to tune the pitch of your instrument to match other instruments.

In "Perf.?" function, press [ENTER] button, use [+] and [-] buttons or [DATA CONTROL] knob to select "Tune?".



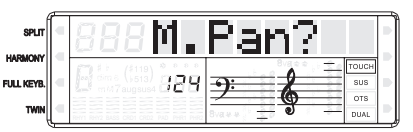


Press [ENTER] button to confirm, and use [+] and [-] buttons or [DATA CONTROL] knob to set the tune value. Range: -64~63.



Pan

In this function you can set the stereo position of each orchestration part to create a board stereo image of your sound.
In "Perf.?" function, press [ENTER] button, use [+] and [-] buttons or [DATA CONTROL] knob to select "M.Pan?" or "S.Pan？" or "D.Pan?" .



M .Pan?-------Main Voice Pan
S. Pan?--------Split Voice Pan
D. Pan?-------Dual Voice Pan

Press [ENTER] button to confirm, and use [+] and [-] buttons or [DATA CONTROL] knob to set the pan value: From -64(Left) to 63(Right).

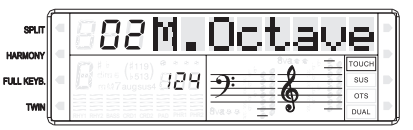
Octave

In this function you can set the main voice octave, the dual voice octave and the split voice octave.

In "Perf.?" function, press [ENTER] button, use [+] and [-] buttons or [DATA CONTROL] knob to select "M.Oct?", "S. Oct?" and "D .Oct?".

M.Oct?-------Main Voice Octave
S.Oct?--------Split Voice Octave
D.Oct?-------Dual Voice Octave

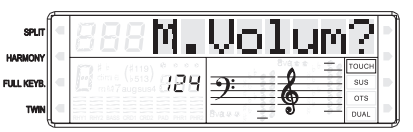
Press [ENTER] button to confirm, and use [+] and [-] buttons or [DATA CONTROL] knob to set the octave value: -2 to 2.



Volume

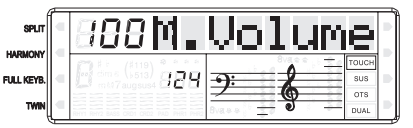
Use this function you can adjust the Main voice volume, Split voice volume and Dual voice volume.

In "Perf.?" function, press [ENTER] button, use [+] and [-] buttons or [DATA CONTROL] knob to select "M. Vol?", "S. Vol?" or "D .Vol?".



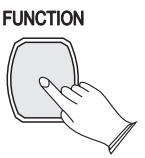
M .Vol?-------Main Voice Volume
S. Vol?--------Split Voice Volume
D. Vol?-------Dual Voice Volume

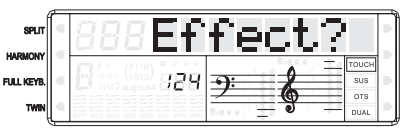
Press [ENTER] button to confirm, and use [+] and [-] buttons or [DATA CONTROL] knob to set the volume value: 00 to 127.



Reverb

This function allows you to perform the overall sound in a realistic style.
Press [FUNCTION] button to select "Effect?".





Press [ENTER] button to confirm, and use [+] and [-] buttons or [DATA CONTROL] knob to select "Reverb?".

Press [ENTER] button to confirm, and use [+] and [-] buttons or [DATA CONTROL] knob to select reverb type. No reverb is produced when you select 'OFF'.
Default type: 05 Room3

The reverb types in the list below can be selected from the reverb display.

0	1	2	3	4	5	6	7	8
OFF	Hall1	Hall2	Room1	Room2	Room3	Stage1	Stage2	Plate

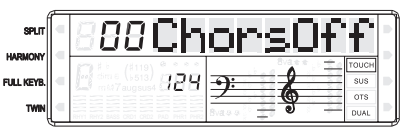
Chorus

Chorus

In “Effects？” function, press [ENTER] button, use [+] and [-] buttons or [DATA CONTROL] knob to select “Chorus？”.

Press [ENTER] button to confirm, and use [+] and [-] buttons or [DATA CONTROL] knob to select Chorus type.

No Chorus is produced when you select “00 ChorsOff”. Default type: Off



The chorus types in the list below can be selected from the chorus display.

0	1	2	3	4	5	6	7	8
OFF	Chorus1	Chorus2	Chorus3	Chorus4	Feedback	Flanger	ShtDelay	ShrtDlfb

Reverb and Chorus Depth

In this function you can adjust the Reverb and Chorus depth for the selected voice.

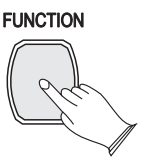
In “Effects？” function, press [ENTER] button, use [+] and [-] buttons or [DATA CONTROL] knob to select “M.RVol?”, “S.RVol?”, “D. Rvol?”, “M. CVol?”, “S. CVol?”, “D. CVol?”。

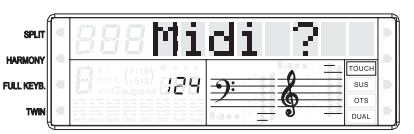
M.RVol?------Main Voice Reverb Depth
S.RVol?------ Split Voice Reverb Depth
D. RVol?------ Dual Voice Reverb Depth
M. CVol?------ Main Voice Chorus Depth
S. CVol?------- Split Voice Chorus Depth
D. CVol?------ Dual Voice Chorus Depth

Press [ENTER] button to confirm, and use [+] and [-] buttons or [DATA CONTROL] knob to select Reverb depth and Chorus depth. Range:00~63

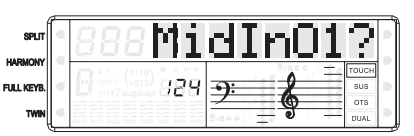
MIDI In

MIDI IN----Receives MIDI data from another MIDI device.
Press [FUNCTION] button to select “Midi ?”.

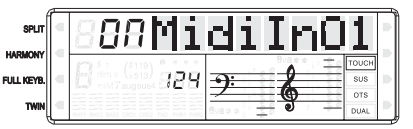




Press [ENTER] button to confirm select “MidIn01?”, turn the [DATA CONTROL] knob or use [+]and[-] button to select the tracks (01～16).

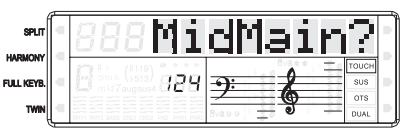


Press [ENTER] button to confirm, and use [+] and [-] buttons or [DATA CONTROL] knob to turn on or turn off this track.



MIDI Main/Left/Dual

In “Midi？” function, press [ENTER] button, use [+] and [-] buttons or [DATA CONTROL] knob to select “MidMain?”, “MidLeft？” or “MidDual?”

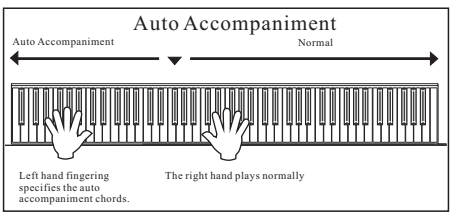


Press [ENTER] button to confirm, and use [+] and [-] buttons or [DATA CONTROL] knob to select track.

Auto Accompaniment

Your instrument has 100 accompaniment styles which can be used to provide Fully-orchestrated Auto Accompaniment. When the Auto Accompaniment function is turned ON, this instrument creates fully-orchestrated rhythm, bass and chord accompaniment based on chords you play with the left hand in the Auto Accompaniment section of the keyboard(i.e. all keys to the left of the Auto Accompaniment split point). The right-hand section of the keyboard is available for normal playing.

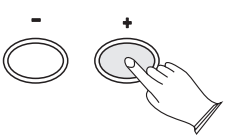
The default Auto Accompaniment split point is the #F2 key. The Auto Accompaniment section of the keyboard Consists of all keys to its left .



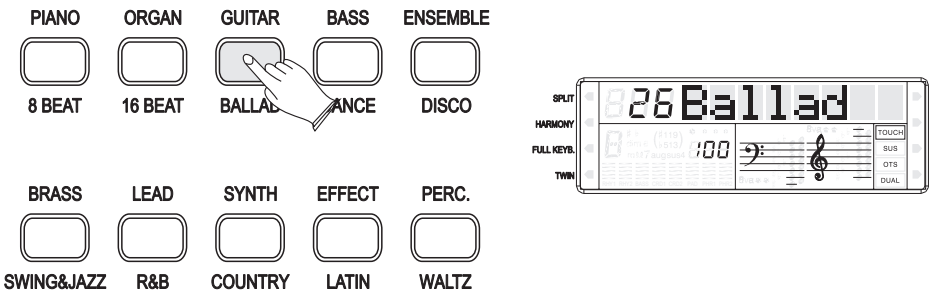
Selecting a Style

Press [VOICE/STYLE] button, the button is light, the Style mode is selected and the current Style number and the name will display on the LCD Display section.

Use [+] and [-] button or [DATA CONTROL] knob to select the desired Style.



When [VOICE/STYLE] button is light, you can use the Direct Select Button to select a Style.

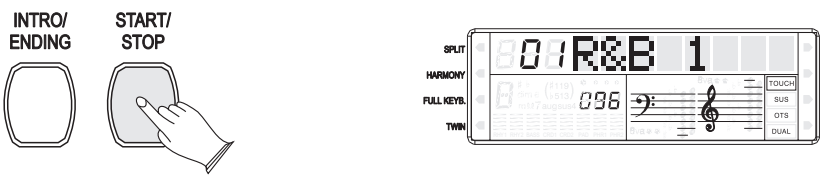


NOTE

The name below the Direct Select Button is the style name.

Start a Style

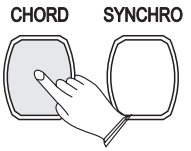
Press [START/STOP] button to start the style.



Press [START/STOP] button again to stop the accompaniment.

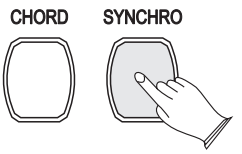
Chord Button

Press [CHORD] button to turn the chord function on. The left hand section of the keyboard becomes the Auto Accompaniment section, and chords played in this section are automatically detected and used as a basis for fully automatic accompaniment with the selected style.



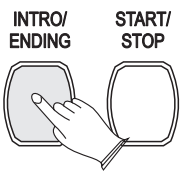
Synchro Button

Press the [SYNCHRO] button to enter the sync start waiting mode, then the accompaniment will start when you play the first chord on the Auto Accompaniment section of the keyboard.

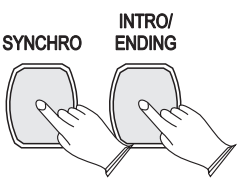


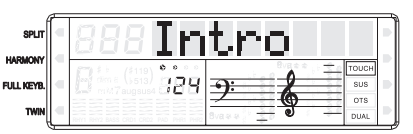
Intro/Ending Button

Any of your instrument accompaniment patterns can be started with an appropriate introduction by pressing the [INTRO/ENDING] button directly.



If you press the [SYNCHRO] button and then press the [INTRO/ENDING] button, the accompaniment will start from the introduction as soon as a chord is detected in the Auto Accompaniment section of the keyboard.

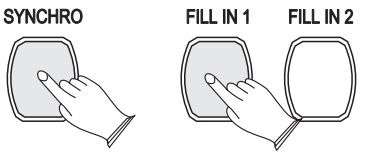


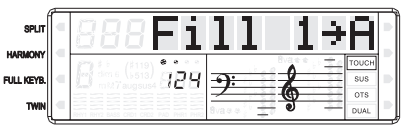


Press the [INTRO/ENDING] button again, the style stops after the ending section is finished.

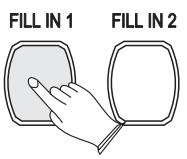
Fill In Button

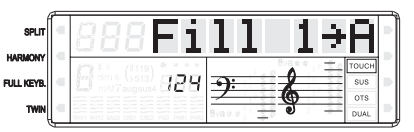
Press the [SYNCHRO] button and then press the [FILL IN1] or [FILL IN2] button, the accompaniment will start from Fill IN1 or FILL IN2 as soon as a chord is detected in the AUTO ACCOMPANIMENT section of the keyboard.



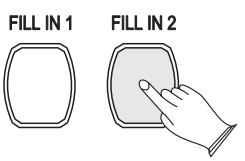


While the style is playing, you can add variation in the rhythm/accompaniment by pressing the [FILL IN1] or [FILL IN2] button.
In MAIN mode, press [FILL IN1] button to insert 1 measure fill and LCD flashes ‘Fill 1→A’. After one measure is over, MAIN style will be returned





In MAIN mode, press [FILL IN2] button to insert 1 measure fill and LCD flashes ‘Fill 2→B’. After one measure is over, variation mode will be started.

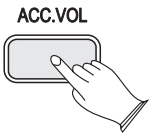


NOTE

Hold down the [Fill IN1] or [Fill IN2] button when the style is playing, the selected FILL pattern repeats continuously until button is released.

Adjusting the Accompaniment Volume

The volume of the auto accompaniment can be adjusted in the range of 00~31.
Press [ACC.VOL] button, then use the [DATA CONTROL] knob or use [+]and[-] button to increase or decrease the value.

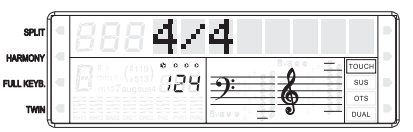


Metronome Button

Metronome is a convenient feature for practice, and it can also provide a solid rhythmic guide when recording.
The metronome sound is alternately turned on and turned off by pressing [METRONOME] button.

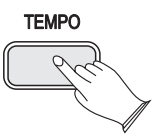
Time signature

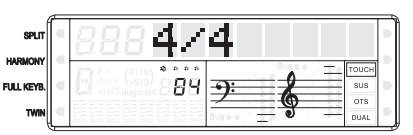
Time signature: 2/2, 1/4, 2/4, 3/4, 4/4,5/4, 6/4, 3/8, 6/8, 7/8, 9/8, 12/8. Default: 4/4 .
Press [METRONOME] button, the time signature appears in the display, then use the [DATA CONTROL] knob or [+]and[-] button to select it.



Adjusting Metronome Tempo

Press the [TEMPO] button, then use dial or [+]\and[-] button to increase or decrease the value.



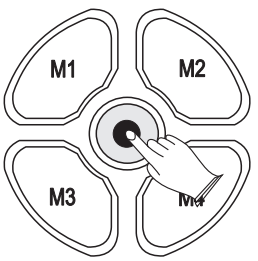


Registration Memory

The memory feature can be used to store four sets of voice and auto accompaniment settings that can be recalled during you playing at the touch of one single button.

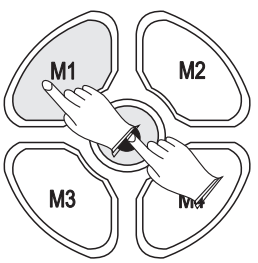
Memory

There are 4 banks in total; each bank has 4 memories (M1~M4).
Press [MEMORY] button repeatedly to select memory bank (1~4)



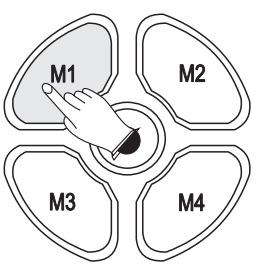
Store

Hold down [MEMORY] button and then press M1(or M2~M4). The data will be stored to the M1 (or M2~M4).



Load

The settings stored to a memory button can be loaded simply by pressing the appropriate button [M1]-[M4].



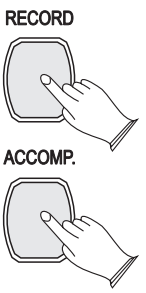
Recording

Your instrument allows you to record and playback song including chord sequences created using the Auto Accompaniment feature and melody like you play on the keyboard.

Record

Accompaniment Track Record

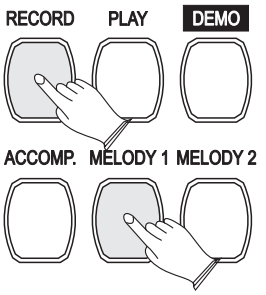
Hold down the [RECORD] button, and then press [ACCOMP.] button to enter accompaniment track record mode, the [CHORD] function is turned on automatically, the [RECORD] button is light, and [ACCOMP.] Button is flash. Then select a style you want, and adjust it's tempo.
Press a key or a chord on the left hand section on the keyboard to start the recording.



Press [RECORD] button again to stop recording, you also can press [INTR/ENDING] button to end the recording too.

Melody Track Recording

Hold down the [RECORD] button, and then press [MELODY 1] or [MELODY 2] button, the correspond track button flashes to indicate ready to record. You can start recording simply by playing the keyboard (or by pressing the [PLAY] button).



Stop Recording

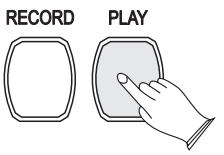
Press [RECORD] button again to stop recording.

NOTE

If the other track has data recorded, it will play when the record is started.
You also can press the track button to mute it.

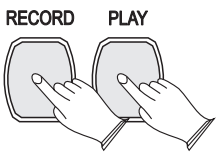
Listen to your Recording

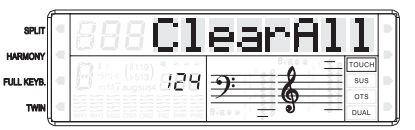
To play the song from the beginning, simply press the [PLAY] button. Playback stops when the [PLAY] button is pressed again.



Clear

Hold down the [RECORD] button and then press [PLAY] button to clear all recording data. LCD display “Clear All”.



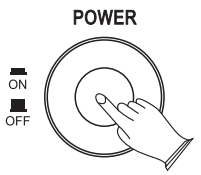


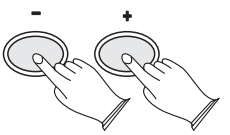
You also can hold down one of the tracks for about 2 seconds to clear the track recording data.

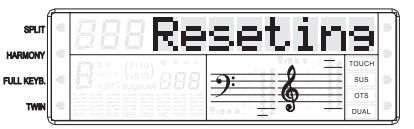
Factory Set

1. Turn off the power.

2. Hold down [+]and[-] buttons, then turn the power on, it can restore all internal settings to factory set.







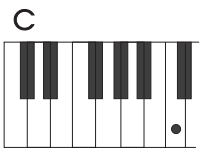
Auto Accompaniment Fingering

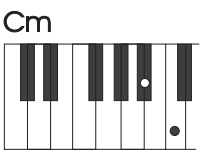
Single Mode

SINGLE Mode fingering makes it simple to produce beautifully orchestrated accompaniment using major , seventh , minor and minor-seventh chords by pressing a minimum number of keys in the Auto Accompaniment section of the keyboard . The accompaniment produced is perfectly matched to the currently selected accompaniment style.

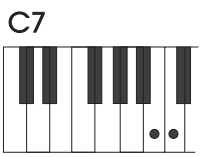
. Major Chords

If you press a “C” key in the left-hand section of the keyboard, for example, a C-major accompaniment will be played. Press another key in the left hand section of the keyboard to select a new chord. The key you press will always determine the "root" of the chord played (i.e. “C” for a C chord).

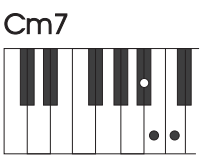




. Minor Chords
Simultaneously press the root key and a black key to its left.



. Seventh Chords
Simultaneously press the root key and a white key to its left.



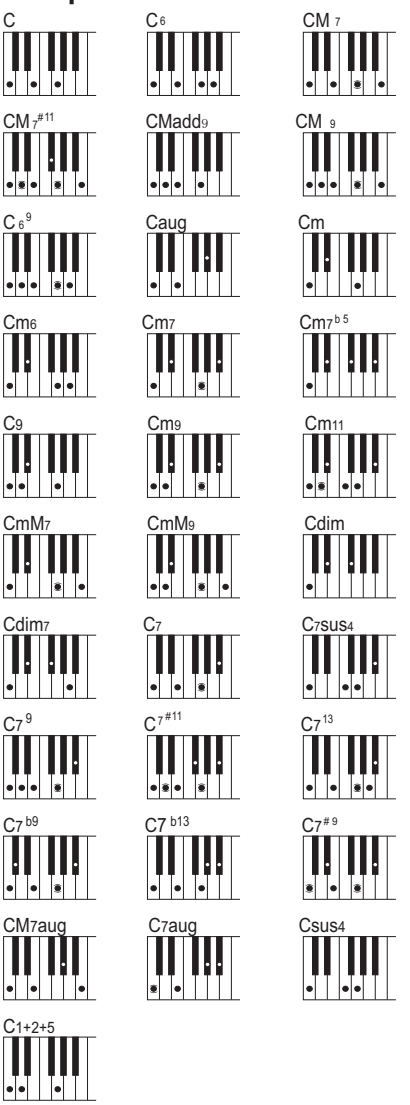
. Minor-Seventh Chords
Simultaneously press the root key and both a white and black key to its left.

Fingered Mode

Fingered Mode is ideal if you already know how to play chords on a keyboard, since it allows you to supply your own chords for the Auto Accompaniment feature. The instrument will recognize the following chord type:

Name	NormalVoicing	Display
[M]	1-3-5	C
[6]	1-(3)-5-6	C6
[M7]	1-3-(5)-7 or 1-(3)-5-7	CM7
[M7(#11)]	1-(2)-3-#4-(5)-7 or 1-2-3-#4-(5)-7	CM7(#11)
[(9)]	1-2-3-5	C(9)
[M(9)]	1-2-3-(5)-7	CM7(9)
[6(9)]	1-2-3-(5)-6	C6(9)
[aug]	1-3-#5	Caug
[m]	1-b3-5	Cm
[m6]	1-b3-5-6	Cm6
[m7]	1-b3-(5)-b7	Cm7
[m7b5]	1-b3-b5-b7	Cm7b5
[m(9)]	1-2-b3-5	Cm(9)
[m7(9)]	1-2-b3-(5)-b7	Cm7(9)
[m7(11)]	1-(2)-b3-4-5-(b7)	Cm7(11)
[mM7]	1-b3-(5)-7	CmM7
[mM(9)]	1-2-b3-(5)-7	CmM7(9)
[dim]	1-b3-b5	Cdim
[dim7]	1-b3-b5-6	Cdim7
[7]	1-3-(5)-b7 or 1-(3)-5-b7	C7
[7sus4]	1-4-(5)-b7	C7sus4
[7(9)]	1-2-3-(5)-b7	C7(9)
[7(#11)]	1-(2)-3-#4-(5)-b7or 1-2-3-#4-(5)-b7	C7(#11)
[7(13)]	1-3-(5)-6-b7	C7(13)
[7(b9)]	1-b2-3-(5)-b7	C7(b9)
[7(b13)]	1- 3-5-b6 -b7	C7(b13)
[7(#9)]	1-#2-3-(5)-b7	C7(#9)
[M7aug]	1-(3)-#5-7	CM7aug
[7aug]	1-3-#5-b7	C7aug
[sus4]	1-4-5	Csus4
[1+2+5]	1-2-5	C

Example for C chords



After distinguishing the In Situ Chord based on the root, some chords can also distinguish the Inversion Chord except for m7,m7 b5,6,m6,sus4,aug,dim7,6(9), m7(11),1+2+5.

Percussion Voice List

Note#	Note	Standard(0)	Room(8)	Power(16)	Electronic(24)	Synth(25)	Jazz(32)	Brush(40)	Classic(48)	Effects(56)
24	C	Seq Click H	←	←	←	←	←	←	←	
25	#C	Brush Tap	←	←	←	←	←	←	←	
26	D	Brush Swirl L	←	←	←	←	←	←	←	
27	#D	Brush Slap	←	←	←	←	←	←	←	
28	E	Brush Swirl H	←	←	Rever se Cymbal	Rever se Cymbal	←	←	←	
29	F	Snare Roll	←	←	←	←	←	←	←	
30	#F	Castanet	←	←	Hi-Q	Hi-Q	←	←	←	
31	G	Snare L	←	SD Elec M	Snare L	SD Elec H2	Snare Jazz	Brush Slap L	←	
32	#G	Sticks	←	←	←	←	←	←	←	
33	A	Bass Drum L	←	←	←	←	←	←	Bass Drun L3	
34	#A	Open Rim Shot	←	←	←	←	←	←	←	
35	B	Bass Drum M	←	←	BD Rock	BD Analog 1L	←	←	Gran Casa	
36	C	Bass Drum H	←	BD Rock	BD Rock 2	BD Analog 1H	BD Jazz	BD Jazz	Gran Casa Mute	
37	#C	Side Stick	←	←	←	Analog Side Stick	←	←	←	
38	D	Snare M	SD Room L	SD Rock	SD Elec M	SD Analog 1H	SD Jazz L	Brush Slap H	Marching SD M	
39	#D	Hand Clap	←	←	←	←	←	←	←	High-Q
40	E	Snare H	SD Room H	SD Rock Rim	SD Elec H	SD Analog 1L	SD Jazz H	Brush Tap	Marching SD H	Slap
41	F	Floor Tom L	Room Tom 1	Rock Tom 1	E Tom 1	Analog Tom 1	←	Brush Tom 1	←	Scratch Push
42	#F	Hi-Hat Closed	←	←	←	Analog HH Closed1	←	←	←	Scratch Pull
43	G	Floor Tom H	Room Tom 2	Rock Tom 2	E Tom 2	Analog Tom 2	←	Brush Tom 2	←	Sticks
44	#G	Hi-Hat Pedal	←	←	←	Analog HH Closed2	←	←	←	Square Click
45	A	Low Tom	Room Tom 3	Rock Tom 3	E Tom 3	Analog Tom 3	←	Brush Tom 3	←	Mtrnm .Click
46	#A	Hi-Hat Open	←	←	←	Analog HH 1Open	←	←	←	Mtrnm. Bell
47	B	Mid Tom L	Room Tom 4	Rock Tom 4	E Tom 4	Analog Tom 4	←	Brush Tom 4	←	Gt.FretNoiz
48	C	Mid Tom H	Room Tom 5	Rock Tom 5	E Tom 5	Analog Tom 5	←	Brush Tom 5	←	Gt.CutNoise
49	#C	Crash Cymbal 1	←	←	←	Analog Cymbal	←	←	Hand Cym.L Open	Gt.CutNoise
50	D	High Tom	Room Tom 6	Rock Tom 6	E Tom 6	Analog Tom 6	←	Brush Tom 6	←	String Slap
51	#D	Ride Cymbal 1	←	←	←	←	←	←	Hand Cym.L Closed	Fl.KeyClick
52	E	Chinese Cymbal	←	←	←	←	←	←	←	Laughing
53	F	Ride Cymbal Cup	←	←	←	←	←	←	←	Screaming
54	#F	Tambourine	←	←	←	←	←	←	←	Punch
55	G	Splash Cymbal	←	←	←	←	←	←	←	Heart Beat
56	#G	CowBell	←	←	←	Analog Cowbell	←	←	←	Footsteps 1
57	A	Crash Cymbal 2	←	←	←	←	←	←	Hand Cym.H Open	Footsteps 2
58	#A	Vibraslap	←	←	←	←	←	←	←	Applause
59	B	Ride Cymbal 2	←	←	←	←	←	←	Hand Cym.H Closed	Door Creaking
60	C	Bongo H	←	←	←	←	←	←	←	Door
61	#C	Bongo L	←	←	←	←	←	←	←	Scratch
62	D	Conga H Mute	←	←	←	Analog Conga H	←	←	←	Wind Chimes
63	#D	Conga H Open	←	←	←	Analog Conga M	←	←	←	Car-Engine
64	E	Conga L	←	←	←	Analog Conga L	←	←	←	Car-Stop
65	F	Timbale H	←	←	←	←	←	←	←	Car-Pass
66	#F	Timbale L	←	←	←	←	←	←	←	Car-Crash
67	G	Agogo H	←	←	←	←	←	←	←	Siren
68	#G	Agogo L	←	←	←	←	←	←	←	Train
69	A	Cabasa	←	←	←	←	←	←	←	Jetplane
70	#A	Maracas	←	←	←	Analog Maracas	←	←	←	Helicopter
71	B	Samba Whistle H	←	←	←	←	←	←	←	Starship
72	C	Samba Whistle L	←	←	←	←	←	←	←	Gun Shot
73	#C	Cuiro Short	←	←	←	←	←	←	←	Machine Gun
74	D	Cuiro Long	←	←	←	←	←	←	←	Lasergun
75	#D	Claves	←	←	←	Analog Claves	←	←	←	Explosion
76	E	Wood Block H	←	←	←	←	←	←	←	Dog
77	F	Wood Block L	←	←	←	←	←	←	←	HorseGallop
78	#F	Guica Mute	←	←	Scratch Push	Scratch Push	←	←	←	Bird
79	G	Guica Open	←	←	Scratch Pull	Scratch Pull	←	←	←	Rain
80	#G	Triangle Mute	←	←	←	←	←	←	←	Thunder
81	A	Triangle Open	←	←	←	←	←	←	←	Wind
82	#A	Shaker	←	←	←	←	←	←	←	Seashore
83	B	Jingle Bell	←	←	←	←	←	←	←	Stream
84	C	Bell Tree	←	←	←	←	←	←	←	BuBBle

Voice List

NO.	NO.	VOICE
Piano		
01	00	Acoustic Grand Piano
02	01	Bright Acoustic Piano
03	02	Electric Grand Piano
04	03	Honky-Tonk Piano
05	04	Electric piano 1
06	05	Electric Piano 2
07	06	Harpsichord
08	07	Clavi
Chromatic Percussion		
09	08	Celesta
10	09	Glockenspiel
11	10	Music Box
12	11	Vibraphone
13	12	Marimba
14	13	Xylophone
15	14	Tubular Bells
16	15	Dulcimer
Organ		
17	16	Drawbar Organ
18	17	Percussive Organ
19	18	Rock Organ
20	19	Church Organ
21	20	Reed Organ
22	21	Accordion
23	22	Harmonica
24	23	Tango Accordion
Guitar		
25	24	Acoustic Guitar(Nylon)
26	25	Acoustic Guitar (Steel)
27	26	Electric Guitar (Jazz)
28	27	Electric Guitar (Clean)
29	28	Electric Guitar(Muted)
30	29	Overdriven Guitar
31	30	Distortion Guitar
32	31	Guitar Harmonics
Bass		
33	32	Acoustic Bass
34	33	Finger Bass
35	34	Pick Bass
36	35	Fretless Bass
37	36	Slap Bass 1
38	37	Slap Bass 2
39	38	Synth Bass 1
40	39	Synth Bass 2
Strings		
41	40	Violin
42	41	Viola
43	42	Cello
44	43	Contrabass
45	44	Tremolo Strings
46	45	Pizzicato Strings
47	46	Orchestral Harp
48	47	Timpani
Ensemble		
49	48	Strings Ensemble 1

NO.	NO.	VOICE
50	49	Strings Ensemble 2
51	50	Synth Strings 1
52	51	Synth Strings 2
53	52	Choir Aahs
54	53	Voice Oohs
55	54	Synth Voice
56	55	Orchestra Hit
Brass		
57	56	Trumpet
58	57	Trombone
59	58	Tuba
60	59	Muted Trumpet
61	60	French Horn
62	61	Brass Section
63	62	Synth Brass 1
64	63	Synth Brass 2
Reed		
65	64	Soprano Sax
66	65	Alto Sax
67	66	Tenor Sax
68	67	Baritone Sax
69	68	Oboe
70	69	English Horn
71	70	Bassoon
72	71	Clarinet
Pipe		
73	72	Piccolo
74	73	Flute
75	74	Recorder
76	75	Pan Flute
77	76	Blown Bottle
78	77	Shakuhachi
79	78	Whistle
80	79	Ocarina
Synth Lead		
81	80	Lead 1 (Square)
82	81	Lead 2 (Sawtooth)
83	82	Lead 3 (Calliope)
84	83	Lead 4 (Chiff)
85	84	Lead 5 (Charang)
86	85	Lead 6 (Voice)
87	86	Lead 7 (Fifth)
88	87	Lead 8 (Bass+Lead)
Synth Pad		
89	88	Pad 1 (New Age)
90	89	Pad 2 (Warm)
91	90	Pad 3 (Polysynth)
92	91	Pad 4 (Choir)
93	92	Pad 5 (Bowed)
94	93	Pad 6 (Metallic)
95	94	Pad 7 (Halo)
96	95	Pad 8 (Sweep)
Synth Effects		
97	96	Fx 1 (Rain)
98	87	Fx 2 (Soundrack)
99	98	Fx 3 (Crystal)

NO.	NO.	VOICE
100	99	Fx 4 (Atmosphere)
101	100	Fx 5 (Brightness)
102	101	Fx 6 (Goblins)
103	102	Fx 7 (Echoes)
104	103	Fx 8 (Sci-Fi)
Ethnic		
105	104	Sitar
106	105	Banjo
107	106	Shamisen
108	107	Koto
109	108	Kalimba
110	109	Bagpipe
111	110	Fiddle
112	111	Shanai
Percussive		
113	112	Tinkle Bell
114	113	Agogo
115	114	Steel Drums
116	115	Woodblock
117	116	Taiko Drum
118	117	Melodic Tom
119	118	Synth Drum
120	119	Reverse Cymbal
Sound Effects		
121	120	Guitar Fret Noise
122	121	Breath Noise
123	122	Seashore
124	123	Bird Tweet
125	124	Telephone Ring
126	125	Helicopter
127	126	Applause
128	127	Gunshot
Percussion		
129		StandardP.
130		RoomP.
131		PowerP.
132		Eletr.P.
133		SynthP.
134		JazzP.
135		BrushP.
136		ClassicP.
137		Effect Sounds

Style List

NO	STYLE NAME
01	R&B1
02	R&B SHUFFLE
03	ROCKIN R&B
04	DETROIT SOUND
05	GOSPEL
06	GOSPEL SHUFFLE
07	ROCKIN GOSPEL
08	BLUES ROCK
09	SWING FUNK
10	REGGAE 1
11	BOOGIE WOOGIE
12	Rock n Roll 2
13	SLOW BLUES
14	SHUFFLE BLUES
15	LOUNGE
16	SWINGIN' ORGAN
17	SWING TRIO
18	SLOW SWING
19	BOSA NOVA 1
20	BOSA NOVA 2
21	BIG BAND
22	JIVE
23	JAZZ
24	SWING 1
25	DIXIE
26	BALLAD
27	50'S BALLAD
28	POWER BALLAD
29	JAZZ BALLAD
30	PIANO BALLAD
31	LOVE SONG
32	POP BALLAD
33	BIG BAND BALLAD
34	JAZZ BALLAD 2
35	16 BEAT BALLAD
36	COUNTRY BALLAD
37	SLOW COUNTRY
38	SLOW 16
39	GOSPELL BALLAD

NO	STYLE NAME
40	MODERN BALLAD
41	8 BEAT POP1
42	POP 16
43	POPVILLE
44	POP SHUFFLE
45	GUITAR POP
46	SYNCHOPATE POP
47	COUNTRY POP
48	COUNTRY SWING
49	COUNTRY 2 BT
50	COUNTRY WALTZ
51	COUNTRY
52	COUNTRY TWAIN
53	EASY POP
54	FUNKY POP
55	FOLK 1
56	LATIN POP 1
57	LATIN POP 2
58	TANGO
59	RUMBA
60	BEGUINE
61	LATIN 1
62	LATIN 2
63	BOLERO
64	MERENGUE
65	SALSA
66	SAMBA
67	DANCE
68	DANCE POP
69	HOUSE
70	CLUB DANCE
71	CLUB LATIN
72	TECHNO
73	HIP HOP
74	CHILL OUT
75	70'S DISCO
76	LATIN DISCO
77	DISCO PARTY
78	DISCO FEVER

NO	STYLE NAME
79	NY DISCO
80	SWING REGGAE
81	POLKA 1
82	POLKA 2
83	MEX POLKA
84	TAMTELA
85	MARIACHI
86	NEWAGE
87	PASODOBLE
88	HAWAIIAN 1
89	HAWAIIAN 2
90	BLUEGRASS
91	BRODWAY 1
92	RAGTIME
93	WALTZ 1
94	CHILDREN SONG 1
95	CHILDREN SONG 2
96	MARCH1
97	MARCH2
98	MARCH3
99	CLASSICAL 2
100	ENGLISH WALTZ

MIDI Implementation Chart

Function	Transmitted	Recognized	Remarks
Basic Default	(*1)	1-16CH	
Channel Changed	(*1)	1-16CH	
Mode Default	Mode 3	Mode 3	
Messages	X	X	
Altered	********	X	
Note	0~127	0~127	
Number :True voice	********	0~127	
Velocity Note ON	O 9nH,v=1~127	O 9nH,v=1~127	
Note OFF	O 9nH,v=0 or 8nh	O 9nH,v=0 or 8nh	
Affter Key's	X	X	
Pitch Bender	X	O	
Control Change 0,32	O	O	Bank Select
1	X	O	Modulation
5	X	O	Portamento time
6	O	O	Data Entry
7	O	O	Volume
10	O	O	Pan
11	X	O	Expression
64	O	O	Sustain
65	O	O	Portamento
66	X	O	Sostenuto
67	O	O	Soft pedal
80,81	O	O	DSP TYPE
91,93	O	O	DSP DEPTH
100,101	O	O(*2)	RPN LSB,MSB
120	O	O	All sound off
121	X	O	Reset all Controllers
122	O	O	Local control
Programe	O 0-127	O 0-127	
Change : True	0-127	0-127	
System Exclusive	X	O	
System : Song Position	X	X	
: Song Select	X	X	
Common : Tune	X	X	
Aux : Local on/off	O	O	
: All Notes Off	O	O	
Messages : Active Sense	X	O	
: Reset	X	O	

Mode1:OMNI ON,POLY Mode2:OMNI ON,MONO O: Yes
Mode3:OMNI OFF,POLY Mode4:OMNI OFF,MONO X: NO

*1: Main voice track (01-16).Default: 01
Split voice track (01-16).Default: 02
Dual voice track (01-16).Default: 03
Percussion track (01-16).Default: 10

*2: Registered parameter number:
#0: Pitch sensivity
#1: Fine tuning cents
#2: Coarse tuning in half-tones

Specifications

Keyboard:	88Keys with Touch Sensitivity
Display:	LCD Display
Polyphony:	64
Voices:	137
Voice Control:	Sustain, Octave, Touch, Trans, Split, Twin, Tune
Effect:	Reverb, Chorus
Styles:	100
Style Features:	Synchro, Start/Stop, Intro/Ending, Fill In 1, Fill In 2, Acc.Vol, Metronome, Tempo
Keyboard Control:	Normal, Split, Chord, Harmony, Full Keyboard
Demo:	10
Song Recording:	Multi-track (1 accompaniment + 2 melody track) record and playback
Registration Memory:	4 x 4,
Interface:	DC 12V power socket, Pedal socket, Line out jack, Line in jack, Phones jack, MIDI out jack, USB to Host
Speakers:	2 - YDT816(4Ω*10W)
Dimensions (W x D x H):	1143mm*515mm*310mm
Weight:	17.1g

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