



kt3m

Digital Drum Trigger Module



Owner's Manual

INFORMATION FOR YOUR SAFETY!

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

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 used in accordance with the instructions, may cause harmful interference to radio communications and 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 of the receiver. Consult the dealer or an experienced radio/TV technician if help is needed with interference.

NOTE:

FMIC will not be responsible for unauthorized equipment modifications that could violate FCC rules, and/or void product safety certifications.

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
- Excessively 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.

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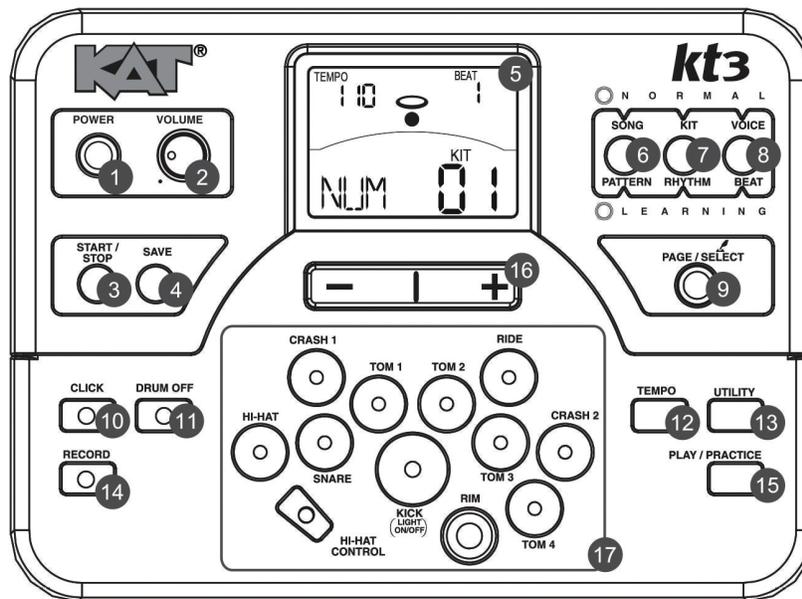
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PANEL DESCRIPTION

FRONT PANEL



1. POWER Button

This button turns the power on and off.

2. VOLUME Knob

Adjust the volume of phone and line output.

3. START/STOP Button

Start or stop playing.

4. 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.

5. LCD Display

Please refer to the LCD Display section.

6. SONG/PATTERN Button

Enter the Song menu in NORMAL mode or enter the Pattern Practice menu in LEARNING mode.

7. KIT/RHYTHM Button

Enter the Kit menu in NORMAL mode or enter the Rhythm Practice menu in LEARNING mode.

8. VOICE/BEAT Button

Enter the Voice menu in NORMAL mode or enter the Beat Practice menu in LEARNING mode.

9. PAGE/SELECT Button

Scroll through the menu pages. Press and hold it for 1 second to switch modes between NORMAL and LEARNING.

10. CLICK Button

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

11. DRUM OFF Button

Mute the drum part of the pattern.

12. TEMPO Button

Adjust the current tempo.

13. UTILITY Button

Enter the Utility menu in NORMAL mode.

14. RECORD Button

Enter the Record menu in NORMAL mode.

15. 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.

16. [+] Button and [-] Button

Pressing the [+] button increases and pressing [-] button decreases the current parameter.

17. 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.

PANEL DESCRIPTION

REAR & SIDE PANEL

18. PHONES Jack(1/8")

This stereo jack is used to connect headphones to the unit.

19. AUX IN Jack(1/8")

This stereo input jack is for an external sound source, such as an MP3 or CD player.

20. LINE OUTPUT Jacks(1/4")

Stereo output connection to an audio system or drum amplifier.

21. CRASH 2 Jack(1/4")

Input connection for Crash 2.

22. TOM 4 Jack(1/4")

Input connection for Tom 4.

23. MIDI Connectors (IN, OUT)

These ports allow communication with other products equipped with a MIDI interface.

24. USB Connector

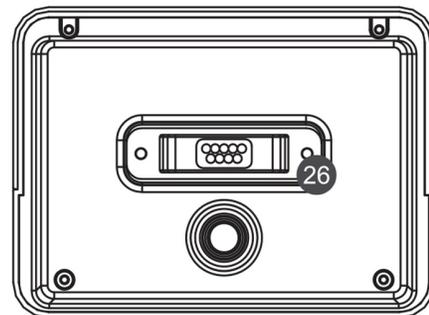
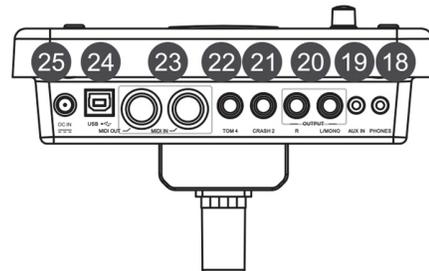
This port is used to connect to a computer (MIDI In/Out via USB).

25. DC IN Jack

Connect the included DC 9V power adaptor.

26. PAD Connectors

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



LCD DISPLAY

1. TEMPO/MEASURE

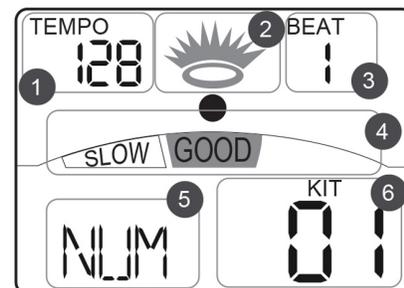
2. HITTING INDICATOR

3. BEAT COUNT

4. INDICATORS FOR LEARNING

5. INDICATORS FOR MENUS (SUCH AS UTILITY, REC, ETC.)

6. CURRENT MODE AND PARAMETER DISPLAY



SET-UP INSTRUCTIONS

CAUTION!

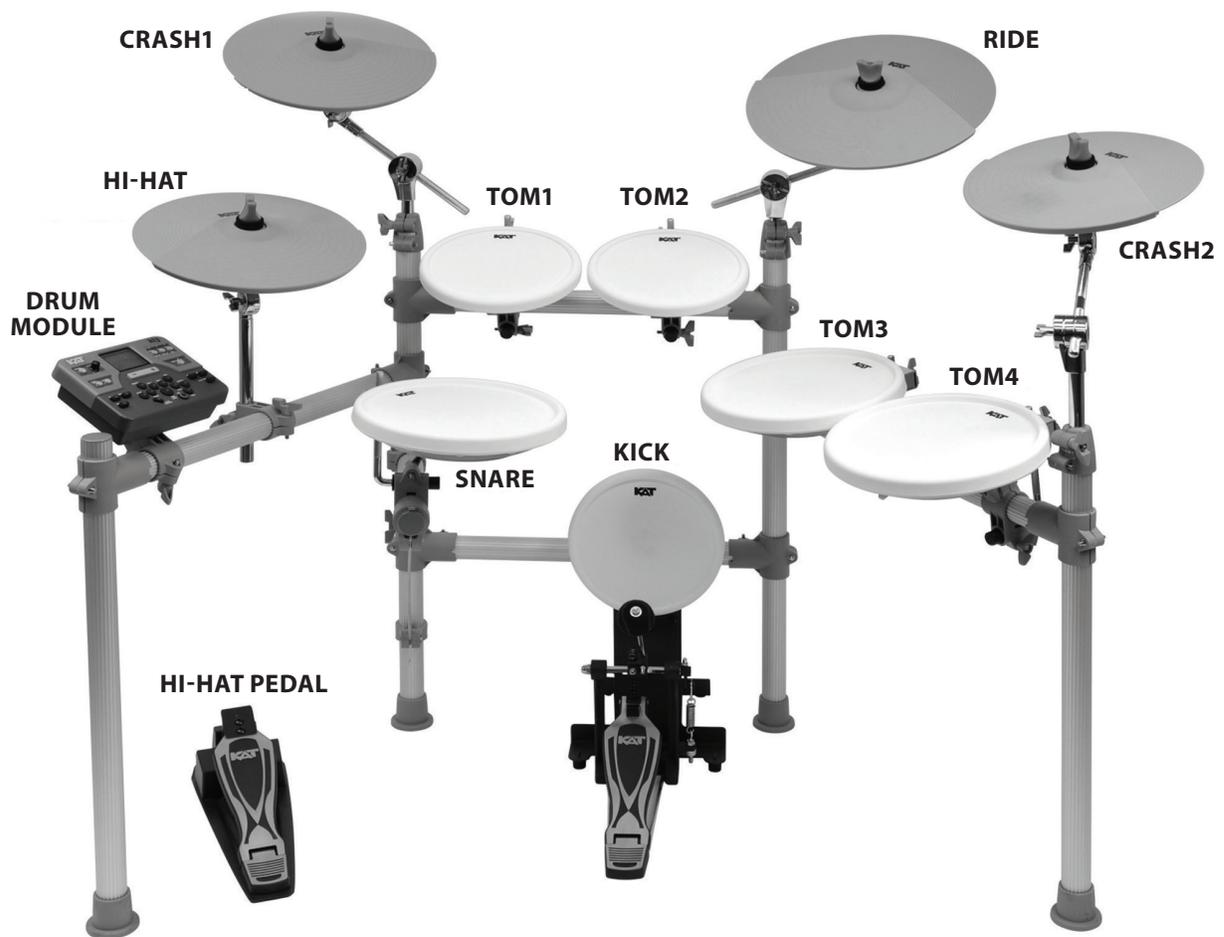
TO PREVENT ELECTRIC SHOCK AND DAMAGE TO THE DEVICE, MAKE SURE THE POWER IS SWITCHED "OFF" ON THE DRUM AND ALL RELATED DEVICE BEFORE MAKING ANY CONNECTION.

FRONT PANEL

STANDARD: KICK, SNARE, TOM1-3, CRASH1, RIDE, HIHAT, HIHAT CONTROL PEDAL (Sold separately)

EXTENDED: CRASH2, TOM4

Using the provided cable harness, connect with kick, snare, tom1-tom3, ride, crash, hi-hat, hi-hat control triggers. Snare, tom, crash1, crash2 and ride pads are stereo input and support double triggering; crash 1, crash2, ride cymbal, Hi-hat control pedal is stereo input. (The KT3 kit layout is shown as an example)



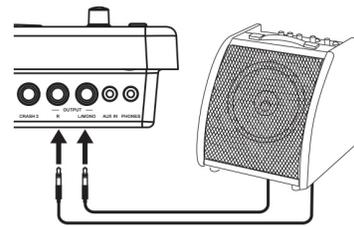
CONNECTIONS

CONNECTING 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:

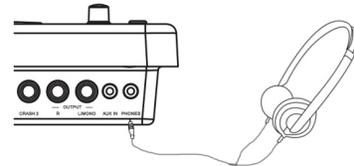
For mono playback, use the L/MONO jack. For stereo playback, connect both L/MONO and R jacks. The line output volume is controlled by the VOLUME knob.



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.

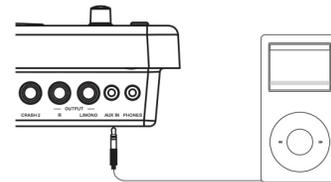
The headphones output volume is controlled VOLUME knob, too.



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

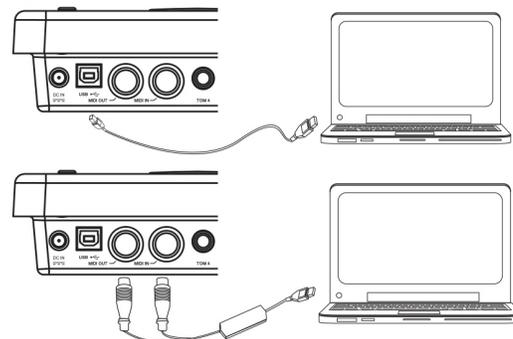
VIA THE USB CONNECTOR:

This receives and transmits MIDI messages.

VIA THE MIDI CONNECTORS:

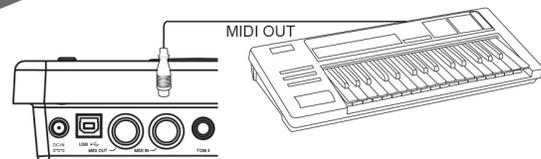
- **MIDI IN Connector:** This receives MIDI messages transmitted from an external MIDI device or a computer.

- **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.

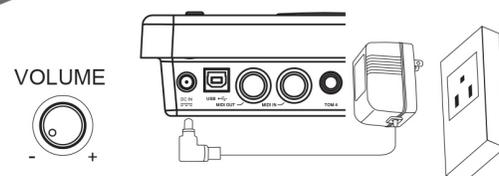


POWER SUPPLY

Make sure the power is turned 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 powering on the module. Press the [POWER] button to turn on the module. The KIT indicator on LCD will light up and the display will show kit number 001.

NOTE:

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



HINT:

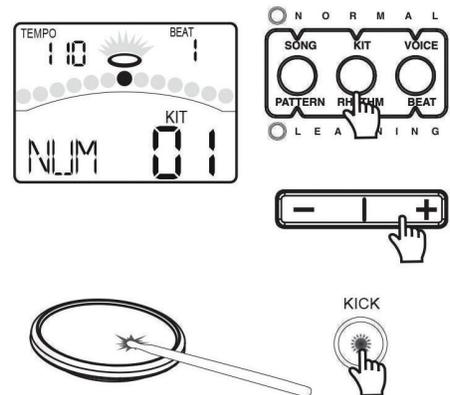
The module will automatically turn off if there aren't any operations for about 30 minutes except during playing song or metronome, record, MIDI in via USB port from computer and strike pads. Please press [UTILITY] button repeatedly and enter "POW" menu for the setting.

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 45 kits in the digital drum:
 - 45 preset kits (Kits 01-45)
 - 25 user kits (Kits 46-70), the parameter display area will display as "U46-U70" 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. Some voices change timbre depending on the striking force.

DRUM PAD HEAD OR RIM SHOT

Depending on the pad type you are using, the digital drum pad detects head and rim shots (rim shots trigger the rim voice).

KAT Pads sold separately.

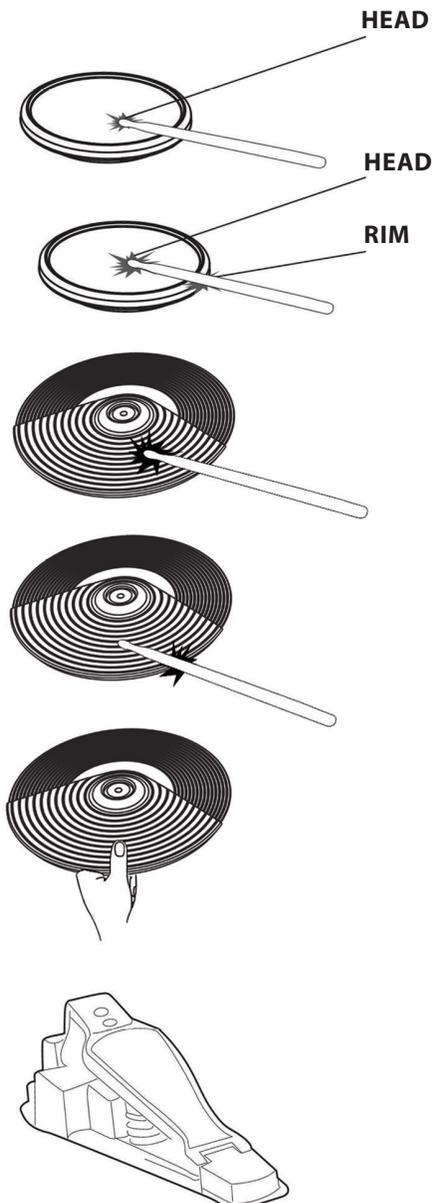
CYMBAL TRIGGER AREAS

Depending on the pad type you are using, the digital drum crash cymbals can detect Bow and Edge triggering. Both crash cymbals can detect cymbal edge choke as well. Choking the crash edge with the hand immediately after striking the crash can mute the crash sound. The ride cymbal typically detects Bow triggering and bell triggering. Depending on your cymbal type, the edge is not active and does not have the choke function. The Hi-hat detects bow triggering but does not have a choke function.

KAT Cymbals sold separately.

- 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.

KAT Controller Pedal sold separately.

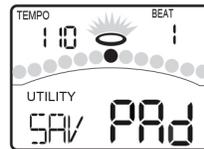
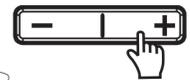
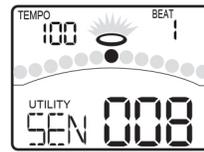


ADJUSTING THE SENSITIVITY OF A PAD

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.

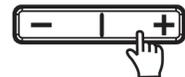
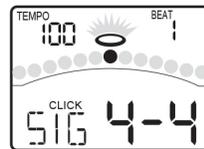
For details on pad adjustments, refer to **Advanced Use**.



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.



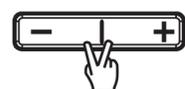
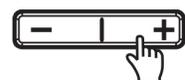
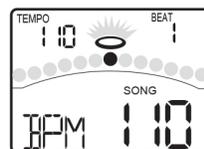
ADJUSTING THE TEMPO

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.

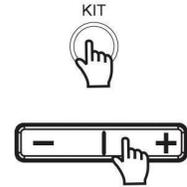
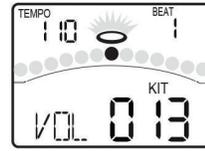


EDITING AND SAVING A DRUM KIT

IN KIT MENU, YOU CAN MODIFY THE PARAMETERS AS YOU LIKE AND SAVE TO THE SELECTED USER KIT.

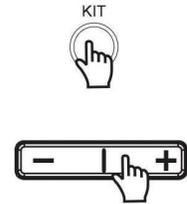
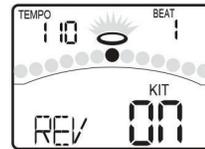
ADJUSTING VOLUME OF A DRUM KIT

1. **Press the [KIT] or [PAGE] button.**
Select the Kit Volume page.
2. **Press the [-] or [+] button.**
Adjust the kit volume.



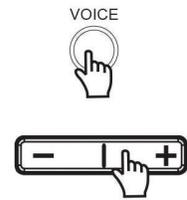
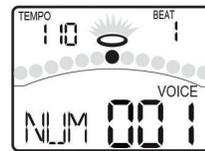
SWITCHING REVERB ON/OFF AND SETTING EQ

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)



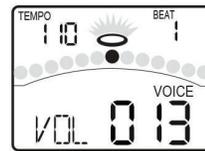
SELECTING THE DRUM INSTRUMENT OF THE PAD

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.



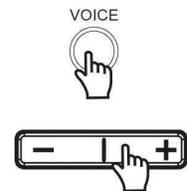
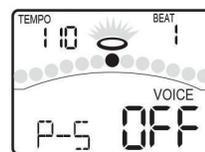
ADJUSTING VOLUME, PAN AND PITCH OF PAD

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.



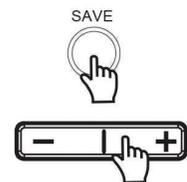
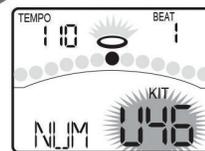
SETTING PADS TO PLAY SONGS

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. 46-70)
3. **Press the [SAVE] button again.**
Save the setting to the selected user kit.



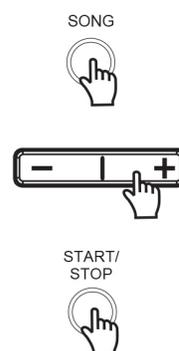
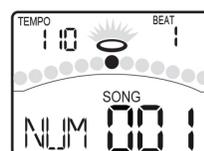
HINT:

If the edited kit isn't saved before selecting another kit, powering down the digital drum, the changes will be lost.

PLAYING ALONG WITH SONGS

SELECTING AND PLAYING BACK A SONG

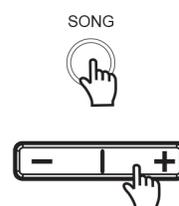
- 1. Press the [SONG] button.**
Switch to the SONG menu.
- 2. Press the [-] or [+] button.**
Select the active song. The digital drum has many kinds of songs. Please refer to Song list.
- 3. Press the [START/STOP] button.**
Start or stop playing back this selected song. When playing back this song, the PAD indicator will display which pads are being played by drum track.



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.



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.



USING THE PADS TO PLAY SONGS

This function is available only with electric drum. When you strike the pads that have been set to 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.

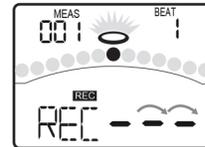
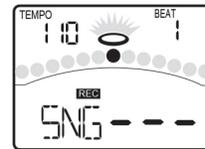
The [RECORD] LED will flash. The Metronome will be turned on automatically.

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.

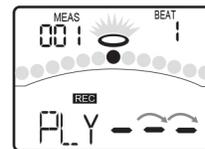
Play back your recording.

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.

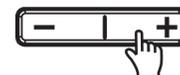
1. Press the [PAGE] button.

Select the Record Setting pages.

2. Press the [-] or [+] button.

Adjust the parameters about recording.

For details on record setting, refer to **Advanced Use**.



PRACTICING WITH PATTERNS

There are three types of patterns in **LEARNING** mode.

Beat: Snare Practice

Rhythm: Drum Practice

Pattern: Drum 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.

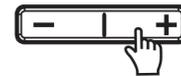
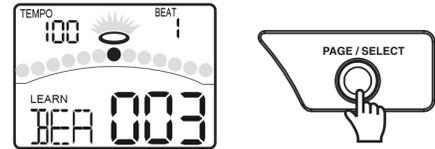
2. Press the [-] or [+] button.

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.



PLAY/PRACTICE



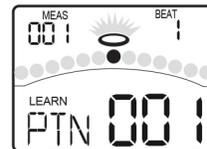
SCORING YOUR PRACTICE

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

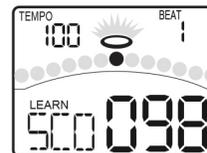
A measure count-in will be inserted before playing back the pattern so that you can practice in good time. Your practice will be recorded automatically. When finished playing back the pattern, the digital drum will score your practice automatically.

The display will show the score.

If you are not satisfied with your score, please press the [START/STOP] button and try again.



START/
STOP



PLAYING BACK YOUR RECORD PRACTICE

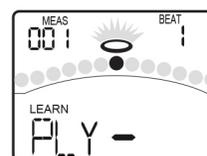
1. Press and hold the [PLAY/PRACTICE] button for 2 seconds.

The display will show:

You can listen to your recorded practice.

2. Press the [PLAY/PRACTICE] button again.

Stop playing back the recorded practice.



PLAY/PRACTICE



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 70 kits in the digital drum:

- 45 preset kits (Kits 01 -45)
- 25 user kits (Kits U46-U70)

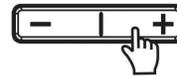
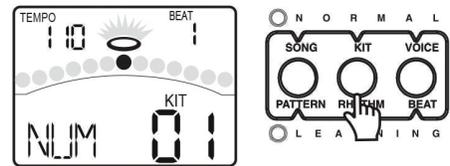
In addition, there are 11 General MIDI preset kits for MIDI/USB applications, and for MIDI file playback. Please refer to **GM Drum Kit List**. Each drum kit contains settings for up to 19 voices, assigned to the 10 pad inputs and 1 pedal controller:

Pad Settings		
Kick	Head1	
Snare	Head2	Rim2
Tom1	Head3	Rim3
Tom2	Head4	Rim4
Tom3	Head5	Rim5
Tom4	Head6	Rim6
Crash1	Head7	Rim7
Crash2	Head8	Rim8
Ride	Head9	Bell
Hi-Hat	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

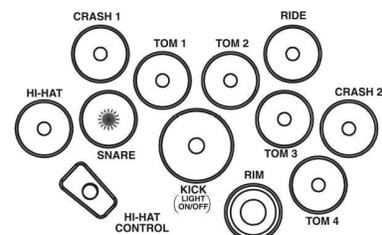
In KIT menu, you can set the overall kit parameters.

- 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.



CREATING YOUR OWN DRUM KIT

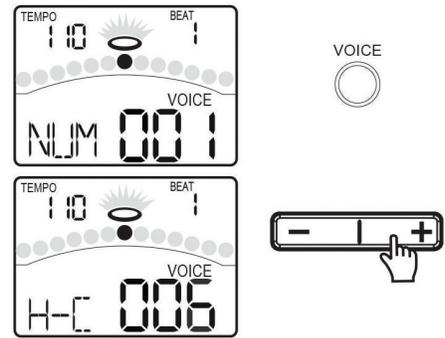
ABOUT THE INSTRUMENTS

The digital drum features over 500 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 (001-527).
2. If the selected pad is Hi-Hat, an additional option is available: Hi-Hat Combination (001-023).



DRUM INSTRUMENT SETTING

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(1-100)

SETTINGS FOR OTHER FUNCTIONS

1. Press the [PAGE] or [VOICE] button, select Pad MIDI Note page. The parameter sets MIDI Note Number for each pad.
2. Press the [PAGE] or [VOICE] button, select Pad Song pages. The parameters sets pad song function ON and choose the song numbers.

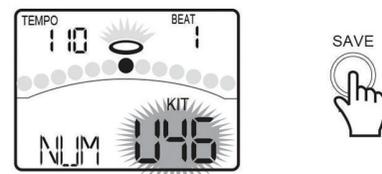
Press the [-] or [+] buttons to adjust the parameters.

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 changing any kit parameter, please press the [SAVE] button to save the current settings to the user kit (No. 46-70). 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 SETTING FOR PADS

ABOUT SETTING 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.

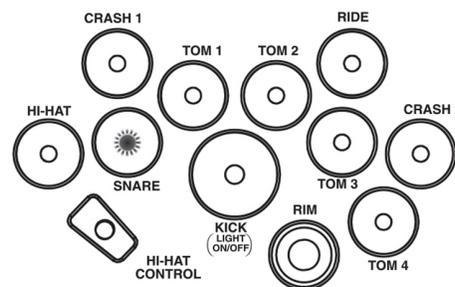
Sensitivity: Adjust the sensitivity of the pad to regulate the pad response. Higher settings result in higher sensitivity, so that the pad will produce a loud volume even when struck softly. You can also adjust the sensitivity of the splash in SPLASH SENSITIVITY.

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	
Pad	Sensitivity(1-16)
	Threshold(0-16)
	Crosstalk(1-16)
	Curve(1-6)
Special	Rim Sensitivity(1-16)
	Splash Sensitivity(1-9)
Auto Power Off	30, 60, Off

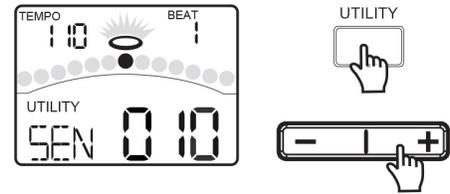


MAKING THE SETTING FOR PADS

ADJUSTING THE PAD SENSITIVITY

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

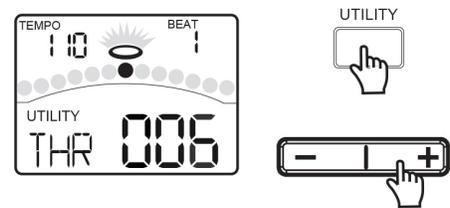
Changes how a pad responds to your playing. At higher sensitivities, the pad will generate a louder signal, even when you play softly. At lower sensitivities, the pad will generate a quieter signal, even if you play strongly. Adjust according to your playing style and desired dynamic range.



SETTING THE PAD THRESHOLD

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

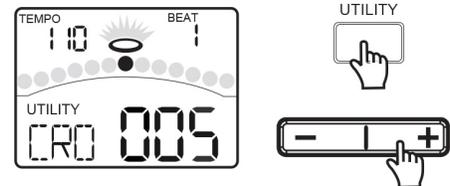
Changes how forcefully you must strike the pad to generate a trigger signal. Setting a high threshold requires hitting the pad very hard to get a sound. This can help cut out transient responses, such as vibrations from the kit or accidental pad taps that you don't intend to generate sounds. Setting 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 that 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.

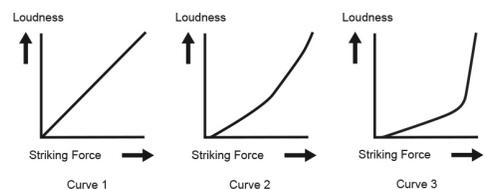
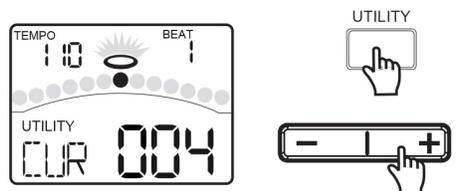
SELECTING THE PAD CURVE

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

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.

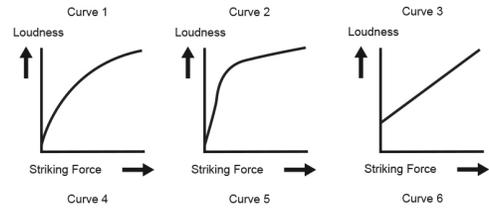
Curve2, 3: Compared to Curve1, strong dynamics produce a greater change.



MAKING THE SETTING FOR PADS

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

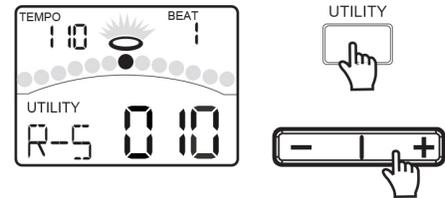


SETTING RIM SENSITIVITY ON PADS

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.

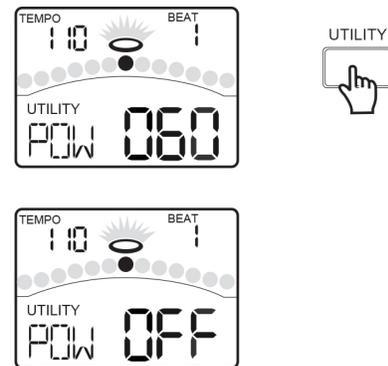
AUTO POWER OFF

Press the [PAGE] or [UTILITY] button to select the Auto Power Off setup page. The LCD will display

030 and 060:

If there aren't any operations for about 30 or 60 minutes except during playing song, metronome, record, or MIDI in via USB port from computer and strike pads, the module will turn the power off automatically.

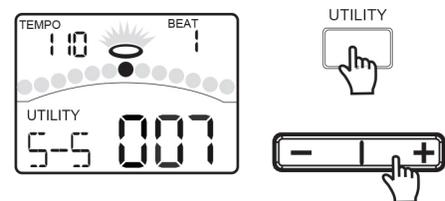
"OFF": Switch off the auto power off function.



ADJUSTING HI-HAT PEDAL SPLASH SENSITIVITY

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

This Setting controls the sensitivity of the foot splash.

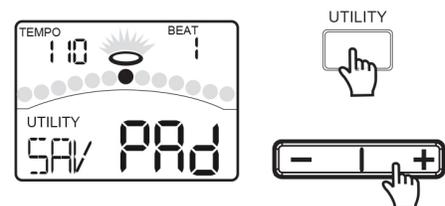


SAVING SETTINGS OF PADS

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

These parameters affect all kits.



SETTING THE METRONOME

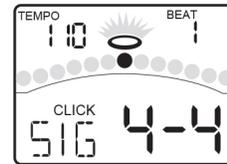
ABOUT CLICK

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 [CLICK] 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

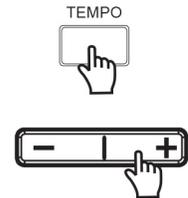
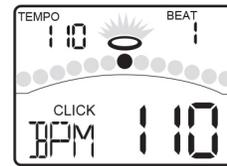
SWITCHING THE CLICK ON/OFF

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

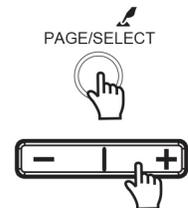
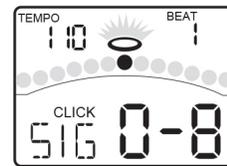
Press the [TEMPO] button, and use the [-] and [+] buttons to adjust the current click tempo. The current tempo always displays in the top left corner of the LCD.



SETTING THE TIME SIGNATURE

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

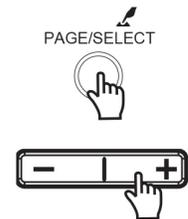
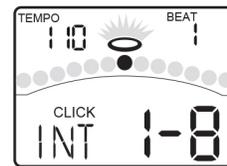
When the parameter is set to "0", such as 0-2, 0-4, 0-8, 0-16, no accent is added to the first beat.



SETTING THE INTERVAL

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

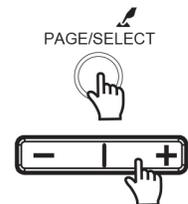
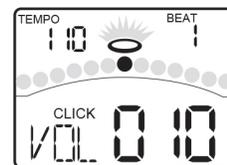
This parameter sets how the sound plays.



ADJUSTING THE CLICK VOLUME

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

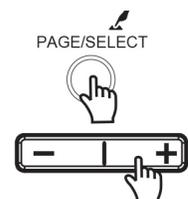
This parameter adjust the volume of the click sound.



SELECTING THE CLICK SOUND

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

This parameter choose the sound for the click.



PLAYING BACK SONGS

ABOUT SONGS

There are 100 preset songs in the digital drum:

- 70 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)

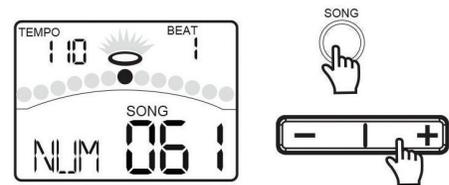
HINT:

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.

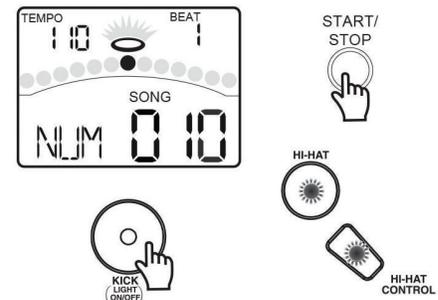


If the song number is switched while playing, the new song won't start until the end of the current bar.

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.

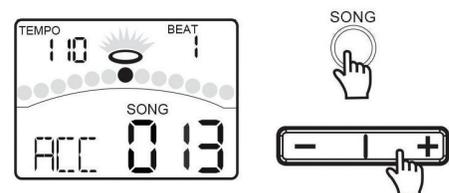
During song playback in SONG menu, the PAD indicators will show which pads of the drum track is triggering. This function can be disabled or enabled by pressing the [KICK] button while in SONG menu.



ADJUSTING THE ACCOMPANIMENT VOLUME

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

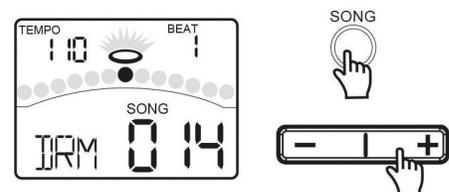
Use the [-1 or +] to adjust it. It will be restore to default value on the next power on.



ADJUSTING THE DRUM VOLUME

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

Use the [-1 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.



RECORDING A SONG

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:

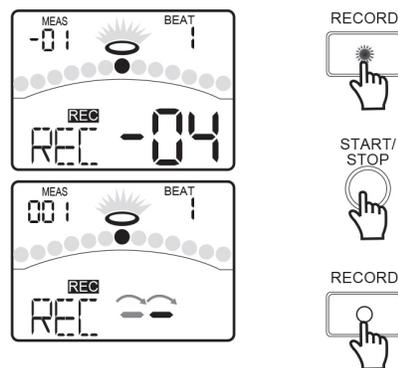
Press the [START/STOP] button - Hit any pad

On Recording Standby, you can use the [-] or [+] button to adjust the parameters (as shown to the right).

Record Settings	
Song Number	---/1-70
Kit	1-45
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

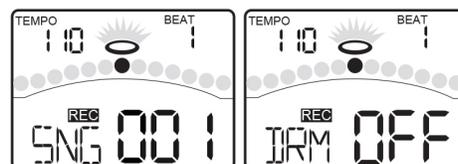
- Press the [RECORD] button, enter recording standby.**
The [RECORD] LED will flash.
- Press the [START/STOP] button or strike the pad.**
Recording will start. The RECORD LED will turn on. After Count-in, the display will show: Now you will record your performance.
- Press the [START/STOP] button again, or press the [RECORD] button.**
Stop recording, the [RECORD] LED will turn off.



RECORDING PERFORMANCES ACCOMPANIED WITH A SONG

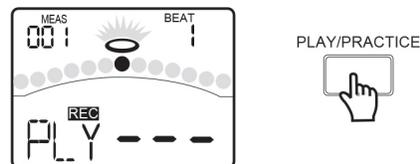
If you want to record your performance accompanied with a song, first set the parameters (Song Number and Drum off) before start to record. The display will be as shown to the right:

For details on setting, refer to Recording Standby. Recording operations are as mentioned above.



PLAYING BACK YOUR RECORDED PERFORMANCE

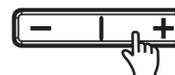
- Press the [PLAY] button.** Play back your recording. The display will show:
- Press the [PLAY] button again.** Stop playing back your performance.



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 Level 1-Level 6)
- **10 Patterns** (from Level 1-Level 5)

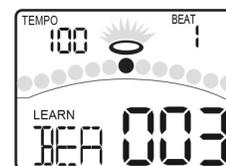
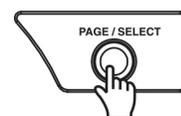
You can select appropriate patterns to practice depending on your present skills. There are 3 states in Learning mode:

- **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 practicing, your hitting accuracy will always be indicated in the middle of the display according to the current pattern.



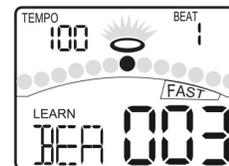
DRAGGING:



PERFECT:



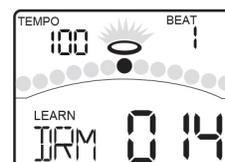
RUSHING:



PRACTICING WITH BEATS

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



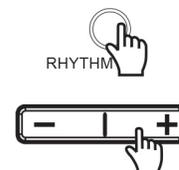
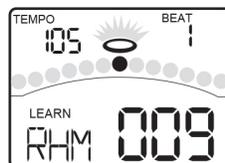
PRACTICING IN LEARNING MODE

PRACTICING 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

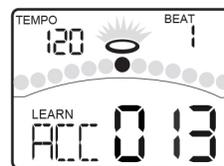
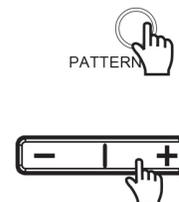
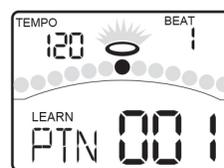


PRACTICING WITH PATTERNS

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

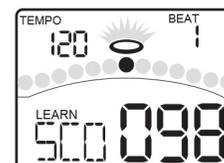
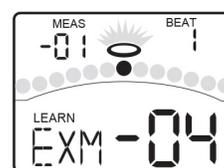
RECORDING AND SCORING YOUR PRACTICE

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



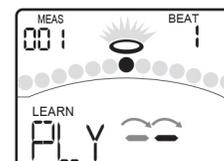
PLAYING BACK YOUR RECORDED PRACTICE

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



MAKING SETTINGS FOR MIDI

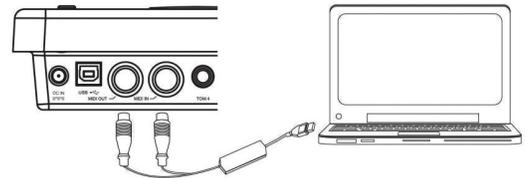
ABOUT MIDI

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 (32bit only). 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: This device is USB 2.0 compatible and may not be properly recognized in PC's using USB 3.0. - In that case, use the Midi Out Port to the Midi In Port of the audio interface device, to transmit the Midi information from the module. 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:

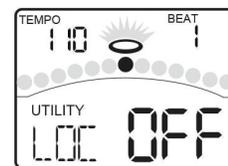
Press the [-] or [+] button, set GM mode to ON or OFF.

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

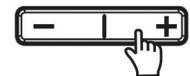
SYNC MODE

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.

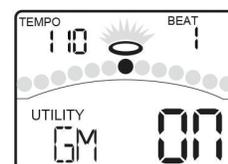
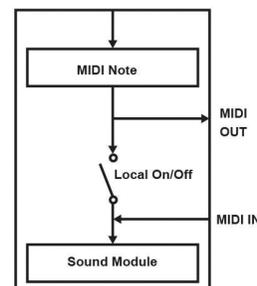
MIDI Settings	
Local on/off	ON/OFF
GM on/off	ON/OFF



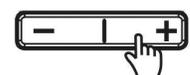
UTILITY



Trigger Input



UTILITY



START/STOP



MAKING 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 2.0 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 its 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	Tom2	45	Tom4 R	39	Crash1 R	55	Hi-Hat HO	23
Snare	38	Tom2 R	47	Ride	51	Crash2	57	Hi-Hat C	42
Snare R	40	Tom3	43	Ride Bell	59	Crash2 R	52	Hi-Hat P	44
Tom1	48	Tom3 R	58	Crash1	49	Hi-Hat O	46	Splash	21
Tom1 R	50	Tom4	41						

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*).

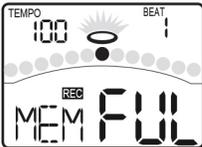
The MIDI system in the digital drum has 16 reception channels numbered from 1-16. Each of the channels is responsible for a voice. When the instrument receives MIDI information from an external device, the active channel is determined by the control message. Channel 10 is reserved for Drums. The digital 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.

PROMPT MESSAGES

DISPLAY	MEANING	ACTION
	Resetting the digital drum has FAILED.	Please call your dealer for evaluation.
	There is NO DATA in the digital drum's memory.	Please record your performance, and then play it.
	The internal memory is full. You can NOT record any data.	If you want to record another song, please restart recording and replace it.
	You did NOT record your practice in the Learning mode.	Please press the [START/STOP] button to score your practice, and then play back your practice.

TROUBLE SHOOTING

PROBLEM	POSSIBLE CAUSE AND SOLUTION
No Sound	<ol style="list-style-type: none"> 1) Rotate the [VOLUME] knob to be sure that the volume isn't down. 2) Be sure that Local Mode should be set to "ON".
No Sound from Pads	<ol style="list-style-type: none"> 1) Be sure that the pad is connected correctly. 2) Be sure not set the volume of the pad is not set to 0.
No Click Sound	<ol style="list-style-type: none"> 1) To be sure not set the volume of the click is not set to 0.
Sound is Distorted	<ol style="list-style-type: none"> 1) Turn down the volume.

SPECIFICATIONS

Maximum Polyphony

64

Drum kits

Drum Kits: 70 (45 preset kits+ 25 user kits)

General MIDI Kits: 11 GM Kits

Instruments

Drum Instruments: 527

(Drums, Percussion, SFX)

23 Hi-Hat Combos

Effect

Reverb, 3 Band Equalizer

Sequencer

Normal: Song 100

Learning: Beat 20, Rhythm 12, Pattern 10

Resolution: 120 ticks per quarter note

Recording Method: Real-time

Maximum Note Storage: approx. 1100 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 2.0, 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

Kit Configuration

Snare: 11" Dual Zone Pad

Toms 1-2: 9" Dual Zone Pads

Toms 3-4: 11" Dual Zone Pads

Crash 1-2: 12" Dual Zone Cymbals with Choke

Ride: 14" Dual Zone on Bow & Bell - No Choke

Hi-Hat: 12" Single Zone Cymbal - No Choke

Bass Drum: 9" Single Zone Pad

Power Supply

DC9V

Dimensions and Weight

• 190(W) X 140(H) X 120(D) mm

• 0.5 kg

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

DRUM KIT LIST

NUMBER	PRESET KIT	NUMBER	DEFAULT KIT LIST
1	Studio 1	46	Studio 1
2	Tight Funk	47	Tight Funk
3	Zep Kit	48	Zep Kit
4	Studio 2	49	Studio 2
5	Pedal Dance	50	Pedal Dance
6	Tight Ska	51	Tight Ska
7	New Country	52	New Country
8	Hip Hop 2	53	Hip Hop 2
9	Big Ballad	54	Big Ballad
10	New Funk 1	55	New Funk 1
11	Pedal Rock	56	Pedal Rock
12	DrumNBass 2	57	DrumNBass 2
13	Jazz	58	Jazz
14	70's Rock	59	70's Rock
15	Pedal Metal	60	Pedal Metal
16	Standard 1	61	Standard 1
17	Pop Country	62	Pop Country
18	Standard 2	63	Standard 2
19	Funk 1	64	Funk 1
20	Funk 2	65	Funk2
21	Fusion 1	66	Fusion 1
22	Power Rock	67	Power Rock
23	Jazz Brush	68	Jazz Brush
24	Rock	69	Rock
25	Pop Rock	70	Pop Rock
26	Fusion 2		
27	Vintage		
28	Latin Rock		
29	Arena Rock		
30	Banda		
31	Ballad Rock		
32	Disco		
33	Prog Rock		
34	Mambo		
35	Songo		
36	Beat Box 1		
37	Hip Hop 1		
38	Electro House		
39	Break Beat		
40	DubStep 1		
41	Rap 1		
42	Old Skool		
43	Beat Box 2		
44	DubStep 2		
45	DrumNBass		

DRUM INSTRUMENT LIST

#	NAME	#	NAME	#	NAME	#	NAME
KICK		51	Electronic Kick 3	100	Cameo Snare	149	Studio Ftom Rim
1	Funky Kick	52	Electronic Kick 4	101	Cameo Snare Rim	150	Zep RTom_
2	Studio Kick	53	Electronic Kick 5	102	Brush Snare 1	151	Zep Rtom Rim
3	Zep Kick	54	Electronic Kick 6	103	Brush Snare 1	152	Zep Ftom
4	Standard Kick 1	55	Electronic Kick 7	104	Brush Snare Rim	153	Zep Ftom Rim
5	Standard Kick 2	56	Electronic Kick 8	105	Funk Snare	154	Classic Tom 1
6	Classic Kick 1	SNARE		106	Funk Stick	155	Classic 1 Tom Rim 1
7	Classic Kick 2	57	Funky Snare	107	Funk Band Snare	156	Classic Tom 2
8	Cameo Kick 1	58	Funky Snare Rim	108	Funk Band Snare Rim	157	Classic 1 Tom Rim 2
9	Cameo Kick 2	59	Funky Stick	109	Funk Band Snare Stick	158	Classic Tom 3
10	Rock Kick 1	60	Studio Snare	110	Fusion Snare	159	Classic 1 Tom Rim 3
11	Rock Kick 2	61	Studio Snare Rim	111	Fusion Snare Stick	160	Classic Tom 4
12	Rock Kick 3	62	Studio Stick	112	Ringo Snare	161	Classic 1 Tom Rim 4
13	Room Kick 1	63	Zep Snare	113	Ringo Snare Rim	162	Classic Tom 5
14	Room Kick 2	64	Zep Snare Rim	114	Snare Stick	163	Classic 1 Tom Rim 5
15	Jazz Kick 1	65	Zep Stick	115	Power Snare	164	Classic Tom 6
16	Jazz Kick 2	66	Standard Snare 1	116	HipHop Snare 1	165	Classic 1 Tom Rim 6
17	Big Band Kick 1	67	Standard Snare Rim 1	117	HipHop Snare 2	166	Acoustic Tom 1
18	Big Band Kick 2	68	Standard Snare 2	118	1969 Snare	167	Acoustic Tom Rim 1
19	Funk Kick 1	69	Standard Snare Rim 2	119	1969 Snare Rim	168	Acoustic Tom 2
20	Funk Kick 2	70	Standard Snare 3	120	1971 Snare	169	Acoustic Tom Rim 2
21	Funk Kick 3	71	Standard Snare Rim 3	121	1971 Snare Rim	170	Acoustic Tom 3
22	HipHop Kick 1	72	Standard Snare 4	122	1976 Snare	171	Acoustic Tom Rim 3
23	HipHop Kick 2	73	Standard Snare Rim 4	123	1976 Snare Rim	172	Acoustic Tom 4
24	HipHop Kick 3	74	R&B Snare	124	Step Snare	173	Acoustic Tom Rim 4
25	HipHop Kick 4	75	R&B Snare Stick	125	Step Snare Stick	174	Acoustic Tom 5
26	1969 Kick	76	506 Snare	126	House Snare 1	175	Acoustic Tom Rim 5
27	1971 Kick	77	506 Snare Rim 1	127	House Snare 2	176	Acoustic Tom 6
28	1976 Kick	78	506 Snare Rim 2	128	House Snare 3	177	Acoustic Tom Rim 6
29	Power Kick	79	Classic Snare 1	129	Teckno Snare 1	178	Standard Tom 1
30	R&B Kick	80	Classic Snare Rim 1	130	Teckno Snare 2	179	Standard Tom Rim 1
31	Voice Kick	81	Classic Snare 2	131	808 Snare	180	Standard Tom 2
32	Acoustic Kick 1	82	Classic Snare Rim 2	132	909 Snare	181	Standard Tom Rim 2
33	Acoustic Kick 2	83	Acoustic Snare 1	133	Drum & Bass Snare 1	182	Standard Tom 3
34	Acoustic Kick 3	84	Acoustic Snare Rim	134	Drum & Bass Snare 2	183	Standard Tom Rim 3
35	Acoustic Kick 4	85	Acoustic Snare 2	135	606 Snare	184	Standard Tom 4
36	Orchestra Kick	86	Rock Snare 1	136	Electronic Snare 1	185	Standard Tom Rim 4
37	Step Kick	87	Rock Snare Rim 1	137	Electronic Snare 2	186	Standard Tom 5
38	Teckno Kick	88	Rock Snare 2	138	Electronic Snare 3	187	Standard Tom Rim 5
39	Drum & Bass Kick	89	Room Snare 1	139	Electronic Snare 4	188	Standard Tom 6
40	Junkyard Kick	90	Room Snare 2	140	Electronic Snare 5	189	Standard Tom Rim 6
41	Noise Kick	91	Room Snare 3	141	Noise Snare	190	Cameo Tom 1
42	Industry Kick	92	Steel Snare	TOM		191	Cameo Tom 2
43	Lowfi Kick	93	Steel Snare Rim	142	Funky Rtom	192	Cameo Tom 3
44	Disco Kick	94	Jazz Snare 1	143	Funky Rtom Rim	193	Cameo Tom 4
45	808 Kick	95	Jazz Snare Rim 1	144	Funky Ftom	194	Cameo Tom 5
46	909 Kick	96	Jazz Snare 2	145	Funky Ftom Rim	195	Cameo Tom 6
47	House Kick 1	97	Jazz Snare Rim 2	146	Studio Rtom	196	Rock Tom 1
48	House Kick 2	98	Jazz Latin Snare	147	Studio Rtom Rim	197	Rock Tom 2
49	Electronic Kick 1	99	Big Band Snare	148	Studio Ftom	198	Rock Tom 3
50	Electronic Kick 2					199	Rock Tom 4

DRUM INSTRUMENT LIST

#	NAME	#	NAME	#	NAME	#	NAME
	TOM (Continued)	253	Brush 1Tom4	RIDE		359	Rock Crash 3
200	Rock Tom 5	254	Brush 1Tom5	307	Ride Bell 01	360	Rock Crash 4
201	Rock Tom 6	255	Brush 1Tom6	308	Ride Bow 01	361	Rock Splash
202	Standard Tom 1	256	Brush 2 Tom Rim 1	309	Ride Bell 02	362	Splash
203	Standard Tom 2	257	Brush 2 Tom 2	310	Ride Bow 02	363	Brush Crash 1
204	Standard Tom 3	258	Brush 2 Tom Rim 2	311	Standard 20" Ride	364	Brush Crash 2
205	Standard Tom 4	259	Brush 2 Tom 3	312	Standard 21" Ride	365	China 1
206	Standard Tom	260	Brush 2 Tom Rim 3	313	Standard 22" Ride	366	China 2
207	Standard Tom 6	261	Brush 2 Tom 4	314	Standard Ride Bell	367	China 3
208	Room Tom 1	262	Brush 2 Tom Rim 4	315	Standard 22" Ride Rim	368	China 4
209	Room Tom 2	263	Brush 2 Tom 5	316	Junkyard Break	369	China 5
210	Room Tom 3	264	Brush 2 Tom Rim 5	317	Junkyard Metal	370	Orchestra Crash
211	Room Tom 4	265	Brush 2 Tom 6	318	Dry Ride Bell	371	Orchestra Hit 1
212	Room Tom 5	266	Brush 2 Tom Rim 6	319	Light Flat Ride	372	Orchestra Hit 2
213	Room Tom 6	267	Tom Rim 1	320	Classic Ride	373	HipHop Crash
214	Funk Tom 1	268	Tom Rim 2	321	Classic Ride Rim	374	Junkyard Cymbal 1
215	Funk Tom 2	269	Tom Rim 3	322	Classic Ride Bell	375	Junkyard Cymbal 2
216	Funk Tom 3	270	Tom Rim 4	323	Acoustic Ride	376	Cymbal Effect 1
217	Funk Tom 4	271	Timpani 1	324	Acoustic Ride Rim	377	Cymbal Effect 2
218	Funk Tom 5	272	Timpani 2	325	Acoustic Ride Bell	378	Drum & Bass Crash 1
219	Funk Tom 6	273	Timpani 3	326	Standard 19" Ride	379	808 Crash 1
220	Fusion Tom 1	274	Timpani 4	327	Vintage Ride	380	808 Crash 2
221	Fusion Tom 2	275	Step Tom 1	328	Teckno Ride 1	381	808 Crash 3
222	Fusion Tom 3	276	Step Tom 2	329	Teckno Ride 2	382	606 Crash
223	Fusion Tom 4	277	Step Tom 3	330	Jazz Ride Bell	383	Electronic Crash
224	Fusion Tom 5	278	Tom Rim	331	Brush Ride	384	606 Hi-hat Open
225	Fusion Tom 6	279	606 Tom 1	332	Brush Ride Rim	385	Industrial Short
226	1969 Tom 1	280	606 Tom 2	333	Brush Ride Bell	386	Industrial Long
227	1969 Tom 2	281	606 Tom 3	334	Rock Ride 1	387	Hi-hat Open
228	1969 Tom 3	282	606 Tom 4	335	Rock Ride 2	388	Standard Hi-hat Open 1
229	1969 Tom 4	283	606 Tom 5	336	Clean Pop Ride	389	Standard Hi-hat Open 2
230	1971 Tom 1	284	606 Tom 6	337	Ride Edge 1	390	Classic Hi-hat Open
231	1971Tom2	285	808 Tom 1	338	Ride Edge 2	391	Pop Hi-hat Open
232	1971Tom3	286	808 Tom 2	339	Mute Ride Bell	392	Rock Hi-hat Open 1
233	1971 Tom 4	287	808 Tom 3	340	Clean Pop Ride Bell	393	Rock Hi-hat Open 2
234	1976 Tom 1	288	808 Tom 4	341	Flat Ride	394	Jazz Hi-hat Open 1
235	1976 Tom 2	289	808 Tom 5	342	60's Ride	395	Jazz Hi-hat Open 2
236	1976 Tom 3	290	808 Tom 6	343	808 Ride	396	Brush Hi-hat Open
237	1976 Tom 4	291	Noise Tom 1	344	Voice Hi-hat Pedal	397	Mini Hi-hat Open
238	HipHop Tom 1	292	Noise Tom 2	CRASH		398	Junkyard Hi-hat Open
239	HipHop Tom 2	293	Noise Tom 3	345	Crash 1	399	Noise Hi-hat Open
240	HipHop Tom 3	294	Electronic Tom 1	346	Crash 2	400	Electronic Hi-hat Open
241	HipHop Tom 4	295	Electronic Tom 2	347	Classic Crash 1	401	808 Hi-hat Open 1
242	HipHop Tom 5	296	Electronic Tom 3	348	Classic Crash Rim 1	402	808 Hi-hat Open 2
243	HipHop Tom 6	297	Electronic Tom 4	349	Classic Crash 2	403	909 Hi-hat Open
244	Jazz Tom 1	298	Electronic Tom 5	350	Classic Crash Rim 2	404	House Hi-hat Open
245	Jazz Tom 2	299	Electronic Tom 6	351	Classic Crash 3	405	606 Hi-hat Open
246	Jazz Tom 3	300	909 Tom 1	352	Standard Crash 1	406	Hi-hat Half Open
247	Jazz Tom 4	301	909 Tom 2	353	Standard Crash Rim 1	407	Standard Half Open
248	Jazz Tom 5	302	909 Tom 3	354	Standard Crash 2	408	Pop Half Open 1
24	Jazz Tom 6	303	909 Tom 4	355	Standard Crash 3	409	Pop Half Open 2
250	Brush 1 Tom 1	304	Junkyard Tom 1	356	Standard Crash 4	410	Rock Half Open
251	Brush 1 Tom 2	305	Junkyard Tom 2	357	Rock Crash 1	411	Classic Half Open Rim
252	Brush 1 Tom 3	306	Junkyard Tom 3	358	Rock Crash 2	412	Jazz Half Open 1
						413	Jazz Half Open 2

DRUM INSTRUMENT LIST

#	NAME	#	NAME	#	NAME
CRASH (Continued)		PERCUSSION		PERCUSSION (Continued)	
414	Brush Half Open	463	Metronome Bell	514	DJ 4
415	Mini Half Open	464	Metronome Click	515	DJ5
416	Junkyard Half Open Rim	465	Scratch	516	DJ 6
417	Hi-hat Close	466	Scratch Push	517	DJ7
418	Standard Hi-hat Close 1	467	DJ FX	518	DJ 8
419	Standard Hi-hat Close 2	468	High Q Zap	519	DJ 9
420	Pop Hi-hat Close 1	469	Ding Bell	520	DJ10
421	Pop Hi-hat Close 2	470	Finger Snaps	521	FX1
422	Rock Hi-hat Close 1	471	Standard Clap	522	FX2
423	Rock Hi-hat Close 2	472	Tambourine	523	FX3
424	Classic Hi-hat Close	473	Agogo High	524	FX4
425	Jazz Hi-hat Close	474	Agogo Low	525	FX5
426	Brush Hi-hat Close	475	Bell Tree	526	FX6
427	Mini Hi-hat Close	476	Bongo High	527	FX7
428	Junkyard Hi-hat Close	477	Bongo Low	HI-HAT	
429	Noise Hi-hat Close	478	Shaker	528	Dynamic Hi-Hat
430	Electronic Hi-hat Close	479	Conga Slap High	529	StandardA
431	808 Hi-hat Close 1	480	Conga Slap Mid	530	StandardB
432	808 Hi-hat Close 2	481	Conga Low	531	PopA
433	909 Hi-hat Close	482	Open Conga	532	PopB
434	House Hi-hat Close	483	Conga Slap	533	RockA
435	606 Hi-hat Close	484	Cowbell	534	RockB
436	Hi-hat Pedal	485	Timbale High	535	Classic
437	Standard Hi-hat Pedal 1	486	Timbale Low	536	JazzA
438	Standard Hi-hat Pedal 2	487	Timpani High	537	JazzB
439	Classic Hi-hat Pedal	488	Timpani Low	538	Brush
440	Pop Hi-hat Pedal	489	Open Tabla High	539	Mini
441	Rock Hi-hat Pedal 1	490	Open Tabla Low	540	Junk
442	Rock Hi-hat Pedal 2	491	Slap Tabla	541	Dirty
443	Jazz Hi-hat Pedal 1	492	Mute Slap Tabla	542	Electron
444	Jazz Hi-hat Pedal 2	493	Maracas	543	808A
445	Brush Hi-hat Pedal	494	Short Whistle	544	808B
446	Mini Hi-hat Pedal	495	Short Guiro	545	909
447	Junkyard Hi-hat Pedal	496	Long Guiro	546	House
448	Noise Hi-hat Pedal	497	Glaves	547	606
449	Electronic Hi-hat Pedal	498	Wood Block 1	548	Double Pedal Dance
450	808 Hi-hat Pedal 1	499	Wood Block 2	549	Double Pedal Metal
451	808 Hi-hat Pedal 2	500	Muted Cuica	550	Double Pedal Rock
452	House Hi-hat Pedal	501	Open Cuica		
453	606 Hi-hat Pedal	502	Muted Triangle		
454	Standard Hi-hat Splash	503	Open Triangle		
455	Splash 1	504	Open Surdo		
456	Splash 2	505	Cowbell 1		
457	Pop Splash	506	Cowbell 2		
458	Rock Hi-hat Splash	507	Cowbell 3		
459	Classic Splash 1	508	Cowbell 4		
460	Classic Splash 2	509	Cowbell 5		
461	Mini Splash	510	Cowbell 6		
462	Mute	511	DJ 1		
		512	DJ 2		
		513	DJ 3		

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	<-	<-	<-

GM DRUM KIT LIST

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	<-	<-	<-

GM BACKING INSTRUMENT LIST

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 Clavinet
-

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 Cello
 - 44 Contrabass
 - 45 Tremolo Strings
 - 46 Pizzicato Strings
 - 47 Orchestral Harp
 - 48 Timpani
-

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 (ffths)
 - 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	Pere Loop 1	Loop	51	6/8 Ballad	Loop
2	Basic Rock	Loop	52	Pop Ballad	Loop
3	Ska Groove	Loop	53	Pop Bossa	Loop
4	Smooth Rock	Loop	54	16 Beat Pop	Loop
5	Triplet Rock	Loop	55	Pop Shuffle	Loop
6	Reggae Shuffle	Loop	56	Samba 1	Loop
7	Late 80's Rock	Loop	57	Latin Pop 1	Loop
8	70's Groove	Loop	58	Mambo	Loop
9	80's Rock	Loop	59	Latin Rock 1	Loop
10	Driving Rock	Loop	60	Latin Pop 2	Loop
11	Trance Groove	Loop	61	Guitar Bossa	Loop
12	House Party	Loop	62	Country Blues	Loop
13	Drum N Bass	Loop	63	Rock	Loop
14	House Dance	Loop	64	Reggae 1	Loop
15	Smooth Jazz Groove	Loop	65	Drum Intro	Loop
16	Dance Party	Loop	66	Drum Main A	Loop
17	Half Time Shuffle	Loop	67	Drum Main B	Loop
18	Latin Seven	Loop	68	60's Rock	Loop
19	5/4 Shuffle	Loop	69	Blues	Loop
20	7/8 Vamp	Loop	70	World 1	Loop
21	Slow Pere Jam	Loop	71	World 2	Loop
22	Medium Mambo	Loop	72	Latin	Loop
23	Cumbia	Loop	73	Bossa	Loop
24	Ranchero Style	Loop	74	Samba 2	Loop
25	Tropical	Loop	75	3/4 Pop	Loop
26	Latin Jazz	Loop	76	Pop	Loop
27	Calm Tumbao	Loop	77	Jazz 2	Loop
28	Up Tempo Swing	Loop	78	Reggae 2	Loop
29	R&B	Loop	79	Reggae 3	Loop
30	Modern Dance	Loop	80	Latin Rock 2	Loop
31	Modern Pop	Loop	81	Fifths	Hit
32	Fusion 1	Loop	82	Synth string	Hit
33	Fusion 2	Loop	83	Brightness	Hit
34	Funk 3	Loop	84	Atmosphere	Hit
35	Fusion 3	Loop	85	Chorused Piano	Hit
36	Funk 4	Loop	86	Bass Tap 1	Tap
37	Fusion 4	Loop	87	Chorus Piano tap	Tap
38	Pop Funk 2	Loop	88	Brightness Tap	Tap
39	Electronic & Funk	Loop	89	Bass Tap 2	Tap
40	Drum & Bass 1	Loop	90	Pad Tap 1	Tap
41	Dance	Loop	91	Vibraphone	Tap
42	Drum & Bass 2	Loop	92	Bass Tap 3	Tap
43	Latin Dance 1	Loop	93	Rain Tap	Tap
44	Latin Dance 2	Loop	94	Pizzicato Strings	Tap
45	Swing 1	Loop	95	Bass Tap 4	Tap
46	Latin Jazz 1	Loop	96	Crystal	Tap
47	Big Band 2	Loop	97	Xylophone	Tap
48	3/4 Jazz	Loop	98	Bass Tap 5	Tap
49	Jazz 1	Loop	99	Pad Tap 2	Tap
50	Latin Jazz 2	Loop	100	Glockenspiel Tap	Tap

PATTERN LIST

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 --- 70
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 --- 100
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 --- 527 / 1 --- 23
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 --- 45
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

RHYTHM

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

PATTERN

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

MIDI IMPLEMENTATION CHART

FUNCTION		TRANSMITTED	RECOGNIZED	REMARKS
Basic Channel	Default Changed	10 ch X	1---16 X	
Mode	Default MessagesX Altered	X X *****	X *****	
Note Number	: True Voice	0 --- 127 *****	0 --- 127 0 --- 127	
Velocity	Note On Note Off	0 99H, V=1---127 X (99H, V=0)	0 0	
After Touch	Key's Ch's	X X	0 X	
Pitch Blend		X	X	
Control Change	0 1 5 6 7 10 11 64 65 66 67 80 81 91 93 120 121 123	X X X X X X X X X X X X X X X X X	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Bank Select Modulation Portamento Time Data Entry Volume Pan Expression Sustain Pedal Portamento On/Off Sostenuto Pedal Soft Pedal Reverb Program Chorus Program Reverb Level Chorus Level All Sounds Off Reset All Controllers All Notes Off
Program Change	: True Number	X XXXXXXXXXX	0 0 --- 127	
System Exclusive		X	0	
System Common	: Song Position : Song Select : Tune	X X X	X X X	
System Real Time	: Clock : Commands	0 0	X X	Start And Stop Only
Aux Messages	: Local On/Off : All Notes Off : Active Sensing : Reset	X X X X	X X 0 X	