

NPK-20

Portable Digital Piano

Owner's Manual

NUX



SAFETY GUIDELINE

Before playing your digital piano, please read the following contents. Please store this instruction book in a safe place, for future reference.

WARNING

To avoid serious injury or death because of electric shock, short circuit, fire or other dangers, please obey the following warnings. These warnings include but are not limited to the following situations:

Power/Electric Cable

- * The rated voltage of this device is fixed. The required voltage is printed on the nameplate of this device.
- * Check the plug regularly, clean the dirt and ash piled up on the plug.
- * This digital piano only matches with the provided power cable and plug.
- * DO NOT put electric cables near heaters, radiators or any other heating devices. DO NOT overstress electrical cables with extreme bending or abrasion which can cause damage and expose wiring. DO NOT position cables under heavy items such as furniture etc.. DO NOT position electrical cables where they can be run over with wheels or in walkways where they can be tripped over.

DO NOT OPEN / DISMANTLE

- * DO NOT attempt to open / dismantle inner components or customize the device in any way. This device is not designed for user maintenance other than cleaning of external components. If you experience any problems, please turn off and unplug the device, and then consult a qualified NUX service technician to examine and repair the device.

Warning about humidity

- * DO NOT place this device where it will be expose to water, (rain, mist, water sprinklers, water entertainment equipment etc.) and DO NOT place liquid containers of any kind on or where they can be spilled on the device. If any liquids splash or are spilled onto the device, immediately UNPLUG from AC socket immediately. Then ask qualified NUX service staffs to examine and repair the device.
- * DO NOT plug device with wet hands.

Fire

- * To prevent risk of FIRE, DO NOT place open flames, such as candles, or flameables of any kind on or near the instrument.
- * Be aware of worn or damaged power cables, sudden unusual loss of sound during playing, and the smell and or visual signs of smoke or fire. In this event, immediately disconnect the device from AC socket. Consult a qualified NUX service technician to examine and repair the device.

WARNING

To prevent bodily injury or damage to device and property, please obey the following SAFETY GUIDELINES BELOW. These instruments include but are not limited to following situations.

Power/Electric Cable

- * When pulling out plug from AC socket, please grab the PLUG instead of power cable which can cause damage to the CABLE !
- * When the instrument is not in use for long periods of time or during a lighting storm, please unplug the device from any AC socket.
- * Do not connect the instrument to a power source with multiple connectors, which will lower the sound quality, and overheat your AC socket.

Assemble & Use

- * Please carefully read the attachment explaining the assemble process. Failure to assemble the instrument in the proper order will damage the instrument and potential cause danger to the user.
- * Please connect the external equipment while the digital piano is off.

Overview 04

Control Panel 05

 Front Panel 07

 Back Panel 08

Connections 09

 Connecting the Power Adapter 09

 Connecting a Pedal 09

 Using the Pedal Unit (Optional) 09

 Connecting Headphones 10

 AUX- IN and AUX-OUT 10

 Connecting a Microphone 10

User Interface 11

Sounds & Performance 12

 Choosing the Sounds 12

 Auto Accompaniment 13

Common Operations 16

 Listening to the Demo Songs 16

 Recording and Playing Back a Performance 16

 Bluetooth Audio 17

 Dual Keyboard and Changing the Split Point 17

 Transpose and Octave 18

Metronome & Effects 19

 Metronome 19

 Effects 19

 Keyboard Sensitivity 20

 Function Button 21

 Sound Brightness 21

 Saving & Recall a User Preset 21

Sound List 22

Percussion Sound List 25

Demo Song List 26

Rhythm List 29

Specifications 32

Trouble Shooting 33

Thank you for choosing the NUX NPK-20 portable digital piano, we highly appreciate your choice for the NUX brand and wish you lots of enjoyment playing it.

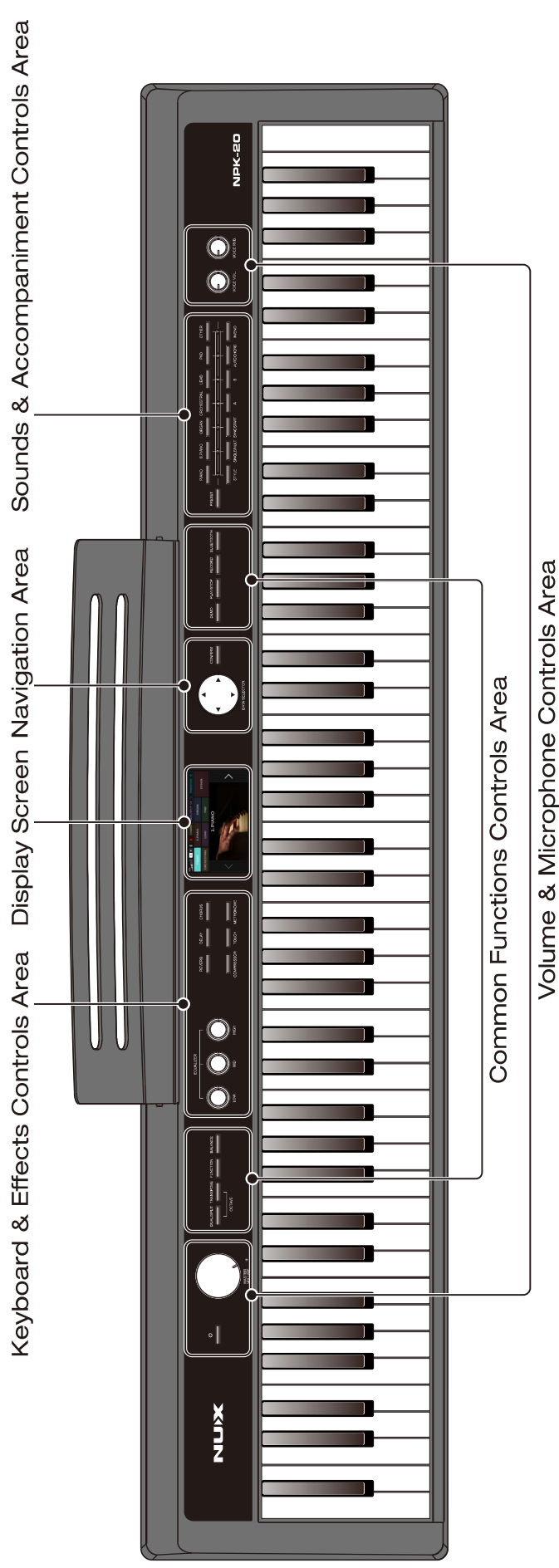
NUX NPK-20 features a superior WKJ-03 Triple-Sensor Graded Hammer-Action Keyboard, 271 sounds, auto accompaniment, microphone input and onboard ambient effects including Delay, Reverb, Compressor, Chorus and a 9-band EQ, etc. With a large LCD display and well-planned controls, you can easily access all its functions and create that unique tone and sound.

For details, please read this manual thoroughly and keep it handy for future reference.

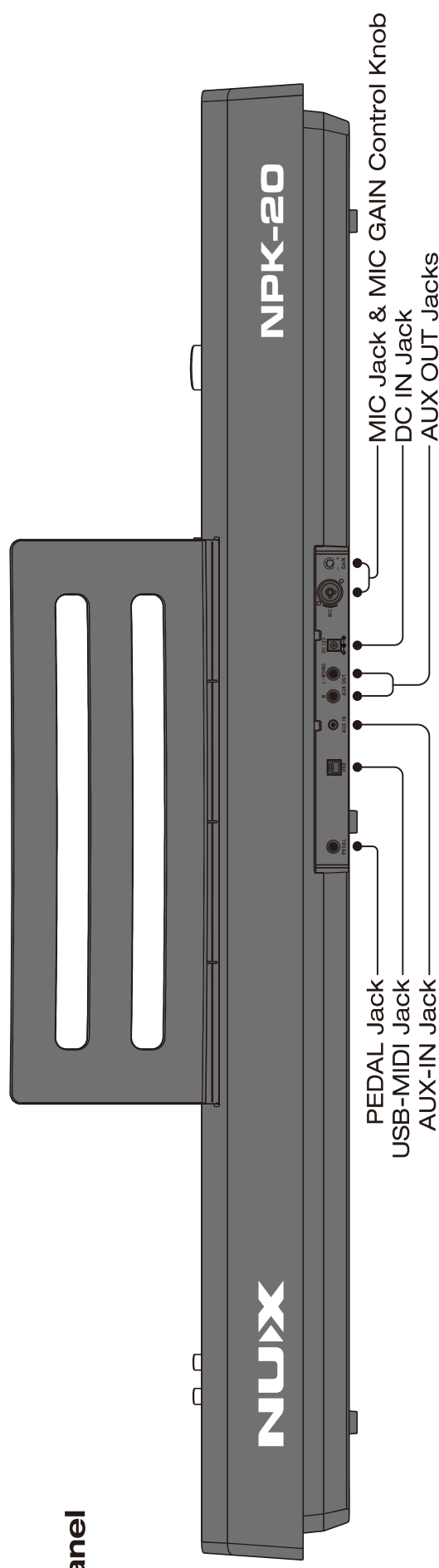
Features

- 271 sounds across 7 sound groups
- Adjustable touch sensitivity
- Onboard ambient effects
- Metronome
- Dual sounds with mixing level controls
- Dual keyboard with adjustable split point
- Auto accompaniment
- Recording function
- Bluetooth audio & Bluetooth-enabled mobile app
- Tone brightness
- Pitch shift and octave transposing
- Auto-off function
- 7 user preset slots
- 9 band EQ
- Reverb, compressor, chorus and delay effects
- Microphone input with independent gain control and reverb effect

Front Panel

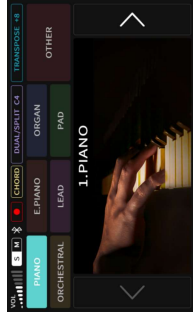


Back Panel



Front Panel

Display Screen



Displays the real-time status of the NUX NPK-20. See User Interface for more.

Volume & Microphone Area



Use the Power button to turn the NUX NPK-20 on or off, and adjust the volume level with these volume knobs.

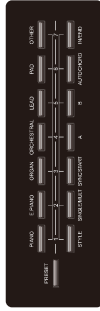
Use the VOICE VOL. and VOICE RVB. knobs to adjust the volume and reverb of the microphone.

Navigation Area



Use the DATA SELECTOR and CONFIRM button to navigate through the pages, settings and select musical resources.

Sounds & Accompaniment Controls Area



The NPK-20 Sounds are what you play on the keyboard. There are a total of 7 sound groups including, PIANO, E.PIANO, ORGAN, ORCHESTRAL,

LEAD, PAD and OTHER. Each of these sound groups include several different instruments to choose from. You can choose one sound or layer two sounds as per your needs.

You can set up a virtual band to accompany your practice with these Auto Accompaniment controls.

Common Functions Controls Area



Use the buttons on the left to access the most commonly used functions (DUAL/SPLIT, TRANSPOSE, OCTAVE, FUNCTION and BALANCE) on the NPK-20.

Use the buttons on the right to play demo songs, record/replay your own performance, and enable/disable Bluetooth Audio.

Keyboard/Effects Controls Area



Use the Effects controls to add effects to the keyboard.

Use the TOUCH button to adjust the keyboard sensitivity.

Use the METRONOME button to set the metronome.

Back Panel

AUX-IN Jack



3.5mm Stereo AUX-IN Jack.

AUX OUT Jacks



6.35mm AUX OUT Jacks. You can send the audio output to a set of powered monitors, a mixer, or a PA system. When using the AUX OUT, the internal speakers will not be muted.

USB-MIDI Jack



Connect the NUX NPK-20 to your computer/external controller, and use your DAW for recording, composing and editing your music.

PEDAL Jack



Connect the pedal.

DC IN Jack



Connect the supplied Power Adapter to this jack.

MIC Jack & MIC GAIN Control Knob



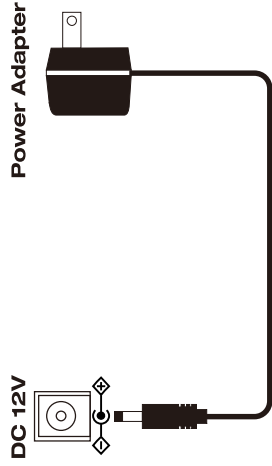
MIC Jack

Connect your microphone here. Please note that only dynamic microphones work with the NPK-20.

MIC GAIN Knob

Use this knob to adjust the GAIN level of the microphone input.

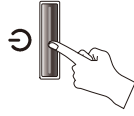
Connecting the Power Adapter



Please insert the DC Plug into DC IN jack. Next connect the power supply to an AC outlet.

NOTE: Use only the supplied power adapter. Using a different adapter may cause malfunctions or other issues. Do NOT use the supplied power adapter with other devices. Please turn off the NUX NPK-20 when plugging or unplugging the power supply.

Turning the Power On



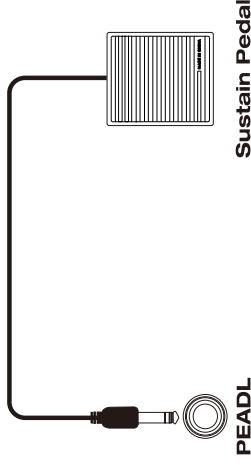
Press the power button to turn the NUX NPK-20 on. During the booting up process, a welcome screen will be displayed, followed by the homepage.

Turning the Power Off

Press and hold down the power button for roughly 2 seconds to turn the power off.

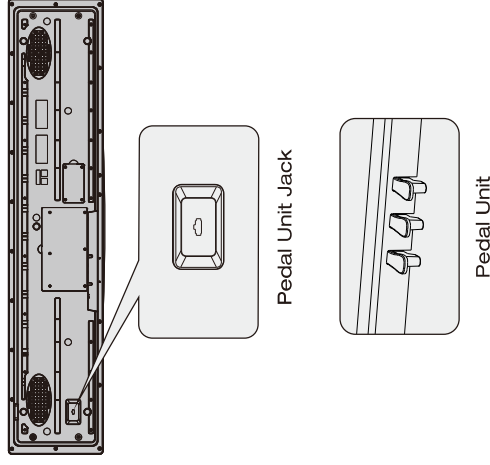
NOTE: Please do not disconnect the power supply during the power on or power off procedure.

Connecting a Pedal



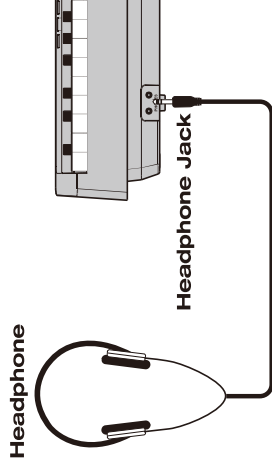
Connect the supplied Damper Pedal to the PEDAL Jack. You may have to reverse the polarity if you connect a 3rd party damper pedal to the NPK-20.

Using the Pedal Unit (Optional)



Connect the optionally available Pedal Unit(NUX NPS-1) to the Pedal Unit Jack.

Connecting Headphones

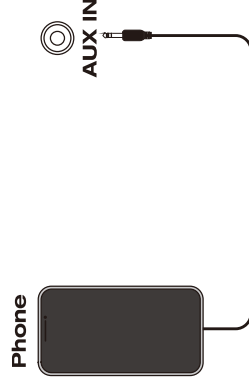


There are two PHONES jacks, you can connect up to two stereo headphones here. When either PHONES jack is plugged in, the internal speakers of NPK-20 will be muted.

NOTE: To reduce the risk of hearing damage, do not use headphones at high volume for an extended period of time. Should you notice discomfort, discontinue use and see a medical professional immediately.

AUX- IN and AUX-OUT

AUX-IN



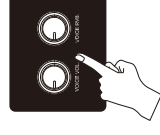
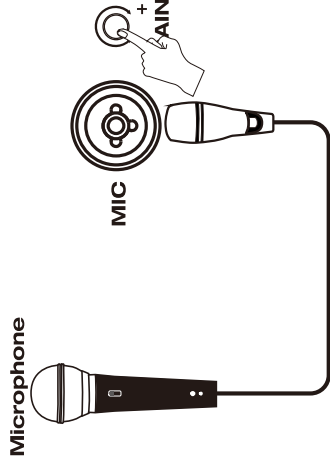
3.5mm Stereo AUX-IN jack, for playing the sound from an external audio source.

AUX-OUT

6.35mm AUX OUT jacks. Use the L/MONO jack for mono, use both jacks for stereo application. You can use the Master Volume knob to adjust the volume.

Connecting a Microphone

Connect your microphone here.



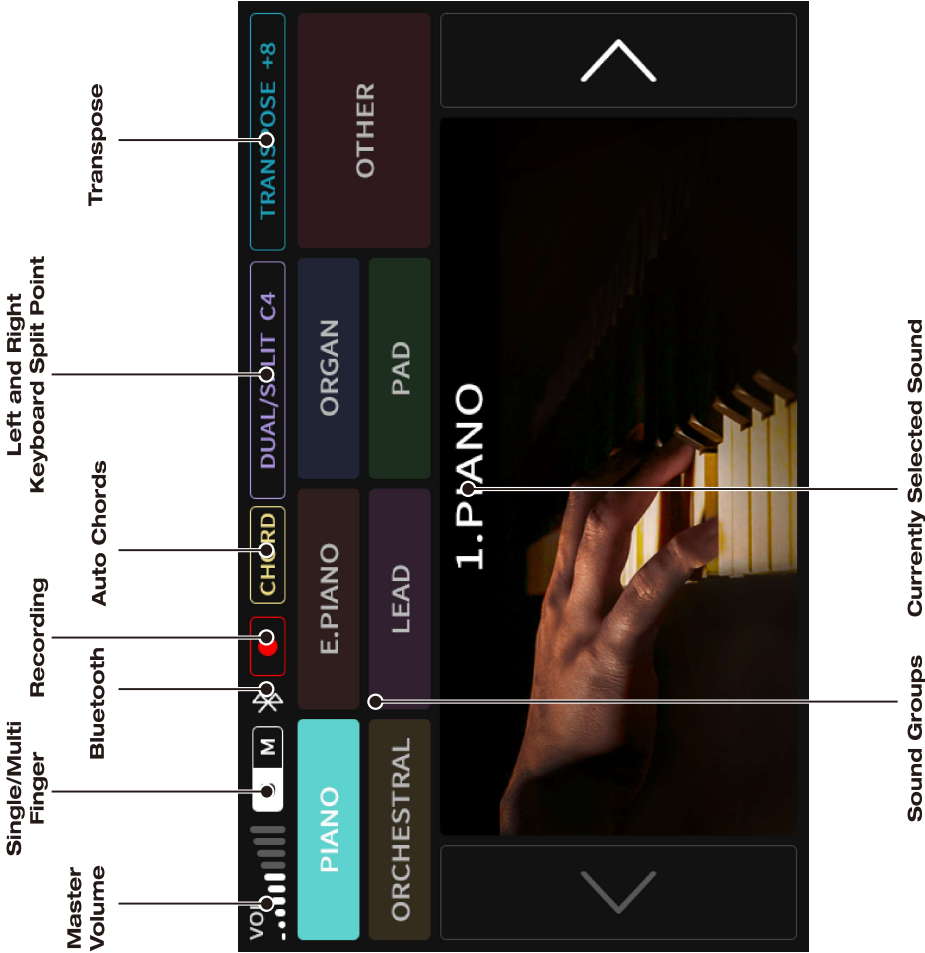
Use the GAIN knob to adjust the level of the microphone input.

Use the VOICE VOL. knob to adjust the vocal volume level.

Use the VOICE RVB. knob to adjust the reverb effect to the microphone.

NOTE: The MIC jack doesn't deliver 48V phantom power, and only accept dynamic microphone input. Condenser Microphones are not compatible with the NPK-20.

Home Page



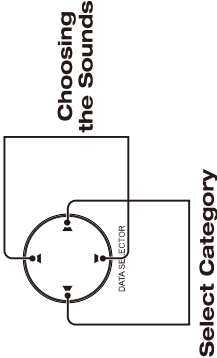
Once the NUX NPK-20 is turned on, the above homepage will be displayed. If you want to go back to homepage, press any of the 7 Sounds buttons.

Choosing the Sounds

Sounds are what you can play on the keyboard, a total of 7 groups of different sounds including, PIANO, E.PIANO, ORGAN, ORCHESTRAL, LEAD, PAD and OTHER are included with the NPK-20. You can choose one sound or layer two sounds as per your needs. To make things easier, the NPK-20 allows you to save your settings and preferences to a preset.

7 Groups of Sounds

Click UP or DOWN on the four-way DATA SELECTOR to select one sound within a sound group. A LEFT or RIGHT click on the four-way DATA SELECTOR will take you to the adjacent groups of sounds. The most recently used sound will be saved as the default sound for that group, and it can be recalled by pressing the corresponding sound group button.



Choosing the Sounds

E.PIANO

This group contains 32 different electric piano sounds.



ORGAN

This group contains 34 different organ sounds.



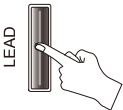
ORCHESTRAL

This group contains 91 different orchestral sounds.



LEAD

This group contains 45 different lead sounds.



NOTE: When you hold down one of the sound group buttons, the default sound for that group will be reset to its factory defaults.

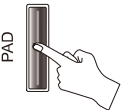
PIANO

On the NUX NPK-20, the PIANO Sounds category is the default sounds category. It contains 25 different acoustic piano sounds.



PAD

This group contains 15 different pad sounds.



OTHER

This group contains 29 different other sounds.



NOTE: If you notice that the volume level of a sound is lower than usual, check its mixing level first, then adjust the master volume accordingly.

Layering Two Sounds

Press any two Sound buttons, and the two sounds will be layered together when their backlights are on. The first pressed Sound is the main sound, and the second pressed Sound is the layered sound.

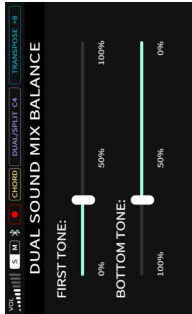


Mixing the Layered Sounds

After you've layered two Sounds, press the BALANCE button to bring up the mixing adjustment menu.

Click UP or DOWN on the four-way DATA SELECTOR to select the main sound or the second sound. A LEFT or RIGHT click on the four-way DATA SELECTOR will allow you to alter the mixing level of the selected sound.

Press the BALANCE button again or wait for 5 seconds to exit the mixing adjustment menu.

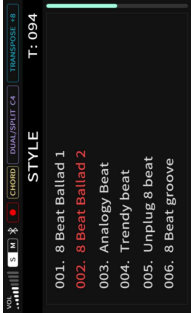


Auto Accompaniment

NUX NPK-20 provides powerful Auto Accompaniment. You will always find the right accompaniment for your unique playing style.

Choosing a Style

Press the STYLE button to bring up the accompaniment style list.

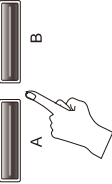


Click UP or DOWN on the four-way DATA SELECTOR to select the style. Click LEFT or RIGHT to adjust the speed.

Auto Chord

Once you have selected a style, press the AUTO CHORD button to activate the auto chord function. When AUTO CHORD is enabled, the button backlight will turn on and the CHORD icon will appear in the status bar. The AUTO CHORD will only apply to the keys to the left of the Split Point.

Press the AUTO CHORD button again to disable AUTO CHORD.



Normally the A button backlight is turned on when Auto Accompaniment is enabled, which means that the virtual band is played to the A variation. Please refer to the following chart to learn more about A/B variations.

Action	Press the A mode button again in A mode	Press the B mode button again in B mode	Press the A mode button again in A mode	Press the B mode button again in B mode
Project	Minimum density	Highest density	Highest density	Minimum density
Verse/Bridge/Chorus	Minimum density	Highest density	Highest density	Minimum density
Bridge	Minimum density	Highest density	Highest density	Minimum density

Intro and Ending

The INTRO accompaniment pattern can be used at the beginning of a song. Select your preferred rhythm, enable AUTO CHORD and SYNC START, and press the IN/END button to enable the INTRO. Then the SYNC START and the IN/END buttons will start blinking. As soon as you press a keyboard key in the left-hand section, the INTRO pattern of the selected rhythm will start to play. Normal accompaniment pattern will start after the measures of the INTRO pattern is finished.



While the auto accompaniment is playing, pressing the IN/END button again will trigger the ENDING pattern. The IN/END button will start blinking and after a multiple-measure ending sounds, the auto accompaniment will stop.

Synchronized Start of Auto Accompaniment

When you want the auto accompaniment start with the first chord played on the left hand section of the keyboard, choose the preferred style first, then enable AUTO CHORD and press the SYNC START button.



A/B Variations

A/B Variations can be used for verses, choruses, bridges, or specials. Using the right variation can make your performance more attractive.

Chord Fingering

Multi-Fingered Chords mode is turned on by default; the backlight of the SINGLE/MULT button is on and it shows **[S M]** on the Status Bar.

If you want to switch to Single Finger Chords mode, simply press the SINGLE/MULT button. The backlight will turn off and it will show **[S M]** on the Status Bar.

Name	Pitch Class	Chord on C
Major (M)	1-3-5	C
Major sixth (6)	1-(3)-5-6	C6
Major seventh (M7)	1-3-(5)-7	CM7
Major seventh sharp eleventh (M7#11)	1-(2)-3-#4-(5)-7	CM7 #11
Major add ninth (Madd9)	1-2-3-5	Cmadd9
Major ninth (M9)	1-2-3-(5)-7	CM9
Major sixth add ninth (6 9)	1-2-3-(5)-6	C6 9
Augmented (aug)	1-3-#5	Caug
Minor (m)	1-b3-5	Cm
Minor sixth (m6)	1-b3-5-6	Cm6
Minor seventh (m7)	1-b3-(5)-b7	Cm7
Minor seventh flattened fifth (m7b5)	1-b3-b5-b7	Cm7b5
Minor add ninth (madd9)	1-2-b3-5	Cmadd9
Minor ninth (m9)	1-2-b3-(5)-b7	Cm9
Minor eleventh (m11)	1-(2)-b3-4-5-(b7)	Cm11
Minor major ninth (mM7)	1-b3-(5)-7	CmM7
Minor major ninth (mM9)	1-2-b3-(5)-7	CmM9
Diminished (dim)	1-b3-b5	Cdim
Diminished seventh (dim7)	1-b3-b5-6	Cdim7
Seventh (7)	1-3-(5)-b7	C7
Seventh suspended fourth (7sus4)	1-4-5-b7	C7sus4
Seventh flattened fifth (7b5)	1-3-b5-b7	C7b5
Seventh ninth (7 9)	1-2-3-#4-(5)-b7	C7 9
Seventh sharp eleventh (7#11)	1-2-3-#4-(5)-b7 or 1-(2)-3-#4-5-b7	C7 #11
Seventh thirteenth (7 13)	1-3-5-b7 or 2-3-5-b7	C7 13
Seventh flattened thirteenth (7b13)	1-3-5-b6-b7	C7b13
Seventh sharp ninth (7#9)	(1)-#2-3-(5)-b7	C7 #9
Major seventh augmented (M7aug)	1-3-#5-7	CM7aug
Seventh augmented (7aug)	(1)-3-#5-b7	C7aug
Suspended fourth (sus4)	1-4-5	Csus4
One plus two plus five (1+2+5)	1-2-5	C1+2+5



NOTE: These are only the most common chords used in performances. Please refer to the various music theory books available for a complete list of chord types and ways of applying them.

Common Piano Chords Chart

Fingered Chords Chart

C

Cm

C7

CM7

Cm7

Csus4

Cdim

Cdim7

CmMaj7

Caug

C7

CM7

Single Finger Chords Chart

C

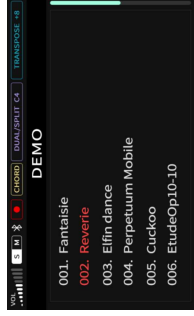
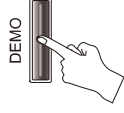
Cm

C7

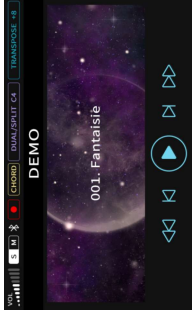
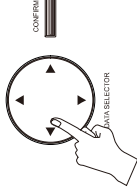
CM7

Listening to the Demo Songs

There are a total of 100 demo songs in the NPK-20. Press the DEMO button to bring up the demo song list. Click UP or DOWN on the four-way DATA SELECTOR to select a demo song from the list, then press the CONFIRM button again to start playing.



All other functions will be disabled while a demo song is being played. Click LEFT or RIGHT on the DATA SELECTOR to skip to the next song or back to the previous song you heard.

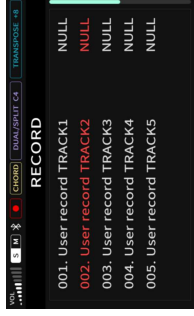


Press the DEMO button one time to return to the demo songs list, press the DEMO button again to exit the demo song function and return to the homepage.

Recording and Playing Back a Performance

You can record up to five tracks of your performance with the NUX NPK-20, and the recorded tracks will remain in memory until they are either overwritten or deleted.

Recording a Track



Press the RECORD button once to bring up the recording track list. Click UP or DOWN on the four-way DATA SELECTOR to select a memory slot, then press the RECORD button again to start recording. During the recording, you'll notice that the recording icon appear in the status bar. After the recording is complete, press the RECORD button again to stop it. The RECORD button will flash twice during the saving process, and you will notice the "NULL" is now "OK".

Deleting a Saved Track

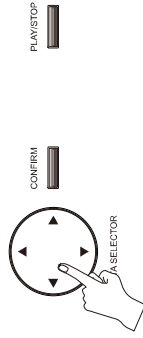
To Delete a saved track, you must first select the track with the four-way DATA SELECTOR, and then hold the left key for 3 seconds. After deleting the track, the "OK" will become "NULL".



NOTE: Automatic accompaniment will not be recorded. You can save your recording to any track in the recording track list. Saving a new recording to a non-empty track will erase the original track. All recording tracks are stored in memory of the NUX NPK-20.

Playing a Saved Track

To play a saved track of your performance, you must first select the track with the four-way DATA SELECTOR, and then press either the PLAY/STOP button or the CONFIRM button to play it. The status of the current track changes from "OK" to "PLAY" during playback.



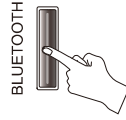
Exiting Recording Mode

To exit recording mode, press one of the other sound or function buttons.

Bluetooth Audio

The built-in Bluetooth module allows you to connect other Bluetooth enabled smart devices.

You can enable the Bluetooth Audio function by pressing the BLUETOOTH button once. This will turn on the BLUETOOTH button backlight, and then you can connect to the NPK-20 from your smart device(NPK-20 is listed as "NPK-2 Series").



NOTE: Please lower the volume level on your smart device before making the Bluetooth audio connection. Wireless audio playback volume can only be adjusted from your smart device. Lower the volume if there is a distorted sound.

🔊 stands for Bluetooth Audio
🔌 stands for Bluetooth MIDI

Piano Mate App(Bluetooth MIDI)

The NUX NPK-20 is compatible with the app"Piano Mate", which is available on iOS and Android. The app has a variety of onboard sheet music and makes practicing and teaching more convenient. Scan the QR code and download the application corresponding to your device.



After installing the app on your device, you can register and open the sheet music. Then turn on the Bluetooth on the sheet music page, and select "NUX NPK-2 Series" for pairing.

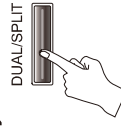
NOTE: The Bluetooth MIDI connection does not require the Bluetooth Audio function, whenever the NUX NPK-20 is powered on, the app will automatically recognize it.

Dual Keyboard and Changing the Split Point

You can Split the keyboard into two parts, the left part and the right part.

Press the DUAL/SPLIT button once to enable DUAL keyboard mode, and the C4 key is the default split point, splitting the keyboard into two parts.

Press the DUAL/SPLIT button again to exit DUAL keyboard mode.



NOTE: When DUAL/SPLIT is enabled, the sound for the right part is the same before splitting, then you may alter the sound for the left part.

Changing the Split Point

You can set a different split point where the keyboard is split into a left part and a right part. Keep the DUAL/SPLIT button pressed and play the lowest note of the right part on the keyboard.

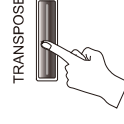


EXAMPLE: Let's say that you want to set the #G3 as the new split point, just keep the DUAL/SPLIT button pressed and play #G3 key once. During the process, "DUAL/SPLIT C4" will change to "DUAL/SPLIT #G3".

DUAL/SPLIT C4 → DUAL/SPLIT #G3

Transpose and Octave

Transpose let you shift the pitch of the entire keyboard up or down in semitone intervals, thus you can play in a key more suited for a singer's range or other instruments. Keep the TRANSPOSE button pressed and play one of the keys to transpose the key.



EXAMPLE: Let's say that you want to set the D key as the default key on the keyboard(using the fingering of standard C key, but the sound coming out is D key). Hold down the TRANSPOSE button while pressing a D key of any octave. During the process, "TRANSPOSE 0" will change to "TRANSPOSE +2".

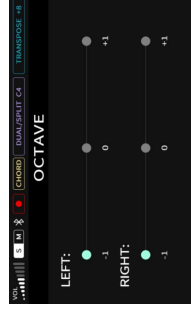
TRANSPOSE 0 → TRANSPOSE +2



NOTE: The TRANSPOSE button lights up whenever it's not the C key on the keyboard. Press and hold it to set the keyboard to C key again.

Transposing the Sounds to a Different Octave

You can transpose the sound of the NPK-20 an upper or lower octave as desired. Press DUAL/SPLIT button and the TRANSPOSE button at the same time to bring up the OCTAVE setting menu. Click UP or DOWN on the four-way DATA SELECTOR to make the selection. Click LEFT or RIGHT on the DATA SELECTOR to change the octave.



NOTE: ONLY When DUAL Keyboard is enabled, you can change the OCTAVE of the left part and the right part of the keyboard separately. Otherwise, you're changing the octave of the whole keyboard.



WARNING: PLEASE DON'T PLAY THE KEYBOARD WHILE CHANGING THE OCTAVE.

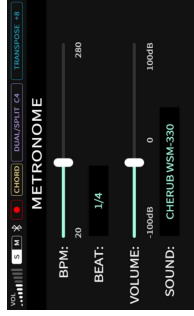
Metronome

Turning the Metronome On and Off
Press the METRONOME button once to turn on the metronome. There are 9 beats types and 3 sounds for you to select, including digital sound, Cherub WSM-330 mechanical sound and vocal count in English.



Changing Metronome Settings

To change the metronome settings, press and hold down the METRONOME button to bring up the settings page. Click UP or DOWN on the four-way DATA SELECTOR to make the selection, and click LEFT or RIGHT on the four-way DATA SELECTOR to adjust the parameter.

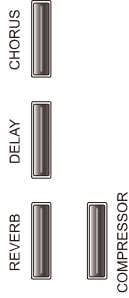


Effects

NUX NPK-20 comes with five built-in effects including REVERB, DELAY, CHORUS and COMPRESSOR and a 9-band EQ.

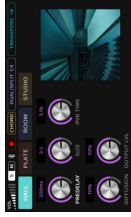
Turning the Effects On and Off

Press one of the four effect buttons to turn it on. Press that button again to turn it off.



Changing the Effect Settings

To change the effect settings, press and hold down its button to bring up the settings page. Click LEFT or RIGHT on the four-way DATA SELECTOR to make the selection, and click UP or DOWN on the four-way DATA SELECTOR to adjust the parameter.



REVERB



DELAY



CHORUS



COMPRESSOR

NOTE: NPK-20 will return to homepage from the settings page if there is no operation within 5 seconds.

Restoring the Effects to Factory Settings

If you want to reset the effect settings to factory defaults, press and hold the CONFIRM button first, then press one of the four effect buttons.

REVERB

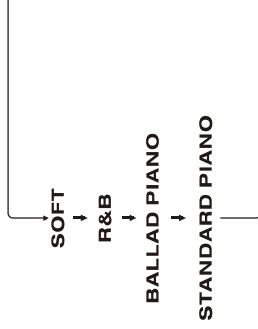
There are four types of REVERB effects including HALL, PLATE, ROOM and STUDIO. To change the reverb effect type, please press and hold the PRESET button first, then press the REVERB button to circle through the four types.

→ HALL→PLATE→ROOM→STUDIO

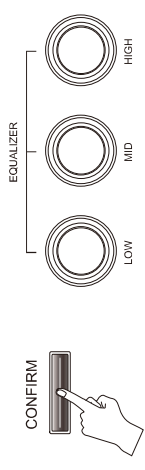
COMPRESSOR

There are four types of COMPRESSOR effects including SOFT, R&B, BALLAD PIANO

and STANDARD PIANO. To change the compressor effect type, please press and hold the PRESET button first, then press the COMPRESSOR button to circle through the four types.



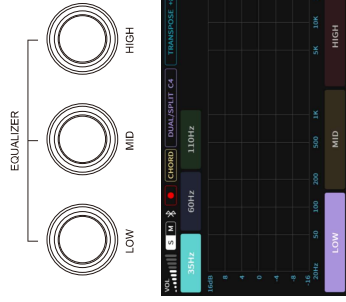
NOTE: The equalizer of the NPK-20 has a fixed Q value.



If you want to reset the EQ settings to factory defaults, press and hold the CONFIRM button first, then press one of the three knobs. When the settings are factory defaults, the light of the knob will turn off.

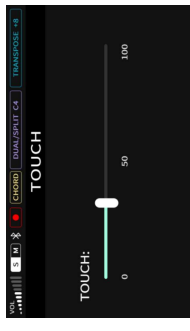
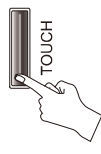
EQUALIZER

Use the EQUALIZER to modify the tone color by boosting or reducing the sound in 9 frequency ranges, including LOW (35Hz, 60Hz, 110Hz), MID (0.36kHz, 0.7kHz, 3.2kHz, 4.8kHz, 7.2kHz), and HIGH (12kHz) ranges.

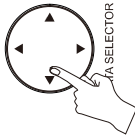


Adjust the Keyboard Sensitivity

Press and hold down the TOUCH button to bring up the settings page. Click LEFT or RIGHT on the four-way DATA SELECTOR to change the levels of the touch sensitivity.



Press or tweak the knobs to enter the equalizer settings. Then select the frequency range by pressing the knob, and tweak the knob to adjust the level. E.g. To increase the gain by 8dB at the 60Hz frequency point, press the LOW knob to enter the settings, press it again to move to the 60Hz range, then tweak the knob clockwise until it reaches 8dB.



NOTE: NPK-20 will return to homepage from the settings page if there is no operation within 5 seconds.

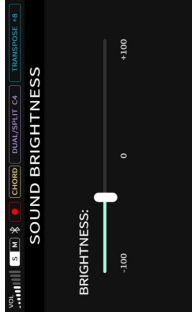
Function Button

With the function button, you will be able to quickly access functions like Keyboard Sensitivity, Metronome, Octave, Auto-Off and Sound Brightness. Press it to cycle through the settings page of those functions. While you are in a settings page, click UP or DOWN on the four-way DATA SELECTOR to make the selection. Click LEFT or RIGHT on the four-way DATA SELECTOR to alter the parameter.



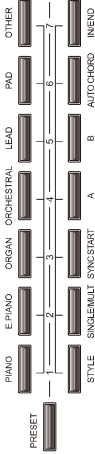
Sound Brightness

The NUX NPK-20 provides 5 levels of Sound Brightness for you to adjust the tone.

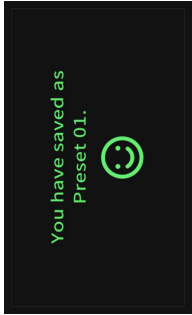


Saving & Recall a User Preset

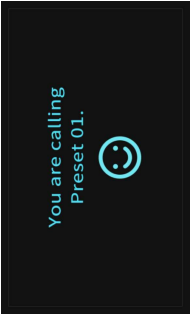
The NPK-20 allows you to save up to 7 user presets. You can save your settings and preferences into a preset slot and recall it for later use.



To save a user preset, press and hold the PRESET button then press one of the 7 buttons below the numbers to save a preset into its slot.



To recall a preset, press and hold the PRESET button then press one of the 7 buttons above the numbers to recall the preset.



NOTE: The NUX NPK-20 stores user presets in memory. Saving a new preset to a non-empty slot will overwrite the original one.

Bank	Number	Instrument	Bank	Number	Instrument
E.PIANO	1	Piano	E.PIANO	42	Epiano Basic 17
	2	Bright Piano		43	Epiano Basic 18
	3	ConcertHall Piano		44	Epiano Basic 19
	4	Erno Piano		45	NPK_Epiano
	5	Jazz Piano		46	Air
	6	Pop Piano		47	Ambient
	7	Room Grand Piano		48	Ambient 2
	8	Soft Piano		49	Cute
	9	Standard Piano		50	Lozenge
	10	Ultra Bright Piano		51	Rhodes Piano
	11	Pop Piano 2		52	Bell
	12	Standard Piano 2		53	Complex
	13	Acoustic Grand Piano		54	Moonlight
	14	Acoustic Grand Piano 2		55	Pipe
	15	Acoustic Grand Piano 3		56	Peculiar
	16	Acoustic Grand Piano 4		57	Chorused Epiano
	17	Upright Piano		58	Standard Organ
	18	Honky Tonk Piano		59	Clarinet like
	19	Honky Tonk Piano 2		60	Funk
	20	Honky Tonk Piano 3		61	Gospel
	21	Harpsichord		62	Jazz
ORGAN	22	Harpsichord 2	ORGAN	63	NPK_Organ
	23	Harpsichord 3		64	Rock
	24	Harpsichord 4		65	Retro
	25	Harpsichord 5		66	Retro 2
	26	Epiano Basic		67	Retro 3
	27	Epiano Basic 2		68	Retro 4
	28	Epiano Basic 3		69	Retro 5
	29	Epiano Basic 4		70	Retro 6
	30	Epiano Basic 5		71	60s
	31	Epiano Basic 6		72	60s_2
	32	Epiano Basic 7		73	Organ like
	33	Epiano Basic 8		74	Organ
	34	Epiano Basic 9		75	Organ 2
	35	Epiano Basic 10		76	Organ 3
	36	Epiano Basic 11		77	Organ 4
	37	Epiano Basic 12		78	Organ 5
	38	Epiano Basic 13		79	Organ 6
	39	Epiano Basic 14		80	Organ 7
	40	Epiano Basic 15		81	Organ 8
	41	Epiano Basic 16		82	Organ 9

Bank	Number	Instrument
ORGAN	83	Organ 10
	84	Reed Organ
	85	Reed Organ 2
	86	Percussive Organ
	87	Rock Organ
	88	Church Organ
	89	Church Organ 2
	90	Church Organ 3
	91	Church Organ 4
	92	String Section
	93	Cello Section
	94	Viola Section
ORCHESTRAL	95	Violin Section
	96	Violin Section 2
	97	Woodwind Ensemble
	98	Bass Wood Pipe
	99	Bassoons
	100	Clarinet
	101	Flutes
	102	Oboes
	103	Brass Ensemble
	104	Horn Ensemble
	105	Trombones Ensemble
	106	Tubas Ensemble
ORCHESTRAL	107	Orchestral Unison
	108	Orchestral Unison 2
	109	Orchestral Unison 3
	110	Violin
	111	Violin 2
	112	Violin 3
	113	Viola
	114	Viola 2
	115	Cello
	116	Cello 2
	117	Contrabass
	118	Contrabass 2
ORCHESTRAL	119	String Tremolo
	120	Strings Pizzicato
	121	Harp
	122	Harp 2
	123	Harp 3

Bank	Number	Instrument
ORCHESTRAL	124	Timpani
	125	Timpani 2
	126	String Ensemble
	127	String Ensemble 2
	128	String Ensemble 3
	129	Synth Strings
	130	Synth Strings 2
	131	Synth Strings 3
	132	Synth Strings 4
	133	Choir Aahs
	134	Choir Aahs 2
	135	Vocal Oohs
ORCHESTRAL	136	Vocal Doo
	137	Synth Vocal
	138	Synth Vocal 2
	139	Orchestral Hlt
	140	Trumpet
	141	Trumpet 2
	142	Trumpet 3
	143	Trombone
	144	Trombone 2
	145	Trombone 3
	146	Trombone 4
	147	Tuba
ORCHESTRAL	148	Tuba 2
	149	Tuba 3
	150	Mute Trumpet
	151	Mute Trumpet 2
	152	French Horn
	153	French Horn 2
	154	French Horn 3
	155	French Horn 4
	156	Brass Section
	157	Brass Section 2
	158	Synth Brass
	159	Synth Brass 2
ORCHESTRAL	160	Synth Brass 3
	161	Synth Brass 4
	162	Synth Brass 5
	163	Synth Brass 6
	164	Soprano Sax

Bank	Number	Instrument
ORCHESTRAL	165	Soprano Sax 2
	166	Soprano Sax 3
	167	Soprano Sax 4
	168	Tenor Sax
	169	Tenor Sax 2
	170	Alto Sax
	171	Alto Sax 2
	172	Jazz Sax
	173	Baritone Sax
	174	Baritone Sax 2
	175	Oboe
	176	Oboe 2
ORCHESTRAL	177	English Horn
	178	English Horn 2
	179	Bassoon
	180	Bassoon 2
	181	Clarinet
	182	Clarinet 2
	183	NPK Lead
	184	NPK Lead 2
	185	Psy
	186	Slate
	187	1984
LEAD	188	Basic 1
	189	Basic 2
	190	Basic 3
	191	Basic 4
	192	Basic 5
	193	Basic 6
	194	Bounce_Drive
	195	Bounce_Nodrive
	196	Brass
	197	Choir
	198	Choir 2
	199	DarkDancer
LEAD	200	Deletion
	201	Dwarf
	202	Ecrystal
	203	Glitter
	204	Gloomy
	205	Highlight

Bank	Number	Instrument
LEAD	206	Hoty
	207	Marginal
	208	Motor
	209	Filtered Square
	210	Square
	211	Oscillating Sine
	212	Bass+Lead
	213	Sawtooth
	214	Sawtooth 2
	215	Sawtooth 3
	216	Bagpipe
	217	Magic
PAD	218	Sci Fi
	219	Sci Fi 2
	220	Eguitar Like
	221	Gloss
	222	Voice
	223	Voice 2
	224	EDM
	225	Fifths
	226	Fifths 2
	227	Bass+Lead 2
	228	Pad
	229	Pad 2
PAD	230	Pad 3
	231	Pad 4
	232	Pad 5
	233	Pad 6
	234	Pad 7
	235	Pad 8
	236	Pad 9
	237	Pad 10
	238	Pad 11
	239	Pad 12
	240	Pad 13
	241	Pad 14
OTHER	242	Pad 15
	243	JazzBass+Ride
	244	808kit
	245	Baga
	246	Bongos

Sound List

Bank	Number	Instrument
OTHER	247	Electronic Percussion
	248	JazzBass
	249	GM Percussion
	250	Fusion Drum
	251	Fusion Drum 2
	252	Double Bass
	253	NPK Sax
	254	Block
	255	Rubber
	256	Robot
	257	Engine
	258	HardBass
	259	Current
	260	Bug
	261	Retro Organ
	262	Retro Organ 2
	263	Comical
	264	Angry
	265	Stac Strings
	266	Acid Bass
	267	Egu4in_NoFx
	268	Chord
	269	ChinesePluck
	270	ChinesePluck 2
	271	Egu4in
METRONOMIE	1	330
	2	Electric
	3	English

Percussion Sound List

Bank	Number	Instrument
Percussion	244	808 Kit
	245	Bagia
	246	Bongos
	247	Electronic Percussion
	249	GM Percussion
	250	Fusion Drum
	251	Fusion Drum 2

Demo Song List

Number	Name	Shorter Name	Tempo
D001	Fantaisie-Imromptu	Fantaisie	148bpm
D002	Reverie	Reverie	86bpm
D003	Elfin dance	Elfin dance	145bpm
D004	Perpetuum Mobile	Perpetuum Mobile	192bpm
D005	Cuckoo	Cuckoo	139bpm
D006	EtudeOp10-10	EtudeOp10-10	100bpm
D007	Martha	Martha	170bpm
D008	Bumble-bee	Bumble-bee	150bpm
D009	Piano sonate Beethoven	Piano sonate Beethoven	157bpm
D010	Piano sonate Mozar	Piano sonate Mozar	125bpm
D011	Modlitwa dziewicy	Modlitwa dziewicy	80bpm
D012	Awakening in the forest	Awakening in the forest	168bpm
D013	Cakewalk Debussy	Cakewalk Debussy	112bpm
D014	Fantasia Schumann	Fantasia	50bpm
D015	Serenade Chopin	Serenade Chopin	54bpm
D016	Etude 740-49	Etude 740-49	116bpm
D017	Etude 105-8	Etude 105-8	160bpm
D018	Pearl	Pearl	84bpm
D019	Swallow	Swallow	138bpm
D020	Imromptu	Imromptu	90bpm
D021	Frohlicher Landmann	Frohlicher Landmann	120bpm
D022	Spring water	Spring water	59bpm
D023	March	March	144bpm
D024	Garrulous	Garrulous	108bpm
D025	Etude 105-2	Etude 105-2	164bpm
D026	Storm	Storm	152bpm
D027	Invention No8	Invention No8	117bpm
D028	Sonata Dussek	Sonata Dussek	132bpm
D029	Spring song	Spring song	60bpm
D030	Good-looks	Good-looks	100bpm
D031	Invention No.1Bach	Invention No.1Bach	95bpm
D032	Tarantella	Tarantella	240bpm
D033	Black key Etudes	Black key Etudes	115bpm
D034	Hesitation	Hesitation	144bpm
D035	Boat song In June	Boat song In June	84bpm
D036	Revolutionary Etudes	Revolutionary Etudes	132bpm
D037	Etude 105-9	Etude 105-9	146bpm
D038	Eccossaise Beethoven	Eccossaise Beethoven	113bpm
D039	Etude 740-35	Etude 740-35	95bpm
D040	Quick step	Quick step	156bpm
D041	Nocturne Chopin	Nocturne Chopin	52bpm

Demo Song List

Number	Name	Shorter Name	Tempo
D042	Etude Butterfly	Etude Butterfly	120bpm
D043	Ballad	Ballad	156bpm
D044	Song of flowers	Song of flowers	60bpm
D045	Serenade Burgnlueller	Serenade Burgnlueller	88bpm
D046	Dog Waltz	Dog Waltz	244bpm
D047	Annoyance	Annoyance	138bpm
D048	The dream of love	The dream of love	100bpm
D049	Dolly's Dream	Dolly's Dream	100bpm
D050	Blue	Blue	126bpm
D051	Pastoral	Pastoral	99bpm
D052	Go hunting	Go hunting	189bpm
D053	Etude 105-1	Etude 105-1	170bpm
D054	Humoresque	Humoresque	60bpm
D055	Naive and romantic	Naive and romantic	112bpm
D056	The song of hunting	The song of hunting	162bpm
D057	Quick Dance	Quick Dance	210bpm
D058	Forward	Forward	120bpm
D059	Farewell waltz	Farewell waltz	87bpm
D060	Parting Chopin	Parting Chopin	40bpm
D061	Clear stream	Clear stream	176bpm
D062	Raindrop	Raindrop	55bpm
D063	Melody in F	Melody in F	50bpm
D064	Arabic style Debussy	Arabic style Debussy	134bpm
D065	The Aria	The Aria	152bpm
D066	Moon Beethoven	Moon Beethoven	45bpm
D067	Return	Return	189bpm
D068	Sonata Clementi	Sonata Clementi	240bpm
D069	Fantasia Schumann	Fantasia Schumann	160bpm
D070	Etude 105-7	Etude 105-7	160bpm
D071	Tarantelle	Tarantelle	202bpm
D072	Goodbye	Goodbye	184bpm
D073	Delicate flowers	Delicate flowers	158bpm
D074	Etude 105-4	Etude 105-4	130bpm
D075	Arabian style song	Arabian style song	120bpm
D076	Moonlight Debussy	Moonlight Debussy	120bpm
D077	Babbler	Babbler	138bpm
D078	Morning bell	Morning bell	84bpm
D079	Etude 105-3	Etude 105-3	160bpm
D080	Comfort	Comfort	228bpm
D081	Monments Musical	Monments Musical	85bpm
D082	Turkey March Mozart	Turkey March Mozart	130bpm

Demo Song List

Number	Name	Shorter Name	Tempo
D083	Pathetique	Pathetique	189bpm
D084	Fur Elise Beethoven	Fur Elise Beethoven	41bpm
D085	Annoyance	Annoyance	112bpm
D086	Turkey March Beethoven	Turkey March Beethoven	82bpm
D087	Evening on the ranch	Evening on the ranch	144bpm
D088	Ecossaise Beethoven	Ecossaise Beethoven	113bpm
D089	Invention No.1Bach	Invention No.1Bach	95bpm
D090	ValseOp.64-2 Chopin	Valse Op.64-2	101bpm
D091	Minuet Bach	Minuet Bach	144bpm
D092	Midnight Dance	Midnight Dance	136bpm
D093	Gypsies	Gypsies	152bpm
D094	Average for clavier	Average for clavier	61bpm
D095	Sadness And Sorrow	Sadness And Sorrow	83bpm
D096	Performer	Performer	64bpm
D097	Whisper	Whisper	152bpm
D098	Maple Leaf Rag	Maple Leaf Rag	100bpm
D099	Chivalrous style	Chivalrous style	122bpm
D100	Gavotte Bach	Gavotte	144bpm

Rhythm List

Number	Name	Shorter Name	Tempo
1	8 Beat Ballad 1	8 Beat Ballad 1	94bpm
2	8 Beat Ballad 2	8 Beat Ballad 2	95bpm
3	Analogy Beat	Analogy Beat	85bpm
4	Trendy beat	Trendy beat	94bpm
5	Unplug 8 beat	Unplug 8 beat	114bpm
6	8 Beat groove	8 Beat groove	90bpm
7	8 Beat analog 1	8 Beat analog 1	120bpm
8	8 Beat Pop 2	8 BtPop 2	96bpm
9	6/8 Modern	6/8 Modern	64bpm
10	Classic beat	Classic beat	127bpm
11	Hiphop beat	Hiphop beat	125bpm
12	Pop beat	Pop beat	107bpm
13	Soft beat	Soft beat	74bpm
14	Standard 8 beat	Standard 8 beat	104bpm
15	8 Beat 2	8 Beat 2	104bpm
16	16 Beat 2	16 Beat 2	80bpm
17	Pop 16 Beat 4	Pop 16 Bt4	102bpm
18	Pop Fusion	PopFusn	100bpm
19	Brit.Pop 2	BritPop 2	130bpm
20	Fusion Shuffle	FusShuffl	160bpm
21	Pop Beat	PopBeat	99bpm
22	60's Pop	60'sPop	69bpm
23	Country folk 5	Country folk 5	116bpm
24	Country folk 6	Country folk 6	128bpm
25	Guitar Pop 2	GtPop 2	100bpm
26	8 Beat 3	8 Beat 3	128bpm
27	16 Beat Ballad 3	16 BtBld 3	90bpm
28	Slow Ballad	SlowBald	65bpm
29	Folk Ballad	FolkBald	82bpm
30	Pop Ballad 1	PopBld1	118bpm
31	Pop Ballad 2	PopBld 2	72bpm
32	Guitar Pop 2	PopBld 2	100bpm
33	16 Beat Ballad 1	16 BtBld 1	120bpm
34	Natural Ballad	NatulBld	102bpm
35	Love Ballad	LoveBald	110bpm
36	Easy Ballad	EasyBald	90bpm
37	Miami Folk	MiamiBld	106bpm
38	Rock&Roll 5	R N R 5	139bpm
39	Rock&Roll 6	R N R 6	124bpm
40	Bossa nova	Bossa nova	125bpm
41	Light rock beat 1	Light rock beat 1	119bpm

Rhythm List

Number	Name	Shorter Name	Tempo
42	8 Beat Blues Rock	8 BeatBtR	122bpm
43	8 Beat Rock	8 BtRock	100bpm
44	Ballad Rock	BaldRock	180bpm
45	HOUSE 1	HOUSE 1	133bpm
46	HOUSE 2	HOUSE 2	132bpm
47	Rhythm&Beat 1	Rhy&Bt 1	132bpm
48	8 Beat Disco	8 BtDisc	112bpm
49	8 Beat Disco 2	8 BtDisc 2	112bpm
50	16 Beat Dance	16 BtDanc	118bpm
51	Pop shuffle	Pop shuffle	90bpm
52	Pop dance	Pop dance	116bpm
53	Jazz 2	Jazz 2	130bpm
54	Jazz piano 1	Jazz piano 1	190bpm
55	UK R&B BEAT 1	UK R&B BEAT 1	94bpm
56	Country Shuffle	CnyShuffl	126bpm
57	Guitar-pop	Guitar-pop	92bpm
58	Pop Funk 1	PopFunk 1	126bpm
59	Pop Funk 2	PopFunk 2	126bpm
60	16 Beat Funk 1	16BtFuk 1	106bpm
61	16 Beat R&B	16 BtR&B	106bpm
62	16 Beat Funk 2	16 BtFuk 2	110bpm
63	R&B Ballad 1	R&BBld 1	94bpm
64	3/4 Village	3/4 Village	114bpm
65	8 Beat Hip hop	8 btHhop	95bpm
66	Pop shuffle	Pop shuffle	188bpm
67	Reggae latin	Reggae latin	102bpm
68	8 Beat analog 2	8 Beat analog 2	120bpm
69	Tango	Tango	118bpm
70	Tango 1	Tango 1	119bpm
71	UK 8 Beat	UK 8 Beat	92bpm
72	Waltz	Waltz	188bpm
73	Old Waltz	OldWaltz	88bpm
74	English Waltz	EngWaltz	90bpm
75	German Waltz	GenWaltz	164bpm
76	Italian Mazurka	ItaMazuk	143bpm
77	Mexico Waltz	MexWaltz	170bpm
78	Vienna Waltz	VinaWltz	172bpm
79	Slow Waltz 2	SlwWltz 2	90bpm
80	Jazz Waltz	JazzWltz	87bpm
81	Polka	Polka	120bpm
82	6/8 March	6/8 March	120bpm

Number	Name	Shorter Name	Tempo
83	German Polka	GemPolka	120bpm
84	Army March	ArmMarch	115bpm
85	March	March	120bpm
86	US March	USMarch	116bpm
87	French Musette	Fmusette	200bpm
88	Scottish	Scottish	112bpm
89	Rhythm & Beat 2	Rhy&Bt 2	106bpm
90	String Latin	String Latin	96bpm
91	New R&B Ballad	NewRBBld	82bpm
92	Romantic pianist	Romantic pianist	65bpm
93	Pop Pianist	Pop Pianist	62bpm
94	Pianist	Pianist	68bpm
95	Pianist 1	Pianist 1	60bpm
96	Pianist 2	Pianist 2	84bpm
97	Piano Pop	Piano Pop	70bpm
98	Swing Piano	Swing Piano	100bpm
99	Strok Piano	Strok Piano	100bpm
100	Rumba Piano	Rumba Piano	100bpm

Model: NUX NPK-20 BK/WE/RE

Keyboard: WKJ-03 88-Key Triple-Sensor Graded Hammer-Action Keyboard (with Escapement and Synthetic Ebony and Ivory Keytops)

Sound Chip: Dream 5708 DSP

Max.Polyphony: 108

Sounds: 271 high-quality sounds

Demo songs: 100

Auto Accompaniment Styles: 100

Function Areas: Keyboard & Effects Control Area, Navigation Area, Sounds & Accompaniment Control Area, Volume & Microphone Control Area, Common Functions Control Area

Display: TFT LCD 800x480dpi

Common Functions: Touch Sensitivity (5 levels), Transpose and Octave Shift, Metronome (9 beats types, 3 sounds), Dual Keyboard, Layered Sounds, Tone Brilliance, Reverb/Chorus/Delay/Compressor Effects, 9-Band EQ, Auto Accompaniment (Auto Chord, Sync Start, A/B Variations, Intro/Ending), Microphone Gain Control and Reverb, Recording (5 tracks)

Other functions: Bluetooth Audio, Bluetooth MIDI, User Presets (7 Slots), Auto Power-Off

Pedal: Damper(included), 3-Pedal Unit(optional)

Connectivity: USB MIDI, AUX IN (Stereo 3.5mm Jack), AUX OUT (L/MONO, R), PHONES X 2 (Stereo 3.5mm Jacks), Damper Pedal Jack, Pedal Unit Jack, Microphone Input (XLR and 6.35mm Combo Jack)

Amplifiers and Speakers: T1 Preamp Chip, 10Wx2 Oval Speaker(3"x6")

Power: DC 12V/2A

Dimensions: 1300mm(L)x270mm(W)x130mm(H)

Weight: 11.9kg

*Specifications may change without notice.

Accessories: Sustain pedal, Music stand, Power adapter.

Trouble	Possible Reason/Solution
The digital piano will puff when it is switched on.	Don't worry. This is normal.
Pressing a key makes no sound after the power is on.	Please confirm whether the master volume button is set properly or confirm whether the headphone jack is linked to other devices, which will automatically cut off the built-in speaker system.
Notes have slightly different quality under the same sound.	This is normal because different sound sampling ranges make different sound quality.
In pedal sustain function, some sound sustains longer, others shorter.	This is normal. The tenuto of different sounds of this digital piano has been set to optimized length.
The sound volume is too small.	Please confirm whether the master volume button is set properly.
Some MIDI Data can not be transmitted correctly (Even the MIDI cable is linked correctly).	This is normal. It is related to the original setting.
The speaker will make noise when a cell phone is nearby.	The cell phone will jam when it is nearby. The cell phone should be turned off or keep the cell phone away from the digital piano to avoid the jam.
The pitch doesn't match with the key while playing.	Maybe the Twin Piano function or Transpose function is turned on. Turning off Twin Piano or resetting Transpose to zero can solve the problem.
The sound can not be changed while playing. The pitch doesn't match with the key.	Maybe the Twin Piano function is turned on and the split point is set to the highest pitch. Turning off Twin Piano and setting the split point to the original status can solve the problem.
The demo song distorts or interrupts.	Maybe it has been playing in maximum power for a long time so that the circuit board self-protection system is activated in case of overheating. Turning down the volume or turning off the power for a while can solve the problem.

Trouble	Possible Reason/Solution
There are two sounds at the same time while playing.	Maybe you turned on dual voice function. Turning off dual voice function can solve the problem.
The tone's pitch is wrong.	Turn off Transpose function and restore the Master Tuning to default setting.
Key touch is different from before.	This digital piano has 5 touch sensitivity levels. Maybe you have chosen different levels. You can adjust the touch sensitivity again or reset to default level.

THE FCC REGULATION WARNING (for U.S.A.)

FCC Warning

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Any Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

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.

The device has been evaluated to meet general RF exposure requirement. The device can be used in portable exposure condition without restriction.