Digital Drum

Owner's Manual

VOLUME

− +

TEMPO   BEAT

110   1

KIT

NUM   01

NORMAL

SONG   KIT   VOICE

PATTERN   RHYTHM   BEAT

LEARNING

START/
STOP

SAVE

PAGE/SELECT

CLICK   DRUM OFF

TEMPO   UTILITY

RECORD

PLAY/PRACTICE

< | >

CRASH 1   RIDE

TOM 1   TOM 2

HI-HAT   CRASH 2
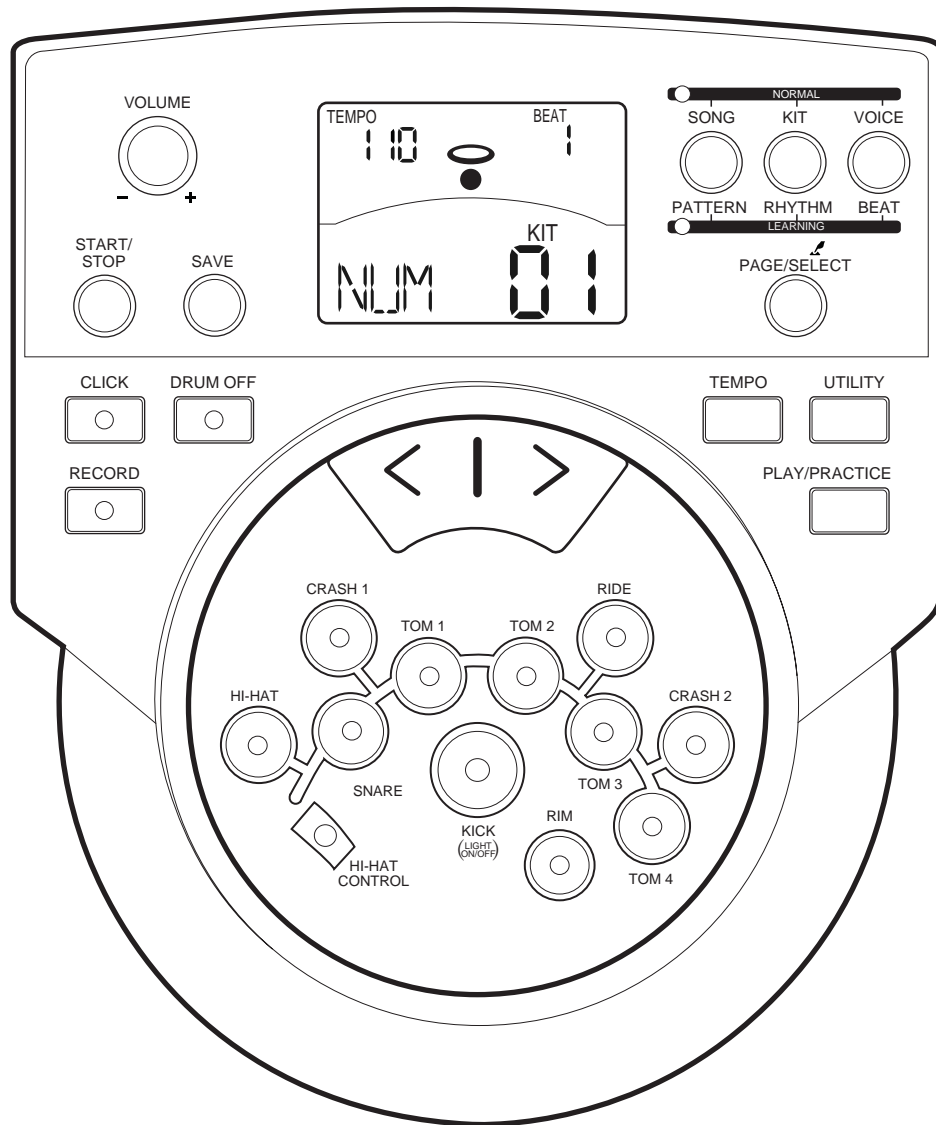
SNARE   TOM 3

KICK
(LIGHT
ON/OFF)   RIM

HI-HAT
CONTROL   TOM 4

GENERAL
MIDI

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.

CAUTION

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

PRECAUTIONS

PLEASE READ CAREFULLY BEFORE PROCEEDING

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

Power Supply

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

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

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

Connections

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

Location

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

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

Interference with other electrical devices

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

Cleaning

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

Handling

Do not apply excessive force to the switches or controls.

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

Disconnect all cables before moving the instrument.

Contents

QUICK START ADVANCED USE APPENDICES

3

Panel Description

Front Panel

1 VOLUME Knob
Adjust the volume of phone and line output.

2 START/STOP Button
Start or stop playing.

3 SAVE Button
This button is used to save the current kit settings in a user kit and save the trigger settings under the Utility menu pages.

4 LCD Display
Please refer to the LCD Display section.

5 SONG/PATTERN Button
Enter the Song menu in NORMAL mode or enter the Pattern Practice menu in LEARNING mode.

6 KIT/RHYTHM Button
Enter the Kit menu in NORMAL mode or enter the Rhythm Practice menu in LEARNING mode.

7 VOICE/BEAT Button
Enter the Voice menu in NORMAL mode or enter the Beat Practice menu in LEARNING mode.

8 PAGE/SELECT Button
Scroll through the menu pages. Press and hold it for 1 second to switch modes between NORMAL and LEARNING.

9 CLICK Button
Turn the metronome on or off and enter the Click menu in NORMAL mode.

10 DRUM OFF Button
Mute the drum part of the pattern.

11 TEMPO Button
Adjust the current tempo.

12 UTILITY Button
Enter the Utility menu in NORMAL mode.

13 RECORD Button
Enter the Record menu in NORMAL mode.

14 PLAY/PRACTICE Button
Play back your recording in NORMAL mode.
Start practicing following sample practice patterns in LEARNING mode.
Press and hold it for 1 second to play back your practice in LEARNING mode.

15 ＜Button and ＞Button
Press the [＞] button increases and press [＜] button decreases the current parameter.

16 Pad Select Buttons
These buttons play the pad voices of the current kit. In Voice menu and Utility menu, they select the pad to be edited.

Rear Panel & Side Panel

17 AUX IN Jack(1/8")
This stereo input jack is for an external sound source, such as an MP3 or CD player.

18 LINE OUTPUT Jacks(1/4")
Stereo output connection to an audio system or drum amplifier.

19 CRASH 2 Jack(1/4")
Input connection for Crash 2.

20 TOM 4 Jack(1/4")
Input connection for Tom 4.

21 MIDI Connectors (IN, OUT)
These ports allow communication with other products equipped with a MIDI interface.

22 USB Connector
This port is used to connect to a computer (MIDI In/Out via USB).

23 PAD Connectors
Input connections for Kick, Snare, Tom, Cymbal pads and Hi-Hat control pedal.

24 PHONES Jack(1/8")
This stereo jack is used to connect headphones to the unit.

25 POWER Switch
This switch turns the power on and off.

26 DC IN Jack
Connect the included DC 9V power adaptor.
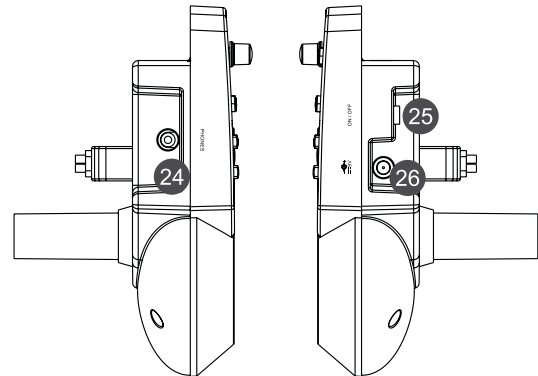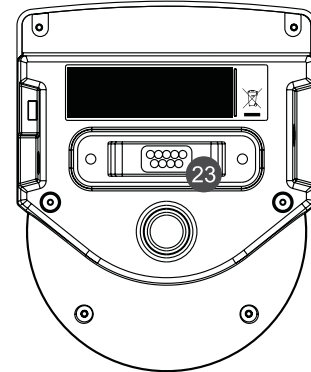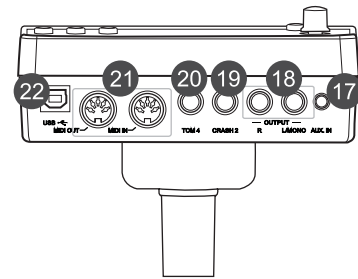
Display

1 Tempo/Measure

2 Hitting Indicator

3 Beat Count

4 Indicators for Learning

5 Indicators for Menus (Such as UTILITY, REC, etc.)

6 Current Mode and Parameter Display
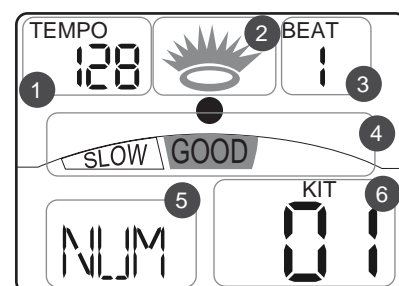
Setup

Connecting Pads and Pedals

Standard: KICK, SNARE, TOM1-3, CRASH1, RIDE, HIHAT, HIHAT CONTROL PEDAL
Extended: CRASH2, TOM4
Using the provided cables, connect with kick, snare, tom1~tom3, ride, crash, hi-hat, hi-hat control triggers. Snare, tom are stereo input, support double triggering (increase edge triggering); crash1, crash2 are stereo input, which support choke; ride, kick, hi-hat are mono input, which can't response edge triggering. Hi-hat control pedal is stereo input.
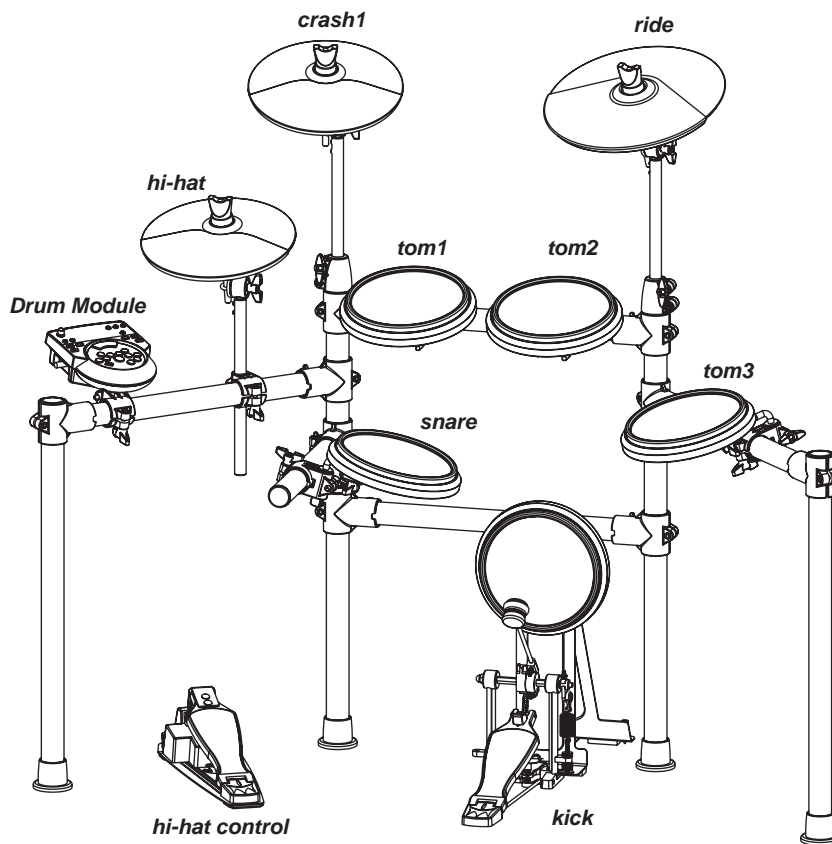
Note:
For details on assembling the drum stand, attaching the digital drum and connecting pads, refer to the Installation manual.

Connecting an Audio Equipment

When using an amplifier, connect the Output L/MONO and R jacks on the rear panel to the input of the amplifier.

Note:

For mono playback, use the L/MONO jack.
For stereo playback, connect both L/MONO and R jacks.
The line output volume is controlled by the VOLUME knob.
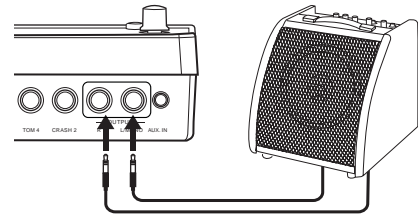
Connecting a set of Headphones

An optional set of stereo headphones can be connected to the PHONES jack located on the side of the drum module.
The headphones output volume is controlled VOLUME knob, too.
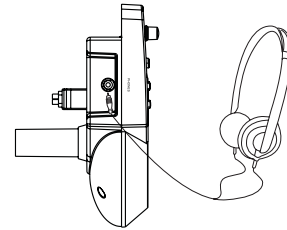
Connecting an MP3/CD Player

Connect the audio output of an MP3/CD player or other audio source to the stereo AUX IN jack on the rear panel.
The input signal is mixed with the drum signal, allowing you to play along.
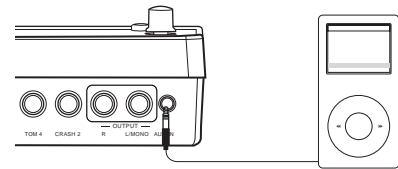
Connecting a Computer

■ **Via the USB Connector**
  This receives and transmits MIDI messages.
■ **Via the MIDI Connectors**
  MIDI IN Connector
  This receives MIDI messages transmitted from an external MIDI device or a computer.
  MIDI OUT Connector
  Pad performance data is transmitted from this connector to connected computer or MIDI device.
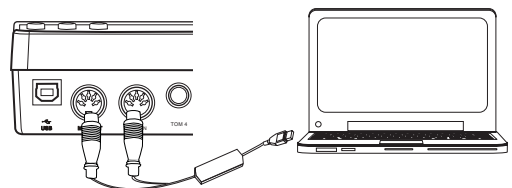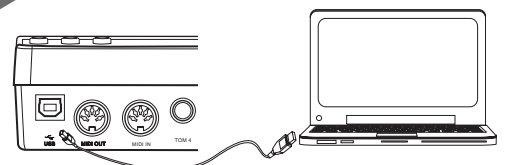
Connecting a Midi Keyboard

If you're using an external MIDI keyboard or pads to control the digital drum, make connections as shown. Here, it is used as a sound module.
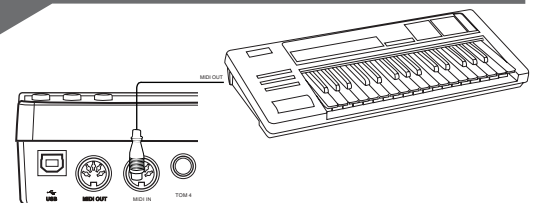
Power Supply & Switch

Make sure the power is switched OFF. Connect the power adaptor to the DC IN jack on the side panel. After confirming that all connections have been completed, rotate the volume knob to the left (minimum volume level) before switching the power on. Set the power switch to the "ON" position. The KIT indicator on LCD will light up and the display will show kit number 001.

Note:

Make sure the power is switched OFF when connecting the drum module with external devices.
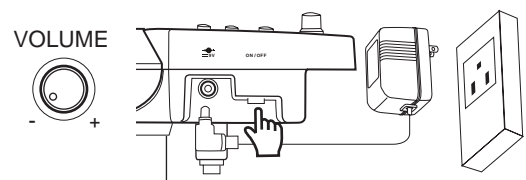
Performing

Selecting a Drum Kit

After powering up, the digital drum will be in KIT menu (KIT indicator ON). The display should look like this:

1. Use the [<] and [>] buttons to select the active kit.
There are 40 kits in the digital drum:
- 24 preset kits (Kits 01-24)
- 16 user kits (Kits 25-40), the parameter display area will display as "U25~U40", with an additional letter "U".

2. Pressing the Pad Select buttons allows you to preview the current kit (fixed velocity).

3. Hit the pads to play the current kit.
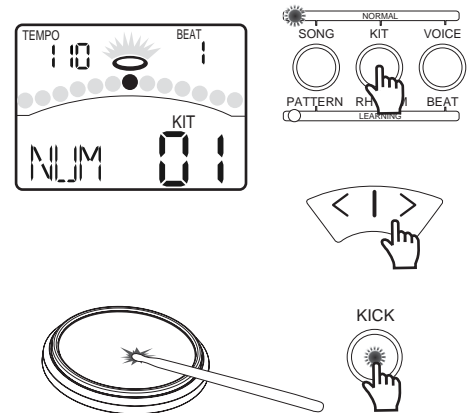
Playing the Pads

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.

Drum Pad Head or Rim shot
The digital drum pad detects head and rim shots (rim shots trigger the rim voice).

Cymbal Bow shot and Choke
The digital drum cymbals detect bow shot.

Only the Crash cymbals have cymbal choke.
Choking the Crash's edge with the hand immediately after hitting the crash mutes the crash sound.

Hi-Hat
The Hi-Hat sound varies depending on the position of the Hi-Hat pedal:

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

Half-Open Hi-Hat: Strike the Hi-Hat pad with the pedal pressed halfway down.

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

Pedal Close: Press the pedal completely down without striking the pad.

Splash: Press the pedal completely down and release it immediately.
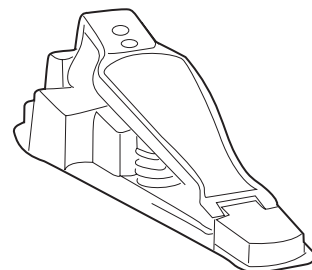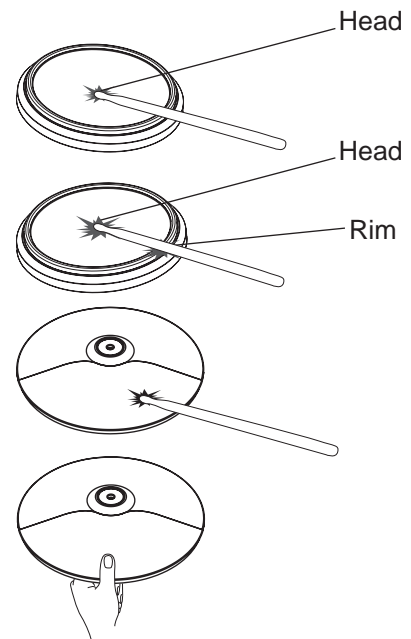
Adjusting the Sensitivity of a Pad

You may wish to adjust the sensitivity of the pads according to your playing style and desired dynamic range.

1. Press the [UTILITY] button
   The UTILITY indicator appears.

2. Strike a pad or press a pad select button to select the one whose sensitivity is to be adjusted. The PAD indicator shows the current selected pad.

3. Press the [◁] or [▷] button to adjust the sensitivity.

4. Press the [SAVE] button to save the current setting.

For details on pad adjustments, refer to *Advanced Use*.
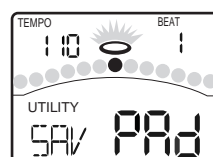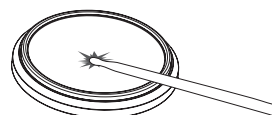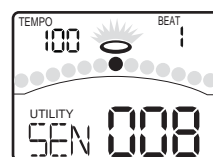
Using the Metronome/Click Feature

You can switch the click sound on and off by pressing [CLICK] button. When the click plays at the current Time Signature and Tempo (displayed in the top left corner of the LCD), the beat indicators will swing accordingly. You can set the time signature and interval, adjust the click volume and select the click sound in the CLICK menu.

1. Press the [CLICK] button.
   Start the metronome with click sound.

2. Press the [PAGE] button to select the click menu pages and press the [◁] or [▷] button to adjust the parameters.

3. Press the [CLICK] button again.
   Stop the metronome and exit the click menu.
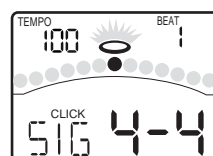
Adjusting the Tempo

You can adjust the tempo of the Metronome, the current song, and the current learning pattern. The current tempo always displays in the top left corner of the LCD.

1. Press the [TEMPO] button.

2. Press the [◁] or [▷] button.
   Adjust the current tempo.

3. Press both [◁] and [▷] buttons at the same time, reset the current tempo to its default value.
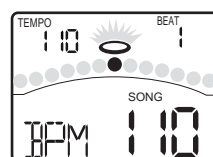
Note:
If there's no operation, it will return to the previous menu page automatically after 3 seconds.

9

Editing and Saving a Drum Kit

In KIT menu, you can modify the parameters as you like and save to the selected user kit.

Adjusting the Volume of a Drum Kit

1. Press the [KIT] or [PAGE] button.
Select the Kit Volume page.
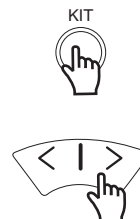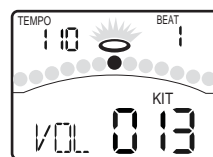
2. Press the [<] or [>] button.
Adjust the kit volume.

Switching Reverb On/Off and Setting EQ

1. Press the [KIT] or [PAGE] button.
Select the Global Reverb page and EQ pages.
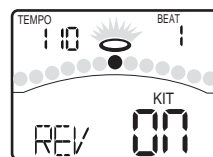
2. Press the [<] or [>] button.
Switch Reverb ON or OFF.
Set the gain of three-band EQ (high, middle, low)

Selecting the Drum Instrument of the Pad

1. Press the [VOICE] button.
Select the Pad Voice page.

2. Press the [<] or [>] button.
Select the drum instrument of the selected pad.
Please refer to *Drum Instrument List*.
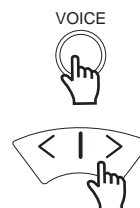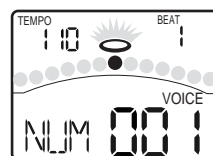
Adjusting the Volume, Pan and Pitch of the Pad

1. Press the [VOICE] or [PAGE] button.
Select the Pad Volume, Pad Pan, and Pad Pitch pages.

2. Press the [<] or [>] button.
Adjust the corresponding parameter.
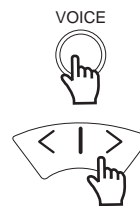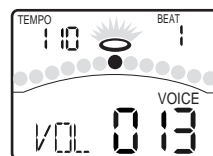
Setting the Pads to Play Songs

1. Press the [VOICE] or [PAGE] button.
Select the Pad Song and Song Number pages.

2. Press the [<] or [>] button.
Switch the Pad Song function ON or OFF. Select the Song
that begins playing when the following pad is struck.
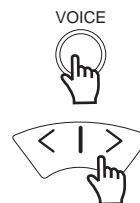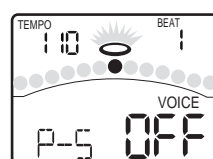
Saving the Edited Kit

1. Press the [SAVE] button.
The number of user kit will be flashed.

2. Press the [<] or [>] button.
Select a user kit to save your settings. (No. 25-40)

3. Press the [SAVE] button again.
Save the setting to the selected user kit.
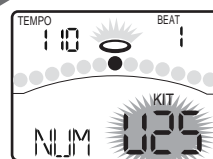
HINT
If the edited kit isn't saved before selecting another kit, powering down the digital drum, the changes will be lost.

Selecting and Playing Back a Song

1. Press the [SONG] button.
Switch to the SONG menu.

2. Press the [<] or [>] button.
Select the active song. The digital drum has many kinds of songs. Please refer to Song list.

3. Press the [START/STOP] button.
Start or stop playing back this selected song. When playing back this song, the PAD indicator will display which pads are being played by drum track.

TEMPO   BEAT   SONG

NUM **001**   < | >
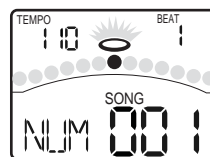
START/
STOP

Adjusting the Volume of the Accompaniment and Drum

In SONG menu, you can adjust the volume of drum or accompaniment track.

1. Press the [SONG] or [PAGE] button.
Select the ACC Volume or Drum Volume page.

2. Press the [<] or [>] button.
Adjust the corresponding volume.

TEMPO   BEAT   SONG

ACC **032**   < | >

Muting the Drums in Songs

If you want to mute the drum track of the song, please press the [DRUM OFF] button. The [DRUM OFF] LED will turn on.

DRUM OFF

Using the Pads to Play Songs

This function is available only with electric drum. When you struck the pads that have been set Pad Song function, they will start the performance of the songs. If you don't know how to set this function, please return to previous page and review the part ***"Setting the Pads to Play Songs"***.

For Example：

Kick: You can play the bass-line (Tap group, refer to ***Song List***) note by note with you kick drum.

Crash: The chords (Hit group, refer to ***Song List***) progress when you strike the pad.

> **HINT**
> **The sounds in the Tap song are played back one by one when you pressing the [START/STOP] button or hitting the "pad song" pad.**

Recording Your Performance

In RECORD menu, you can record pad performances and the song as accompaniment.

Recording Your Performance Quickly

1. Press the [RECORD] button.
The [RECORD] LED will flash. The Metronome will be
turned on automatically.
The display will show:

2. Press the [START/STOP] button or strike the pad.
Recording will start.
The [RECORD] LED will turn on.

3. Press the [START/STOP] button again, or press the
[RECORD] button.
Stop recording, the [RECORD] LED will turn off.
Your performance has been recorded.
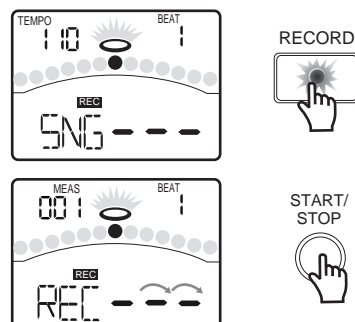
Playing Back Your Recorded Performance

1. Press the [PLAY] button.
Play back your recording.
The display will show:

2. Press the [PLAY] button again.
Stop playing back your performance.
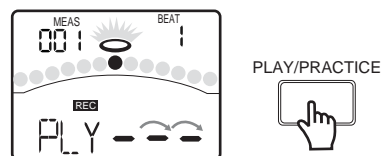
If you are not satisfied with your recording, please press the
[RECORD] button to restart the recording progress.

Making the Settings for Recording

You can make the settings for recording on Record Standby.

1. Press the [PAGE] button.
Select the Record Setting pages.

2. Press the [◁] or [▷] button.
Adjust the parameters about recording.
For details on record setting, refer to *Advanced Use.*

There are three types of patterns in LEARNING mode.

Beat: Snare Practice

Rhythm: Drums Practice

Pattern: Drums Practice with accompaniment

Selecting a Pattern and Practicing with it

When you are in NORMAL mode, please press and hold the [PAGE/SELECT] button for 1 second. The LED of LEARNING mode will turn on. The display will show:

1. Press the [BEAT] button.
Select the Beat Choosing page.

2. Press the [◁] or [▷] button.
Select the beat which you want to practice.

3. Press the [PRACTICE] button.
Start or stop playing the pattern with your practice. The PAD indicators will display which pads are being played by drum track.

If you want to select the Rhythm or Pattern, please follow the steps described above. Drum Lessons Score can be downloaded from internet(consult your dealer). We recommend you to follow it.
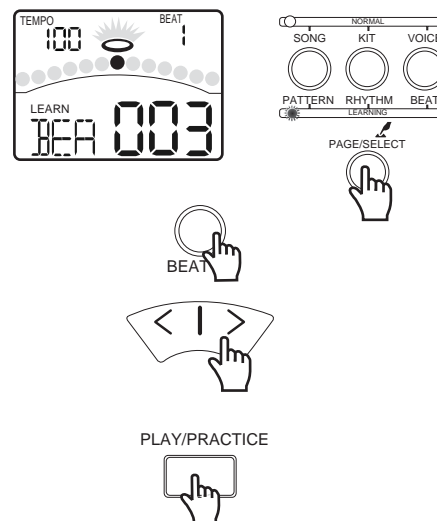
Scoring Your Practice

If you want to check your progress, please press the [START/STOP] button. The display will show:

A measure count-in will be inserted before playing back the pattern so that you can practice in good time. Your practice will be recorded automatically. When finished playing back the pattern, the digital drum will score your practice automatically. The display will show the score.

If you are unsatisfied with your score, please press the [START/STOP] button and restart examination.
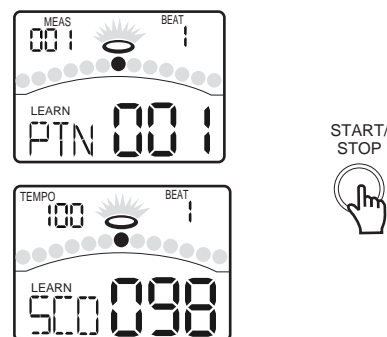
Playing Back Your Recorded Practice

1. Press and hold the [PLAY/PRACTICE] button for 2 seconds.
The display will show:
You will listen to your recorded practice.

2. Press the [PLAY/PRACTICE] button again.
Stop playing back the recorded practice.

13
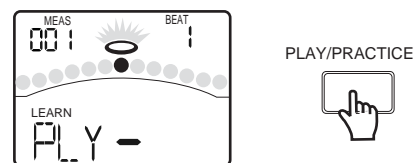
Creating Your Own Drum Kit

About the Drum Kits

In KIT menu, you can select drum kits to play from the pads, and you can edit voices and their associated parameters, such as Pitch, Reverb Level, Volume, Pan, MIDI Note, etc.
There are 40 kits in the digital drum:
■ 24 preset kits (Kits 01-24)
■ 16 user kits (Kits U25-U40)

In addition, there are 11 General MIDI preset kits for MIDI/USB applications, and for MIDI file playback. Please refer to *GM Drum Kit List*. Each drum kit contains settings for up to 16 voices, assigned to the 10 pad inputs and 1 pedal controller:

Pad Settings		
Kick	Head1	
Snare	Head2	Rim2
Tom1	Head3	Rim3
Tom2	Head4	Rim4
Tom3	Head5	Rim5
Tom4	Head6	Rim6
Crash1	Head7	
Crash2	Head8	
Ride	Head9	
Hihat	Head10	
Pedal		

Selecting a Drum Kit

If the digital drum is not yet in KIT menu, press the [KIT] button to enter it. The KIT indicator will light up, and the LCD will display the current kit number.

Press the [<] or [>] buttons to select a kit. When holding down [>], values increase rapidly. When holding down [<], values decrease rapidly.
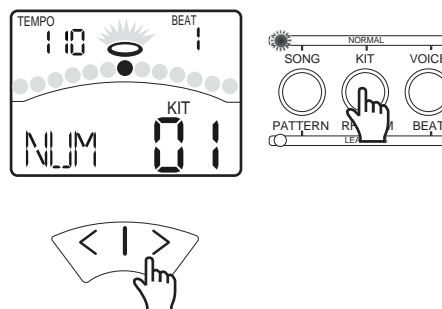
Overall Drum Kit Setting

In KIT menu, you can set the overall kit parameters.

1. Press the [PAGE] or [KIT] button, select Kit volume page. The parameter adjusts the overall kit volume(0-32).

2. Press the [PAGE] or [KIT] button, select Reverb Switch page. The parameter toggles the global reverb Switch ON/OFF.

3. Press the [PAGE] or [KIT] button, select EQ gain page. These parameters adjust the three bands of Master EQ(-12dB-12dB).

Overall Kit Settings	
Kit	Volume
Global	Reverb on/off
	EQ High gain
	EQ Middle gain
	EQ Low gain

Selecting the Pad to Edit

The current pad to be edited can be selected either by pressing its Pad Select button, or by striking the pad itself. The PAD indicator will light up to show which pad is currently selected. If the rim of a pad is selected, both the PAD indicator and the RIM indicator will turn on.
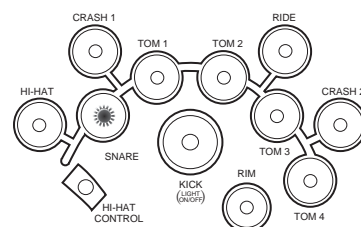
About the Drum Instruments

The digital drum features 385 different drum instruments which are categorized into 9 separate groups, such as Acoustic Kick, Electric Kick, Acoustic Snare, Electric Snare, Percussion. You can individually adjust the volume, pan, pitch, reverb settings for instruments set to the pad.

Selecting Instruments

If the digital drum is not yet in VOICE menu, press the [VOICE] button to enter it. The VOICE indicator will light up, and the LCD will display the current voice number.

1. Press the [<] or [>] buttons to change a pad's Individual voice (001-385).

2. If the selected pad is Hi-Hat, an additional option is available: Hi-Hat Combination (001-007).
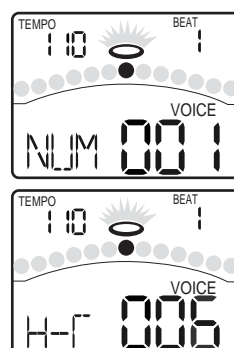
Drum Instrument Settings

1. Press the [PAGE] or [VOICE] button, select Pad Volume page. The parameter adjusts the volume of the pad.

2. Press the [PAGE] or [VOICE] button, select Pad Pan page. The parameter adjusts the pan of the pad.

3. Press the [PAGE] or [VOICE] button, select Pad Pitch page. The parameter adjusts the pitch of the pad.

4. Press the [PAGE] or [VOICE] button, select Pad Reverb page. The parameter adjusts the reverb level of the pad.

Drum Instrument Settings	
Voice Setting	Volume(0-32)
	Pan(-8-8)
	Pitch(-8-8)
	Reverb(0-16)
Settings for Other Functions	
MIDI	MIDI Note(0-127)
Others	Pad Song Switch(ON/OFF)
	Song Number(1-80)

Settings for Other Functions

5. Press the [PAGE] or [VOICE] button, select Pad   MIDI Note page. The parameter sets MIDI Note Number for each pad.

6. Press the [PAGE] or [VOICE] button, select Pad Song pages. The parameters sets pad song function ON and choose the song numbers.

Press the [<] or [>] buttons to adjust the parameters.

HINT
While editing Voice Number, Pitch, Pan, Volume, and Reverb, you can also preview the result of the current settings by pressing the Pad Select button to play the edited voice.

Saving to a User Drum Kit

After change any kit parameter, please press the [SAVE] button to save the current settings to the user kit (No. 25-40). The number of user kit will be flashed. Press the [SAVE] button to save to user kit and return to Kit Select page.
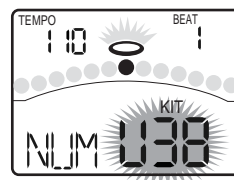
Making the Settings for Pads

About Settings of Pads

If the digital drum is not yet in UTILITY menu, press the [UTILITY] button to enter it.

The UTILITY indicator will light up. You can use the [<] or [>] buttons to adjust parameters (as shown to the right) for each pad as well as the rim sensitivity of the pad and the splash sensitivity of the Hi-Hat control pedal.

The current pad to be edited can be selected either by pressing its Pad Select button, or by striking the pad itself. The PAD indicator will light up to show which pad is currently selected. If the rim of a pad is selected, both the PAD indicator and the RIM indicator will turn on.

Sensitivity: Adjust the sensitivity of the pad to regulate the pad response. Higher settings result in higher sensitivity, so that the pad will produce a loud volume even when struck softly. You can also adjust the sensitivity of the splash in SPLASH SENSITIVITY.

Threshold: This setting allows a trigger signal to be received only when the pad is struck harder than a specified force. This can be used to prevent a pad from sounding in response to extraneous vibrations from another pad.

Crosstalk: When two pads are mounted on the same stand, the vibration produced by hitting one pad may trigger the sound from another pad unintentionally (This is called crosstalk). You can avoid this problem by adjusting Crosstalk Cancel on the pad that is sounding inadvertently. If the value is set too high, then when two pads are played simultaneously, the one that is struck less forcefully will not sound. So be careful and set this parameter to the minimum value required to prevent such crosstalk. With a setting of 0 , crosstalk prevention does not function.

Curve: This setting allows you to control the relation between the velocity (striking force) and changes in volume (the dynamic curve). Adjust this curve until the response feels as natural as possible.

Pad Settings	
	Sensitivity(1-16)
	Threshold(0-16)
	Crosstalk(1-16)
Pad	Curve(1-6)
	Rim Sensitivity(1-16)
Special	Splash Sensitivity(1-9)
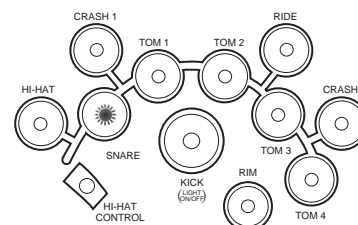
Adjusting the Pad Sensitivity

Press the [PAGE] or [UTILITY] button, select Pad Sensitivity page. The display will show:

Changes how a pad responds to your playing. At higher sensitivities, the pad will generate a louder signal, even when you play softly. At lower sensitivities, the pad will generate a quieter signal, even if you play strongly. Adjust according to your playing style and desired dynamic range.
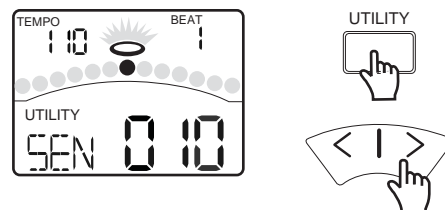
Setting the Pad Threshold

Press the [PAGE] or [UTILITY] button, select Pad Threshold page. The display will show:

Changes how forcefully you must strike the pad to generate a trigger signal. Setting a high threshold requires hitting the pad very hard to get a sound. This can help cut out transient responses, such as vibrations from the kit or accidental pad taps that you don't intend to generate sounds. Setting a low threshold means even light touches will produce sound. Adjust according to environment and playing style.
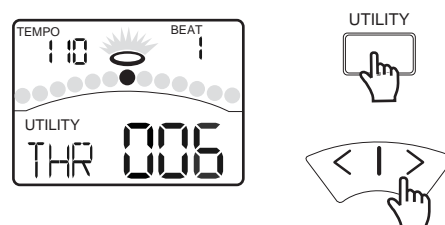
Eliminating Crosstalk between Pads

Press the [PAGE] or [UTILITY] button, select Pad Crosstalk page. The display will show:

When two pads are mounted close to each other, hitting one pad may trigger the sound from another pad unintentionally. This effect can be eliminated by setting this parameter to a higher value on the pad is triggered unintentionally.
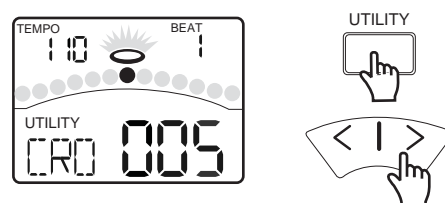
HINT
If the value is set too high, then when two pads are played simultaneously, the one that is struck less forcefully will not sound. So be careful and set this parameter to the minimum value required to prevent such crosstalk.

Selecting the Pad Curve

Press the [PAGE] or [UTILITY] button, select Pad Curve page. The display will show:
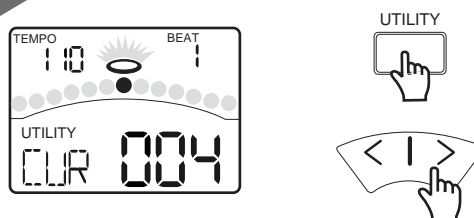
Making the Settings for Pads

Curve refers to how the trigger signal's dynamic response relates to your pad hit.

Curve1: The standard setting, this produces the most natural correspondence between playing dynamics and volume change.

Curve2, 3: Compared to Curve1, strong dynamics produce a greater change.

Curve4, 5: Compared to Curve1, a soft playing produces a greater change.

Curve6: Very little dynamic response, making it easy to maintain strong volume levels. If using drum triggers, these settings help maintain stable levels.
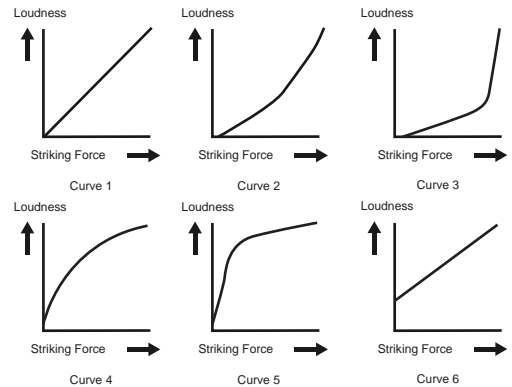
Setting Rim Sensitivity on Pads

You can only set rim sensitivity on Snare, Tom1, Tom2, Tom3, Tom4. If you select the other pads, this page will not appear. Press the [PAGE] or [UTILITY] button, select Pad Rim Sensitivity page. The display will show:
Same as the basic sensitivity feature, except that it relates specifically to playing the rim.

Note:
This parameter can be adjusted only on SNARE, TOM1, TOM2, TOM3, TOM4. If you select the other pads on this page, a horizontal line "---" appears, and you can't make the setting.
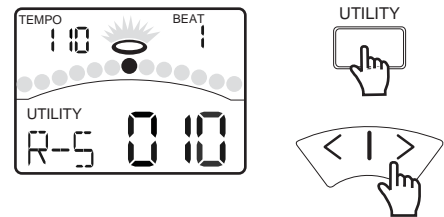
Adjusting the Hi-Hat Pedal Splash Sensitivity

Press the [PAGE] or [UTILITY] button, select Pedal Splash Sensitivity page. The display will show:

This Setting control the sensitivity of the foot splash.
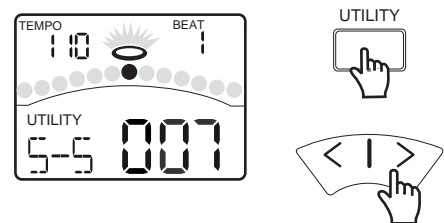
Saving Settings of Pads

After adjusting the trigger settings (sensitivity, Threshold, crosstalk, curve, rim sensitivity, splash sensitivity), you can save them into memory. In UTILITY menu, press the [SAVE] button to store all pad settings.

Note:
1. If you turn off the power without saving, you will lose the trigger setting changes you have just made.

2. These parameters affect all kits.
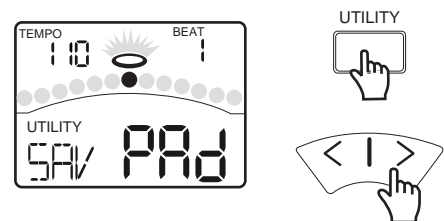
About Click

The digital drum is equipped with a built-in metronome, which can be used by itself as a rhythm guide for practice, or in conjunction with the song playback or record functions. If the digital drum is not yet in CLICK menu, press the [CLICIK] button to enter it. In CLICK menu, you can use the [<] or [>] button to adjust the parameters(as shown to the right).

Click Settings	
Time signature	0-9/2, 0-9/4, 0-9/8, 0-9/16
Interval	1-2, 3-8, 1-4, 1-8, 1-12, 1-16
Volume	0-32
Voice	1-5

Switching the Click On/Off

1. Press the [CLICK] button to start the metronome. The CLICK LED will blink accordingly. The metronome will play at the current Time signature and tempo (displayed in the left right corner of the LCD)

2. Press the [CLICK] button again to stop the metronome. The CLICK indicator will turn off.
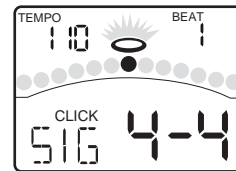
Adjusting the Click Tempo

Press the [TEMPO] button, and use the [<] and [>] buttons to adjust the current click tempo.

The current tempo always displays in the top left corner of the LCD.
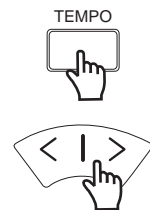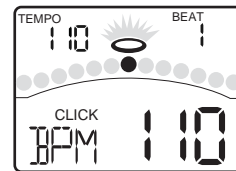
Setting the Time Signature

Press the [PAGE] button, select Click Time signature page. The display will show:

When the parameter is set to "0", such as 0-2,0-4,0-8,0-16, no accent is added to the first beat.
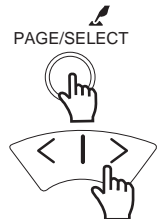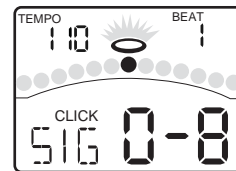
Setting the Interval

Press the [PAGE] button, select Click Interval page. The display will show:

This parameter sets how the sound plays.
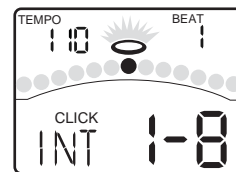
Adjusting the Click Volume

Press the [PAGE] button, select Click Volume page. The display will show:

This parameter adjust the volume of the click sound.
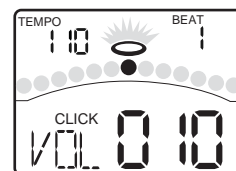
Selecting the Click Sound

Press the [PAGE] button, select Click Voice page. The display will show:

This parameter choose the sound for the click.

19
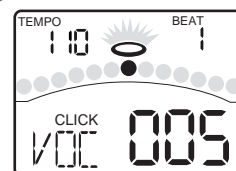
Playing Back Songs

About Songs

There are 80 preset songs in the digital drum:
- 50 Looped Patterns
- 10 Looped Percussion Patterns
- 5 Hit Songs
- 15 Tap Songs

Please refer to *Song List*. In SONG menu, you can select the song number and adjust the volume of the song's accompaniment and drum part.

Song Settings	
No.	Number(1-80)
	Accomp(0-32)
Mix	Drum(0-32)

> **HINT**
> The sounds in the tap song are played back one by one in sequence each time [START] is pressed or hitting the pad which is functioned as "pad song".

Selecting a Song

If the digital drum is not yet in SONG menu, press the [SONG] button to enter it. The SONG indicator will light up, and the LCD will Display the current song number.

Press the [<] or [>] button to select a song. When holding down [>], the song number increase rapidly. When holding down [<], it decrease rapidly.
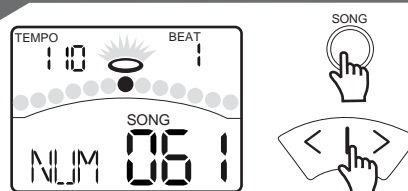
> **HINT**
> If the song number is switched while playing, the new song won't start until the end of the current bar.

Playing Back a Song

Press the [START/STOP] button to start song playback. The LCD will display the current playing beat. Press the [START/STOP] button again, stop the song during playback. During song playback in SONG menu, the PAD indicators will show which pads of the drum track is triggering.

This function can be disabled or enabled by pressing the [KICK] button while in SONG menu.
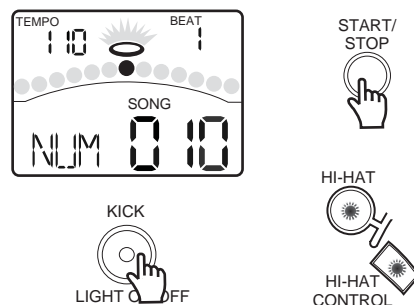
Adjusting the Accompaniment Volume

Press the [PAGE] or [SONG] button, select Song Accompaniment volume page. The display will show:

Use the [<] or [>] to adjust it. It will be restore to default value on the next power on.
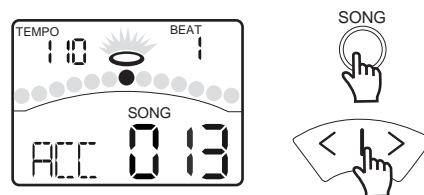
Adjusting the Drum Volume

Press the [PAGE] or [SONG] button, select Song Drum volume page. The display will show:

Use the [<] or [>] to adjust it. It will be restore to default value on the next power on.
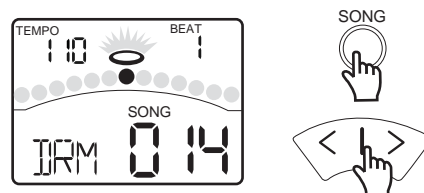
Muting the Drums in Songs

Press the [DRUM OFF] button to enable and disenable the drum mute function. When DRUM OFF is enabled, the LED will turn on.

20
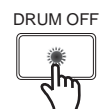
About Recording

In NORMAL mode, the digital drum allows you to quickly record your performance as you play the pads. There are two ways to start recording a new song:
■ Press the [START/STOP] button
■ Hit any pad
On Recording Standby, you can use the [<] or [>] button to adjust the parameters(as shown to the right).

Record Settings	
Song Number	---/1-60
Kit	1-40
Tempo	30-280
Signature	1-9/2, 1-9/4, 1-9/8, 1-9/16
Interval	1-2, 3-8, 1-4, 1-8, 1-12, 1-16
Drum Off	---/ON/OFF
Pre Count	ON/OFF

Recording Pad Performances

1. Press the [RECORD] button, enter recording standby. The [RECORD] LED will flash.

2. Press the [START/STOP] button or strike the pad. Recording will start. The RECORD LED will turn on. After Count-in, the display will show:
Now you will record your performance.

3. Press the [START/STOP] button again, or press the [RECORD] button. Stop recording, the [RECORD] LED will turn off.
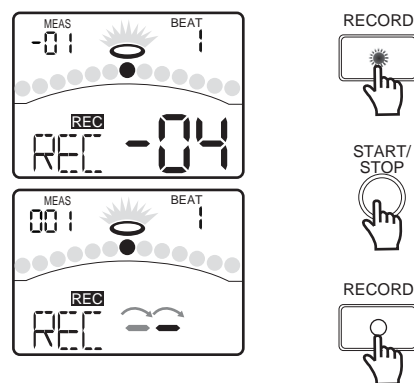
Recording Performances Accompanied with a Song

If you want to record your performance accompanied with a song, first set the parameters (Song Number and Drum off) before start to record. The display will be as shown to the right:

For details on setting, refer to Recording Standby. Recording operations are as mentioned above.
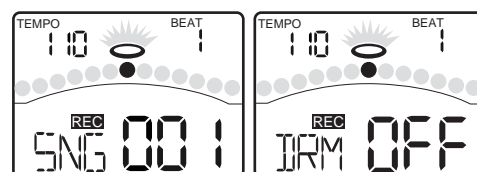
Playing Back Your Recorded Performance

1. Press the [PLAY] button. Play back your recording. The display will show:

2. Press the [PLAY] button again. Stop playing back your performance.
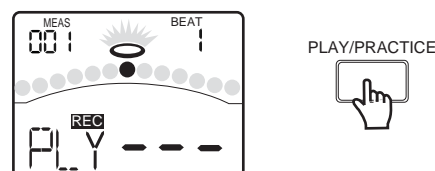
Recording Standby

Use the [PAGE] button to scroll through the various record parameters and the [<] or [>] button to adjust the value.
Page1:Setting the song accompanied or not
Page2:Selecting the drum kit that you want to record.
Page3:Setting the recording tempo
Page4:Setting the time signature
Page5:Setting the interval
Page6:Setting the drums in songs muted or not
Page7:Setting a measure count-in inserted or not before recording.

Practicing in Learning Mode

About Learning Mode

The LEARNING mode is a unique set of exercises specifically designed to help build speed, accuracy and stamina, as well as develop better drum skills.

There are 42 practices in the digital drum:
- 20 Beats (Only Snare)
- 12 Rhythms (Only Drum, from Level1-Level6)
- 10 Patterns (from Level1-Level5)

You can select appropriate patterns to practice depending on your present skills.

There are 3 states in Learning mode:
Follow me: Practice with the selected pattern
Score: Record and score your practice
Playback: Play back your recorded practice

If the digital drum is not yet in LEARNING mode, press and hold the [PAGE/SELECT] button for 1 second. The LED of LEARNING mode will turn on. The display will show:

In this Learning Mode, after you press the [PRACTICE] or [START/STOP] to start practicng, your hitting accuracy will always be indicated in the middle of the display according to the current pattern.

DRAGGING:

PERFECT:

RUSHING:
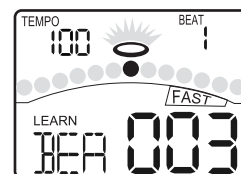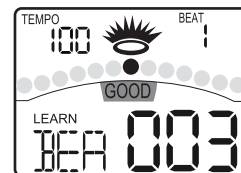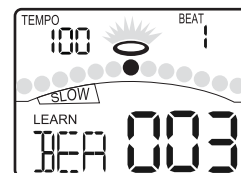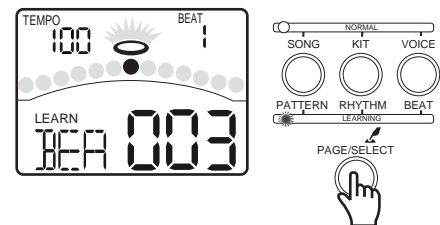
Practicing with Beats

If the digital drum is not yet in BEAT menu, press the [BEAT] button to enter it. You can adjust the parameters (as shown to the right).

1. Press the [◁] or [▷] button to select the beat.

2. Press the [PRACTICE] button to listen to the beat and follow it. Press it again to stop the beat.

3. Press the [BEAT] or [PAGE] button to select the Beat Drum volume page. Press the [◁] or [▷] button to adjust the drum volume of the beat.

Beat	
Number	1-20
Drum Volume	0-32
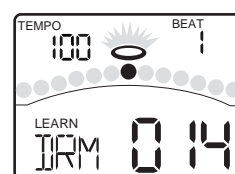
Practicing with Rhythms

If the digital drum is not yet in RHYTHM menu, press the [RHYTHM] button to enter it. You can adjust the parameters (as shown to the right).

1. Press the [<] or [>] button to select the rhythm.

2. Press the [PRACTICE] button to listen to the rhythm and follow it. Press it again to stop the rhythm.

3. Press the [RHYTHM] or [PAGE] button to select the Rhythm Level page. Press the [<] or [>] button to select the level of the rhythm.

4. Press the [RHYTHM] or [PAGE] button to select the Rhythm Drum Volume page. Press the [<] or [>] button to adjust the drum volume of the rhythm.

Rhythm	
Number	1-12
Level	1-6
Drum Volume	0-32
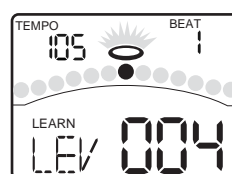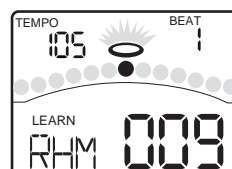
Practicing with Patterns

If the digital drum is not yet in Pattern menu, press the [PATTERN] button to enter it. You can adjust the parameters (as shown to the right).

1. Press the [<] or [>] button to select the pattern.

2. Press the [PRACTICE] button to listen to the pattern and follow it. Press it again to stop the pattern.

3. Press the [PATTERN] or [PAGE] button to select the Pattern Level page. Press the [<] or [>] button to select the level of the pattern.

4. Press the [PATTERN] or [PAGE] button to select the Pattern Accompany Volume page. Press the [<] or [>] button to adjust the accompaniment volume of the pattern.

5. Press the [PATTERN] or [PAGE] button to select the Pattern Drum Volume page. Press the [<] or [>] button to adjust the drum volume of the pattern.

Pattern	
Number	1-10
Level	1-5
Accompany Volume	0-32
Drum Volume	0-32
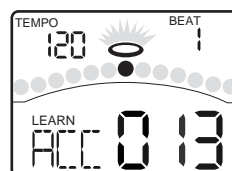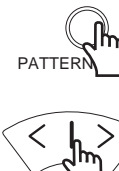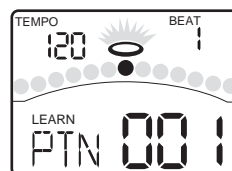
Practicing in Learning Mode

Recording and Scoring Your Practice

1. Press the [START/STOP] button, you can enter the score state. A measure count-in will be inserted before playing back the pattern so that you can practice in good time. When playing back the pattern, your performance will be recorded automatically. When finished playback, the digital drum will score your practice automatically.

The display will show the score for 3 seconds.

2. Press the [START/STOP] button again to stop playing back the pattern and recording your practice during the playback
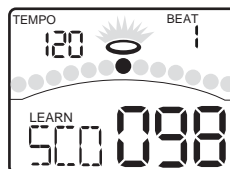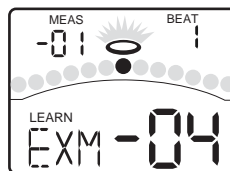
START/
STOP

Playing Back Your Recorded Practice

1. Press and hold the [PLAY/PRACTICE] button for 2 seconds, you can enter the playback state. The display will show:
You will listen to your recorded practice.

2. Press the [PLAY/PRACTICE] button again. Stop playing back the recorded practice.

PLAY/PRACTICE
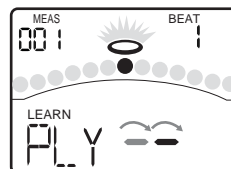
About MIDI

MIDI (Musical Instrument Digital Interface) is a standard that allows performance data and other information to be exchanged among electronic musical instruments and computers. With a MIDI cable connecting MIDI connectors equipped device, you can play multiple instruments with a single keyboard, have multiple instruments perform in ensemble, program the settings to change kits automatically to match the performance as the song progress, and more.

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)

Note:

When the USB port is connected to a computer, all MIDI messages will be received and transmitted via USB.

Making the MIDI Settings

If the digital drum is not yet in UTILITY menu, press The [UTILITY] button to enter it. Press the [PAGE] or [UTILITY] button, select Local mode pages. The display will show:

Press the [<] or [>] button, set local mode to ON or OFF.

Local Mode

Local 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.

Local 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.

GM Mode

Press the [PAGE] or [UTILITY] button, select GM mode pages. The display will show:

Press the [<] or [>] button, set GM mode to ON or OFF.

Refer to *Using the Digital Drum as a Sound Module*.

Sync Mode

Press the [START/STOP] button to start or stop songs playback, the digital drum will transmit the MIDI system real-time Message: FA or FC.

MIDI Settings	
Local on/off	ON/OFF
GM on/off	ON/OFF
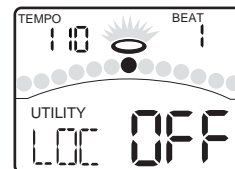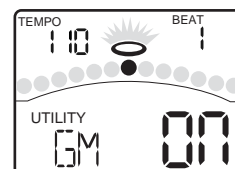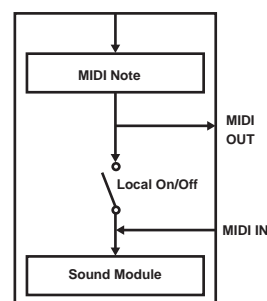
Making the Settings for MIDI

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 of your digital drum.
4. Stop recording. Locate your sequencer to the start of your recording.
5. Playback the recorded sequencer.

Setting MIDI Note Number to be Transmitted/Received by Each Pad

Each drum kit can have it's own set of MIDI note to be transmitted/received by each pad, useful for advanced purpose. Normally, you'll never need to change them, but if you want to change, please follow these step:

1. Press the [VOICE] button in NORMAL mode, enter the VOICE menu.
2. Press the [PAGE] or [VOICE] button, select Pad MIDI Note page.
3. Press the [<] or [>] button, change the MIDI Note Number for each pad. Hit the pad you wish to set or press the related Pad Select button.
4. Press the [SAVE] button twice to save to user kit.

Trigger	MIDI Note	Trigger	MIDI Note	Trigger	MIDI Note	Trigger	MIDI Note	Trigger	MIDI Note
Kick	36	Tom1 R	50	Tom3 R	58	Crash 1	49	Hi-Hat C	42
Snare	38	Tom2	45	Tom4	41	Crash 2	57	Hi-Hat P	44
Snare R	40	Tom2 R	47	Tom4 R	39	Hi-Hat O	46	Splash	21
Tom1	48	Tom3	43	Ride	51	Hi-Hat HO	23		

Using the Digital Drum as a Sound Module
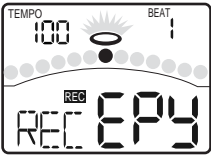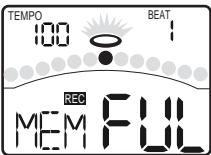
Connecting an external keyboard or sequencer to the MIDI Input allows you to use the digital drum as a multi-part, polyphonic sound module to play various instrument parts in addition to your drums (for instance, Piano on Channel 1, Bass on Channel 2, Strings on Channel 3, etc). The voices on each MIDI 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 internal kits.

Note:

For more information on received MIDI messages, refer to *MIDI implementation chart*.

Display	Meaning	Action
RST Err	Resetting the digital drum is failed.	Please call the distributor, maybe it need repair.
TEMPO 100 BEAT 1 REC EPY	There isn't data in the digital drum's memory.	Please record your performance, and then play it.
TEMPO 100 BEAT 1 REC MEM FUL	There is full of data in the digital drum's memory. You can not record any data.	If you want to record another song, please restart recording and replace it.
TEMPO 100 BEAT 1 LEARN PLY EPY	You didn't record your practice in the Learning mode.	Please press the [START/STOP] button to score your practice, and then play back your practice.

Troubleshooting

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 not set the volume of the click to 0.
Sound is Distorted	1) Turn down the volume.

Specifications

Maximum Polyphony
64

Drum kits
Drum Kits: 40 (24 Preset Kits + 16 User Kits)
General MIDI Kits: 11 GM Kits

Instruments
Drum Instruments: 385 (Drums, Percussion, SFX)
7 Hi-Hat Combos

Effect
Reverb,3 Band Equalizer

Sequencer
Normal: Song 80
Learning: Beat 20, Rhythm 12, Pattern 10
Resolution:120 ticks per quarter note
Recording Method: Real-time
Maximum Note Storage:approx.1600 Notes

Tempo
30~280

Display
Backlit Segment LCD

Connectors
9 Trigger Input Jack, Phone Jack(1/8", stereo), Aux In
Jack(1/8", stereo),
2 External Trigger Input Jack(1/4", Tom4, Crash2),
Output(1/4", L/Mono, R), USB, MIDI IN, MIDI OUT

Control Buttons
Power on/off switch, Volume, Start/Stop, Save, Song, Kit,
Voice, Page/Select, INC/DEC, Click, Drum off, Record,
Tempo, Utility, Play/Practice

Pad Select Buttons
12 Pad Select Buttons

Power Supply
DC 9V

Dimensions
147.1（W）× 183.3（H）× 111.7(D）mm

Weight
0.5 kg

NO.	PRESET KIT	NO.	DEFAULT USER KIT
1	Acoustic	25	Acoustic
2	Standard 1	26	Standard 1
3	Standard 2	27	Standard 2
4	Funk 1	28	Funk 1
5	Funk 2	29	Funk 2
6	Fusion	30	Fusion
7	Camco	31	Camco
8	Brush	32	Brush
9	Room	33	Room
10	Rock	34	Rock
11	Pop Rock	35	Pop Rock
12	Jazz	36	Jazz
13	Jazz Brush	37	Jazz Brush
14	Timpani	38	Timpani
15	Songo	39	Songo
16	1971's	40	1971's
17	Latin		
18	Disco		
19	TR606		
20	909		
21	HipHop		
22	Electronic 1		
23	Electronic 2		
24	Teckno 1		

Drum Instrument List

NO.   NAME

ACOUSTIC KICK
1	Standard Kick 1
2	Standard Kick 2
3	Classic Kick 1
4	Classic Kick 2
5	Rock Kick 1
6	Rock Kick 2
7	Rock Kick 3
8	Room Kick 1
9	Room Kick 2
10	Jazz Kick 1
11	Jazz Kick 2
12	Big Band Kick 1
13	Big Band Kick 2
14	Camco Kick 1
15	Camco Kick 2
16	Funk Kick 1
17	Funk Kick 2
18	Funk Kick 3
19	HipHop Kick 1
20	HipHop Kick 2
21	HipHop Kick 3
22	HipHop Kick 4
23	1969 Kick
24	1971 Kick
25	1976 Kick
26	Power Kick
27	R&B Kick
28	Voice Kick
29	Acoustic Kick

ELECTRONIC KICK
30	Orchestra Kick
31	House Kick 1
32	House Kick 2
33	House Kick 3
34	House Kick 4
35	Step Kick
36	Teckno Kick
37	Drum & Bass Kick
38	Junkyard Kick
39	Noise Kick
40	Industry Kick
41	Lowfi Kick
42	Disco Kick
43	808 Kick
44	909 Kick
45	Electronic Kick 1
46	Electronic Kick 2
47	Electronic Kick 3
48	Electronic Kick 4
49	Electronic Kick 5
50	Electronic Kick 6
51	Electronic Kick 7

ACOUSTIC SNARE
52	Standard Snare
53	Standard Snare Rim
54	Classic Snare 1
55	Classic Snare Rim 1
56	Classic Snare 2
57	Classic Snare Rim 2
58	Acoustic Snare
59	Acoustic Snare Rim
60	Rock Snare 1
61	Rock Snare Rim 1
62	Rock Snare 2
63	Rock Snare 3
64	Room Snare 1
65	Room Snare 2
66	Room Snare 3
67	Steel Snare
68	Steel Snare Rim
69	Jazz Snare 1
70	Jazz Snare Rim 1
71	Jazz Snare 2
72	Jazz Snare Rim 2
73	Jazz Latin Snare
74	Big Band Snare
75	Camco Snare
76	Camco Snare Rim
77	Brush Snare 1
78	Brush Snare 2
79	Brush Snare Rim
80	Funk Snare
81	Funk Stick
82	Funk Band Snare
83	Funk Band Snare Rim
84	Funk Band Snare Stick
85	Fusion Snare
86	Fusion Snare Stick
87	Snare Stick
88	Power Snare
89	HipHop Snare 1
90	HipHop Snare 2
91	1969 Snare
92	1969 Snare Rim
93	1971 Snare
94	1971 Snare Rim
95	1976 Snare
96	1976 Snare Rim

ELECTRONIC SNARE
97	House Snare 1
98	House Snare 2
99	House Snare 3
100	Teckno Snare 1
101	Teckno Snare 2
102	808 Snare
103	909 Snare
104	Drum & Bass Snare 1
105	Drum & Bass Snare 2
106	TR606 Snare
107	Electronic Snare 1
108	Electronic Snare 2
109	Electronic Snare 3
110	Electronic Snare 4
111	Electronic Snare 5
112	Electronic Snare 6
113	Electronic Snare 7
114	Electronic Snare 8

ACOUSTIC TOM
115	Classic Tom 1
116	Classic Tom 2
117	Classic Tom 3
118	Classic Tom 4
119	Classic Tom 5
120	Classic Tom 6
121	Standard Tom 1
122	Standard Tom 2
123	Standard Tom 3
124	Standard Tom 4
125	Standard Tom 5
126	Standard Tom 6
127	Camco Tom 1
128	Camco Tom 2
129	Camco Tom 3
130	Camco Tom 4
131	Camco Tom 5
132	Camco Tom 6
133	Rock Tom 1
134	Rock Tom 2
135	Rock Tom 3
136	Rock Tom 4
137	Rock Tom 5
138	Rock Tom 6
139	Room Tom 1
140	Room Tom 2
141	Room Tom 3
142	Room Tom 4
143	Room Tom 5
144	Room Tom 6
145	Funk Tom 1
146	Funk Tom 2
147	Funk Tom 3
148	Funk Tom 4
149	Funk Tom 5
150	Funk Tom 6
151	Fusion Tom 1
152	Fusion Tom 2
153	Fusion Tom 3
154	Fusion Tom 4
155	Fusion Tom 5
156	Fusion Tom 6
157	1969 Tom 1
158	1969 Tom 2
159	1969 Tom 3
160	1969 Tom 4
161	1971 Tom 1
162	1971 Tom 2
163	1971 Tom 3
164	1971 Tom 4
165	1976 Tom 1
166	1976 Tom 2
167	1976 Tom 3
168	1976 Tom 4
169	HipHop Tom 1
170	HipHop Tom 2
171	HipHop Tom 3
172	HipHop Tom 4
173	HipHop Tom 5
174	HipHop Tom 6
175	Jazz Tom 1
176	Jazz Tom 2
177	Jazz Tom 3
178	Jazz Tom 4
179	Jazz Tom 5
180	Jazz Tom 6
181	Brush Tom 1
182	Brush Tom 2
183	Brush Tom 3
184	Brush Tom 4
185	Brush Tom 5
186	Brush Tom 6
187	Tom Rim 1
188	Tom Rim 2
189	Tom Rim 3
190	Tom Rim 4
191	Timpani 1
192	Timpani 2
193	Timpani 3
194	Timpani 4

ELECTRONIC TOM

195	TR606 Tom 1
196	TR606 Tom 2
197	TR606 Tom 3
198	TR606 Tom 4
199	TR606 Tom 5
200	TR606 Tom 6
201	808 Tom 1
202	808 Tom 2
203	808 Tom 3
204	808 Tom 4
205	808 Tom 5
206	808 Tom 6
207	Electronic Tom 1
208	Electronic Tom 2
209	Electronic Tom 3
210	Electronic Tom 4
211	Electronic Tom 5
212	Electronic Tom 6
213	909 Tom 1
214	909 Tom 2
215	909 Tom 3
216	909 Tom 4

CYMBAL

217	Classic Ride
218	Acoustic Ride
219	Standard 22" Ride
220	Brush Ride
221	Rock Ride
222	Clean Pop Ride
223	Flat Ride
224	60's Ride
225	808 Ride
226	Classic Crash 1
227	Classic Crash 2
228	Standard Crash 1
229	Standard Crash 2
230	Standard Crash 3
231	Rock Crash 1
232	Rock Crash 2
233	Splash
234	Brush Crash
235	China
236	Orchestra Crash
237	HipHop Crash
238	808 Crash
239	606 Crash
240	Electronic Crash

HI-HAT

241	Standard Hi-hat Open
242	Pop Hi-hat Open
243	Rock Hi-hat Open
244	Jazz Hi-hat Open
245	Electronic Hi-hat Open
246	808 Hi-hat Open
247	House Hi-hat Open
248	Standard Half Open
249	Pop Half Open
250	Rock Half Open
251	Jazz Half Open
252	Standard Hi-hat Close
253	Pop Hi-hat Close
254	Rock Hi-hat Close
255	Jazz Hi-hat Close
256	Electronic Hi-hat Close
257	808 Hi-hat Close
258	House Hi-hat Close
259	Standard Hi-hat Pedal
260	Pop Hi-hat Pedal
261	Rock Hi-hat Pedal
262	Jazz Hi-hat Pedal
263	Electronic Hi-hat Pedal
264	808 Hi-hat Pedal
265	House Hi-hat Pedal
266	Standard Hi-hat Splash
267	Rock Hi-hat Splash

PERCUSSION

268	Metronome Bell
269	Metronome Click
270	Scratch
271	Scratch Push
272	DJ FX
273	High Q Zap
274	Ding Bell
275	Finger Snaps
276	Standard Clap
277	Tambourine
278	Vibraslap
279	Agogo Low
280	Agogo High
281	Bell Tree
282	Bongo High
283	Bongo Low
284	Shaker
285	Conga Slap High
286	Conga Slap Mid
287	Conga Low
288	Open Conga
289	Conga Slap
290	Cowbell
291	Timbale High
292	Timbale Low
293	Timpani High
294	Timpani Low
295	Open Tabla High
296	Open Tabla Low
297	Slap Tabla
298	Mute Slap Tabla
299	Cabasa
300	Maracas
301	Short Whistle
302	Short Guiro
303	Long Guiro
304	Claves
305	Wood Block
306	Muted Cuica
307	Open Cuica
308	Muted Triangle
309	Open Triangle
310	Sleigh Bells
311	Wind Chimes
312	Castanets
313	Muted Surdo
314	Open Surdo
315	Lotus Drum
316	Cowbell 1
317	Cowbell 2
318	Cowbell 3
319	Cowbell 4
320	Cowbell 5
321	Cowbell 6
322	Cowbell 7
323	Cowbell 8
324	Cowbell 9
325	Cowbell 10
326	Cowbell 11
327	Tabla 1
328	Tabla 2
329	Tabla 3
330	Tabla 4
331	Tabla 5
332	Tabla 6
333	Da Gu 1
334	Da Gu 2
335	Zhu Ban
336	Nan Bang
337	Da Mu Yu
338	Mu Yu 1
339	Mu Yu 2
340	Mu Yu 3
341	Mu Yu 4
342	Pai Gu 1
343	Pai Gu 2
344	Pai Gu 3
345	Mang Luo 1
346	Mang Luo 2
347	Mang Luo 3
348	Da Luo 1
349	Da Luo 2
350	Da Po 1
351	Da Po 2
352	Xiao Po
353	Xiao Luo
354	Ten Luo
355	Peng Lin
356	Gou Luo
357	DJ 1
358	DJ 2
359	DJ 3
360	DJ 4
361	DJ 5
362	DJ 6
363	DJ 7
364	DJ 8
365	DJ 9
366	DJ 10
367	One
368	Two
369	Three
370	Four
371	Five
372	Six
373	Seven
374	Eight
375	Nine
376	Metronome Bell
377	Metronome Click
378	Clave Click 1
379	Clave Click 2
380	Stick Click 1
381	Stick Click 2
382	Cow Click 1
383	Cow Click 2
384	Fm Click 1
385	Fm Click 2

HI-HAT COMBINATIONS

1	Standard
2	Pop
3	Rock
4	Jazz
5	Electronic
6	808
7	House

GM Drum Kit List

Note No.	Standard 1 (bank 0)	Standard 2 (bank 4)	Room (bank 09)	Rock (bank 16)
27－D#1	High Q	<-	<-	<-
28 E1	Slap	<-	<-	<-
29－F1	Scratch Push	<-	<-	<-
30－F#1	Scratch Pull	<-	<-	<-
31－G1	Sticks	<-	<-	<-
32－G#1	Square Click	<-	<-	<-
33－A1	Metronome Click	<-	<-	<-
34－A#1	Metronome Bell	<-	<-	<-
35－B1	Acoustic Bass Drum	<-	Room Bass Drum 1	Rock Bass Drum 1
36－C2	Standard 1 Bass Drum	Standard 2 Bass Drum	Room Bass Drum 2	Rock Bass Drum 2
37－C#2	Side Stick	<-	<-	<-
38－D2	Standard 1 Snare	Standard 2 Snare	Room Snare	Rock Snare
39－D#2	Hand Clap	<-	<-	<-
40－E2	Standard 1 Snare Rim	Standard 2 Snare Rim	Room Snare Rim	Rock Snare Rim
41－F2	Standard 1 Tom 6	Standard 2 Tom 6	Room Tom 6	Rock Tom 6
42－F#2	Standard 1 Hi-hat Close	Standard 2 Hi-hat Close	Room Hi-hat Close	Rock Hi-hat Close
43－G2	Standard 1 Tom 5	Standard 2 Tom 5	Room Tom 5	Rock Tom 5
44－G#2	Standard 1 Hi-hat Pedal	Standard 2 Hi-hat Pedal	Room Hi-hat Pedal	Rock Hi-hat Pedal
45－A2	Standard 1 Tom 4	Standard 2 Tom 4	Room Tom 4	Rock Tom 4
46－A#2	Standard 1 Hi-hat Open	Standard 2 Hi-hat Open	Room Hi-hat Open	Rock Hi-hat Open
47－B2	Standard 1 Tom 3	Standard 2 Tom 3	Room Tom 3	Rock Tom 3
48－C3	Standard 1 Tom 2	Standard 2 Tom 2	Room Tom 2	Rock Tom 2
49－C#3	Standard 1 Crash 1	Standard 2 Crash 1	Room Crash 1	Rock Crash 1
50－D3	Standard 1 Tom 1	Standard 2 Tom 1	Room Tom 1	Rock Tom 1
51－D#3	Standard 1 Ride	Standard 2 Ride	Room Ride	Rock Ride
52－E3	Chinese Cymbal 1	<-	<-	<-
53－F3	Ride Bell	<-	Room Ride Bell	Rock Ride Bell
54－F#3	Tambourine	<-	<-	<-
55－G3	Splash Cymbal	<-	Room Splash Cymbal	Rock Splash Cymbal
56－G#3	Standard 1 Cowbell	Standard 2 Cowbell	Room Cowbell	Rock Cowbell
57－A3	Standard 1 Crash 2	Standard 2 Crash 2	Room Crash 2	Rock Crash 2
58－A#3	Vibra-slap	<-	<-	<-
59－B3	Ride Cymbal	<-	<-	<-
60－C4	Hi Bongo	<-	<-	<-
61－C#4	Low Bongo	<-	<-	<-
62－D4	Mute Hi Conga	<-	<-	<-
63－D#4	Open Hi Conga	<-	<-	<-
64－E4	Low Conga	<-	<-	<-
65－F4	High Timbale	<-	<-	<-
66－F#4	Low Timbale	<-	<-	<-
67－G4	High Agogo	<-	<-	<-
68－G#4	Low Agogo	<-	<-	<-
69－A4	Cabasa	<-	<-	<-
70－A#4	Maracas	<-	<-	<-
71－B4	Short Whistle	<-	<-	<-
72－C5	Long Whistle	<-	<-	<-
73－C#5	Short Guiro	<-	<-	<-
74－D5	Long Guiro	<-	<-	<-
75－D#5	Claves	<-	<-	<-
76－E5	Hi Wood Block	<-	<-	<-
77－F5	Low Wood Block	<-	<-	<-
78－F#5	Mute Cuica	<-	<-	<-
79－G5	Open Cuica	<-	<-	<-
80－G#5	Mute Triangle	<-	<-	<-
81－A5	Open Triangle	<-	<-	<-
82－A#5	Shaker	<-	<-	<-
83－B5	Jingle Bell	<-	<-	<-
84－C6	Bell Tree	<-	<-	<-
85－C#6	Castanets	<-	<-	<-
86－D6	Mute Surdo	<-	<-	<-
87－D#6	Open Surdo	<-	<-	<-

Note No.	Funk (bank 17)	Electronic (bank 24)	808 (bank 25)	House (bank 28)
27－D#1	<-	<-	<-	<-
28 E1	<-	<-	<-	<-
29－F1	<-	<-	<-	<-
30－F#1	<-	<-	<-	<-
31－G1	<-	<-	<-	<-
32－G#1	<-	<-	<-	<-
33－A1	<-	<-	<-	<-
34－A#1	<-	<-	<-	<-
35－B1	Funk Bass Drum 1	Electronic Bass Drum 1	808 Bass Drum 1	House Bass Drum 1
36－C2	Funk Bass Drum 2	Electronic Bass Drum 2	808 Bass Drum 2	House Bass Drum 2
37－C#2	<-	<-	<-	<-
38－D2	Funk Snare	Electronic Snare	808 Snare	House Snare
39－D#2	<-	<-	<-	House Hand Clap
40－E2	Funk Snare Rim	Electronic Snare Rim	808 Snare Rim	House Snare Rim
41－F2	Funk Tom 6	Electronic Tom 6	808 Tom 6	House Tom 6
42－F#2	Funk Hi-hat Close	Electronic Hi-hat Close	808 Hi-hat Close	House Hi-hat Close
43－G2	Funk Tom 5	Electronic Tom 5	808 Tom 5	House Tom 5
44－G#2	Funk Hi-hat Pedal	Electronic Hi-hat Pedal	808 Hi-hat Pedal	House Hi-hat Pedal
45－A2	Funk Tom 4	Electronic Tom 4	808 Tom 4	House Tom 4
46－A#2	Funk Hi-hat Open	Electronic Hi-hat Open	808 Hi-hat Open	House Hi-hat Open
47－B2	Funk Tom 3	Electronic Tom 3	808 Tom 3	House Tom 3
48－C3	Funk Tom 2	Electronic Tom 2	808 Tom 2	House Tom 2
49－C#3	Funk Crash 1	<-	808 Crash 1	<-
50－D3	Funk Tom 1	Electronic Tom 1	808 Tom 1	House Tom 1
51－D#3	Funk Ride	<-	<-	<-
52－E3	<-	<-	<-	<-
53－F3	<-	<-	<-	<-
54－F#3	<-	<-	<-	<-
55－G3	<-	<-	<-	<-
56－G#3	<-	<-	<-	<-
57－A3	Funk Crash 2	<-	808 Crash 2	<-
58－A#3	<-	<-	<-	<-
59－B3	<-	<-	<-	<-
60－C4	<-	<-	<-	<-
61－C#4	<-	<-	<-	<-
62－D4	<-	<-	808 Mute Hi Conga	<-
63－D#4	<-	<-	808 Open Hi Conga	<-
64－E4	<-	<-	808 Low Conga	<-
65－F4	<-	<-	<-	<-
66－F#4	<-	<-	<-	<-
67－G4	<-	<-	<-	<-
68－G#4	<-	<-	<-	<-
69－A4	<-	<-	<-	<-
70－A#4	<-	<-	808 Maracas	<-
71－B4	<-	<-	<-	<-
72－C5	<-	<-	<-	<-
73－C#5	<-	<-	<-	<-
74－D5	<-	<-	<-	<-
75－D#5	<-	<-	808 Claves	<-
76－E5	<-	<-	<-	<-
77－F5	<-	<-	<-	<-
78－F#5	<-	<-	<-	<-
79－G5	<-	<-	<-	<-
80－G#5	<-	<-	<-	<-
81－A5	<-	<-	<-	<-
82－A#5	<-	<-	<-	<-
83－B5	<-	<-	<-	<-
84－C6	<-	<-	<-	<-
85－C#6	<-	<-	<-	<-
86－D6	<-	<-	<-	<-
87－D#6	<-	<-	<-	<-

GM Drum Kit List

Note No.	Jazz (bank 32)	Brush (bank 40)	Orchestra (bank 48)
27—D#1	<-	<-	Concert Hi-hat Close
28 E1	<-	<-	Concert Hi-hat Pedal
29—F1	<-	<-	Concert Hi-hat Open
30—F#1	<-	<-	Concert Ride
31—G1	<-	<-	<-
32—G#1	<-	<-	<-
33—A1	<-	<-	<-
34—A#1	<-	<-	<-
35—B1	Jazz Bass Drum 1	Brush Bass Drum 1	Concert Bass Drum 1
36—C2	Jazz Bass Drum 2	Brush Bass Drum 2	Concert Bass Drum 2
37—C#2	<-	<-	<-
38—D2	Jazz Snare	Brush Snare	Concert Snare 1
39—D#2	<-	<-	Castanets
40—E2	Jazz Snare Rim	Brush Snare Rim	Concert Snare 2
41—F2	Jazz Tom 6	Brush Tom 6	Timpani F
42—F#2	Jazz Hi-hat Close	<-	Timpani F#
43—G2	Jazz Tom 5	Brush Tom 5	Timpani G
44—G#2	Jazz Hi-hat Pedal	<-	Timpani G#
45—A2	Jazz Tom 4	Brush Tom 4	Timpani A
46—A#2	Jazz Hi-hat Open	<-	Timpani A#
47—B2	Jazz Tom 3	Brush Tom 3	Timpani B
48—C3	Jazz Tom 2	Brush Tom 2	Timpani C
49—C#3	<-	Brush Crash 1	Timpani C#
50—D3	Jazz Tom 1	Brush Tom 1	Timpani D
51—D#3	Jazz Ride	Brush Ride	Timpani D#
52—E3	<-	<-	Timpani E
53—F3	<-	<-	Timpani F
54—F#3	<-	<-	<-
55—G3	<-	<-	<-
56—G#3	<-	<-	<-
57—A3	Chinese Cymbal 2	Brush Crash 2	Concert Crash 1
58—A#3	<-	<-	<-
59—B3	<-	<-	Concert Crash 2
60—C4	<-	<-	<-
61—C#4	<-	<-	<-
62—D4	<-	<-	<-
63—D#4	<-	<-	<-
64—E4	<-	<-	<-
65—F4	<-	<-	<-
66—F#4	<-	<-	<-
67—G4	<-	<-	<-
68—G#4	<-	<-	<-
69—A4	<-	<-	<-
70—A#4	<-	<-	<-
71—B4	<-	<-	<-
72—C5	<-	<-	<-
73—C#5	<-	<-	<-
74—D5	<-	<-	<-
75—D#5	<-	<-	<-
76—E5	<-	<-	<-
77—F5	<-	<-	<-
78—F#5	<-	<-	<-
79—G5	<-	<-	<-
80—G#5	<-	<-	<-
81—A5	<-	<-	<-
82—A#5	<-	<-	<-
83—B5	<-	<-	<-
84—C6	<-	<-	<-
85—C#6	<-	<-	<-
86—D6	<-	<-	<-
87—D#6	<-	<-	<-

PIANO

1	Acoustic Grand Piano
2	Bright Acoustic Piano
3	Electric Grand Piano
4	Honky-Tonk Piano
5	E.Piano 1
6	E.Piano 2
7	Harpsichord
8	Clavi

MALLET

9	Celesta
10	Glockenspiel
11	Music Box
12	Vibraphone
13	Marimba
14	Xylophone
15	Tubular Bells
16	Dulcimer

ORGAN

17	Drawbar Organ
18	Percussive Organ
19	Rock Organ
20	Church Organ
21	Reed Organ
22	Accordion
23	Harmonica
24	Tango Accordion

GUITAR

25	Nylon Guitar
26	Steel Guitar
27	Jazz Guitar
28	Clean Guitar
29	Muted Guitar
30	Overdriven Guitar
31	Distortion Guitar
32	Guitar Harmonics

BASS

33	Acoustic Bass
34	Finger Bass
35	Pick Bass
36	Fretless Bass
37	Slap Bass 1
38	Slap Bass 2
39	Synth Bass 1
40	Synth Bass 2

STRINGS

41	Violin
42	Viola
43	Celloi
44	Contrabass
45	Tremolo Strings
46	Pizzicato Strings
47	Orchestral Harp
48	Timpan

STRINGS ENSEMBLE

49	Strings Ensemble 1
50	Strings Ensemble 2
51	Synth Strings 1
52	Synth Strings 2
53	Choir Aahs
54	Voice Oohs
55	Synth Voice
56	Orchestra Hit

BRASS

57	Trumpet
58	Trombone
59	Tuba
60	Muted Trumpet
61	French Horn
62	Brass Section
63	Synth Brass 1
64	Synth Brass 2

REED

65	Soprano Sax
66	Alto Sax
67	Tenor Sax
68	Baritone Sax
69	Oboe
70	English Horn
71	Bassoon
72	Clarinet

PIPE

73	Piccolo
74	Flute
75	Recorder
76	Pan Flute
77	Blown Bottle
78	Shakuhachi
79	Whistle
80	Ocarina

LEAD

81	Lead1 (square)
82	Lead2 (sawtooth)
83	Lead3 (calliope)
84	Lead4 (chiff)
85	Lead5 (charang)
86	Lead6 (voice)
87	Lead7 (fifths)
88	Lead8 (bass & Lead)

PAD

89	Pad1 (newage)
90	Pad2 (warm)
91	Pad3 (Polysynth)
92	Pad4 (choir)
93	Pad5 (bowed)
94	Pad6 (metallic)
95	Pad7 (halo)
96	Pad8 (sweep)

EFFECTS

97	FX1 (rain)
98	FX2 (soundtrack)
99	FX3 (crystal)
100	FX4 (atmosphere)
101	FX5 (brightness)
102	FX6 (goblins)
103	FX7 (echoes)
104	FX8 (sci-fi)

ETHNIC

105	Sitar
106	Banjo
107	Shamisen
108	Koto
109	Kalimba
110	Bagpipe
111	Fiddle
112	Shanai

PERCUSSIVE

113	Tinkle Bell
114	Agogo
115	Steel Drums
116	Wood Block
117	Taiko Drum
118	Melodic Tom
119	Synth Drum
120	Reverse Cymbal

SOUND EFFECTS

121	Guitar Fret Noise
122	Breath Noise
123	Seashore
124	Bird Tweet
125	Telephone Ring
126	Helicopter
127	Applause
128	Gunshot

Song List

No.	Name	Type	No.	Name	Type
1	Drum Intro	Loop	41	Mambo	Loop
2	Drum Main A	Loop	42	Latin Rock 1	Loop
3	Drum Main B	Loop	43	Latin Pop 2	Loop
4	Electronic&Funk	Loop	44	Guitar Bossa	Loop
5	Modern Pop	Loop	45	Country Blues	Loop
6	Fusion 1	Loop	46	Rock	Loop
7	HipHop	Loop	47	Reggae 1	Loop
8	Latin Jazz 1	Loop	48	60's Rock	Loop
9	Funk 1	Loop	49	Blues	Loop
10	Big Band 1	Loop	50	World 1	Loop
11	Funk 2	Loop	51	World 2	Loop
12	Pop Funk 1	Loop	52	Latin	Loop
13	Fusion 2	Loop	53	Bossa	Loop
14	Funk 3	Loop	54	Samba 2	Loop
15	Fusion 3	Loop	55	3/4 Pop	Loop
16	Funk 4	Loop	56	Pop	Loop
17	Fusion 4	Loop	57	Jazz 2	Loop
18	Pop Funk 2	Loop	58	Reggae 2	Loop
19	R&B	Loop	59	Reggae 3	Loop
20	Drum & Bass 1	Loop	60	Latin Rock 2	Loop
21	Break Beat	Loop	61	Chorused Piano Tap 1	Hit
22	Dance	Loop	62	Fifths Tap	Hit
23	Drum & Bass 2	Loop	63	Brightness Tap 1	Hit
24	Latin Dance 1	Loop	64	Atmosphere	Hit
25	Latin Dance 2	Loop	65	Chorused Piano Tap 2	Hit
26	Swing 1	Loop	66	Bass Tap 1	Tap
27	Latin Jazz 2	Loop	67	Synth string Tap	Tap
28	Big Band 2	Loop	68	Brightness Tap 2	Tap
29	3/4 Jazz	Loop	69	Bass Tap 2	Tap
30	Jazz 1	Loop	70	Pad Tap 1	Tap
31	Latin Jazz 3	Loop	71	Vibraphone	Tap
32	Swing 2	Loop	72	Bass Tap 3	Tap
33	6/8 Ballad	Loop	73	Rain Tap	Tap
34	Pop Ballad	Loop	74	Pizzcato Strings	Tap
35	Pop Bossa	Loop	75	Bass Tap 4	Tap
36	16Beat Pop	Loop	76	Crystal	Tap
37	Pop Shuffle	Loop	77	Xylophone	Tap
38	Ballad	Loop	78	Bass Tap 5	Tap
39	Samba 1	Loop	79	Pad Tap 2	Tap
40	Latin Pop 1	Loop	80	Glockenspiel Tap	Tap

BEAT

No.	Name	Kit Bank	Beat	Tempo	Measure
1	Beat 1	0	4/4	100	4
2	Beat 2	0	4/4	100	4
3	Beat 3	0	4/4	100	4
4	Beat 4	0	4/4	100	4
5	Beat 5	0	4/4	100	4
6	Beat 6	0	4/4	100	4
7	Beat 7	0	4/4	100	4
8	Beat 8	0	4/4	100	4
9	Beat 9	0	4/4	100	4
10	Beat 10	0	4/4	100	4
11	Beat 11	0	4/4	100	4
12	Beat 12	0	4/4	100	4
13	Beat 13	0	4/4	100	4
14	Beat 14	0	4/4	100	4
15	Beat 15	0	4/4	100	4
16	Beat 16	0	4/4	100	4
17	Beat 17	0	4/4	100	4
18	Beat 18	0	4/4	100	4
19	Beat 19	0	4/4	100	4
20	Beat 20	0	4/4	100	4

RHYTHM

No.	Name	Kit Bank	Beat	Tempo	Measure
1	Funk 1	0	4/4	110	4
2	Funk 2	0	4/4	90	4
3	HipHop 1	0	4/4	90	4
4	HipHop 2	0	4/4	113	4
5	Jazz 1	0	4/4	157	4
6	Jazz 2	0	4/4	187	4
7	Latin 1	0	4/4	190	4
8	Latin 2	0	4/4	200	4
9	Pop Rock 1	0	4/4	105	4
10	Pop Rock 2	0	4/4	97	4
11	Rock	0	4/4	100	4
12	6/8 Pop Rock	0	6/8	125	4

PATTERN

No.	Name	Kit Bank	Beat	Tempo	Measure
1	Funk	17	4/4	120	4
2	HipHop	25	4/4	110	4
3	Latin Jazz	40	4/4	130	8
4	6/8 Ballad	8	6/8	96	4
5	Bossanova	17	4/4	82	8
6	R&B	25	4/4	86	4
7	3/4 Jazz	40	3/4	120	10
8	Reggae	0	4/4	78	4
9	Rock	0	4/4	100	4
10	Fusion	0	4/4	103	4

Parameter List

NORMAL MODE

KIT

Parameter	Abbreviation	Value
Kit Number	NUM	1—40
Kit Volume	VOL	0—32
Reverb	REV	ON / OFF
EQ High	EQH	-12 -- +12
EQ Middle	EQM	-12 -- +12
EQ Low	EQL	-12 -- +12

SONG

Parameter	Abbreviation	Value
Song Number	NUM	1—80
Accomp Volume of Song	ACC	0—32
Drum Volume of Song	DRM	0—32

UTILITY

Parameter	Abbreviation	Value
Pad Sensitivity	SEN	1—16
Pad Threshold	THR	0—16
Crosstalk	CRO	1—16
Curve	CUR	1—6
Rim Sensitivity	R-S	1—16
Splash Sensitivity	S-S	1—9
Local on/off	LOC	ON/OFF
GM on/off	GM	ON/OFF

TEMPO

Parameter	Abbreviation	Value
TEMPO	BPM	30—280

VOICE

Parameter	Abbreviation	Value
Voice Number	NUM/H-C	1—385/1—7
Voice Volume	VOL	0—32
Voice Pan	PAN	-8 -- +8
Voice Pitch	PIT	-8 -- +8
Voice Reverb	REV	0—16
MIDI Note	MID	0—127
Pad Song Switch	P-S	ON / OFF
Pad Song Number	P-N	1—80

CLICK

Parameter	Abbreviation	Value
Signature	SIG	0–9/2, 0–9/4, 0–9/8, 0–9/16
Interval	INT	1–2, 3–8, 1–4, 1–8, 1-12, 1-16
Click Volume	VOL	0—32
Click Voice	VOC	1—5

RECORD

Parameter	Abbreviation	Value
Song Number	SNG	---/1—60
Kit	KIT	1—40
Tempo	BPM	30—280
Signature	SIG	1–9/2, 1–9/4, 1–9/8, 1–9/16
Interval	INT	1–2, 3–8, 1–4, 1–8, 1-12, 1-16
Drum Off	DRM	---/ON/OFF
Pre Count	PRC	ON/OFF

LEARNING MODE

BEAT

Parameter	Abbreviation	Value
Beat Type	BEA	1--20
Drum Volume	DRM	0--32

RHYTHEM

Parameter	Abbreviation	Value
Rhythm Type	RHM	1--12
Level	LEV	1--6
Drum Volume	VOL	0--32

PATTERN

Parameter	Abbreviation	Value
Pattern Type	PTN	1--10
Level	LEV	1--5
Accompany Volume	ACC	0--32
Drum Volume	DRM	0--32

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	Ch'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 Number	×××××××	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 Sensing	×	○	
	: Reset	×	×	