PIANO SILENCER
GENIO

Essence User's Manual

USR LAB

Important Safety and Installation Instructions

Information related to the possible electric shock, fire hazard and personal injury has been included in this list. Please read the contents carefully and use the product safely.

1. Be well-acquainted with this user's manual before using the product.

2. Please use the exclusive power supply. When obliged to use the other power supply, be careful of the output voltage and polarity.

3. Do not dismantle the product under any circumstances. Dismantle at discretion may not guarantee the warranty repair.

4. Keep the power cord away from the other objects. Make sure the cord is not pressed under any heavy objects or piano.

5. When using the adapter or headphones, connect or release with grasping the plug instead of cable.

6. Place the product away from the direct sunlight, humid, hot or cold air current.

7. The power supply cord should be unplugged from the outlet when left unused for a long time.

8. Please ask help to the dealer from whom you purchased for any after service.

9. This product is operating independently, but it can be damaged by the difference of the input/output characteristics when connected with external device.

10. Refrain from playing long time with loud sound or uncomfortable posture, it can be the reason of your hearing loss.

11. Place the product at the location or position with smooth natural air flow for proper ventilation.

12. Pay attention to any liquid like water or coffee not to be spilled. If spilled, do not disassemble the product, and ask for repair. Turing on the system under the moisture may damage the key sensors or product.

13. For the below cases, the product should be serviced by the qualified service personnel or the dealer from whom you purchased.

   • When the power supply cord or the plug has been damaged.
   • When the metal material has fallen, or liquid has been spilled on the product.
   • When the inner parts have been exposed.
   • When the product does not operate correctly.
   • When the exterior of the product has been fatally damaged.

14. Standard tuning is required for ensemble of acoustic and silent play together.

15. For correct operation, it is essential to do the initializing process after the key height adjustment or action adjustment.

16. There is a little heat generation in device during use, but it is not a problem of the product.

GENIO ESSENCE

With the GENIO ESSENCE installed in your piano, you can keep the acoustic piano and a new concept silent piano enjoying your own playing without bothering other people, but also it becomes a digital piano with various functions available.
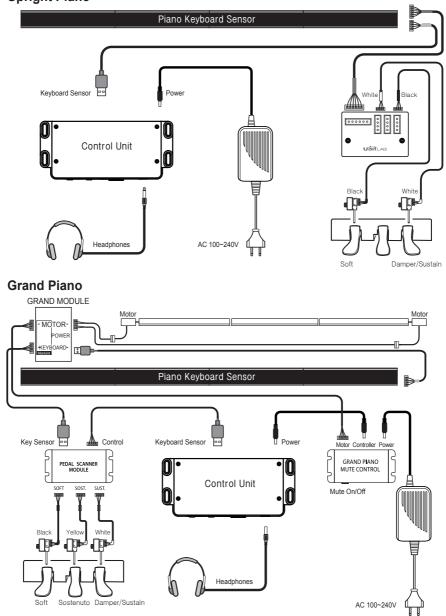
Regardless of time and place, enjoy your playing with providing assortment of selecting various sounds and functions for various kinds of music.

Table of Contents

Connection Diagram of GENIO ESSENCE

Upright Piano

Piano Keyboard Sensor

Keyboard Sensor   Power

Control Unit

White   Black

USR LAB

Black   White

Headphones   AC 100~240V

Soft   Damper/Sustain

Grand Piano

GRAND MODULE

· MOTOR·
POWER
◄KEYBOARD►

Motor   Motor

Piano Keyboard Sensor

Key Sensor   Control   Keyboard Sensor   Power   Motor Controller Power

PEDAL SCANNER
MODULE

GRAND PIANO
MUTE CONTROL

SOFT   SOST.   SUST.

Mute On/Off

Black   Yellow   White

Control Unit

Headphones

Soft   Sostenuto Damper/Sustain

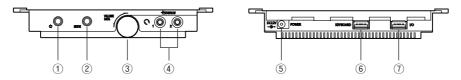AC 100~240V

Name & Function of each part

CONTROL UNIT

Top View

Front View

Rear View

① **POWER BUTTON** : Turns the system on and off.

② **MODE BUTTON** : It's used for setting System Initializing, Reverb and Metronome.

③ **DIAL(BUTTON)** : It's used for Volume Adjustment, Sound Selection and Adjusting Each Key's Sensitivity.

④ **HEADPHONES** : Monitoring the sound by connecting one or two headphones.

⑤ **DC JACK** : System power is provided through the power adapter.

⑥ **KEY BOARD** : Connects with Key Sensor Rail.

⑦ **MIDI** : Connects with external MIDI device through extra MIDI I/O Module.(Option)

Grand Piano Mute Controller : for Grand System
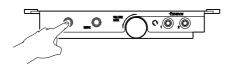

EM-3
GRAND PIANO MUTE CONTROLLER

① **POWER BUTTON** : Pressing the button converts to mute-on or mute-off.

How to Start GENIO ESSENCE

Before power on, make sure your power supply is connected correctly with 12V DC outlet.

Ready to Use

After installation, the system should be optimized to be used by the initializing process (Page 12), and it can be used with adequate connection of power supply.

1) Power on by pressing the POWER BUTTON.
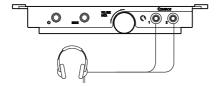
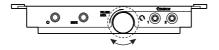| Upright Piano Mute Lever	Grand Piano Mute Controller
Mute Acoustic piano	EM-3 GRAND PIANO MUTE CONTROLLER

2) Mute Control

Upright Piano Mute Lever : Pull the mute lever to mute position

Grand Piano Mute Controller : Power on for mute-on, and power off for mute-off of Acoustic piano.

3) Plug the headphones into one of the headphone jack and wear the headphones.
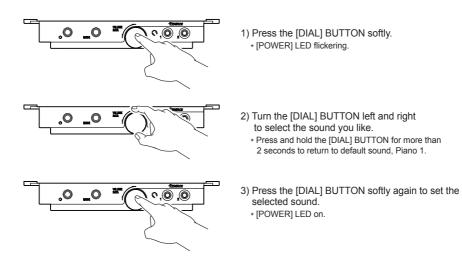

4) Select adequate volume and sound, and play the piano.

How to Try out Various Functions (1)

Since GENIO ESSENCE has various sounds and functions like digital piano, you can enjoy various music, and utilize it as a sound module with GM sounds contained.

A. Sound Selection

You can select 10 Pre-Set Sounds and 128 GM Sounds.
* Pre-set Sounds can be changed only by the manufacturer. (Users are not allowed to change it.)
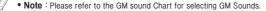
1) Press the [DIAL] BUTTON softly.
   * [POWER] LED flickering.

2) Turn the [DIAL] BUTTON left and right
   to select the sound you like.
   * Press and hold the [DIAL] BUTTON for more than
     2 seconds to return to default sound, Piano 1.

3) Press the [DIAL] BUTTON softly again to set the
   selected sound.
   * [POWER] LED on.

Pre-Set Sounds
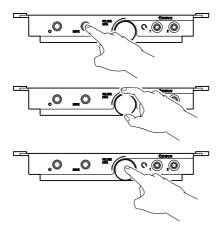
No.	Pre-Set	No.	Pre-Set
01	Piano 1	06	Vibraphone
02	Piano 2	07	Strings
03	E. Piano 1	08	Choir Aahs
04	Marimba	09	Percussive Organ
05	Harpsichord	10	Church Organ

NOTE

• **Note**：Please refer to the GM sound Chart for selecting GM Sounds.

How to Try out Various Functions (2)

B. Metronome Tempo setting by using [DIAL] BUTTON

This function can be also adjusted precisely by keys.

1) Press and hold [MODE] BUTTON, and
   release after 2 seconds.
   * [MODE] LED on.
   * Metronome turns on automatically.

2) Turn the [DIAL] BUTTON left and right to adjust
   the Tempo.
   * Turn right for fast tempo, Turn left for slow tempo.
   * Tempo range : 25-250
   * Press and hold the [DIAL] BUTTON for more than
     2 seconds to return to default Tempo 120.

3) Press the [DIAL] BUTTON softly to set the Tempo
   and return to nomal mode.
   * [MODE] LED out.
   * Metronome keeps working.

* It returns to default tempo 120 when re-booting
  the system.

C. Reverb setting
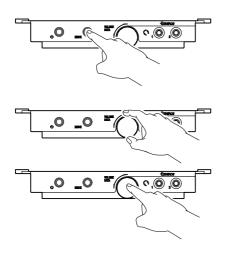
This function can be also adjusted easily by keys.

1) Press and hold [MODE] BUTTON, and
   release after 2 seconds.
   * [MODE] LED on.
   * Metronome turns on automatically.

2) Press [MODE] BUTTON softly again.
   * [MODE] LED flickering.
   * Metronome turns off automatically.

3) Turn the [DIAL] BUTTON left and right to adjust
   the reverb amount.
   * Press and hold the [DIAL] BUTTON for more than
     2 seconds to return to default Reverb, 0.

4) Press the [DIAL] BUTTON softly to set the Reverb
   and return to nomal mode.
   * [MODE] LED out.
   * Metronome turns on when it was on before.

How to Use the Various Functions by Keys (1)

Due to the limited button numbers, in order to use the various functions, press the key like below, while pressing and holding the [MODE] BUTTON, and then you can use various sounds, effects and transpose.

A. Metronome Setting

You can practice the piano with correct tempo by using the keys.
* Press the [MODE] BUTTON softly and release, and the Metronome becomes on/off.

Adjusting the Metronome Tempo by Keys

1. Make sure the metronome is on.

2. While pressing and holding the [MODE] BUTTON, enter the tempo by combining a specified number of each key.

3. Release the [MODE] BUTTON for completing.
   * TEMPO Range : 025 ~ 250, if the compounded number is bigger than 250, 025 is automatically selected.
   * If the system is powered on again, the metronome tempo comes back to default (120).
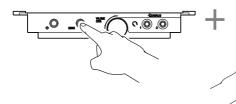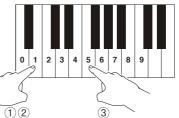
   Ex) 115 Tempo Setting
   While pressing and holding [MODE] BUTTON, press below keys in order.
   1) #3 key for "1"
   2) #3 key for "1"
   3) #9 key for "5"
   and release the [MODE] BUTTON.
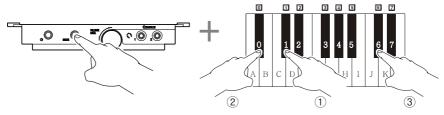
Key No.	Setting No.	Key No.	Setting No.	Key No.	Setting No.
#1	0	#8	4	#15	8
#3	1	#9	5	#16	9
#4	2	#11	6		
#6	3	#13	7		

How to Use the Various Functions by Keys (2)

B. How to Select 128 GM Sounds

1) While pressing and holding the [MODE] BUTTON, press one (or two, or three) black keys assigned with the number like the picture in below, and release the [MODE] BUTTON.

* If the compounded number is bigger than 127, 000 : Piano 1 is automatically selected.

* Please refer to the GM Chart (Page 16) for selecting sound number.

* The sound exceeding from the real instrument's range of note can be different from the real sound.

* The instrument selected by the keys is a single channel.

Ex) Selecting 106 sound
    While Pressing and holding [MODE] BUTTON, press C# for 1, A#0 for 0, and C#2 for 6, and release the [MODE] BUTTON for setting.
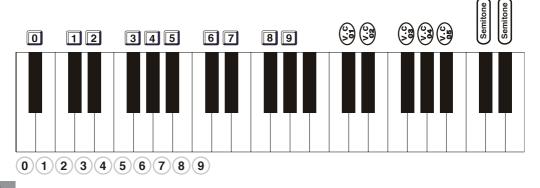
C. Velocity Curve

The touch feeling of GENIO ESSENCE can be changed to accommodate the players with a lighter or heavier feeling than average touch.

1) While pressing and holding the [MODE] BUTTON, press one from the 5 black keys assigned with the 1~5 numbers, positioned just below the middle C.

* Default : 3

Key	Velocity Curve	Touch & Sound
29 : C#3	Velocity 1	Heavy
31 : D#3	Velocity 2	Medium Heavy
34 : F#3	Velocity 3	Medium (Default)
36 : G#3	Velocity 4	Medium light
38 : A#3	Velocity 5	Light

D. Transpose
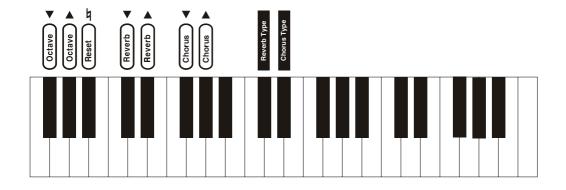
1) While pressing and holding the [MODE] BUTTON, press the below key for semitone or octave transpose.

Key	Function	Control Range
41 : C#4	Semitone Down	± 24 Semitone
43 : D#4	Semitone Up	± 24 Semitone
46 : F#4	Octave Down	± 2 Octave
48 : G#4	Octave Up	± 2 Octave
50 : A#4	Reset	0

E. Reverb, Chorus (Effects)

1) While pressing and holding the [MODE] BUTTON, press the below keys for selecting desired chorus and reverb type, and adjusting the depth of both types.

Key	Function	Control Range
53 : C#5	Reverb Down	000
55 : D#5	Reverb Up	127
58 : F#5	Chorus Down	000
60 : G#5	Chorus Up	127
65 : C#6	Reverb Type	4 Types
67 : D#6	Chorus Type	3 Types
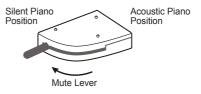
Initializing GENIO ESSENCE

GENIO ESSENCE enables you to hear your own sound during the piano muting. The signals generated by actinography from the sensors underneath the keys convert into MIDI signals which are needed for generating the piano sound by control unit's program. Since GENIO ESSENCE adopts continuous position detective photo sensors, after installation, by initializing process, it records the characteristics of keys and sensors into the memory storage to generate the sounds. Without correct initializing process, some keys have no sound, or generate irregu-lar sound, so it is essential to initialize perfectly to keep the best performance.

A. Before Initializing

1) Every connection of cables should be perfect.

2) The mute lever should be in mute position.

3) Make sure that nothing is sitting on the keys that might press keys down.

4) Mechanical regulation of the piano action like let-off should be perfect to prevent malfunction.

Silent Piano Position   Acoustic Piano Position

Mute Lever

B. How to Initialize GENIO ESSENCE

1) While pressing and holding the [MODE] BUTTON, press [POWER] BUTTON to turn on GENIO ESSENCE.

  ([POWER] LED flickers for 3-5 seconds, and on.)

  * And [MODE] LED flickers with the below type if all connections are perfect.

  * 88 key mode : - - - - / 85 key mode : -- -- -- --
    If the key mode should be changed, press and hold [MODE] button for more than 2 seconds.

2) Press each of 88 keys and pedals at a time, all with medium force and speed.

  * Once a key is initialized, you can hear the corresponding key sound.

  * Once you softly press the initialized key again, you can hear the key sound.

  * If you press and hold the initialized key for more than 2 seconds again, that key would be re-initialized.
    (It remembers the last key position.)

  * If the key is not re-initialized after pressed again, turn off the system and try from the first step.

3) After completion of the initializing all keys and pedals , press [MODE] BUTTON again.

  * Just [POWER] LED on.

NOTE

• **Note** : After installation or if the piano is not used for a long time or recently moved, GENIO ESSENCE should be initialized properly since the depth of the keys can be changed. Please let the skilled expert help you how to initialize.
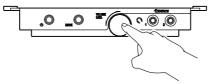
How to Adjust the Sensitivity of Individual Key Sound

The initializing procedure on the previous page should make all of the keys equally sensitive. If you find some keys still play too loudly or softly, use the following procedure to adjust the sensitivity of individual key.

1) Press and hold the [DIAL] BUTTON, and turn on the system with [POWER] BUTTON.
   * [POWER] LED flickering for 3-5 seconds, and than flickering long and shortly. (Pattern : ─ · ─ ·)
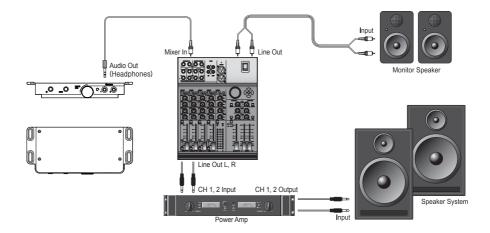
2) Wear the headphones to monitor the sound, and find which key has to be adjusted.

3) If the sensitivity needs to be adjusted in a key, turn the [DIAL] BUTTON right or left to find the adequate sound volume.
   * Turning left makes it insensitive, and turning right makes it sensitive.
   * In order to return to the previous value, press and hold the [DIAL] BUTTON for around 2 seconds.
   * When the adjustment is working, [MODE] BUTTON LED is flickering.

   • How to recover to original sensitivity for a specific key during the process of individual key sensitivity adjustment.
   ① Press the key which is one step lower than the pertinent key, and press [MODE] BUTTON softly.
   ② After [MODE] BUTTON becomes flickering, press the pertinent key once and press [MODE] BUTTON softly.
   ③ And then, the sensitivity of the specific key recovers into initial setting.

4) After completing the key adjustment, press [DIAL] BUTTON softly.
   * [MODE] LED would be flickering, and than [POWER] LED becomes on for returning normal mode.

Connecting with External Audio Equipment

The sound of GENIO ESSENCE has Audio Out(Headphones) socket, and can be amplified with the external audio.

Amplified piano playing through External Audio Equipment
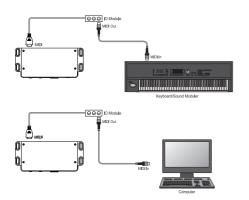
A. Connect the audio cable from the headphones socket to the AUX IN of the audio equipment. And adjust the audio volume.

B. The volume of the signals coming out from the headphones socket can be also adjusted in external audio, and it should be adequately adjusted in order not to exceed the capacity of the audio device.

Connecting with the External MIDI Device

Please refer to the MIDI Implementation Chart for the Control Command of connection parameters with external MIDI devices.
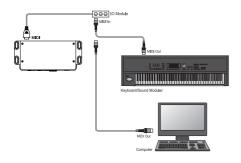
A. Data transmission to external MIDI device

By playing GENIO ESSENCE, You can regenerate the sound from the other MIDI device, and you can edit the sound by using MIDI program of the computer.

Keyboard/Sound Moduler

Computer

A. Connect MIDI Cable (5 Pin Round Din Cable) from the ESSENCE MIDI Output socket to the MIDI Input socket of external device.

B. Use the Input setting of external MIDI device.

C. MIDI I/O module : option.

B. Data reception from external MIDI device

Keyboard/Sound Moduler

MIDI Out

Computer

A . Connect the MIDI cable from the external MIDI device Output socket to ESSENCE Input socket.

B. ESSENCE provides the sound source only, so control the parameters from the external MIDI device.

C. GM, Patch or some sound volume/color may differ from the each manufacturer, so the songs worked with the other sound sources may have the different feeling.

GM Program Chart

Piano

000	Piano 1	004	E.Piano 1
001	Piano 2	005	E.Piano 2
002	Piano 3	006	Harpsichord
003	Piano 4	007	Clavinet

Organ

016	Organ 1	020	Reed Organ
017	Organ 2	021	Accordion
018	Organ 3	022	Harmonica
019	Church Organ	023	Bandneon

Bass

032	Acoustic Bs.2	036	Slap Bass 1
033	Fingered Bs	037	Slap Bass
034	Picked Bass	038	Synth Bass 1
035	Fretless Bs	039	Synth Bass 2

Ensemble

048	Strings 0	052	Chair Aahs
049	Slow Strings	053	Voice Oohs
050	Syn. Str 1	054	Synth Vox
051	Syn. Str 2	055	Ochestra Hit

Reed

064	Soprano Sax	068	Oboe
066	Alto Sax	069	English Horn
067	Tenor Sax	070	Bassoon
067	Baritone Sax	071	Clarinet

Synth Lead

080	Square Wave	084	Charang
081	Saw Wave	085	Solo Box
082	Syn.Calliope	086	5th Saw Wave
083	Chiffer Lead	087	Bass & Lead

Synth SFX

096	Ice Rain	100	Brightness
097	Sound track	101	Goblin
098	Crystal	102	Echo Drops
099	Atmosphere	103	Synth Bass 2

Percussive

112	Tinkel Bell	116	Taiko
113	Agogo	117	Melo Tom
114	Steel Drums	118	Synth Drums
115	Woodblock	119	Reverse Cym

Chromatic Percussion

008	Celesta	012	Marimba
009	Glockenspiel	013	Xylophone
010	Music Box	014	Tubular-bells
011	Vibraphon	015	Dulcimer

Guitar

024	Nylon-str.Gt	028	Muted Guitar
025	Steel-str.Gt	029	Overdrive Gt
026	Jazz Guitar	030	Distortion Gt
027	Clean Guitar	031	Gt.Harmonics

String / Orchestra

040	Violin	044	Tremolo Str
041	Viola	045	Pizzicato St
042	Cello	046	Harp
043	Contrabass	047	Timpani

Brass

056	Trumpet 1	060	French Horn
057	Trombone	061	Brass
058	Tuba	062	Synth Brass 1
059	Muted Trumpet	063	Synth Brass 2

Pipe

072	Piccolo	076	Bottle Blow
073	Flute	077	Shakuhachi
074	Recorder	078	Whistle
075	Pan Flute	079	Ocarina

Synth Pad etc.

088	Fantasia	092	Bowed Glass
089	Warm Pad	093	Metal Pad
090	Polysynth	094	Halo Pad
091	Space Voice	095	Sweet Pad

Ethnic

104	Sitar	108	Kalima
105	Banjo	109	Bag Pipe
106	Shamisen	110	Fiddle
107	Koto	111	Shannai

SFX

120	Gt.FretNoise	124	Telephone
121	Breath Noise	125	Helicopter
122	Seashore	126	Applause
123	Bird	127	Gun Shot

Drum Chart

NO.		Standard Set
27	D#1	High Q
28	E1	Slap
29	F1	Stratch push
30	F#1	Stratch Pull
31	G1	Sticks
32	G#1	Square Click
33	A1	Metronome Click
34	A#1	Metronome Bell
35	B1	Bass Drum 2(Acoust)
36	C2	Bass Drum 1(Rock)
37	C#1	Side Stick
38	D2	Snare Drum 1
39	D#2	Hard Clap
40	E2	Snare Drum 2
41	F2	Low Floor Tom
42	F#2	Closed Hi Hat(EXCI)
43	G2	High Floor Tom
44	G#2	Peadal Hi Hat(EXCI)
45	A2	Low Tom
46	A#2	Open Hi Hat(EXCI)
47	B2	LowMid Tom
48	C2	Hi Mid Tom
49	C#2	Crash Cymbal 1
50	D3	High Tom
51	D#3	Ride Cymbal 1
52	E3	Chines Cymbal
53	F3	Ride Bell
54	F#3	Tambourine
55	G3	Splash Cymbal
56	G#3	Cowbell
57	A3	Crash Cymbal 2

NO.		Standard Set
58	A#3	Vibraslap
59	B3	Ride Cymbal 2
60	C4	Hi Bongo
61	C#4	Low Bongo
62	D4	Mute Hi Conga
63	D34	Open Hi Conga
64	E4	Low Conga
65	F4	High Timbale
66	F#4	Low Timbale
67	G4	High Agogo
68	G#4	Low Agogo
69	A4	Cabasa
70	A#4	Maracas
71	B4	Short Whistle(EXC2)
72	C5	Long Whistle(EXC2)
73	C#5	Short Guiro(EXC3)
74	D5	Long Guiro(EXC3)
75	D#5	Claves
76	E5	Hi Wood Block
77	F5	Low Wood Block
78	F#5	Mute Cuica(EXC4)
79	G5	Open Cuica(EXC4)
80	G#5	Mute Triangle(EXC5)
81	A5	Open Triangle(EXC5)
82	A#5	Shaker
83	B5	Jingle Bell
84	C6	Belltree
85	C#6	Castanets
86	D6	Mute Surdo(EXC6)
87	D#6	Open Surdo(EXC6)
88	E6	

MIDI Implementation Chart

Function		Transmitted	Received	Remark
MIDI Channels		1 ~ 16	1 ~ 16	
Mode		X	3	
Note Number		21 ~ 108	0 ~ 127	
Velocity		0 ~ 127	0 ~ 127	
Note On		9n, V = 1 ~ 127	9n, V = 1 ~ 127	
Note Off		9n, V = 0	8n, V = 0 ~ 127 9n, V = 0	
Key Aftertouch		X	X	
Channel Aftertouch		X	O	
Pitch Bend		X	O	+-2 Octave Pitch Band Sensitivity recognized
Control Change	0, 32	X	O	Bank Sesect
	1	X	O	Modulation
	6, 38	X	O	Data Entry
	7	X	O	Main Volume
	10	X	O	Pan
	11	X	O	Expression
	64	O	O	Damper Pedal
	67	O	O	Soft Pedal
	91	X	O	Reverb Depth
	93	X	O	Chorus Depth
	98	X	O	NRPN LSB
	99	X	O	NRPN MSB
	100	X	O	RPN LAB
	101	X	O	RPN MSB
	120	X	O	All Sound Off
	121	X	O	Reset All Controllers
	123	X	O	All Note Off
Programme Change		X	O (0 ~ 127)	

Note :
1. Default Pitch Bend = 1 Semitone
2. Mode 1 : OMNI On, Poly
3. Mode 2 : OMNI Off, Poly

Specifications

Item			Description
Silent Mechanism			Universal Mute Rail by Manual Lever
Sensor Keyboard			Reflector Type Touchless Optic Sensor System
Velocity			127 Level
Touch Response			5 Curves
Sensitivity of each Keys			Individual Adjustment Range from 000 to 255
Sensor Pedal			Sustain, Soft
Sounds			10 Pre-Set, 128 GM Sounds
Sounds Memory			512 MB
Polyphony			256 Poly
Transpose			±24 Semitone
Effect	**Reverb**	**Type**	4
		Ragne	000 ~ 127
	Chorus	**Type**	3
		Range	000 ~ 127
Pitch	**Standard**		440 Hz
Metronome	**Tempo**		25 ~ 250
Display			2LEDs
Headphone Jack			1/8" x 2 Jacks
MIDI Port			Input / Out / Thru (Extra MIDI I/O Module)
Audio (Headphones)			Out (Stereo)
Power Supply			Input : AC 100 ~ 240V, Output : DC 12V, 1.5A
Dimension of Control			171 x 19 x 76 mm (W x H x D)
Unit Remark			

* For Grand Piano : Universal Mute Rail by Auto Lever, controlled by the Grand Piano Mute Controller
                              Sustain, Sostenuto, Soft Pedal Sensors
* Above specifications are subject to change without notice.

Trouble Shooting

Phenomenon	Possible cause and Trouble shooting
No Power	•Check if AC plug is connected correctly with the outlet. •Check if DC jack is connected correctly with the control unit.
No Sound	• If metronome works well with the sound, check the connection of key sensors and control unit. • If metronome doesn't work, check the headphones connection or volume control. • If the key have no sound, initialize (page 12) the system again. • Check if there's any foreign substance on the key sensors.
Noisy Sound	• If there's no noisy sound when the volume is down, it's the headphones problem.

• **Note**：If you use the other headphones which is not supplied with a basic kit item, the sound maybe different from each headphones' manufacturer.