PHONES AUX IN   L/MONO   R   CRASH 2   TOM 4   IN   OUT   USB MIDI
                  ─── OUTPUT ───   ─── MIDI ───

MASTER

VOLUME

PHONES

PURE DRUM

MENU   ⌄   ⌃   ENTER   EXIT

CLICK   SONG   KIT   SAVE

TEMPO   RECORD   START / STOP

<   >

Digital Drum
Owner's Manual

INFORMATION FOR YOUR SAFETY!

THE FCC REGULATION WARNING (for USA)

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules.

These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

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

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

PRECAUTIONS

PLEASE READ CAREFULLY BEFORE PROCEEDING

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

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

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

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

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

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

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

Interference with other electrical devices
Radios and televisions placed nearby may experience reception interference. Operate this unit at a suitable distance from radios and televisions.

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

Handling
Do not apply excessive force to the switches or controls.

Do not let paper, metallic, or other objects into the instrument. If this happens, remove the electric plug from the outlet. Then have the instrument inspected by qualifie dservice personnel.

Disconnect all cables before moving the instrument.

Contents

Main Features

PURE DRUM Technology
No matter playing the pads with softly stroke or forcefully passion grooves, with this new technology, all performances can show up extremely wide range of velocity dynamics. Perfectly express the various changes of acoustic drums, all of these let you enjoy the real delicate nuances, capture the unique characteristics of acoustic drum kit from the PURE DRUM!

PURE DRUM—Bring the Natural and Realistic Voices to Your Performance!
With our unique PURE DRUM technology, which has vastly improved sound quality for digital drums, will reach a super natural and realistic sense for your ears. No matter playing the stroke roll or striking pads with velocity dynamic, all of these let you enjoy delicate nuances and natural voice, capture the unique characteristics of acoustic drum kit.

Simulating the Real Drum Pads and Cymbals
Our engineers are always keeping keen on simulating the real drum kit, this time we have redefined our previous pad designing, specialized surface material, even with superb trigger sensitivity, hand-feeling and mute function. Simulate various play effects: head/ bow shot, rim shot, ride, damper and so on.This creates a new era of digital drum.

Enjoy Playing with the USB Songs
Support directly playing songs (WAV and MP3 format) from the USB flash , even you can freely playing with the USB song, just enjoy your music.
Or play with the background music via the AUX IN terminal and instantly record/ save your perfect performance to the USB disk.

Download Your Favorite Voices to Drum Module
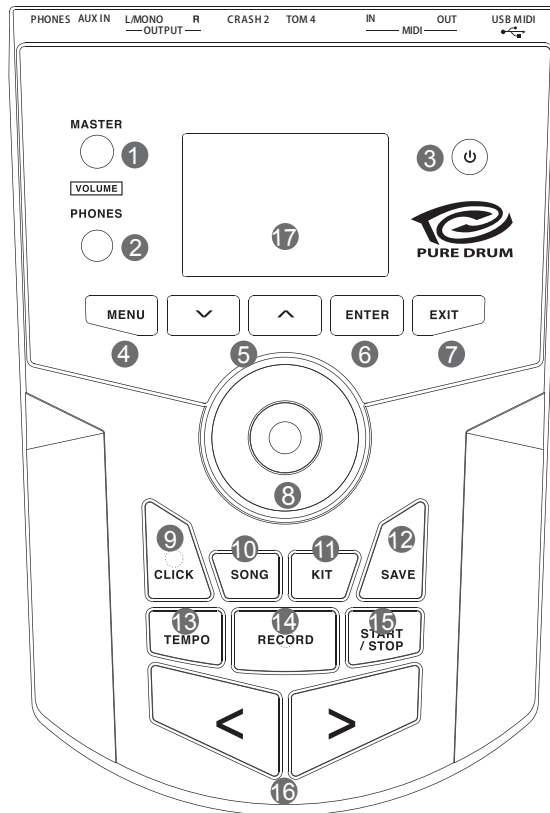Via the USB function, you can download your favorite wave samples (no matter download from the internet or soft sound source) to digital module and use them as the internal voices. This makes your drum voices limitless any more, try and experience this exciting function.

Steady Elegant Appearance
Equipped with full lattice LCD display and data dial, sufficiently shows the professional and user experience features.

Front Panel

1. [MASTER VOLUME] Knob
Adjust the output volume level.

2. [PHONES] Knob
Adjust the phones volume level.

3. [POWER] button
Press this button to power on/ off the module.

4. [MENU] Button
Enter menu mode.

5. [CURSOR +]/ [CURSOR -] Button
Select a specified item by moving the cursor position up/down.

6. [ENTER] Button
Enter the selected menu.

7. [EXIT] Button
Exit current menu and back to previous menu.

8. DATA DIAL
Use this to select drum kits or to quick edit values (increase/decrease value, select specified item).

9. [CLICK] Button
Start/Stop the metronome, enter the metronome parameter setting.

10. [SONG] Button
Enter Song mode.

11. [KIT] Button
Enter the Drum Kit mode.

12. [SAVE]Button
Save the drum kit/ pad settings.

13. [TEMPO] Button
Adjust the tempo value.

14. [RECORD] Button
Enter the quick record mode.

15. [START/STOP] Button
Start/ Stop playing back songs.

16. [<]/ [>] Button
Gradually increasing or decreasing the parameter value, also can be used to select kit, pad, and song parameters.

17. LCD Display
Shows the name and parameter settings of Kit, Voice, Song and so on.

Panel & Display Description

Rear Panel
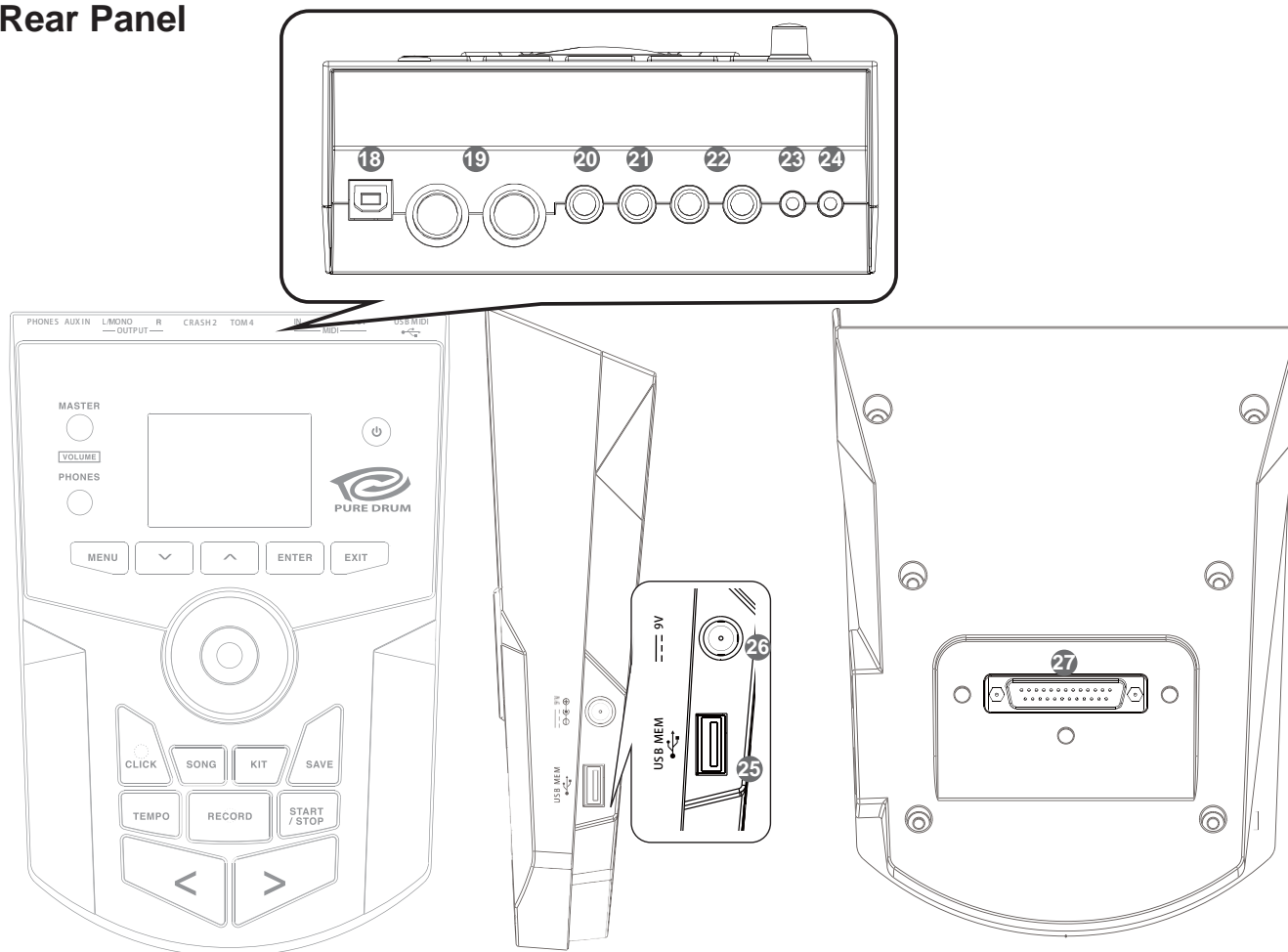
18. USB Terminal
Use this when you want to connect a PC/laptop or USB host device.
Note: Only transmit MIDI data.

19. MIDI Terminal (IN, OUT)
Use this to connect extra MIDI sequencer, transmit MIDI data.
MIDI IN Connector: receive MIDI data; you can receive MIDI data from an extra MIDI device or a PC/laptop.
MIDI OUT Connector: send MIDI data; you can send MIDI data to an extra MIDI device or a PC/laptop.

20. TOM 4 jack (1/4")
This allows you to connect additional Tom 4.

21. CRASH 2 jack (1/4")
This allows you to connect additional Crash 2.

22. OUTPUT jack (L/MONO, R) (2 x1/4")
Connect to your audio system or amplifier. For stereo output use both the L/MONO and R jacks. For monaural output use the L/MONO jack.

23. AUX IN jack (1/8")
For connecting an extra audio player, for example, MP3 and so on via a stereo plug. You can enjoy playing the drum along with your favorite songs.

24. PHONES jack (1/8")
Connect stereo headphones here. Detecting all output sounds.

25. USB Flash Drive port
Insert your USB flash drive here, and play back audio files from it. Or save setting data on it.

26. DC IN jack
Connect the AC adaptor here. Plug the AC adaptor cable into the DC IN jack.

27. TRIGGER INPUT CONNECTOR terminal
Connect the included dedicated cable to this connector, and use it to connect the pads and pedals.

LCD Display

1. Menu Item
   Display the current menu, such as "KIT", "VOICE", "SONG", "TRIGGER", "UTILITY" and so on.

2. Trigger Pad Name
   Display current selected Trigger pad name, such as "KICK", "SNARE", "SN-R", "TOM1", "T1-R" and so on.

3. Prompt Move Cursor Up/ Down
   Prompt to view more parameters by pressing cursor up/down button.
   Prompt Enter
   Prompt that you can enter current menu item for more settings.

4. External Device
   Indicate external device when it is correctly connected.

5. Strength of the pad strike
   Display the strength of the pad you strike.

6. The Main Parameter Information
   Display current main parameter information, as the picture shows.

7. Detailed Parameter Value
   Corresponding to main parameter, list detailed parameters.

Setup

<div style="border:1px solid black;padding:1em;text-align:center">

Caution!
To prevent electric shock and damage to the device, make sure the power is switched OFF on the drum and all related device before making any connection.

</div>

Connect the Pads and the Pedals
Standard configuration: KICK, SNARE (Dual-zone trigger), TOM 1~3(Dual-zone trigger), CRASH1 (Dual-zone trigger with choke), RIDE (Triple-zone trigger with choke), HI-HAT(Dual-zone trigger), HI-HAT CONTROL PEDAL.

Note:
1. Using the cables provided, connect each Trigger input jack on the rear panel of the module, and make sure each pad is connected to its corresponding trigger input jack.
2. For details on assembling the drum stand, attaching the digital drum and connecting pads, refer to the *Installation Manual* description.
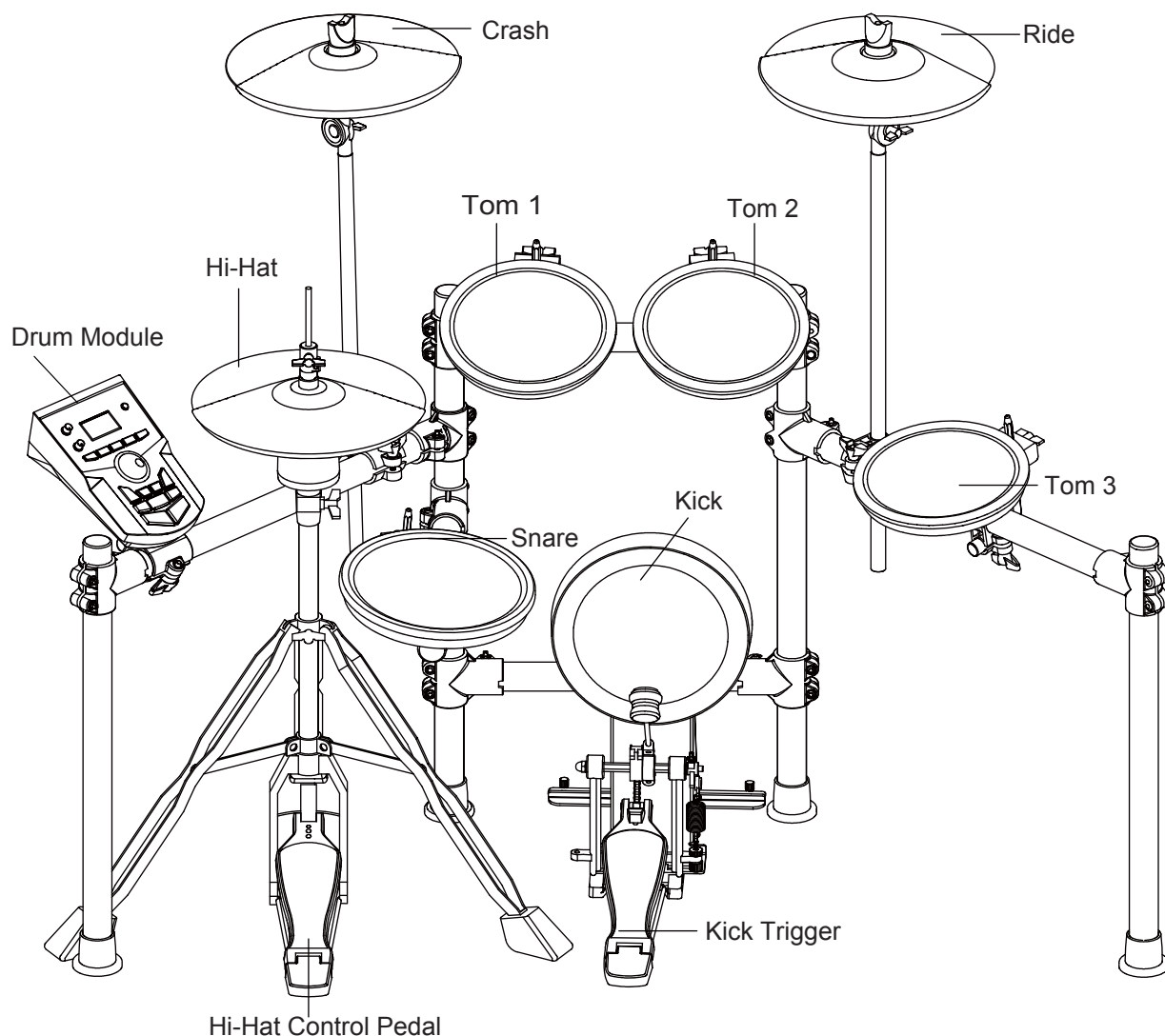
Setting up the Power Supply

1. Connect the DC plug of the AC power adaptor to the DC IN jack on the rear panel.

2. Connect the other end of the power cord to the AC outlet.

Note:
1. Only use the voltage specified as correct for the drum module.

2. Even when the module is turned off, electricity is still flowing to the module at the minimum level. When you are not using the drum module for a long time, make sure to unplug the AC power adaptor from the wall AC outlet.

Turning the Power On/Off

Turning the power on
Make sure that you have made all necessary connections (trigger, audio and so on), turn down all volume controls of the module and other audio equipments.

1. Turn both the [VOLUME] knobs always to minimize the volume.

2. Press the [POWER] button.

3. Turn the amplifier or audio system on, or listen to the headphones.

4. Striking the pads and adjust the volume by slowly turning the [PHONES VOLUME] and [MAIN VOLUME] knob towards the right direction. Keep turning until you get an appropriate value.

Turning the power off
1. Minimize the volume of the module and audio device.

2. Turn the connected external audio device off.

3. Keep pressing the [POWER] button until the power is turned off.

Hint:
You can restore the factory set by following steps:
a) Press the [<] and [>] buttons simultaneously.

b) Press [POWER] button.

c) Until the LCD displays "FactoryResetting…". Complete reset operation, the module will return to the KIT MENU.

About the Auto Power Off Function
For purpose of energy conservation and environmental protection, this function automatically turns the power off if there isn't any operation (eg, playing, striking , button pressing and so on) for about 30 minutes. You can enable or disable this function as you like. Refer to *Utility Settings*.

MASTER

VOLUME

Factory Resetting…
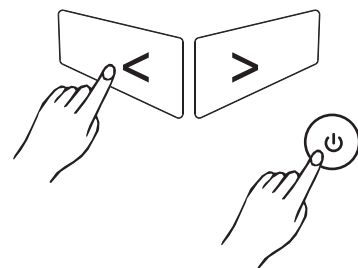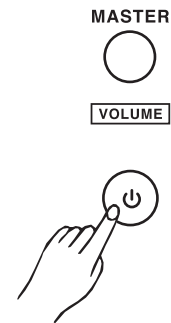
Drum Kits and Voices

An acoustic drum has only a fixed kit, but the digital drum set has a lot. It is a particular characteristic of digital drum.

The structure of a drum kit showed on the right:

KIT xx

KICK	SNARE	TOM1	TOM2	TOM3
Head	Head Rim	Head Rim	Head Rim	Head Rim

TOM4 (Option)	HI-HAT	CRASH1	CRASH2 (Option)	RIDE
Head Rim	Head Edge	Head Edge	Head Edge	Head Bell Edge

Drum kit setting: kit volume, 3-band EQ
Voice setting: Volume, Pan, Pitch, Reverb, Decay, Pad Song and so on.

Selecting a Drum Kit

1. Press the [KIT] button, enter drum kit menu.

The screen shows on the right:

KIT

    ACOUST1 049
    VOLUME   14
    EQ HIGH   +04
    EQ MIDDLE   +00
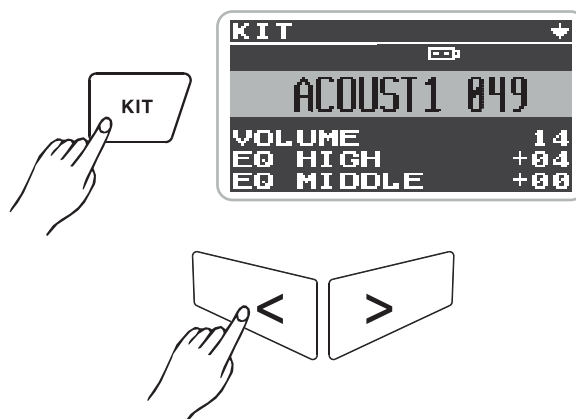
2. Press the [<]/ [>] button or data dial, select your desired drum kit. (Refer to *Drum Kit List*)

Selecting a Voice

While striking the pads, you can enjoy the ensemble sound effect. If you are not satisfied with the voice of any pads, change the voice as you want.

1. In the KIT menu, press the [MENU] button. Select the "VOICE" item and then press the [ENTER] button to enter the voice menu. The screen display is shown on the right:
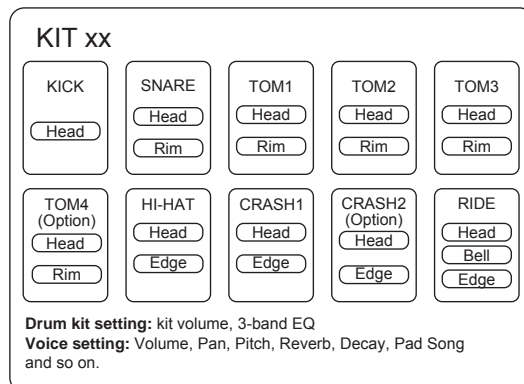
KIT MENU

    VOICE
    TRIGGER
    UTILITY
    USB MEMORY
    FACTORY
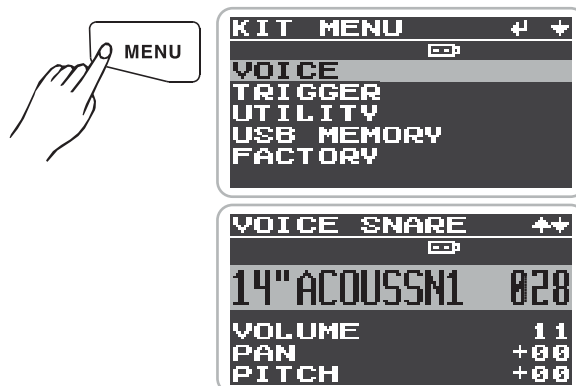
2. Strike the pad you want.
The screen will display the name of current pad.

VOICE SNARE

    14"ACOUSSN1   028
    VOLUME   11
    PAN   +00
    PITCH   +00

3. While striking the pad, press the [<] / [>] button or data dial until you get an appropriate voice for your pads. (Refer to *Voice List*)

Playing Techniques

This section introduces various performance functions to make your performance professional. Similar to an acoustic drum kit, the digital drum responds differently to various playing techniques and dynamics. All the pads are velocity sensitive. And some voices change timbre depending on the striking force.

Pad
Only the snare drum can detect both head shot and rim shot.

Head Shot
Strike only the head of the pad.

Head

Head

Rim
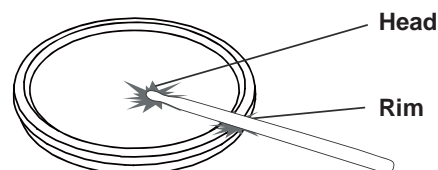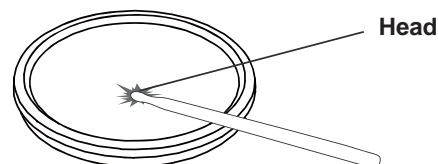
Rim Shot
Strike the head and the rim of the pad simultaneously. Or you can only strike the rim of the pad.

Cymbal
Cymbal Bow Shot
Strike the middle area of the cymbal.As shown in the figure.

Bow

Cymbal Edge Shot
Strike the edge area of the cymbal. As shown in the figure.

Edge

Cymbal Bell Shot
Strike the bell area of the cymbal. As shown in the figure.

Bell

Choke Play
Both Ride and Crash cymbals have cymbal choke. But hi-hat don't have the cymbal choke.
Choking the crash/ride edge with the hand immediately after hitting the crash/ride mutes the crash/ride sound.

Choke
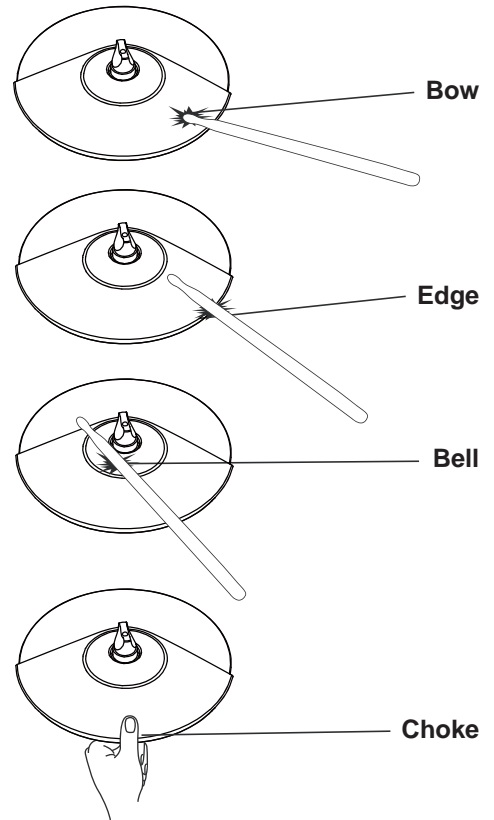
Hi-Hat
Hi-Hat Pedal Change
With different positions the pedal pressed down, the voice of pad varied while you are striking the Hi-Hat pad. And this is similar to an acoustic drum.

Open Hi-Hat
Strike the Hi-Hat pad without pressing the pedal.

Closed Hi-Hat
Strike the Hi-Hat pad with the pedal pressed completely down.

Hi-Hat Pedal
Press down the hi-hat controller's pedal to create a foot-close sound without having to strike the hi-hat pad.

Splash
Playing the hi-hat with the pedal fully pressed and then instantly releasing it.
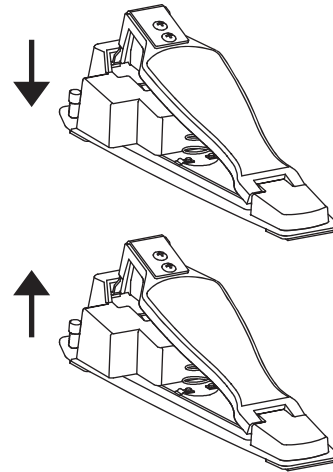
Select a Preset Drum Kit and Create a User Drum Kit

About the Preset and User Drum Kit
From no.1 to 50 are preset drum kits, and the drum kits from no.51 to 70 are user drum kits. You can edit the parameters of drum kit (from no.1-70), and save them into user drum kits (from no.51-70).

Note:
Please save your own parameter or voice after edited, otherwise, all data will be lost.

Edit the Drum Kit Parameters
Change the drum kit volume, the overall effect of drum kit will be affected. It means if you increase the volume of drum kit, all volume of the pads will be increased.

1. Press the [KIT] button, the LCD displays the first page of kit menu.

Press the [KIT] button again will quickly enter the user drum kit menu: KIT51.

Note:
The character "*", in front of the kit name, indicates that the data of user kit still keep the default value even after the reset operation.
(Please refer to the *Kit List*)

2. Press the [∧]/ [∨] button to select the item that you want to edit.

| Parameter	Value	Description
KIT NAME	Preset: 1~50 User: 51~70	Drum kit selection.
VOLUME	0~16	Adjust the volume of drum kit; the volume of each pad will be changed.
EQ HIGH	-12(dB)~12(dB)	Adjust the gain (amplitude change) in the EQ high frequency band.
EQ MID	-12(dB)~12(dB)	Adjust the gain (amplitude change) in the EQ middle frequency band.
EQ LOW	-12(dB)~12(dB)	Adjust the gain (amplitude change) in the EQ low frequency band.

3. Use the [<]/ [>] button or data dial to adjust parameter value.
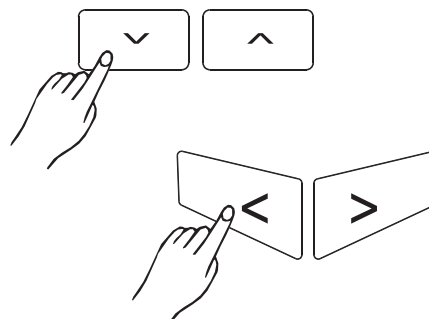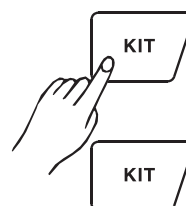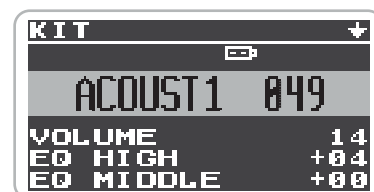
Edit the Voice Parameters
Editing parameters of one pad will not affect others. For example, if you increased the volume of a snare pad, the other pads wouldn't change their parameters.

1. Press the [KIT] button, and then press the [MENU] button later. Use the [∧]/ [∨] button to select the "VOICE" item, press the [ENTER] button to enter VOICE menu.

2. Press the [∧] button and use data dial or [<]/[>] button to select the pad that you want to edit. Or you can directly strike the specified pad.

3. Press the [∧]/ [∨] button to select the item that you want to edit.
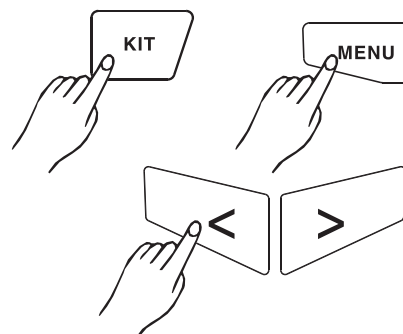
Parameter	Value	Description
TRIGGER	KICK, SNARE, SN-R, TOM1, T1-R…	Select the trigger input.
VOICE NAME	1~628, U01~U99	Select a voice. The U01~U99 represent user voice which download form USB flash drive.
VOLUME	0~16	Adjust the volume of voice.
PAN	-8~ +8	Adjust the pan of voice.
PITCH	-8~ +8	Adjust the pitch of voice.
REVERB	0~16	Adjust the reverb of voice.
DECAY	-5~0	Adjust the decay of voice.
PAD SONG	Off, 1-120	Switch the pad song on/off and choose the song number.

About the User Voice
You can download the wave samples which you like from USB flash drive into the module. We call them as "User Voice". The "User Voice" were used as same as the Preset Voices in module.

1. Use the [<] / [>] button or data dial to adjust parameter value.
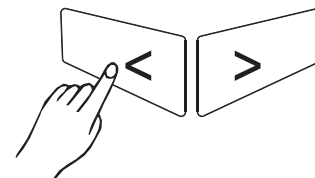
Save User Drum Kit
Please save your own parameter or voice after edited, otherwise, all data will be lost.

1. While in the drum kit and voice edit menu, pressing the [SAVE] button to enter user drum kit saving page.

2. Use the [<]/ [>] button or data dial to select a user drum kit. Press the [ENTER] button to confirm save operation.

3. Temporally display "Save OK!" about 2~3 seconds, and then back to KIT.
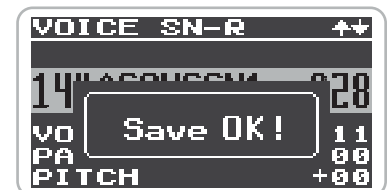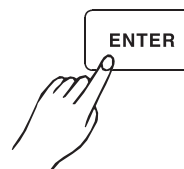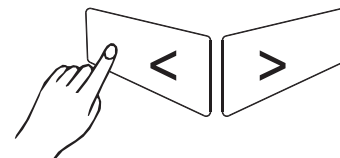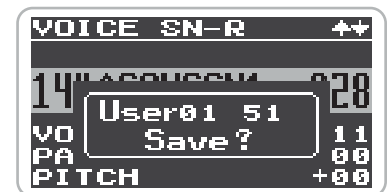
Note:
The character "*"in front of the kit name will disappear after saving.

Playing Along With a Song

There are up to 120 songs with variety of styles, including 70 Patterns, 10 Hits, 40 Taps, and 5 User songs (Refer to the *Song List*). You can play the drums while listening to one of these songs.

A song contains Drum part and Accompaniment part. Drum part means the rhythm you played on the pads; the Accompaniment part means percussion and melody. The volume of each part can be adjusted.

Playing Along With a Song

1. Press the [SONG] button to enter the selection menu.

Parameter	Value	Description
NUMBER	1~125 U01~U99	The number of songs: 1~60: Preset Patterns. 61~70: Preset Percussion loop. 71~80: Preset Hit 81~120: Preset Tap 121~125: User Song. U01~U99: WAV/MP3/MIDI files from SONG folder on the USB.
ACCOM VOL	0~16	Accompaniment volume.
DRUM VOL	0~16	Drum volume.
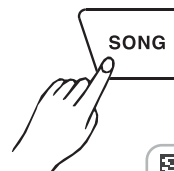
2. Press the [∧]/ [∨] button to select the item that you want to edit. Use the [<]/ [>] button to adjust parameter value.

3. Press the [START/STOP] button to play/stop songs.

4. In SONG menu, press the [SONG] again, switch between preset and USB flash drive songs. The menu of USB flash drive song:

Press the [START/STOP] button to play back WAV, MP3 or MIDI files. The buttons [∧]/ [∨] and [<]/ [>] are used to move the cursor position.

Temporally display "Processing...", and then begin playing the selected song, the first line displays time or beat.

5. In the SONG menu, press the [MENU] button to enter SONG MENU. Press the [∧]/ [∨] button to select the item that you want to edit.

6. Press the [∧]/ [∨] button to select the "USB FOLDER" item, and then press [ENTER] button to display the folders of USB flash drive, open folders and display the song files (It will auto back to this folder even being switched to other menu.).
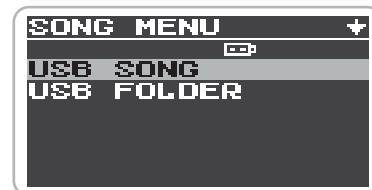
The module will load the songs from the default folder "SONG" in USB flash drive. Please accord to the operations above to enter related folder,if the mp3 songs located at other folder.
Up to 99 MP3/ WAV/ MIDI songs can be displayed in a folder.
If you have more than 99 MP3/ WAV/ MIDI songs on USB flash drive, please arrange them in different folders.

Format requires:
1. MIDI SONG: SMF 0, track number should be less than 16,
   PPQN ≤480, MIDI file size ≤128k byte.
2. WAV: Bit rates : ≤ 1536kbps, Sampling rates: ≤ 48kHz
3. MP3: Bit rates: ≤320kbps, Sampling rates: ≤48kHz.
4. Besides above formats, there will pop up an error message.

Metronome
Practicing with the metronome is the best way to follow the beats.
Choose a right tempo for your learning/ performance requirement.

Starting/ Stopping the Metronome
1. Press the [CLICK] button.

The metronome starts playing, and the button light will blink at the
current tempo. (Current time signature will be displayed on top
of LCD.)
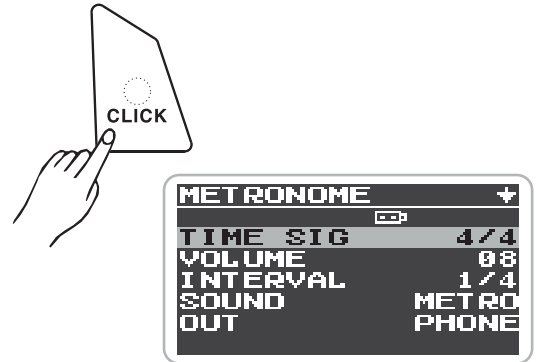
2. Press the [∧]/ [∨] button to select the item that you want to edit.
Use the [<]/ [>] button or data dial to adjust parameter value.

Parameter	Value	Description
TIME SIGNATURE	0-9/2, 0-9/4, 0-9/8, 0-9/16	Adjust the time signature.
VOLUME	0~16	Adjust the volume of metronome.
INTERVAL	1/2,3/8,1/4,1/8, 1/12,1/16	Adjust the rhythm interval.
CLICK NAME	METRO, CLAVES, STICKS, COWBELL, CLICK, VOICE	Select metronome voice which you want. There are totally 6 metronome voice types.
OUTPUT	PHONES ALL (PHONES+ OUTPUT)	Select the destination of metronome output.

3. Press the [CLICK] button again to stop the metronome, the light will
be off, and the display will return to the screen before entering
CLICK MENU.
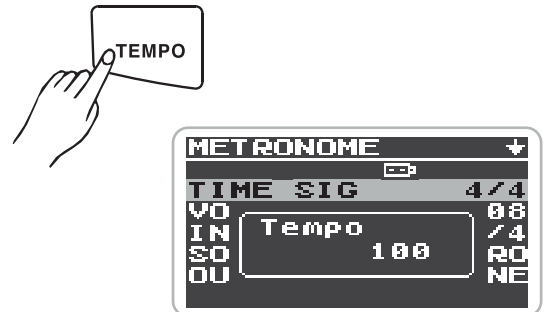
Adjusting the Tempo Value
1. Press the [TEMPO] button.

2. Use the [<]/ [>] button or data dial to adjust parameter value.

Note:
Temporally display tempo value about 3 seconds, automatically back
to the original mode.
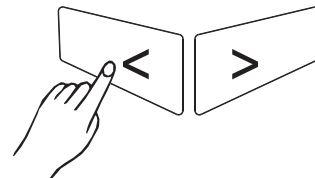
Record

In this chapter, we will introduce how to use this digital drum to record your own performance.
There are two methods to record: record as MP3 format or MIDI format.
a) When using an USB flash drive, auto record your own performance as MP3 files, up to 99 user songs can be recorded to an USB flash drive.
b) Without an USB flash drive, auto record your own performance as MIDI files, up to 5 user songs can be recorded in this drum module flash drive.

About how to prepare and start recording, please refer to the details bellow:

Prepare Recording

Before recording a song, you can preset these parameters as you like: Tempo, Kit, Time Signature, Interval and Song if background music needed.
After [RECORD] button pressed, please choose one position from USER SONG 121~125 to save the recorded song.

If the USB flash drive has been plugged, the recorded song will be mp3 format and will be automatically saved to the USB flash drive.

Start / Stop recording

1. You can start recording in real time while in the prepare recording menu, there are two ways to start recording:
Press the [START/STOP] button.
Strike one pad.

2. If you want to exit recording in the prepare recording menu, just one way as below.
Press the [RECORD] button again.

Note:
1. In Song menu, press the [RECORD] button, recording performance with accompaniment playing.
2. In Kit menu, press the [RECORD] button, only recording your drum part performance.

3. While recording, the [RECORD] button keeps lighting all the time and "RECORDING--" displays on the LCD.

4. Press the [START/STOP] button again to stop recording, and the [RECORD] button light will be off.

The recordings will be saved and the LCD displays"Saving…". When saved successfully, the system will return to record folder.
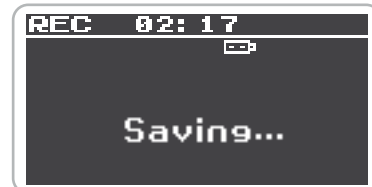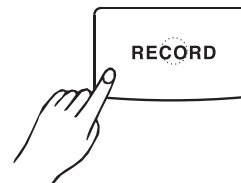
The Drum Pad Triggers Settings

About the Drum Pad Trigger Settings

As a professional drummer, you may be very pleased to set your drum triggers carefully corresponding to your playing habits and feelings, making your performance more interesting and professional. In the meantime, your digital drum will be more operable.

1. In the KIT menu, select the "TRIGGER" item.

2. Press the [∧]/ [∨] button to select the trigger parameters that you want to edit.
The drum pad trigger settings are shown below:

Parameter	Value	Description
SENSITIVITY	1~16	The sensitivity of the pads can be adjusted to satisfy your personal preference. If you adjust the sensitivity parameter to a high value, even a soft strike can produce loud sound. If you adjust the sensitivity parameter to a low value, even heavy strikes only produce low sound.
RIM SEN	1~16	Adjust the sensitivity of rim shot.
HEAD-RIM ADJ	1~16	Adjust the disturbance between head and rim shot.
THRESHOLD	1~16	The threshold of the pads means a specified signal level, and only the trigger signal above it can be sounded. This setting can prevent some unwanted sounding , such as crosstalk from other pads and so on. For example, B will sound but A and C will not sound. If it is set to a high value, no sound may be heared when strike lightly. You can adjust threshold like this: 1. Firstly set it to a low value; 2. Raise the value a little, then strike the pad to check and adjust; 3. Repeat step2 until the most suitable setting for performance has been achieved.
XTALK	1~16	"Crosstalk" means when one pad is hitted, another pad would also be triggered, which should be avoided. "XTALK" setting is set for that. Usually this may happen when two pads sit on the same stand. Sometimes crosstalk may be effectively prevented by increasing the distance between two pads. For example: If you hit the snare pad and the tom 1 also sounds. Striking the snare pad, and listen whether there is any sound from Tom 1. If yes, raise Tom1's "XTALK" value, and repeat this adjusting again until no crosstalk. Note: Be careful and don't set "XTALK" too high. Because in this situation, when two pads are hitted at the same time, the one which is striked gently may be judged as a "crosstalk" and not sound. So it is best to set "XTALK" to the minimum value required to prevent crosstalk.
CURVE	1~6	You can control the relation betweeen striking force and response volume by this setting.
RETRIG		Adjust the curve to satisfy your playing requirement. Refer to the CURVE description.
CANCEL	1~16	This setting avoids "re-triggering", which means that when you strike a pad once, maybe you can hear two hits coming from one strike. This may happen when pad vibrating. Adjust the "Retrigger Cancel" value and strike the pad to see if there is any re-triggering. Be careful to set it to a suitable value. If too high, some sounds may be ommitted when played fast; if too low, retrigger can't be prevented effectively. It is best to set it to a value just prevented retriggering.
MIDI NOTE	0~127	MIDI output key mapping
SPLASH SENS	1~5	Splash sensitivity. The higher value makes the splash easier.

3. Striking the specified pad, select the pad that you want to edit.

4. Use the [<] / [>] button or data dial to adjust the parameter value. When the LCD displays "--", it means these parameter values are fixed and unchangeable.
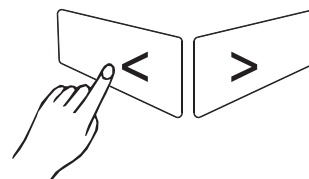
The Drum Pad Triggers Settings

Note:
The Curve descriptions are shown below:

Curve 1: The most natural setting. There is a linear change between playing dynamics and volume response.
Curve 2, 3: Compared to Curve 1, heavily strikings make greater change.
Curve 4, 5: Compared to Curve 1, gentle strikings make greater change
Curve 6: Even a soft strike can make strong volume, and the range of dynamic response is small. Especially when a drum trigger is used as an external pad, reliable triggering can be made.
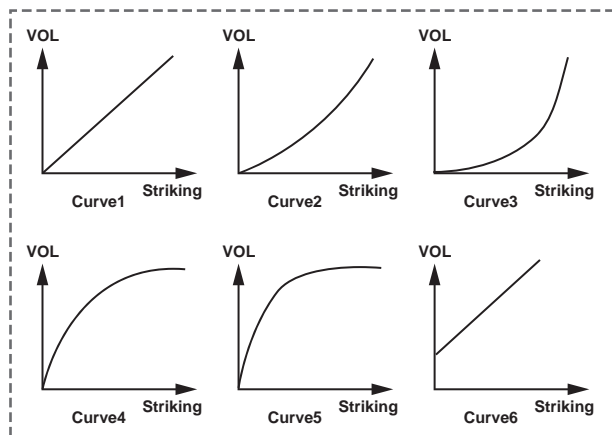
Save the Drum Pad Trigger Settings
Press [SAVE] button in TRIG menu to save your settings before turn off the power. Otherwise the settings you've edited will be lost.

Note:
Parameter settings above are efficient to all drum kits.
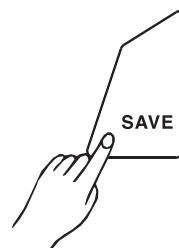
Utility Settings

1. In the KIT menu, select the "UTILITY" item.

```
UTILITY            ◆◆
             ⸺
GM MODE            ON
LOCAL CRTL         ON
L-R EXCHANG        OFF
AUTO POWER         OFF
```
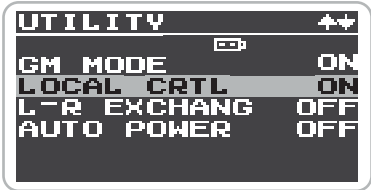
2. Press the [∧]/ [∨] button to select the utility parameters that you want to edit.

Parameter	Value	Description
GM MODE	ON/OFF	ON: The channel 10 will respond GM drum kit.
		OFF: The channel 10 will respond local drum kit.
LOCAL CTRL	ON/OFF	Describe the connection state about pad signal and internal sequencer with internal sound generator.
		ON: The pads and internal sequencer are connected to the digital drum's internal sound generator. Sounds are produced by the internal sound generator when the pads are struck.
		OFF: The pads and internal sequencer are disconnected from the digital drum's internal sound generator. Striking the pads does not cause sound to be produced by the internal sound generator.
L-R EXCHANG	ON/OFF	Exchange the left and right pad position.
		R: Normal settings.
		L: You can exchange the left and right pad position to satisfy the left-hand player.
AUTO POWER	30, 60 ,OFF	Factory settings, approximately 30 minutes.
		30: Automatically turns the power off if no operation for approximately 30 minutes.
		60: Automatically turns the power off if no operation for approximately 60 minutes.
		OFF: The power will not power off automatically.

3. Use the [<] / [>] button or data dial to adjust the parameter value.
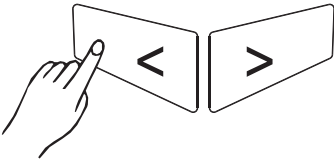
Using USB Flash Drive (USB Memory)

The USB flash drive function contains:

1. Sample/ Kit load or save. Transmit data between USB flash drive and drum module.

2. Format. Format the USB flash drive.

Note:
This digital drum supports 4G~64G USB flash drive which in FAT format. Brand Kinston and SanDisk are suggested.

1. In the KIT menu, select the "USB MEMORY" item.
Press the [ENTER] button, enter to the USB flash drive menu.

2. Press the [∧]/ [∨] button to select the USB flash drive function that you want.

Parameter	Description	Remarks
SAMPLE LOAD	Download wave samples to drum module from the external USB flash drive.	See the note below.
KIT SAVE	Save a user kit data of drum module to the external USB flash drive.	The saved file name is MyKitxxx.kit.
KIT LOAD	Save back a user kit data of USB flash drive to the drum module.	Transmit the MyKitxxx.kit file from the USB flash drive to the drum module.
FORMAT	Format the USB flash drive.	Strongly recommend formatting the USB flash drive once before using it.
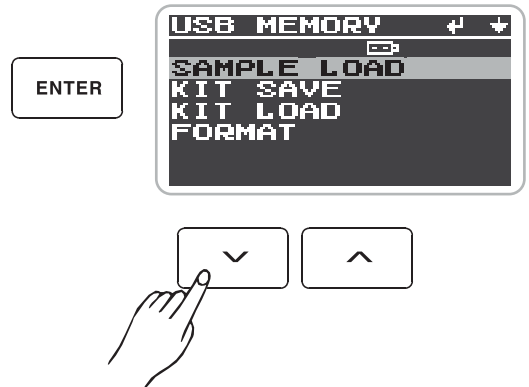
Sample Load
Wave sample on the USB flash drive can be downloaded/saved to the drum module in this function. These voices are called user voices.

1. There is no limitation of sample capacity except exceeding internal memory. Sample's size can reach to 15M Byte.

2. Requirement of Sample wav's format: mono 16 bit, 48k / 44.1k / 32k / 22.05k / 11.025k rate.

3. Samples in internal memory can only be deleted as a whole. One sample deleting is not permitted except that there is only one sample.

4. Both loaded samples and preset voices can be used in the same way.

Enter the "SAMPLE LOAD" interface. The LCD will list all wave files (.wav) which under the sample catalogue. It can display 99 files at most.

Select a sample from the USB flash drive:

Press the [ENTER] button to enter load interface:

Press the [ENTER] button again:
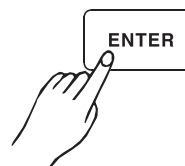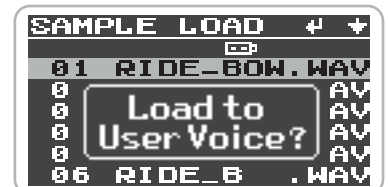
Note:
Loading speed is about XX minutes/MB. More time will be taken when loading larger samples. Please be patient when loading samples.
If loading failed, message "Unsupported file" will be displayed on the LCD when the format is not supported.

Kit Save

User kits of the drum module can be saved to a USB flash drive in this function.

Enter the KIT SAVE interface;the LCD displays kit number and name.

Note:
If currently selected kit name is blank, it indicates this kit doesn't exist and can be used to save a user kit.
Up to 99 kits can be saved in one folder on the USB flash drive.

Press the [ENTER] button to confirm your selection.

Note:
User kit is named "MYKITXXX" in default, and it is unchangeable.

Kit Load

User kits can be loaded from a USB flash drive to drum module in this function.
Enter the load interface, and the LCD will list kit files (.kit) which under the kit catalogue.

Press the [ENTER] button to confirm your selection.

Select a user kit position to load, and press the [ENTER] button to confirm your selection.
The pop-up box will disappear after a successfully loading, and you can continue downloading other kits.

Format

A USB flash drive can be formatted in this function. All data in this USB flash drive will be erased, so please backup important data before formatting.

Press [EXIT] button to exit the format menu.
Or press [ENTER] button to the next step.

Press [ENTER] button again to confirm your selection.
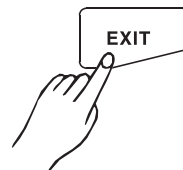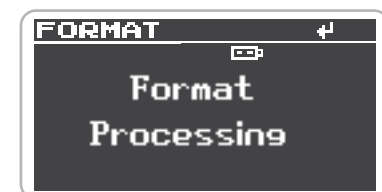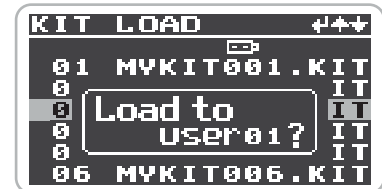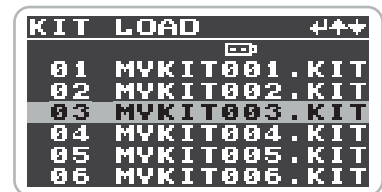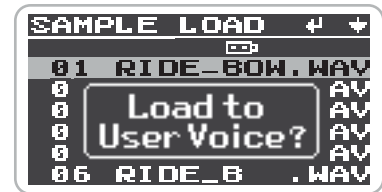
Factory Set

In this factory set menu, you can initialize all Kit, Song, and Voice settings individually.

1. In the KIT menu, select the "FACTORY SET" item.

2. Press the [∧]/ [∨] and [ENTER] button to select the factory setting that you want to edit.

Parameter	Description
KIT	Only initialize user kit settings.
SONG	Only initialize user songs.
VOICE	Only initialize user voices.
PAD SETTING	Only initialize pad settings.
ALL	Initialize all (above four) user settings.

Press [EXIT] to exit the factory set menu.
Or press [Enter] to the next step.

After temporal displaying of "Reset OK", it will return to factory set menu.

ENTER

EXIT

FACTORY SET
KIT
SONG
VOICE
PAD SETTING
ALL

FACTORY SET
All data
will be lost!
Enter or Exit?

FACTORY SET
All data
being erased...

FACTORY SET
Reset OK!

22

About MIDI

MIDI(Musical Instrument Digital Interface) is a standard which describes the rules and transmission among all kinds of MIDI devices, including computers. Connecting a digital drum to a computer with a MIDI cable, various instrument can be selected and played, and they also can be played in ensemble.

MIDI Connection
MIDI IN: This terminal receives MIDI data from an external MIDI device.
MIDI OUT: This terminal transmits data from the digital drum to other MIDI devices.

USB Connection
The USB connector allows you to connect the digital drum directly to your computer. It can be connected without installing a driver in Windows XP/Vista/Win7 or MAC OSX environments. The digital drum will be recognized as a "USB Audio device" to receive and transmit MIDI messages through a single USB cable. The USB port is used only for MIDI messages (MIDI via USB).

Making the MIDI Settings

In the KIT menu, select the "UTILITY" item (Please refer to *Utility Settings* chapter). Press the[∧]/ [∨] button to select the "LOCAL CTROL" or "GM MODE" item.

Use the [+] / [-] button or data dial to set the local control/ GM mode to ON or OFF.

MIDI Settings	
LOCAL CTRL	ON/OFF
GM MODE	ON/OFF

Local Control
Local OFF: The connection from pads and internal sequencer to internal sound generator is cut off. When pads are hitted, no sound will be generated by internal sound generator.
Local ON: The connection from pads and internal sequencer to internal sound generator is on. When pads are hitted, sound will be generated by internal sound generator.

GM Mode
Press the [+]/ [-] button, set GM mode to ON or OFF.
Refer to Using the Digital Drum as a Sound Module.

Connecting with an External Sound Device

The digital drum transmission channel for the drum kit is fixed to Channel 10. It will output MIDI data generated by the triggers when hitting the pads or stepping on the Hi-Hat control pedal (Note ON/OFF, and Foot messages).Song playback data and metronome notes are not transmitted.

Recording Your Performance to an External Sequencer
1. Connect the MIDI OUT of the digital drum to the MIDI IN of your sequencer, and the MIDI OUT of your sequencer to the MIDI IN of the digital drum. If you are using a software sequencer on a computer, you can simply connect the USB port of the digital drum to a USB port of your computer using a single USB A-B cable.

2. Setup the active track of your sequencer on Channel 10. Activate RECORD on your sequencer.

3. Play the pads/ Step on the pedal of your digital drum.

4. Stop recording. Locate your sequencer to the start of your recording.

5. Playback the recorded song.

Setting MIDI Note Number to be Transmitted/Received by Each Pad
Each drum kit has its own settings of MIDI note which can be transmitted/received by each pad, and is very useful for advanced purpose. Normally, we don't recommend changing them, but it still can be changed by following steps:

1. Press the [KIT] button and then [MENU] button, and use [∧]/ [∨] to enter the TRIG menu.

2. Press the [∧]/ [∨] button, select MIDI Note parameter.

3. Use the [<] / [>] button or data dial; change the MIDI Note Number for each pad. Press the [∧] button and use the [<]/[>] button or data dial to select the pad that you want to edit.Or you can directly strike the specified pad.

4. Press the [SAVE] button to save the trigger settings.

Trigger	MIDI Note	Trigger	MIDI Note	Trigger	MIDI Note	Trigger	MIDI Note
Kick	36	Tom2 Rim	47	Ride Edge	59	Hi-Hat Open	46
Snare	38	Tom3	43	Ride Bell	53	Hi-hat Edge Open	26
Snare R	40	Tom3 Rim	58	Crash1	49	Hi-Hat Close	42
Tom1	48	Tom4	41	Crash1 Edge	55	Hi-hat Edge Close	22
Tom1 Rim	50	Tom4 Rim	39	Crash2	57	Hi-Hat pedal	44
Tom2	45	Ride Bow	51	Crash2 Edge	52	Splash	21

Using the Digital Drum as a Sound Module
Connecting an external keyboard or sequencer to the MIDI Input allows you to use the digital drum as a multi-part, polyphonic sound module to play various instrument parts in addition to your drums (for instance, Piano on Channel 1, Bass on Channel 2, Strings on Channel 3, etc). The voices on each MIDI channel are selected using MIDI Program Change messages (refer to *GM Backing Instrument List*).

The MIDI system in the digital drum has 16 reception channels numbered from 1-16. Each of the channels is responsible for a voice. When the instrument receives MIDI information from an external device, the active channel is determined by the control message. Channel 10 is reserved for Drums. The digital drum has two options for Channel 10: GM ON or OFF, as selected in MIDI UTILITY menu.
- When GM Mode is ON, Channel 10 will play the GM percussion kits.
- When GM Mode is OFF, Channel 10 will play the digital drum kit which you select on panel.

Note:
For more information on receiving MIDI messages, refer to *MIDI implementation chart*.

Problem	Possible Cause and Solution
No sound	1. Rotate the [VOLUME] knob to be sure that the volume isn't down.
	2. To be sure that Local Mode should be set to "ON"
No sound from Pads	1. To be sure that the pad is connected correctly.
	2. To be sure not set the volume of the pad to 0.
No click sound	1. To be sure that the metronome is turned on.
	2. To be sure not set the volume of the click to 0.
The Pad volume doesn't match the Song playback volume.	1. Adjust the song playback volume to match the pad volume.
Cannot connect to the computer	1. Make sure that the USB has been correctly connected.
	2. Do the connection again (Keep the computer on, and then turn the module on, connect the USB cable).

Prompt Messages

Message	Meaning
MEMORY FULL !	The memory of user voice is full when loading samples.
NO SONG FOLDER !	There is no song folder on USB flash drive.
NO SONG !	No song in related song folder on USB flash drive.
NO SAMPLE !	There is not any sound sample in the VOICE folder on USB flash drive.
UNSUPPORTED FILE !	Unsupported file on USB flash drive.
NO USB MEMORY !	USB flash drive is not recognized.
NO KIT !	No kit data in KIT folder on USB flash drive.
RECORD FULL !	Internal memory is full when recording into internal user song.
USB DRIVE ERROR ! PRESS EXIT TO CONTINUE !	The USB flash drive can't be recognized or the object was plugged on USB MEMORY port caused short-circuit.

Specifications

Maximum Polyphony
64

Drum kits
Kit: 70 (50 Presets + 20 Users)
GM Drum Kit: 9 GM Drum Kits

Instruments
Preset voice: 628 (Drum Voice, Percussion Voice, Effect Voice)
14 Hi-hat Combination
User voice: up to 99 samples with 16M Byte in total.

Sequencer
Preset Pattern: 120
User Song: 5
Audio files with mp3 and wav format: 99 maximum under one folder in USB flash drive.
Tick: 192 ticks per beat
Record: Real-time Record
Data Capacity: About 6800 notes for each user song.

Tempo
30~280

Display
64 x 128 dots full lattice LCD display with backlit

Connectors
TRIGGER INPUT CONNECOR(DB25 type), TOM4,
CRASH2, PHONES(1/4"), AUX IN(1/4"), USB-MIDI,
USB HOST, MIDI IN, MIDI OUT, R,L/MONO

Control Buttons
Power on/off, Master Volume, Phones volume, Click,
Kit, Save, Record, Song, Start/Stop, Tempo, <, >,
Menu, Enter, Exit, ∧,∨.

Power Supply
DC 9V, 500mA

Module Dimensions
230（L） x 160（W） x 69（H）mm

Module Weight
0.5 kg

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

No.	PRESET KIT	No.	PRESET KIT	No.	PRESET KIT
1	Acoustic 1	21	African	41	Jazz Latin
2	Funk	22	Electronic	42	Standard 2
3	Standard 1	23	Reggae	43	Percussion 2
4	JazzBrush	24	Fusion	44	Techno
5	Dance	25	Drum & Bass	45	Vintage
6	Rock	26	Pop	46	Junkyard
7	Jazz	27	Brush	47	Acoustic 2
8	808	28	World	48	Noise
9	909	29	Orchestra	49	Studio 1
10	FunkBand	30	Ska	50	Studio 2
11	FX Mix	31	Songo		
12	Power	32	Lo-Fi		
13	Latin	33	1970's		
14	Room	34	HipHop		
15	Marimba	35	Big Band		
16	Percussion1	36	Old School		
17	Metal	37	R&B		
18	90'sPower	38	Magic		
19	Vibraphone	39	Live		
20	Indian	40	House		

Drum Voice List

No.	Name
Kick	
1	22'' Acoustic Kick 1
2	22'' Acoustic Kick 2
3	24'' Standard Kick
4	Brush Kick 1
5	Brush Kick 2
6	24'' Jazz Kick
7	22'' Rock Kick
8	Room Kick
9	Fusion Kick
10	1970's Kick
11	Vintage Kick
12	HipHop Kick
13	Reggae Kick
14	Big Band Kick
15	Old School Kick
16	Lo-Fi Kick
17	Junkyard Kick
18	Noise Kick
19	Drum & Bass Kick
20	808 Kick
21	909 Kick
22	Electronic Kick
23	Power Kick
24	Dance Kick
25	FX Mix Kick
26	Techno Kick
27	Magic Kick
Snare	
28	14" Acoustic Snare
29	14" Acoustic Snare Rim
30	14" Standard Snare
31	14" Standard Snare Rim
32	14" Funk Snare 1
33	14" Funk Snare Rim 1
34	14" Funk Snare 2
35	14" Funk Snare Rim 2
36	Brush Snare 1
37	Brush Snare Rim 1
38	Brush Snare 2
39	Brush Snare Rim 2
40	14" Jazz Snare
41	14" Jazz Snare Rim
42	14" Rock Snare
43	14" Rock Snare Rim
44	13" Damped Snare 1
45	13" Damped Snare 2
46	13" Damped Snare 3
47	Orchestra Snare
48	Orchestra Snare Rim
49	Room Snare
50	Room Snare Rim
51	Fusion Snare
52	Fusion Snare Rim
53	Big Band Snare
54	Big Band Snare Rim
55	Vintage Snare
56	Vintage Snare Rim
57	Live Snare
58	Live Snare Rim
59	Reggae Snare
60	Reggae Snare Rim
61	R&B Snare
62	R&B Snare Rim
63	808 Snare
64	808 Snare Rim
65	909 Snare
66	909 Snare Rim
67	Electronic Snare
68	Power Snare
69	Dance Snare
70	Dance Snare Rim
71	Old School Snare
72	Old School Snare Rim
73	House Snare
74	House Snare Rim
75	Lo-Fi Snare
76	Lo-Fi Snare Rim
77	Junkyard Snare
78	Junkyard Snare Rim
79	Noise Snare
80	Noise Snare Rim
81	Drum & Bass Snare
82	Drum & Bass Snare Rim
83	Techno Snare
84	Techno Snare Rim
85	Magic Snare
86	Magic Snare Rim
87	Acoustic Snare Stick
88	Standard Snare Stick 1
89	Brush Snare Stick
90	Standard Snare Stick 2
91	Rock Snare Stick 1
92	Rock Snare Stick 2
93	Live Snare Stick
94	Room Snare Stick
95	Fusion Snare Stick
96	808 Snare Stick
97	909 Snare Stick
98	Electronic Snare Stick
99	Old School Snare Stick
100	House Snare Stick
101	Lo-Fi Snare Stick
102	Junkyard Snare Stick
103	Noise Snare Stick
104	Techno Snare Stick
105	Brush Swirl
Tom	
106	Acoustic Tom 1
107	Acoustic Tom 1 Rim
108	Acoustic Tom 2
109	Acoustic Tom 2 Rim
110	Acoustic Tom 3
111	Acoustic Tom 3 Rim
112	Acoustic Tom 4
113	Acoustic Tom 4 Rim
114	Acoustic Tom 5
115	Acoustic Tom 5 Rim
116	Acoustic Tom 6
117	Acoustic Tom 6 Rim
118	Standard Tom 1
119	Standard Tom 1 Rim
120	Standard Tom 2
121	Standard Tom 2 Rim
122	Standard Tom 3
123	Standard Tom 3 Rim
124	Standard Tom 4
125	Standard Tom 4 Rim
126	Standard Tom 5
127	Standard Tom 5 Rim
128	Standard Tom 6
129	Standard Tom 6 Rim
130	Brush Tom 1
131	Brush Tom 1 Rim
132	Brush Tom 2
133	Brush Tom 2 Rim
134	Brush Tom 3
135	Brush Tom 3 Rim
136	Brush Tom 4
137	Brush Tom 4 Rim
138	Brush Tom 5
139	Brush Tom 5 Rim
140	Brush Tom 6
141	Brush Tom 6 Rim
142	Funk Tom 1
143	Funk Tom 1 Rim
144	Funk Tom 2
145	Funk Tom 2 Rim
146	Funk Tom 3
147	Funk Tom 3 Rim
148	Funk Tom 4
149	Funk Tom 4 R
150	Funk Tom 5
151	Funk Tom 5 Rim
152	Funk Tom 6
153	Funk Tom 6 Rim
154	Jazz Tom 1
155	Jazz Tom 1 Rim
156	Jazz Tom 2
157	Jazz Tom 2 Rim
158	Jazz Tom 3
159	Jazz Tom 3 Rim
160	Jazz Tom 4
161	Jazz Tom 4 Rim
162	Jazz Tom 5
163	Jazz Tom 5 Rim
164	Jazz Tom 6
165	Jazz Tom 6 Rim

166	Rock Tom 1		223	90's Power Tom 2		279	Magic Tom 2 Rim
167	Rock Tom 1 Rim		224	90's Power Tom 3		280	Magic Tom 3
168	Rock Tom 2		225	90's Power Tom 4		281	Magic Tom 3 Rim
169	Rock Tom 2 Rim		226	90's Power Tom 5		282	Magic Tom 4
170	Rock Tom 3		227	90's Power Tom 6		283	Magic Tom 4 Rim
171	Rock Tom 3 Rim		228	Lo-Fi Tom 1		**Ride**	
172	Rock Tom 4		229	Lo-Fi Tom 1 Rim		284	21" Acoustic Ride
173	Rock Tom 4 Rim		230	Lo-Fi Tom 2		285	21" Acoustic Ride Edge
174	Rock Tom 5		231	Lo-Fi Tom 2 Rim		286	21" Acoustic Ride Bell
175	Rock Tom 5 Rim		232	Lo-Fi Tom 3		287	22" Standard Ride
176	Rock Tom 6		233	Lo-Fi Tom 3 Rim		288	22" Standard Ride Edge
177	Rock Tom 6 Rim		234	Lo-Fi Tom 4		289	22" Standard Ride Bell
178	Fusion Tom 1		235	Lo-Fi Tom 4 Rim		290	Brush Ride 1
179	Fusion Tom 2		236	Lo-Fi Tom 5		291	Brush Ride 2
180	Fusion Tom 3		237	Lo-Fi Tom 5 Rim		292	20" Funk Ride
181	Fusion Tom 4		238	Lo-Fi Tom 6		293	20" Funk Ride Edge
182	1970's Tom 1		239	Lo-Fi Tom 6 Rim		294	20" Funk Ride Bell
183	1970's Tom 2		240	Junkyard Tom 1		295	22" Jazz Ride
184	1970's Tom 3		241	Junkyard Tom 1 Rim		296	22" Jazz Ride Edge
185	1970's Tom 4		242	Junkyard Tom 2		297	22" Jazz Ride Bell
186	Vintage Tom 1		243	Junkyard Tom 2 Rim		298	20" Rock Ride
187	Vintage Tom 2		244	Junkyard Tom 3		299	20" Rock Ride Edge
188	Vintage Tom 3		245	Junkyard Tom 3 Rim		300	20" Rock Ride Bell
189	Vintage Tom 4		246	Junkyard Tom 4		301	808 Ride
190	Vintage Tom 5		247	Junkyard Tom 4 Rim		302	Electronic Ride
191	Vintage Tom 6		248	Junkyard Tom 5		303	Electronic Ride Edge
192	808 Tom 1		249	Junkyard Tom 5 Rim		304	Electronic Ride Bell
193	808 Tom 2		250	Junkyard Tom 6		305	20" Room Ride
194	808 Tom 3		251	Junkyard Tom 6 Rim		306	20" Room Ride Edge
195	808 Tom 4		252	Noise Tom 1		307	20" Room Ride Bell
196	808 Tom 5		253	Noise Tom 1 Rim		308	HipHop Ride
197	808 Tom 6		254	Noise Tom 2		309	20" Metal Ride
198	808 Tom Fx 1		255	Noise Tom 2 Rim		310	20" Metal Ride Edge
199	808 Tom Fx 2		256	Noise Tom 3		311	20" Metal Ride Bell
200	909 Tom 1		257	Noise Tom 3 Rim		312	Old School Ride
201	909 Tom 2		258	Noise Tom 4		313	Old School Ride Edge
202	909 Tom 3		259	Noise Tom 4 Rim		314	Old School Ride Bell
203	909 Tom 4		260	Noise Tom 5		315	House Ride
204	909 Tom 5		261	Noise Tom 5 Rim		316	House Ride Edge
205	909 Tom 6		262	Noise Tom 6		317	House Ride Bell
206	909 Tom 7		263	Noise Tom 6 Rim		318	Vintage Ride
207	909 Tom 8		264	Techno Tom 1		319	Vintage Ride Edge
208	Electronic Tom 1		265	Techno Tom 1 Rim		320	Vintage Ride Bell
209	Electronic Tom 2		266	Techkno Tom 2		321	Lo-Fi Ride
210	Electronic Tom 3		267	Techno Tom 2 Rim		322	Lo-Fi Ride Edge
211	Electronic Tom 4		268	Techno Tom 3		323	Lo-Fi Ride Bell
212	Electronic Tom 5		269	Techno Tom 3 Rim		324	Junkyard Ride
213	Electronic Tom 6		270	Techno Tom 4		325	Junkyard Ride Edge
214	Electronic Tom 7		271	Techno Tom 4 Rim		326	Junkyard Ride Bell
215	Electronic Tom 8		272	Techno Tom 5		327	Noise Ride
216	Power Tom 1		273	Techno Tom 5 Rim		328	Noise Ride Edge
217	Power Tom 2		274	Techno Tom 6		329	Noise Ride Bell
218	Power Tom 3		275	Techno Tom 6 Rim		330	22" Big Band Ride
219	Power Tom 4		276	Magic Tom 1		331	22" Big Band Ride Edge
220	Power Tom 5		277	Magic Tom 1 Rim		332	22" Big Band Ride Bell
221	Power Tom 6		278	Magic Tom 2		333	Techno Ride
222	90's Power Tom 1						

Drum Voice List

No.	Voice	No.	Voice	No.	Voice
334	Techno Ride Edge	391	Noise Crash 1 Edge	445	Metronome Bell
335	Techno Ride Bell	392	Big Band Crash 1	446	Vibra-slap 1
Crash		393	Big Band Crash 1 Edge	447	Vibra-slap 2
336	16" Acoustic Crash 1	394	Big Band Crash 2	448	Vibra-slap 3
337	16" Acoustic Crash 1 Edge	395	Big Band Crash 2 Edge	449	Synthesis Percussion 1
338	16" Acoustic Crash 2	396	Techno Crash 1	450	Synthesis Percussion 2
339	16" Acoustic Crash 2 Edge	397	Techno Crash 1 Edge	451	High Q 1
340	16" Standard Crash 1	398	Techno Crash 2	452	High Q 2
341	16" Standard Crash 1 Edge	399	Techno Crash 2 Edge	453	Low Q 1
342	16" Standard Crash 2	400	Latin Crash 1	454	Low Q 2
343	16" Standard Crash 2 Edge	401	Latin Crash 1 Edge	455	Mute Hi Conga 1
344	Brush Crash 1	402	Latin Crash 2	456	Mute Hi Conga 2
345	Brush Crash 2	403	Latin Crash 2 Edge	457	Open Hi Conga 1
346	Brush Crash 3	404	China 1	458	Open Hi Conga 2
347	Brush Crash 4	405	China 1 Edge	459	Low Conga
348	Funk Crash 1	406	Splash	460	High Bongo
349	Funk Crash 1 Edge	407	Splash Edge	461	Low Bongo
350	Funk Crash 2	**HI-HAT**		462	High Timbale 1
351	Funk Crash 2 Edge	408	14" Acoustic Hi-hat	463	High Timbale 2
352	19" Jazz Crash 1	409	14" Acoustic Hi-hat Edge	464	High Timbale 2 Rim
353	19" Jazz Crash 1 Edge	410	14" Acoustic Hi-hat Pedal	465	High Timbale 3
354	19" Jazz Crash 2	411	14" Acoustic Hi-hat Splash	466	High Timbale 3 Rim
355	19" Jazz Crash 2 Edge	412	14" Standard Hi-hat	467	Low Timbale 1
356	Rock Crash 1	413	14" Standard Hi-hat Edge	468	Low Timbale 2
357	Rock Crash 1 Edge	414	14" Standard Hi-hat Pedal	469	Low Timbale 2 Rim
358	Rock Crash 2	415	14" Standard Hi-hat Splash	470	Low Timbale 3
359	Rock Crash 2 Edge	416	Brush Hi-hat	471	Low Timbale 4
360	808Crash	417	Brush Hi-hat Pedal	472	High Agogo
361	909Crash 1	418	Brush Hi-hat Splash	473	Low Agogo
362	909Crash 2	419	14" Rock Hi-hat 1	474	Claves
363	Electronic Crash 1	420	14" Rock Hi-hat Edge 1	475	Jingle Bell
364	Electronic Crash 2	421	14" Rock Hi-hat Pedal 1	476	Cowbell
365	Orchestra Crash 1	422	14" Rock Hi-hat Splash 1	477	Bell Tree 1
366	Orchestra Crash 2	423	14" Jazz Hi-hat	478	Bell Tree 2
367	Orchestra Crash 3	424	14" Jazz Hi-hat Edge	479	Tambourine
368	Room Crash	425	14" Jazz Hi-hat Pedal	480	Cabasa
369	Room Crash Edge	426	14" Jazz Hi-hat Splash	481	Long Guiro
370	1970's Crash 1	427	14" Rock Hi-hat 2	482	Short Guiro
371	1970's Crash 2	428	14" Rock Hi-hat Edge 2	483	Indian 1
372	Old School Crash 1	429	14" Rock Hi-hat Pedal 2	484	Indian 2
373	Old School Crash 1 Edge	430	14" Rock Hi-hat Splash 2	485	Indian 3
374	Old School Crash 2	431	808 Hi-hat	486	Indian 4
375	Old School Crash 2 Edge	432	808 Hi-hat Pedal	487	Indian 5
376	Vintage Crash 1	433	808 Hi-hat Splash	488	Indian 6
377	Vintage Crash 1 Edge	434	909 Hi-hat	489	Indian 7
378	Vintage Crash 2	435	909 Hi-hat Pedal	490	Indian 8
379	Vintage Crash 2 Edge	436	909 Hi-hat Splash	491	Indian 9
380	Lo-Fi Crash 1	437	Dance Hi-hat	492	Indian 10
381	Lo-Fi Crash 1 Edge	438	Dance Hi-hat Pedal	493	Indian 11
382	Lo-Fi Crash 2	439	Dance Hi-hat Splash	494	Indian 12
383	Lo-Fi Crash 2 Edge	440	Lo-Fi Hi-hat	495	Indian 13
384	Junkyard Crash 1	441	Lo-Fi Hi-hat Edge	496	Indian 14
385	Junkyard Crash 1 Edge	442	Lo-Fi Hi-hat Pedal	497	Indian 15
386	Junkyard Crash 2	443	Lo-Fi Hi-hat Splash	498	Indian 16
387	Junkyard Crash 2 Edge	**Percussion**		499	Indian 17
388	Noise Crash 1	444	Maracas	500	African 1
389	Noise Crash 1 Edge				

501	African 2	558	Vibraphone D5	613	FX 20
502	African 3	559	Vibraphone Eb5	614	One
503	African 4	560	Vibraphone E5	615	Two
504	African 5	561	Vibraphone F5	616	Three
505	African 6	562	Vibraphone Gb5	617	Four
506	African 7	563	Vibraphone G5	618	Five
507	African 8	564	Vibraphone Ab5	619	Six
508	African 9	565	Vibraphone A5	620	Seven
509	African 10	566	Vibraphone Bb5	621	Eight
510	African 11	567	Vibraphone B5	622	Nine
511	African 12	568	Vibraphone C6	623	Ti
512	African 13	569	Orchestra Timpani C2	624	Ta
513	African 14	570	Orchestra Timpani Db2	625	Ei
514	African 15	571	Orchestra Timpani D2	626	An
515	African 16	572	Orchestra Timpani Eb2	627	E
516	Marimba C3	573	Orchestra Timpani E2	628	Mute
517	Marimba A3	574	Orchestra Timpani F2	**HI-HAT Combination**	
518	Marimba C4	575	Orchestra Timpani Gb2	629	Acoustic
519	Marimba Db4	576	Orchestra Timpani G2	630	Funk Band
520	Marimba D4	577	Orchestra Timpani Ab2	631	Standard
521	Marimba Eb4	578	Orchestra Timpani A2	632	Jazz
522	Marimba E4	579	Orchestra Timpani Bb2	633	Jazz Brush
523	Marimba F4	580	Orchestra Timpani B2	634	Rock
524	Marimba Gb4	581	Orchestra Timpani C3	635	808
525	Marimba G4	582	Orchestra Timpani Db3	636	909
526	Marimba Ab4	583	Orchestra Timpani D3	637	Dance
527	Marimba A4	584	Orchestra Timpani Eb3	638	Marimba
528	Marimba Bb4	585	Orchestra Timpani E3	639	Vibraphone
529	Marimba B4	586	Orchestra Timpani F3	640	Indian
530	Marimba C5	587	Orchestra Timpani Gb3	641	African
531	Marimba Db5	588	Orchestra Timpani G3	642	Lo-Fi
532	Marimba D5	589	Orchestra Timpani Ab3		
533	Marimba Eb5	590	Orchestra Timpani A3		
534	Marimba E5	591	Orchestra Timpani Bb3		
535	Marimba F5	592	Orchestra Timpani B3		
536	Marimba Gb5	593	Orchestra Timpani C4		
537	Marimba G5	**FX**			
538	Marimba Ab5	594	FX 1		
539	Marimba A5	595	FX 2		
540	Marimba Bb5	596	FX 3		
541	Marimba B5	597	FX 4		
542	Marimba C6	598	FX 5		
543	Vibraphone G3	599	FX 6		
544	Vibraphone C4	600	FX 7		
545	Vibraphone Db4	601	FX 8		
546	Vibraphone D4	602	FX 9		
547	Vibraphone Eb4	603	FX 10		
548	Vibraphone E4	604	FX 11		
549	Vibraphone F4	605	FX 12		
550	Vibraphone Gb4	606	FX 13		
551	Vibraphone G4	607	FX 14		
552	Vibraphone Ab4	608	FX 15		
553	Vibraphone A4	609	FX 16		
554	Vibraphone Bb4	610	FX 17		
555	Vibraphone B4	611	FX 18		
556	Vibraphone C5	612	FX 19		
557	Vibraphone Db5				

Song List

No.	Name	LCD Name
PATTERN LOOP		
1	Blues Funk	BluesFk
2	Fusion	Fusion
3	Cool Jazz	CoolJazz
4	Ballad	Ballad
5	Samba1	Samba1
6	Retro Hip-Hop	ReHipHop
7	Nu Jazz Funk	NuJazzFk
8	Soul	Soul
9	R&B	R&B
10	Big Band 1	BigBand1
11	Ska	Ska
12	Classic Rock	ClassRk
13	Hardcore Hip-Hop	HaHipHop
14	Retro Dance Pop	DancePop
15	Nu-Metal	Nu-Metal
16	Salsa	Salsa
17	Eu Hip-Hop	EuHipHop
18	Bossa Nova	Bossa
19	Fusion 2	Fusion2
20	8Beat Pop	8BeatPop
21	Jazzy Funk	JazzyFk
22	Swing Big Band	SwBiBand
23	Raggae 1	Raggae1
24	60's Pop	60'sPop
25	Retro Funk	RetroFk
26	Trance	Trance
27	Heavy Rock	HavyRock
28	Swing	Swing
29	Punk	Punk
30	8Beat 1	8Beat1
31	Disco House	DisHouse
32	3/4 Folk	3/4Folk
33	Samba 2	Samba2
34	Latin Rock	LatinRk
35	Reggae 2	Reggae2
36	Dance	Dance
37	Country Pop	CtryPop
38	Country	Country
39	Rock Ballad	RkBallad
40	DancePop	DancePop
41	Bebop	Bebop
42	Rock N'Roll	R'N'R
43	Band Jazz	BandJazz
44	Blues	Blues
45	3/4 Jazz	3/4Jazz
46	80's Metal	80'sMetl
47	Drum N'Bass	D'N'B
48	6/8 Soul	6/8Soul
49	Latin Swing	LtnSwing
50	Funk	Funk
51	Break Beat	BrkBeat
52	Latin Jazz	LtnJazz
53	TripHop	TripHop
54	Brit Pop	Britpop
55	Neo-Thrash	Neo-Thra
56	BigBand 2	BigBand2
57	Mambo	Mambo
58	Shuffle	Shuffle
59	Gtr Bossa	GtrBossa
60	Latin Dance	LtnDance
PERCUSSION LOOP		
61	Indonesia	Indonesi
62	Latin	Latin
63	Bossa	Bossa
64	Samba	Samba
65	3/4 Pop	3/4Pop
66	Pop	Pop
67	Jazz	Jazz
68	Reggae 1	Reggae1
69	Reggae 2	Reggae2
70	Latin Rock	LtnRock
HIT		
71	New Age Tap 1	NewAgeT1
72	New Age Tap 2	NewAgeT2
73	Atmosphere Tap 3	AtmospT3
74	Atmosphere Of Celiet Tap 4	AtmCelT4
75	Polysynth Tap 5	PolysT5
76	Brass Tap 6	BrassT6
77	Pad(warm)Tap 7	WmPadT7
78	Fx Tap 8	FxT8
79	Sweep Tap 9	SweepT9
80	Rock Organ Tap 10	RkOrgT10
TAP		
81	Bass Tap 1	BassT1
82	Synth Bass Tap 2	SynBasT2
83	Bass Tap 3	BassT3
84	Bass Tap 4	BassT4
85	Bass Tap 5	BassT5
86	Swing Bass Tap 6	SwgBasT6
87	Bass Funk Tap 7	BsFunkT7
88	Bass Tap 8	BassT8
89	Bass Tap 9	BassT9
90	Bass Tap 10	BassT10
91	Crystal Tap 1	CrystlT1
92	Brightness Tap 2	BrightT2
93	Vibraphone Tap 3	VibraT3
94	Brightness Tap 4	BrightT4
95	Sawtooth Tap 5	SawT5
96	Funk Gtslide Tap 6	FunkGtT6
97	Slap Bass Tap 7	SlapBsT7
98	Chorused Piano Tap 8	ChrPnoT8
99	Fifth Tap 9	FifthT9
100	Melody Tap 10	MeloyT10
101	Brightness Tap 1	BrightT1
102	Rain Tap 2	RainT2
103	Lead Tap 3	LeadT3
104	Sci-fi Tap 4	Sci-fiT4
105	Soundtrack Tap 5	SndtrkT5
106	Funk Gtnote Tap 6	FunkGtT6
107	Slap Bass Tap 7	SlapBsT7
108	Chorused Piano Tap 8	ChoruT8
109	Chorused Piano Tap 9	ChrPnoT9
110	Tenor Sax Tap 10	TeSaxT10
111	Pad Tap 1	PadT1
112	Sci-fi Tap 2	Sci-fiT2
113	Square Tap 3	SqureT3
114	FX8 Tap 4	FX8T4
115	Rain Tap 5	RainT5
116	Funk Gtcut Tap 6	FunkGtT6
117	Bass Fx Tap 7	BassFxT7
118	Chorused Piano Tap 8	ChoruT8
119	Orchestra Hit Tap 9	OrchHtT9
120	Brass Section Tap 10	BrassT10

No.	Standard Set(BANK0)	Funk Set(BANK8)	Rock Set(BANK16)	Electric Set(BANK24)	Analog Set(BANK25)
Eb1[27]	High Q	←	←	←	←
E 1[28]	Slap				
F 1[29]	Scratch Push				
F#1[30]	Scratch Pull				
G 1[31]	Sticks				
G#1[32]	Square Click				
A 1[33]	Metronome Click				
Bb1[34]	Metronome Bell				
B 1[35]	Acoustic Bass Drum				
C 2[36]	Bass Drum 1	Funk Kick	Rock Kick Drum	Electric Bass Drum	Analog Bass Drum
C#2[37]	Side Stick				Analog Rim Shot
D 2[38]	Acoustic Snare	Funk Snare 1	Rock Snare Drum1	Electric Snare 1	Analog Snare 1
Eb2[39]	Hand Clap				Analog Clap
E 2[40]	Electric Snare	Funk Snare 2	Rock Snare Drum2	Electric Snare 2	Analog Snare 2
F 2[41]	Low Floor Tom	Funk LowTom2	Rock LowTom2	Electric Low Tom 2	Analog Low Tom2
F#2[42]	Closed Hi-hat				Analog Closed Hi-hat
G 2[43]	High Floor Tom	Funk LowTom1	Rock LowTom1	Electric Low Tom 1	Analog Low Tom1
G#2[44]	Pedal Hi-hat				Analog Pedal Hi-hat
A 2[45]	Low Tom	Funk MidTom2	Rock MidTom2	Electric Mid Tom 2	Analog Mid Tom2
Bb2[46]	Open Hi-hat				Analog Open Hi-hat
B 2[47]	Low-Mid Tom	Funk MidTom1	Rock MidTom1	Electric Mid Tom 1	Analog Mid Tom1
C 3[48]	High Mid Tom	Funk Hi Tom2	Rock HiTom2	Electric Hi Tom 2	Analog Hi Tom2
C#3[49]	Crash Cymbal 1				Analog Cymbal
D 3[50]	High Tom 1	Funk Hi Tom1	Rock HiTom1		Analog Hi Tom1
Eb3[51]	Ride Cymbal 1				
E 3[52]	China Cymbal				
F 3[53]	Ride Bell				
F#3[54]	Tambourine				
G 3[55]	Splash Cymbal				
G#3[56]	Cowbell				
A 3[57]	Crash Cymbal 2				
Bb3[58]	Vibra-slap				
B 3[59]	Ride Cymbal 2				
C 4[60]	High Bongo				
C#4[61]	Low Bongo				
D 4[62]	Mute Hi Conga				
Eb4[63]	Open Hi Conga				
E 4[64]	Low Conga				
F 4[65]	High Timbale				
F#4[66]	Low Timbale				
G 4[67]	High Agogo				
G#4[68]	Low Agogo				
A 4[69]	Cabasa				
Bb4[70]	Maracas				
B 4[71]	Short Whistle				
C 5[72]	Long Whistle				
C#5[73]	Short Guiro				
D 5[74]	Long Guiro				
Eb5[75]	Claves				
E 5[76]	Hi Wood Block				
F 5[77]	LowWood Block				
F#5[78]	Mute Cuica				
G 5[79]	Open Cuica				
G#5[80]	Mute Triangle				
A 5[81]	Open Triangle				
Bb5[82]	Shaker				
B 5[83]	Jingle Bell				
C 6[84]	Bell Tree				
C#6[85]	Castanets				
D 6[86]	Mute Surdo				
Eb6[87]	Open Surdo				

No.	Jazz Set(BANK32)	Brush Set(BANK40)	Orchestra Set(BANK48)	Dance Set(BANK56)
Eb1[27]			Closed Hi-hat 2	
E 1[28]			Pedal Hi-hat	
F 1[29]			Open Hi-hat 2	
F#1[30]			Ride Cymbal 1	
G 1[31]				
G#1[32]				
A 1[33]				
Bb1[34]				
B 1[35]			Concert BD 2	
C 2[36]	Jazz Kick 1	Brush Kick 1	Concert BD 1	Dance Bass Drum
C#2[37]				
D 2[38]	Jazz Snare 1	Brush Tap	Concert SD	Dance Snare 1
Eb2[39]			Castanets	
E 2[40]	Jazz Snare 2	Brush Slap	Concert SD	Dance Snare 2
F 2[41]		Brush Low Tom2	Timpani F	Dance Low Tom2
F#2[42]			Timpani F#	Dance Closed Hi-hat
G 2[43]		Brush Low Tom1	Timpani G	Dance Low Tom1
G#2[44]			Timpani G#	Dance Pedal Hi-hat
A 2[45]		Brush Mid Tom2	Timpani A	Dance Mid Tom2
Bb2[46]			Timpani A#	Dance Open Hi-hat
B 2[47]		Brush Mid Tom1	Timpani B	Dance Mid Tom1
C 3[48]		Brush Hi Tom2	Timpani C	Dance Hi Tom2
C#3[49]			Timpani C#	Dance Cymbal
D 3[50]		Brush Hi Tom1	Timpani D	Dance Hi Tom1
Eb3[51]			Timpani D#	
E 3[52]			Timpani E	
F 3[53]			Timpani F	
F#3[54]				
G 3[55]				
G#3[56]				
A 3[57]				
Bb3[58]				
B 3[59]				
C 4[60]				
C#4[61]				
D 4[62]				
Eb4[63]				
E 4[64]				
F 4[65]				
F#4[66]				
G 4[67]				
G#4[68]				
A 4[69]				
Bb4[70]				
B 4[71]				
C 5[72]				
C#5[73]				
D 5[74]				
Eb5[75]				
E 5[76]				
F 5[77]				
F#5[78]				
G 5[79]				
G#5[80]				
A 5[81]				
Bb5[82]				
B 5[83]				
C 6[84]				
C#6[85]				
D 6[86]				
Eb6[87]				

GM Backing Voice List

PIANO		STRINGS		LEAD	
1	Acoustic Grand Piano	41	Violin	81	Lead1 (square)
2	Bright Acoustic Piano	42	Viola	82	Lead2 (sawtooth)
3	Electric Grand Piano	43	Cello	83	Lead3 (calliope)
4	Honky-Tonk Piano	44	Contrabass	84	Lead4 (cliff)
5	E.Piano 1	45	Tremolo Strings	85	Lead5 (charang)
6	E.Piano 2	46	Pizzicato Strings	86	Lead6 (voice)
7	Harpsichord	47	Orchestral Harp	87	Lead7 (fifths)
8	Clavi	48	Timpani	88	Lead8 (bass & lead)
MALLET		**STRINGSENSEMBLE**		**PAD**	
9	Celesta	49	Strings Ensemble 1	89	Pad1 (newage)
10	Glockenspiel	50	Strings Ensemble 2	90	Pad2 (warm)
11	Music Box	51	Synth Strings 1	91	Pad3 (polysynth)
12	Vibraphone	52	Synth Strings 2	92	Pad4 (choir)
13	Marimba	53	Choir Aahs	93	Pad5 (bowed)
14	Xylophone	54	Voice Oohs	94	Pad6 (metallic)
15	Tubular Bells	55	Synth Voice	95	Pad7 (halo)
16	Dulcimer	56	Orchestra Hit	96	Pad8 (sweep)
ORGAN		**BRASS**		**EFFECTS**	
17	Drawbar Organ	57	Trumpet	97	FX1 (rain)
18	Percussive Organ	58	Trombone	98	FX2 (soundtrack)
19	Rock Organ	59	Tuba	99	FX3 (crystal)
20	Church Organ	60	Muted Trumpet	100	FX4 (atmosphere)
21	Reed Organ	61	French Horn	101	FX5 (brightness)
22	Accordion	62	Brass Section	102	FX6 (goblins)
23	Harmonica	63	Synth Brass 1	103	FX7 (echoes)
24	Tango Accordion	64	Synth Brass 2	104	FX8 (sci-fi)
GUITAR		**REED**		**ETHNIC**	
25	Nylon Guitar	65	Soprano Sax	105	Sitar
26	Steel Guitar	66	Alto Sax	106	Banjo
27	Jazz Guitar	67	Tenor Sax	107	Shamisen
28	Clean Guitar	68	Baritone Sax	108	Koto
29	Muted Guitar	69	Oboe	109	Kalimba
30	Overdriven Guitar	70	English Horn	110	Bagpipe
31	Distortion Guitar	71	Bassoon	111	Fiddle
32	Guitar Harmonics	72	Clarinet	112	Shanai
BASS		**PIPE**		**PERCUSSIVE**	
33	Acoustic Bass	73	Piccolo	113	Tinkle Bell
34	Finger Bass	74	Flute	114	Agogo
35	Pick Bass	75	Recorder	115	Steel Drums
36	Fretless Bass	76	Pan Flute	116	Wood Block
37	Slap Bass 1	77	Blown Bottle	117	Taiko Drum
38	Slap Bass 2	78	Shakuhachi	118	Melodic Tom
39	Synth Bass 1	79	Whistle	119	Synth Drum
40	Synth Bass 2	80	Ocarina	120	Reverse Cymbal
SOUNDEFFECTS					
121	Guitar Fret Noise				
122	Breath Noise				
123	Seashore				
124	Bird Tweet				
125	Telephone Ring				
126	Helicopter				
127	Applause				
128	Gunshot				

MIDI Implementation Chart

Function...		Transmitted	Recognized	Remarks
Basic	Default	10ch	1－16	
Channel	Changed	×	×	
Mode	Default	×	×	
	Messages	×	×	
	Altered	***********	***********	
Note		0—127	0－127	
Number:	True voice	***********	0－127	
Velocity	Note on	○99H,V=1-127	○	
	Note off	○（99H,V=0）	○	
After	Key's	×	○	
Touch	Channel's	×	×	
Pitch Bend		×	○	
Control	0	×	○	Bank Select
Change	1	×	○	Modulation
	5	×	○	Portamento Time
	6	×	○	Data Entry
	7	×	○	Volume
	10	×	○	Pan
	11	×	○	Expression
	64	×	○	Sustain Pedal
	65	×	○	Portamento ON/OFF
	66	×	○	Sostenuto Pedal
	67	×	○	Soft Pedal
	80	×	○	Reverb Program
	81	×	○	Chorus Program
	91	×	○	Reverb Level
	93	×	○	Chorus Level
	120	×	○	All Sound Off
	121	×	○	Reset All Controllers
	123	×	○	All Notes Off
Program		○	○	
Change	: True #	××××××	0-127	
System	Exclusive	×	○	
System	: Song Position	×	×	
Common	: Song Select	×	×	
	: Tune	×	×	
System	: Clock	○	×	
Real Time	: Commands	○	×	START and STOP only
Aux	: Local ON/OFF	×	×	
	: All Notes OFF	×	×	
Messages	: Active Sense	×	×	
	: Reset	×	×	

O : YES   X : NO