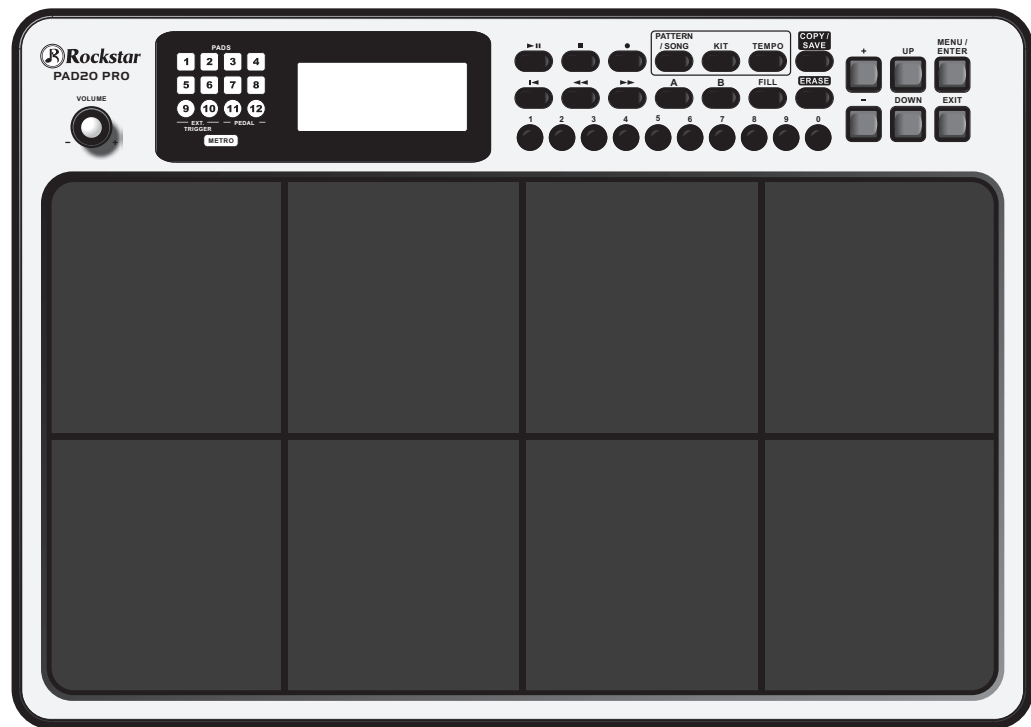


# **Rockstar** **PAD20 PRO**

## **Module Owner's Manual**



# INFORMATION FOR YOUR SAFETY!

## CAUTION

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

## PRECAUTIONS

### PLEASE READ CAREFULLY BEFORE PROCEEDING

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

#### Power Supply

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

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

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

#### Connections

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

#### Location

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

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

#### Interference with other electrical devices

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

#### Cleaning

Clean only with a soft, dry cloth.

Do not use paint thinners, solvents, cleaning fluids, or chemical-impregnated wiping cloths.

#### Handling

Do not apply excessive force to the switches or controls.

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

Disconnect all cables before moving the instrument.

# Contents

## Panel & Display Description

|                  |   |
|------------------|---|
| Front Panel..... | 4 |
| Rear panel.....  | 5 |
| Display.....     | 5 |

## Setup

|                        |   |
|------------------------|---|
| Connecting Pedals..... | 6 |
|------------------------|---|

## Connections

|                                       |   |
|---------------------------------------|---|
| Connecting an Audio Equipment.....    | 7 |
| Connecting a set of Headphones.....   | 7 |
| Connecting an MP3/CD Player.....      | 7 |
| Connecting a Computer.....            | 7 |
| Connecting a Midi keyboard.....       | 7 |
| Connecting the Power Supply Jack..... | 7 |

## QUICK START

|                   |   |
|-------------------|---|
| Adjust Value..... | 8 |
|-------------------|---|

## Performing

|                                  |   |
|----------------------------------|---|
| Selecting a Drum Kit.....        | 8 |
| Playing the Pads.....            | 8 |
| Using the Metronome Feature..... | 9 |
| Adjusting the Tempo.....         | 9 |

## Editing and Saving a Drum Kit

|  |    |
|--|----|
| Adjusting the Volume of a Drum Kit.....                  | 10 |
| Adjusting the Volume, Pan, Reverb, Pitch of the Pad..... | 10 |
| Saving Kits.....   | 10 |

|                       |    |
|-----------------------|----|
| Playing Patterns..... | 11 |
|-----------------------|----|

## Recording Your Performance

|   |    |
|---|----|
| Recording a Pattern In Normal Mode..... | 11 |
| Naming and Saving User Patterns.....    | 12 |

|             |    |
|-------------|----|
| Naming..... | 12 |
|-------------|----|

## ADVANCED USE

|                          |    |
|--------------------------|----|
| Menu tree.....           | 13 |
| Drum Kit Setup.....      | 14 |
| Instrument Setup.....    | 14 |
| Triggers adjustment..... | 14 |
| MIDI Setup.....          | 15 |
| Metronome.....           | 16 |
| Utility.....             | 16 |
| Recording setup.....     | 17 |

## Creating Your Own Drum kit

|                                    |    |
|------------------------------------|----|
| About the Drum Kits.....           | 18 |
| Selecting a Preset Kit.....        | 18 |
| Selecting a User Kit.....          | 18 |
| Editing User Kit.....              | 18 |
| About the Drum Instruments.....    | 19 |
| User Kits Instruments Setting..... | 19 |
| Saving to a User Kit.....          | 20 |

## Playing Back Patterns

|                             |    |
|-----------------------------|----|
| About Patterns.....         | 21 |
| Pattern Structure.....      | 21 |
| Select a Pattern.....       | 21 |
| Playing Back a Pattern..... | 21 |
| Playing Fill Pattern.....   | 22 |

## Recording Pattern

|   |    |
|---|----|
| About Pattern Recording.....            | 23 |
| Recording Ready.....                    | 23 |
| Recording a Pattern in Normal Mode..... | 23 |
| Recording a Pattern in Step Mode.....   | 24 |
| Naming and Saving User Patterns.....    | 25 |
| Copy Patterns.....                      | 25 |
| Editing Patterns in Standby Mode.....   | 26 |
| Edit Patterns during Recording.....     | 27 |

## Playing Back Songs

|                          |    |
|--------------------------|----|
| About Songs.....         | 28 |
| Song structure.....      | 28 |
| Select a Song.....       | 28 |
| Playing Back a Song..... | 28 |

## Recording a Song

|                                     |    |
|-------------------------------------|----|
| Recording songs in Normal Mode..... | 29 |
| Recording songs in Step Mode.....   | 29 |
| Editing Songs in Standby Mode.....  | 30 |
| Edit Songs during Recording.....    | 31 |

## Making the setting for MIDI

|   |    |
|---|----|
| About MIDI.....                               | 32 |
| Connecting with an External Sound Device..... | 32 |

## Music Assistant

|                              |    |
|------------------------------|----|
| Installation.....            | 34 |
| Connection.....              | 34 |
| Functions.....               | 34 |
| Pattern Editing.....         | 34 |
| Song Editing.....            | 35 |
| Drum Kit Editing.....        | 35 |
| MIDI Note Configuration..... | 35 |
| Data Backup.....             | 35 |

## APPENDICES

|                                |    |
|--------------------------------|----|
| Troubleshooting.....           | 36 |
| Specification.....             | 36 |
| Preset Drum Kit List.....      | 37 |
| Drum Instrument List.....      | 38 |
| Preset Pattern List.....       | 44 |
| MIDI Implementation Chart..... | 45 |

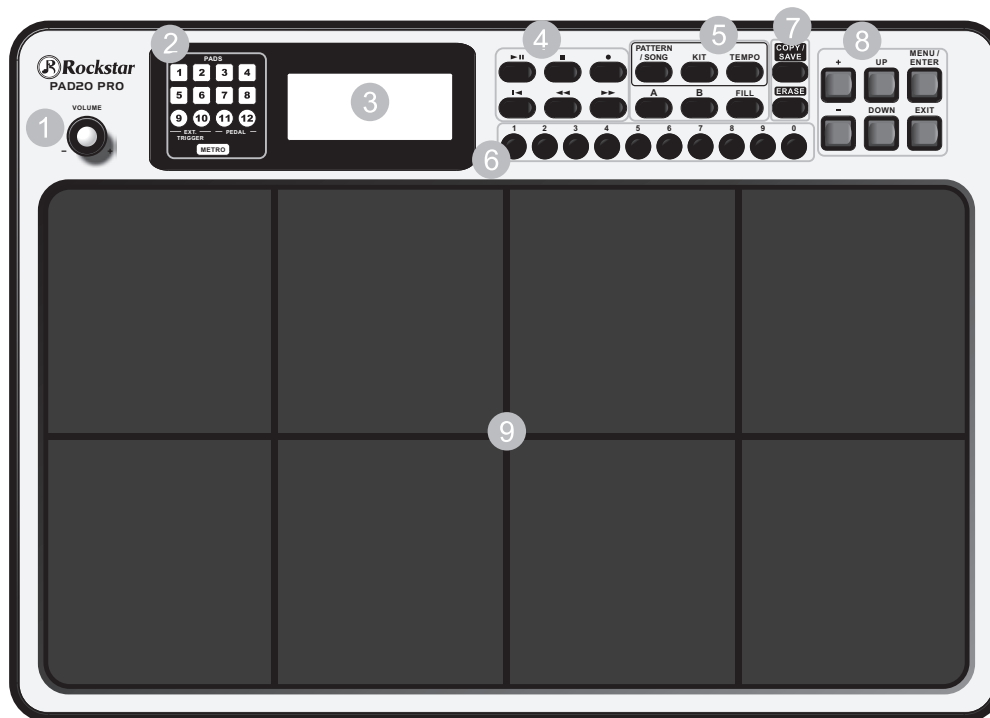
QUICK START

ADVANCED USE

APPENDICES

# Panel & Display Description

## Front Panel



### 1. VOLUME

Adjust the volume of master out and headphones.

### 2. Indicator Lights

PADS LED in this section will illuminate what pad is struck or edited.  
METRO LED lights when metronome turn on.

### 3. LCD Screen

Please refer to the LCD Display section.

### 4. [PLAY/PAUSE] [STOP] [F.F/NEXT] [REW/PREV] [BACK] Buttons

Control the pattern play.  
Press [PLAY/PAUSE] button and [STOP] button to start or stop pattern/song play.  
Press and hold [F.F/NEXT] button and [REW/PREV] buttons to Fast forward and Rewind pattern/song play. Press [BACK] to back to the pattern beginning.  
**[RECORD] Button**  
Enter record ready state and enter record menu.

### 5. [PATTERN/SONG] [KIT] [TEMPO] Buttons

Press [PATTERN/SONG] button to enter PATTERN or SONG mode.  
Press [KIT] button to enter kit mode.  
Press [TEMPO] button to adjust the current tempo of a pattern or song.  
**[A] [B] [FILL] Buttons**  
Choose among the A,B or Fill Patterns.

### 6. Numeric Keys

Input data to change voice parameters, patterns and songs.

### 7. [COPY/SAVE] [ERASE] Buttons

Press [COPY/SAVE] button to Save Kit ,Pattern or Song.  
Press [ERASE] button to erase Pattern or Song.

### 8. [MENU] [EXIT] [UP] [DOWN] [+/-] Buttons

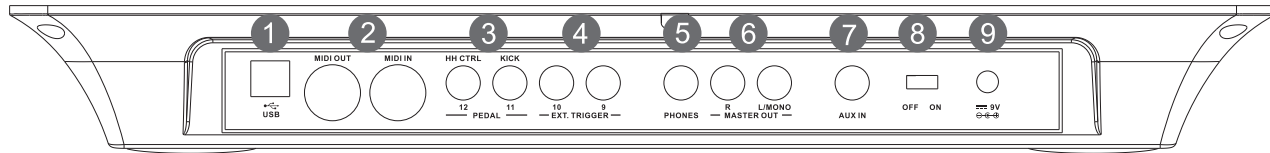
Access the Menus through.  
**[+] Button and [-] Button**  
Press the [+] button increases and press [-] button decreases the current parameter.

### 9. Pads

There are 8 pads on the module. When a pad is struck it triggers a voice.

## Panel & Display Description

### Rear Panel



#### 1. USB Connector

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

#### 2. MIDI Connection (OUT/IN)

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

#### 3. PEDAL INPUTS Jack (HH CTRL/ KICK)

Attach the Hihat and Kick Bass Drum pedals here.

#### 4. EXT.TRIGGERS Jack

The module has two additional auxiliary trigger input jacks, which let you expand the kit with optional pads.

Each input can be configured individually for use with a dual-zone pad(head/rim), or two single-zone pads. You can use 2-mono to 1-stereo y-cable to connect two single-zone pads to a single input.

#### 5. PHONES Jack

This stereo jack is used to connect a set of stereo headphones.

#### 6. MASTER OUT Jacks (R,L/MONO)

Stereo output connection to an audio system or drum amplifier.

#### 7. AUX IN Jack

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

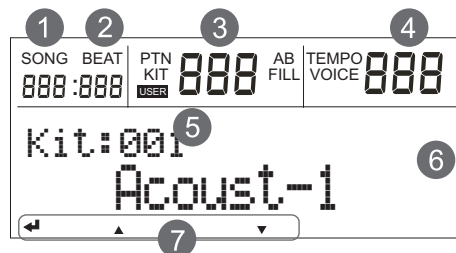
#### 8. POWER SWITCH (OFF/ON)

This switch turns the power on and off.

#### 9. DC IN Jack

Connect the power adaptor to the DC IN jack.

### Display



#### 1. Song number:

Show the song number while in SONG mode or the play beat while in PATTERN mode.

#### 2. Beat number:

Show the total number of beats.

#### 3. Pattern/KIT number:

Show what pattern, preset kit or user kit number.

#### 4. Tempo/Voice:

Show the current voice or tempo.

#### 5. Mode name

This area displays mode names and their corresponding number or parameters.

#### 6. Main display

The main display shows the current kit, pattern or song name, and all the various menus. When display menu, the current selected field is highlighted.

#### 7. Indicator

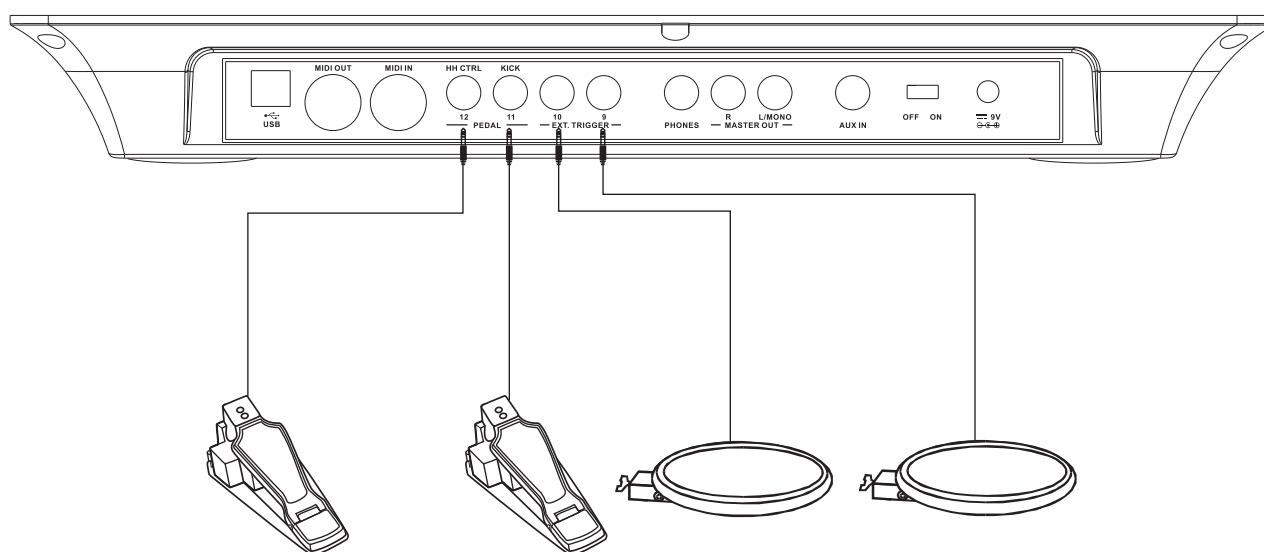
The bottom part of the screen is for LCD navigation in conjunction with the [UP] and [DOWN] or [MENU/ENTER] buttons.

# Setup

## 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.

## Connecting Pedals



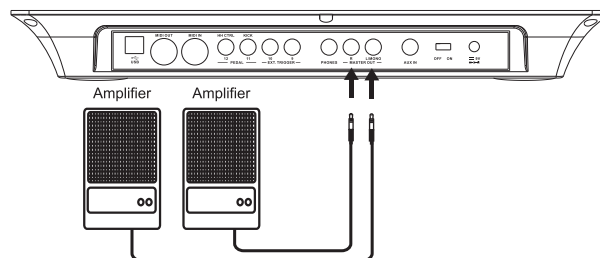
# Connections

## Connecting an Audio Equipment

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

### Note:

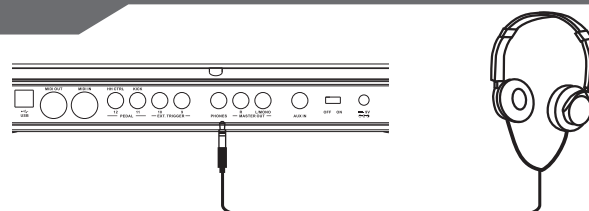
For mono playback, use the L/MONO jack;  
For stereo playback, connect both L/MONO and R jacks.  
The master out volume is controlled by the VOLUME knob.



## Connecting a set of Headphones

A set of stereo headphones can be connected to the PHONES jack on rear panel.

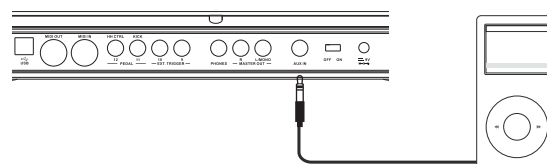
The headphones output volume is controlled by the VOLUME knob.



## 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

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

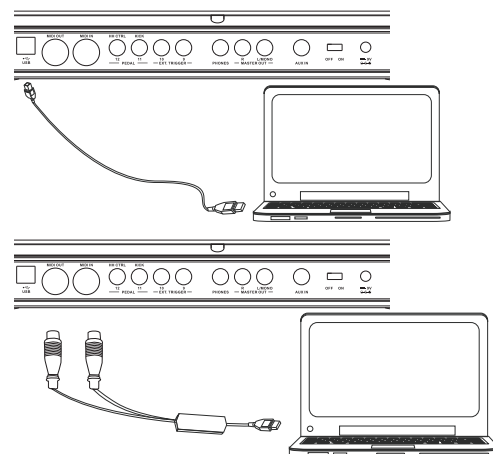
#### MIDI IN Connector

This receives MIDI messages transmitted from an external MIDI device or a computer.

#### MIDI OUT Connector

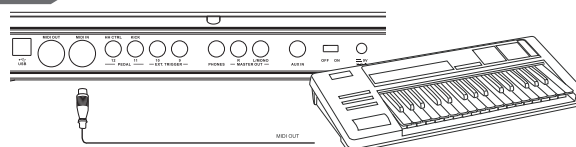
Pad performance data is transmitted from this connector to connected computer or MIDI device.

For more information, please refer to the MIDI chapter



## Connecting a Midi keyboard

If you're using an external MIDI keyboard or pads to control the module, make connection as shown. Here, it is used as a sound module.



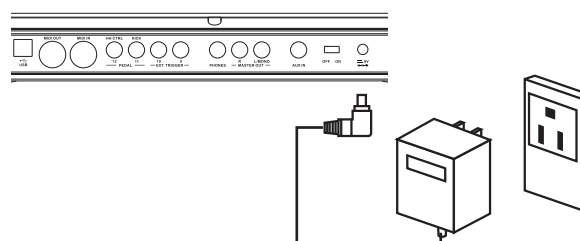
## Connecting the Power Supply Jack

Make sure the power is switched OFF. Connect the power adaptor to the DC IN jack on the rear panel. After confirming that all connections have been completed, rotate the volume knob to the left (to its minimum volume level) before switching the power ON.

LCD will light up and the display show Pattern001 and the name.

### Note:

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



# Adjust Value

## Adjust Value

[+]/[-] buttons are used to increase or decrease the current parameter or change the values of MENU settings.



# Performing

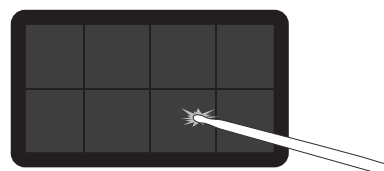
## Selecting a Drum Kit

After powering up, the module will be in Pattern mode. The display look like:

1. Press [KIT] to enter the KIT mode, LCD display the kit number and name "Acoust-1".
2. Use [+] / [-] BUTTONS or Numeric Keys to select a kit. There are 100 kits in the module:  
50 Preset kit [001-050]  
50 User kit [051-100]  
Refer to the appendix KIT list for a complete list of kit names.
3. Hit the pads to play the current kit.



|          |     |                 |       |     |
|----------|-----|-----------------|-------|-----|
| BEAT     | PTN | 01 <sup>A</sup> | TEMPO | 100 |
| 001:008  |     |                 |       |     |
| P001A    |     |                 |       |     |
| Rock1    |     |                 |       |     |
| BEAT     | KIT | 01              | VOICE | 477 |
| 001:008  |     |                 |       |     |
| Kit: 001 |     |                 |       |     |
| Acoust-1 |     |                 |       |     |

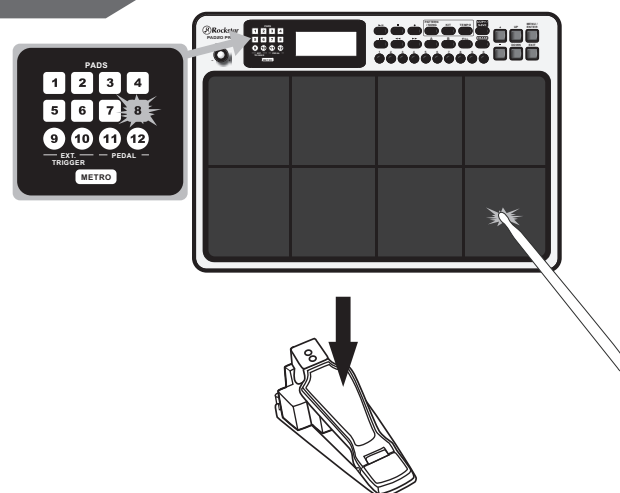


## Playing the Pads

### Pad & Pedal

Strike these single-zone pads with a drumstick, the corresponding PAD Indicator lights.

In this module, pad8 is assigned as "open hihat", when you pressing down the hihat pedal (attach to HH CTRL input on rear panel) and strike Pad8, the Pad 8 will be functioned as "close hihat".





## Using the Metronome Feature

You can switch the click sound on and off through Metronome Menu.

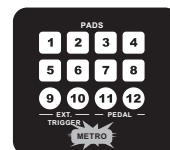
1. Press [MENU/ENTER] button.



2. Press [DOWN]/[UP] buttons to select "Metronome" and press the [MENU/ENTER] button to access the metronome menu.



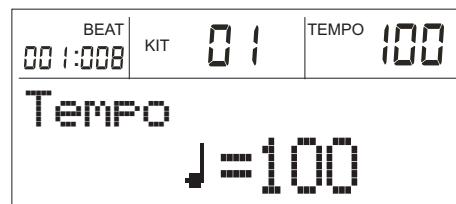
3. Press [+] / [-] to select "On/Off/Recording".  
If selecting On, the metronome will start automatically.  
METRO LED splash.



## Adjusting the Tempo

You can adjust the tempo of the metronome, the current pattern and song.

1. Press [TEMPO] to see the current tempo (beats per minute).
2. Use [+] , [-] or numeric keys to set the tempo (20~255bpm) and it will be applied immediately.

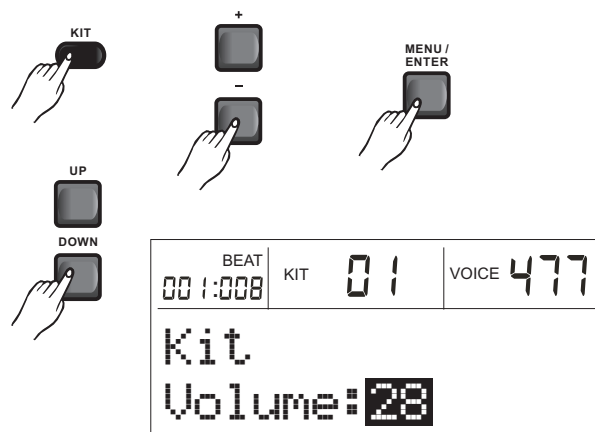


# Editing and Saving a Drum Kit

## Adjusting the Volume of a Drum Kit

You can adjust the kit volume through Drum Kit Menu.

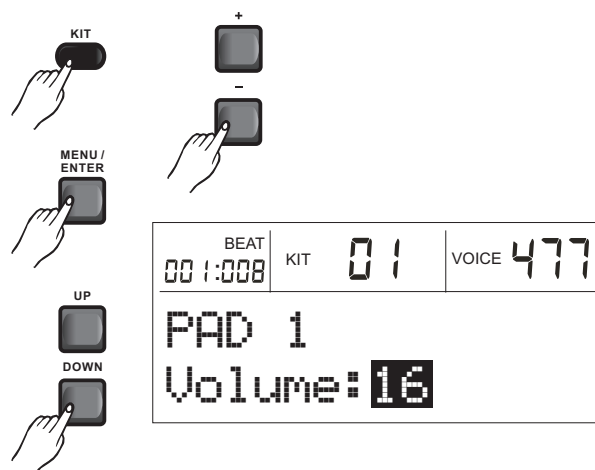
1. Press [KIT] button to enter the KIT mode.
2. Use [+] / [-] BUTTONS or Numeric Keys to select a kit.
3. Press [MENU/ENTER]
4. Press [DOWN] / [UP] buttons to choose the "Drum Kit" sub-menu and press the [MENU/ENTER] button to access the Drum Kit menu.
5. Press [DOWN] button to enter "Kit Volume" menu, then use [+] / [-] button to adjust kit volume.



## Adjusting the Volume, Pan, Reverb, Pitch of the Pad

You can adjust the instrument parameter for each pad through Instrument Menu.

1. Press [KIT] to enter the KIT mode.
2. Use [+] / [-] BUTTONS or Numeric Keys to select a kit.
3. Press [MENU/ENTER]
4. Press [DOWN] / [UP] buttons to choose the "Instrument" sub-menu and press the [MENU/ENTER] button to access the Instrument menu.
5. Strike the pad to select the current pad to be edited and use the [UP] / [DOWN] buttons to scroll through the various parameter menus. Including Pad Volume, Pad Pan, Pad Reverb level, Pad pitch level, Pad Repeat and Exclusive.
6. Repeat the steps above for each pad in order to create your full kit.



## Saving Kits

The module allow you to copy your edited kit to an user kit and rename it.

### COPY

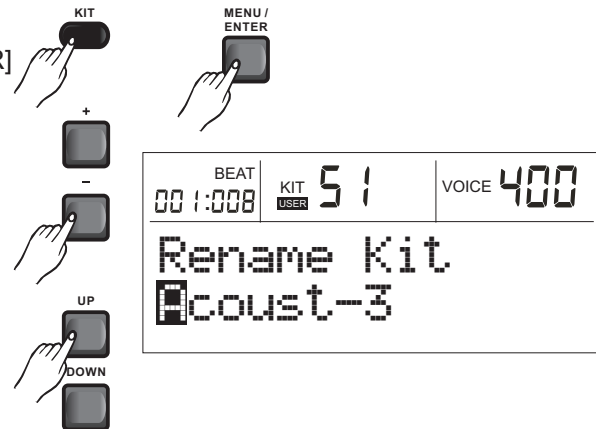
1. Press [KIT] button to enter the KIT mode.  
Press [COPY/SAVE] button.  
LCD display "Save Kit To 051",
2. Use [+] / [-] or numeric keys to select the desired user kit number (51~100).
3. Press [MENU/ENTER] button  
LCD will show "No-/Yes+".  
Press "+" to confirm or "-" to cancel.



## Editing and Saving a Drum Kit

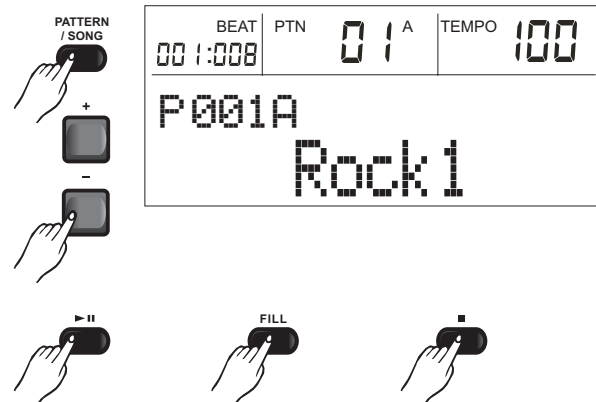
### NAMING

1. Press [KIT] button and select a user kit. Press [MENU/ENTER] button three times to enter the naming screen.
2. Use [+] / [-] buttons to select the characters and the [UP] / [DOWN] buttons to move the cursor.
3. Press [MENU/ENTER] button  
The Save Confirmation screen will be displayed.  
Press "+" to confirm or "-" to cancel.



## Playing Patterns

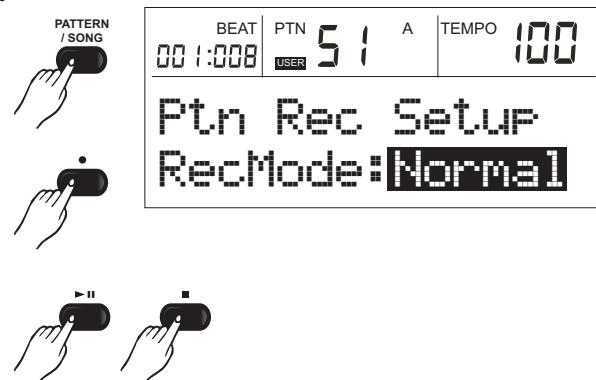
1. Press [PATTERN/SONG] button to enter the PATTERN mode, LCD will display the pattern number and name "Rock1".
2. Use [+] / [-] BUTTONS or Numeric Keys to select a preset pattern [001-050] or user pattern [051-100].
3. Press [PLAY/PAUSE] button to start and pause pattern play.
4. Press [FILL] button to switch from the main pattern to a fill pattern.
5. Press [STOP] button to stop play.



## Recording Your Performance

### Recording a Pattern In Normal Mode

1. Press [PATTERN/SONG] to enter the pattern mode and select a user pattern [051-100].
2. Press [REC] to enter a record-ready state.  
LCD display "RecMode: Normal".
3. Press [PLAY/PAUSE] to start recording.  
In normal mode, the current pattern will be looped during recording with the recorded notes overlapping. Recording can be pause by pressing [PLAY/PAUSE].
4. Press [STOP] to stop recording.



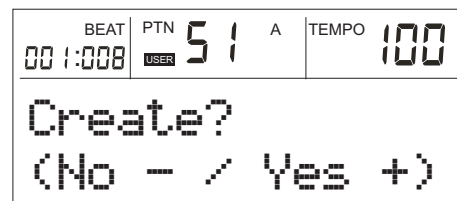
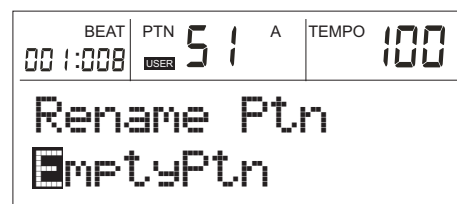
## Recording Your Performance

### Naming and Saving User Patterns

#### NAMING

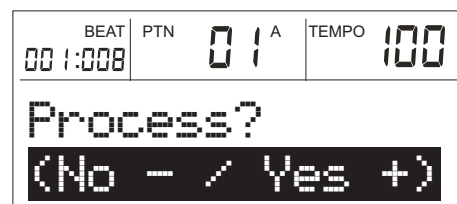
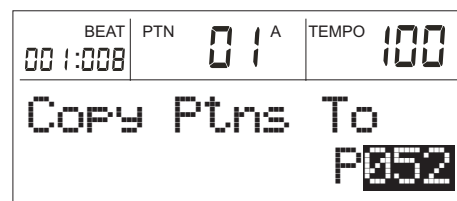
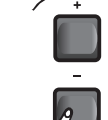
You are allowed to renaming your recorded pattern or any user pattern.

1. Press [PATTERN/SONG] to enter the pattern mode and select a user pattern[051-100].
2. Press [MENU/ENTER] three times to enter the naming screen.
3. Use [+] / [-] buttons to select the characters and the [UP] / [DOWN] buttons to move the cursor.
4. Press [MENU/ENTER] button.  
LCD display the "NO-/YES+" menu to confirm.



#### COPY

1. Press [PATTERN/SONG] to enter the pattern mode and select a pattern.
2. Press [COPY/SAVE].  
LCD display "Copy Ptn Sel Ptn Set"
3. Press [DOWN] to continue,  
LCD display "Copy Ptns To P051".  
Use [+] / [-] to select the destination user pattern number.
4. Press [MENU/ENTER].  
LCD display "No-/Yes".  
Press [+] to confirm or press [-] to cancel.



## Naming

The name(USER KIT name, USER PATTERN name, SONG name) is up to 8 characters.

In NAMING page,

Use the [UP] and [DOWN] buttons to advance or retard the highlighted character to the desired position.

Use the [+] / [-] buttons to select  
upper case letters,  
lower case letters  
numbers  
symbols  
or space  
for each character of the new name.

When the new name is entered, press [MENU/ENTER] and [+] to confirm the name.



# Menu tree

The module consists of a 2-level menu tree structure, each function has a level-1 main menu with corresponding level-2 configuration modes.

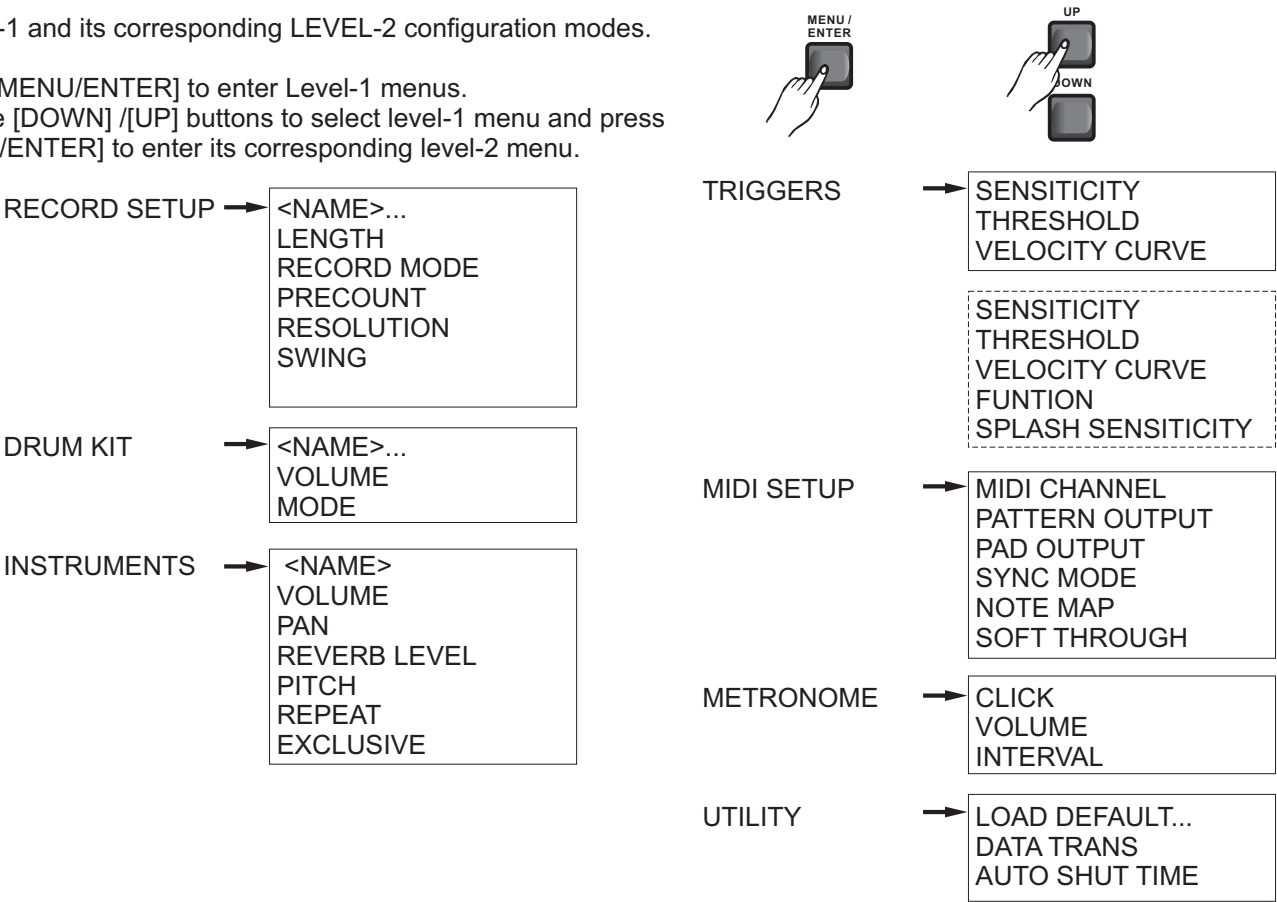
To access the level-1 menu, press the [MENU/ENTER] button. Then press the [UP]/[DOWN] buttons to scroll through the 7 menu modes:

7 level-1 menus including:

- Record Setup
- Drum Kit
- Instruments
- Triggers
- MIDI Setup
- Metronome
- Utility

LEVEL-1 and its corresponding LEVEL-2 configuration modes.

Press [MENU/ENTER] to enter Level-1 menus. Use the [DOWN] / [UP] buttons to select level-1 menu and press [MENU/ENTER] to enter its corresponding level-2 menu.



## Menu tree

### Drum Kit Setup

**Volume:**

This setting allow you to adjust the Voice volume, 0~32.  
The default value is 28.

**Mode:**

Each pattern has its assigned kit, this setting allow you to assign the Kit link mode when changing a pattern.

Ptn, while you are selecting patterns, the kit will be changed according to the drum part of current pattern;

Manual, while you are selecting patterns, the kit won't be changed and retain.

|                   |           |              |
|-------------------|-----------|--------------|
| BEAT<br>00 1:008  | KIT<br>01 | VOICE<br>477 |
| Kit<br>Volume: 28 |           |              |

### Instrument Setup

**Volume:**

Change the Voice volume, 0~32.

**Pan:**

Change the Voice panning position, L8~L1, CTR, R1~R8.

**Reverb level:**

Change the Voice reverb level, 0~32.

|                     |           |              |
|---------------------|-----------|--------------|
| BEAT<br>00 1:008    | KIT<br>01 | VOICE<br>477 |
| PAD 1<br>Volume: 16 |           |              |

**Pitch:**

Adjust Voice pitch, -8~8, in semitone.

**Repeat:**

This setting allow you to switch voice repeat On/off.

When cymbal is assigned to "on" and hit the cymbal repeatedly, a new hit will not cut off the previous hit sound.

The default value is On.

**Exclusive:**

This setting allow you to assign the voices in exclusive groups (such as open hi-hat, close hi-hat and pedal hi-hat).

When the open hi-hat and close hi-hat are assigned to a particular group (1 or 2), the close hi-hat will cut off the open hi-hat sound.

### Triggers adjustment

You can set the parameters of each pad triggers (8 pads on the machine and 2 external pad inputs).

**Sensitivity:**

Adjust the Input signal gain from 1~16.

**Threshold:**

Adjust the Input signal threshold from 1~16.

|                          |           |              |
|--------------------------|-----------|--------------|
| BEAT<br>00 1:008         | KIT<br>01 | VOICE<br>477 |
| PAD 1<br>Sensitivity: 06 |           |              |

**Velocity curve:**

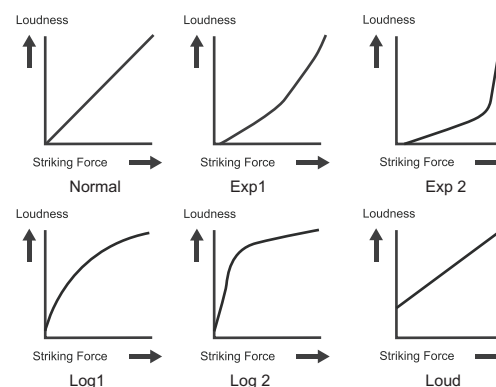
This setting allow you to control the relation between the velocity (striking force) and changes in volume(the dynamic curve).Adjust this curve until the response feels as natural as possible

**Normal:** The standard setting.This produces the natural correspondence between the strength of the strike and the change in volume.

**Exp1/2:** Compared to Normal, a strong strike will produce a greater change.

**Log1/2:** Compared to Normal, a soft strike will produce a greater change.

**Loud:** Changes made in response to the striking force are minor. When using drum triggers, these settings help maintain stable levels.



For pedal triggers, the number and type of parameters depends on the function selection.

**Function:**

Pedal function selection, supports general trigger/hi-hat pedal, play/pause control and fill control.

**Note:**

If the pedal functions as general trigger (only supported by pedal marked as trigger 11), it has the same 3 modes as the ones of pad triggers (Sensitivity, threshold and velocity curve).  
If the pedal functions as hi-hat pedal (only supported by pedal marked as trigger 12), there's one more parameter mode following: splash sensitivity.

**Splash sensitivity:**

Use the [+] [-] buttons or the Numeric Keys to adjust the Pedal splash sensitivity, numeric parameter, 1~8.

**Note:**

If the selection is play/pause control or fill control, the pedal will have the same functions as the corresponding button on the panel.

**Note:**

When you adjust the trigger parameters, you must press [COPY/SAVE] to save it.

## MIDI Setup

**MIDI channel:**

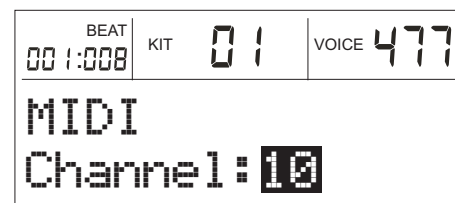
The option assign the Basic MIDI channel selection, 1~16.  
The Default value is 10.

**Pattern output:**

The option Enable or disable MIDI events output during pattern playing back.  
The Default value is Off.

**Pad output:**

The option Enable or disable MIDI notes output when pads or pedals triggered.  
The Default value is On.



## Menu tree

### Sync mode:

The option assign Sequencer sync mode, Master sync (local tempo setting and output MIDI clock) or external sync (input MIDI clock).

The Default value is Master.

### Note map:

The option Assign note to triggers. MIDI note 0~127

Please refer to MIDI chapter.

Note: When the MIDI NOTE is changed, the setting should be saved by pressing [COPY/SAVE] button.

### Soft through:

The option enable or disable soft MIDI through (emerge MIDI in stream with MIDI out stream).

The Default value is Off.

|                     |           |              |
|---------------------|-----------|--------------|
| BEAT<br>00 1:008    | KIT<br>01 | VOICE<br>477 |
| Metro<br>Volume: 16 |           |              |

## Metronome

### Click:

Select Click option, supports on, off and during recording (normal recording mode).

If selecting ON, the metronome will start automatically.

If selecting OFF, the metronome will stop play.

If selecting RECORD, the metronome will start in recording mode.

|                    |           |              |
|--------------------|-----------|--------------|
| BEAT<br>00 1:008   | KIT<br>01 | VOICE<br>477 |
| Metro<br>Click: ON |           |              |

### Volume:

Adjust the Click volume, 0~32.

The Default value is 16.

### Interval:

Select interval value 1/4, 1/8, 1/12, 1/16, 1/24.

The Default value is 1/4.

## Utility

### Load Default:

The option allow the user to load the factory default settings.

Press [MENU/ENTER] button again to continue.

LCD display "NO-/Yes+".

Press [-] or [EXIT] to cancel or [+] to reset global parameter settings.

LCD display "Success!".

|                            |           |              |
|----------------------------|-----------|--------------|
| BEAT<br>00 1:008           | KIT<br>01 | VOICE<br>477 |
| Load Default<br>Data Trans |           |              |

### Note:

If the global parameter setting (including MIDI NOTE, Trigger settings) don't be saved, you could reset to factory setting through this menu.

If the global parameter setting have been saved by pressing [COPY/SAVE] button, you should press and hold [+] [-] button and power on the module to reset the settings.

### Data Trans

The option allow the user to transfer data when connecting the module to computer that running Music Assistant.

Please refer to Music Assistant Chapter.

|                              |           |              |
|------------------------------|-----------|--------------|
| BEAT<br>00 1:008             | KIT<br>01 | VOICE<br>477 |
| Data Trans<br>Auto Shut Time |           |              |

### AUTO SHUT TIME

The option allow the user to adjust the auto shutdown time(30 Mins, 60 Mins, Off)



## Recording setup

### Name:

LCD display the name of current selected pattern or song.  
If the pattern/song is to be renamed, press [MENU/ENTER]  
again to display the Rename screen.  
Please refer to NAMING.

### Length:

Change the length of current pattern (1~128)  
The default value is 8 .

### Record mode:

Normal mode (continuous, default) and step mode are  
supported.  
The default value is Normal.

### Pre-count (pattern mode):

Beats of specified number can be inserted before recording.  
(0~9) The default value is 0 .

### Resolution (pattern mode):

Quantize resolution, supports 1/4, 1/6, 1/8, 1/12, 1/16, 1/24,  
1/32, 1/48 and off (1/768, default).  
The default value is off (1/768).

### Swing (pattern mode):

Quantize swing, supports 50~75% .  
The default value is 50%

### Note :

After adjusting the pattern length, press the [MENU/ENTER]  
button to confirm the operation.

|                       |           |              |
|-----------------------|-----------|--------------|
| BEAT<br>00 1:008      | KIT<br>01 | VOICE<br>477 |
| Rec Setup<br>Drum Kit |           |              |

|                              |                |                   |
|------------------------------|----------------|-------------------|
| BEAT<br>00 1:008             | PTN<br>USER 51 | A<br>TEMPO<br>100 |
| Ptn Rec Setup<br>Length: 008 |                |                   |

|                              |                |                   |
|------------------------------|----------------|-------------------|
| BEAT<br>00 1:008             | PTN<br>USER 51 | A<br>TEMPO<br>100 |
| Ptn Rec Setup<br>Precount: 4 |                |                   |

# Creating Your Own Drum kit

## About the Drum Kits

There are 100 kits in the module.  
50 preset kit [001-050].  
50 user kit [051-100]

## Selecting a Preset Kit

Press [KIT] to enter the KIT mode, the KIT indicator will light up, and the LCD will display the kit number and name "Acoust-1".

Use [+] / [-] BUTTONS or Numeric Keys to select a preset kit [001-050].

Refer to the appendix KIT list for a complete list of kit names.

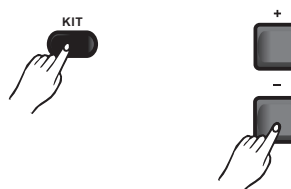


## Selecting a User Kit

Press [KIT] to enter the KIT mode

Use [+] / [-] BUTTONS or Numeric Keys to select a user kit [051-100]

User Kit is easy to edit through MENU.

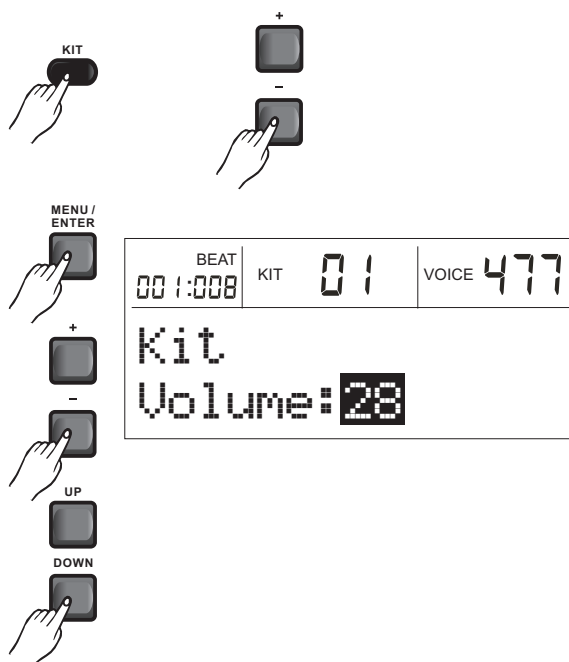


## Editing User Kit

Press [KIT] to display current kit and use the [+] / [-] buttons or numeric keys to select the kit to be edited.

Press [MENU/ENTER] and choose the "Drum Kit" sub-menu. In KIT menu, you can set the overall kit parameters.

1. Press [MENU/ENTER] twice to enter Kit Setup mode.  
LCD display the kit name.  
If the kit is to be renamed, press [MENU/ENTER] again to enter the Kit Rename screen.  
Use the [+] / [-] buttons to select the characters.  
Use the [UP] and [DOWN] buttons to advance or retard the highlighted character to the desired position.  
When the new name is entered, press [MENU/ENTER] and [+] to confirm it.
2. Press the [DOWN] button to enter the Kit Volume menu.  
Use the [+] / [-] buttons or the Numeric Keys to change the drum kit volume ranged from 0~32.
3. Press the [DOWN] button to enter the Kit Link Mode menu.  
Use the [+] / [-] buttons to assign the mode.  
Each pattern has its assigned kit, select "Ptn", the kit will change with pattern; Select "Manual" the pattern will retain the kit.



## About the Drum Instruments

The module features 1120 different drum instruments.

Please refer to Instrument list.

You can individually adjust the Volume, Pan, Reverb level, Pitch, Repeat, Exclusive for instruments set to the pad.

## User Kits Instruments Setting

Press [KIT] to display current kit and use the [+] / [-] buttons or numeric keys to select the kit to be edited.

Press [MENU/ENTER] and choose the "INSTRUMENT" sub-menu to access.

The current pad to be edited can be selected by striking the pad. The pad indicator lights up to show which pad is currently selected.

Use the [UP] / [DOWN] buttons to scroll through the various parameter menus.

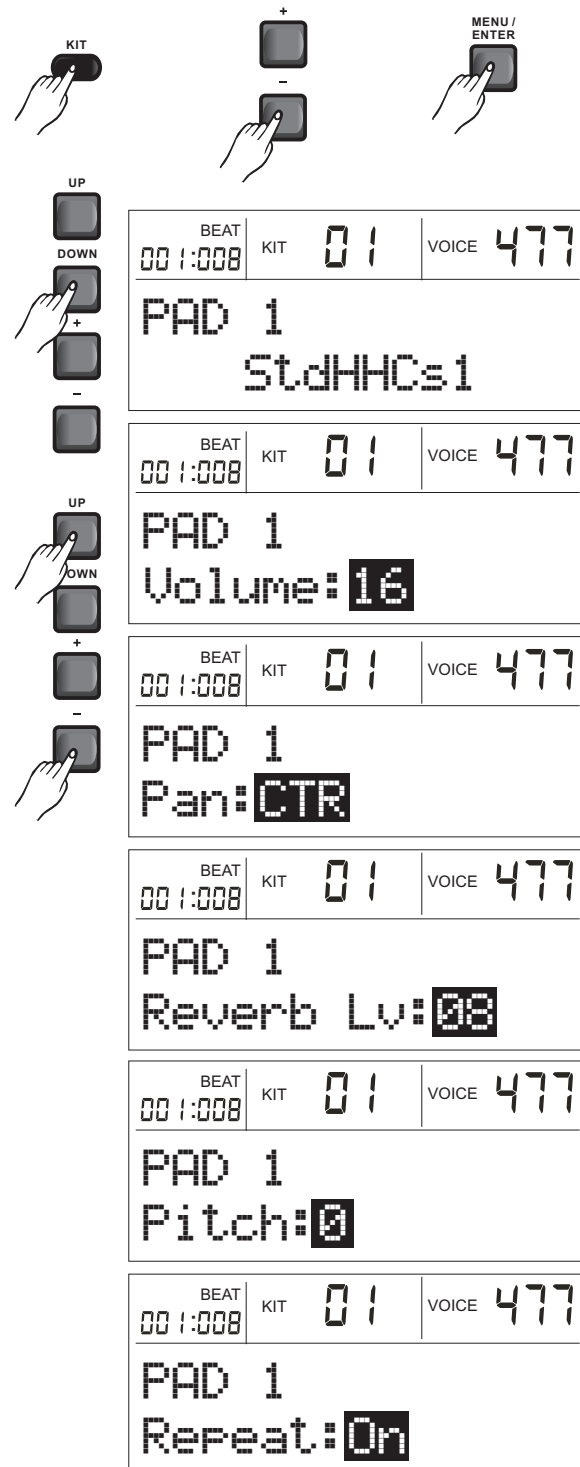
1. LCD display Instrument voice name of current selected trigger (pad or pedal).  
Use the [+] / [-] buttons or the Numeric Keys to select the Voice for current pad.

### NOTE :

When select more than 1000 voice number (from A00 to B20), please use the [A] / [B] key and Numeric Keys.

2. Press the [DOWN] button to enter the Pad Voice Volume mode.  
Use the [+] / [-] buttons or the Numeric Keys to change the Voice volume, 0~32.
3. Press the [DOWN] button to enter the Pad Voice Pan mode.  
Use the [+] / [-] buttons to change the Voice panning position, L8~L1, CTR, R1~R8.
4. Press the [DOWN] button to enter the Pad Voice Reverb level mode.  
Use the [+] / [-] buttons or the Numeric Keys to change the Voice reverb level, 0~32.
5. Press the [DOWN] button to enter the pitch level mode.  
Use the [+] / [-] buttons to change the Voice pitch, -8~8, in semitone.
6. Press the [DOWN] button to enter the Repeat mode.  
Use the [+] / [-] buttons to assign the Voice repeat mode, on or off. When cymbal is assigned to on and hit the cymbal repeatedly, a new hit will not cut off the previous hit sound.
7. Press the [DOWN] button to enter the Exclusive mode.  
Use the [+] / [-] buttons to assign the voices in exclusive groups (such as open hi-hat, close hi-hat and pedal hi-hat). When the open hi-hat and close hi-hat are assigned to a particular group (1 or 2), the close hi-hat will cut off the open hi-hat sound.

Repeat the steps above for each pad in order to create your full kit.



## Creating Your Own Drum kit

### Saving to a User Kit

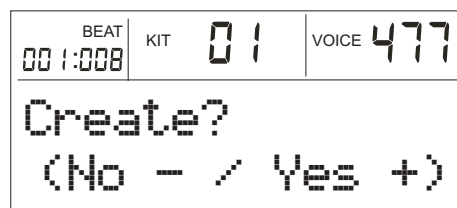
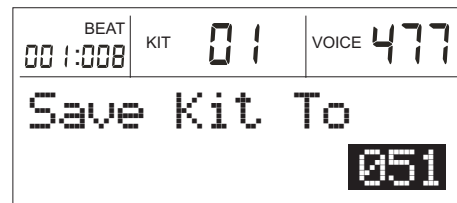
#### Save user kit:

After setting the kit/instrument parameter, please be sure to save it.

1. Press [COPY/SAVE]
2. Use [+] / [-] to select the desired user kit number (51~100).
3. Press [MENU/ENTER], LCD will show "No-/Yes+". Press "Yes+" to confirm or "No-" to cancel.

#### Rename a user kit

1. Press [MENU/ENTER] three times to enter the naming screen.
2. Use [+] / [-] buttons to select the characters and the [UP] / [DOWN] buttons to move the cursor.
3. Press [MENU/ENTER] and the Save Confirmation screen will be displayed.  
Press "Yes+" to confirm or "No-" to cancel.



# Playing Back Patterns

## About Patterns

The module can be switched between pattern mode and song mode by pressing [PATTERN/SONG].

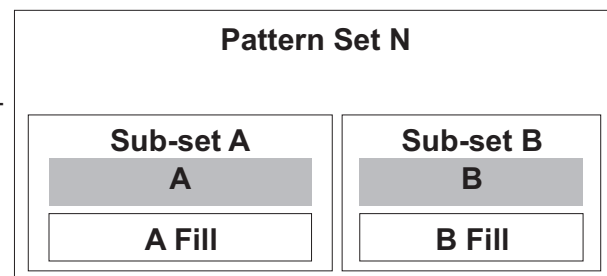
There're 100 patterns in the module:  
50 preset pattern sets (1~50)  
50 user pattern sets (51~100) .  
Please refer to Pattern list.

## Pattern Structure

A "Pattern" is the smallest rhythm unit in the module, which contains several parts and lasts several beats.

One pattern set includes 4 patterns, 2 in sub-set A and 2 in sub-set B.

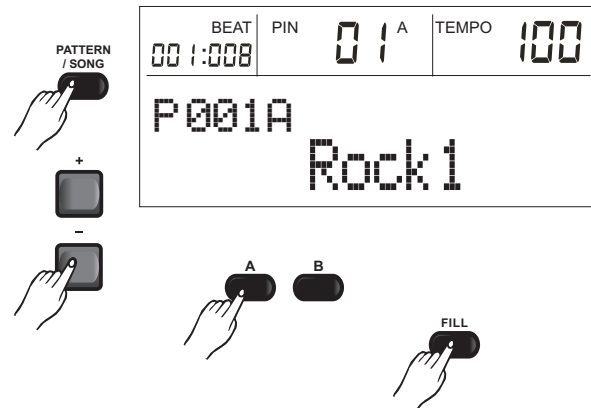
The patterns in same sub-set, the main pattern and the fill one, must have the same length and share the same drum kit.



## Select a Pattern

If the module is not yet in Pattern mode, press the [PATTERN/SONG] button to enter it. The PATTERN indicator will light up, and LCD will display the current pattern number and its name "P001A Rock1".

1. Use [+], [-] (or [F.F/NEXT], [REW/PREV] when pattern is stopped) or numeric keys to select current pattern set;
2. Use [A], [B] to select a sub-set;
3. Use [FILL] to select main or fill pattern. This selection is supported only when the pattern is stopped.

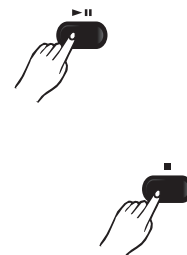


## Playing Back a Pattern






There has 3 states in pattern mode: standby, playing, playing pause. Use control buttons to change the states and control the player.

There're 5 control buttons on the module panel, which are similar to the ones of tape-recorder. And the general pedal can be setup to duplicate the function of [PLAY/PAUSE] button.

1. Press [PLAY/PAUSE] when pattern stopped (standby state) to start the pattern playback.
2. During playback, [PLAY/PAUSE] can be used to pause or resume the pattern playing.
3. Press [STOP] to stop pattern play.



# Playing Back Patterns

|   | Name         | STANDBY                             | PAUSED                                | PLAYING                               |
|---|--------------|-------------------------------------|---------------------------------------|---------------------------------------|
|  | [STOP]       |                                     | standby(press)                        | Stop playing (press)                  |
|  | [PLAY/PAUSE] | Start pattern playing (press)       | Resume playing (press)                | Pause playing (press)                 |
|  | [F.F/NEXT]   | Select next pattern set (press)     | Fast forward (hold)                   | Fast forward (hold)                   |
|  | [REW/PREV]   | Select previous pattern set (press) | Rewind (hold)                         | Rewind (hold)                         |
|  | [BACK]       |                                     | Back to the pattern beginning (press) | Back to the pattern beginning (press) |

## Playing Fill Pattern

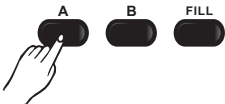
### Fill Playback

Fill pattern may only be selected for playing when in stopped mode.  
Fill patterns are not looped so the Next pattern during playback will be the Main pattern in the same sub-set or the alternate sub-set

### Fill Insert

[A], [B] and [FILL]  
These buttons can be used to select pattern from a pattern set or sub-set.

**Note:**  
the general pedal can be setup to duplicate the function of [FILL] button.



During playback, only the main pattern can be selected as the next one (fill patterns must be selected when playing stopped) which will be played when current pattern meets its end. And press [FILL] will make a main-to-fill switching immediately.



|                 |      |     |        |       |     |
|-----------------|------|-----|--------|-------|-----|
| BEAT            | PTN  | 100 | A FILL | TEMPO | 100 |
| 003:008         | USER |     |        |       |     |
| P100AF >> P100B |      |     |        |       |     |
| ▶ EmptyPtn      |      |     |        |       |     |

Press and releasing [Fill] while a pattern is playing will switch to the Fill and queue the Main pattern in the alternate sub-set as Next.  
If [FILL] is held, the Next pattern will be the Main pattern in the same sub-set.

# Recording Pattern

## About Pattern Recording

The module supports normal mode recording and step mode recording.

Normal mode is used to record a real-time performance and step mode is used as fine editing.

## Recording Ready

Pattern record is available only when a user pattern is currently selected. An asterisk will be displayed on the LCD, which indicates current pattern is an empty one (with no notes in it). Press [REC] when pattern stopped (standby state) to enter the record ready state.

In record ready state, current user pattern can't be changed. But the record setup menu is still available. Press [REC] again to quit record ready.

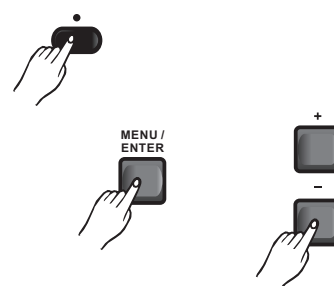
In record ready state, use the [UP]/[DOWN] button to scroll through the various record parameters and use the [+] / [-] button to set the value.

Page1: choose the Record mode

Page2: setting the Pre-count

Page3: setting the Resolution

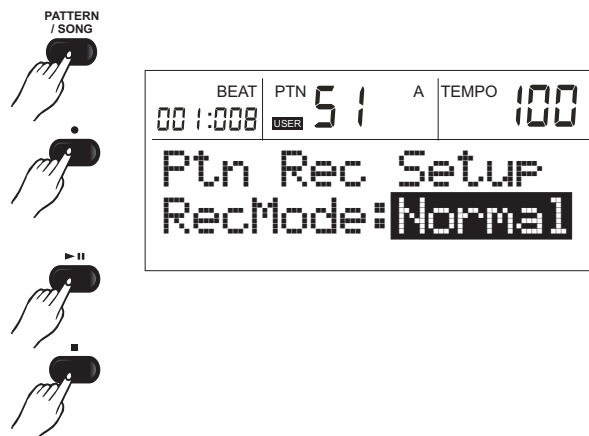
Page4: setting the Swing



## Recording a Pattern in Normal Mode

In normal mode, current pattern will be looped while recording and the recorded notes will be overlapped. Recording can be paused by pressing [PLAY/PAUSE] and all the notes triggered during recording paused will be recorded.

1. Press [PATTERN/SONG] to enter the pattern mode and select a user pattern to record.
2. Press [REC] to enter a record-ready state.  
The [REC] button splash, LCD display "RecMode:Normal".
3. Press [PLAY/PAUSE] to start recording.  
The [REC] button is lighted.
4. Hit the pad to be recorded.
5. Press [STOP] to stop recording.  
LCD display "Success!".



There has 3 states in Normal Record mode: record ready, recording and recording pause.

The following table illustrate the state changes achieved by the control buttons when in pattern normal recording states.

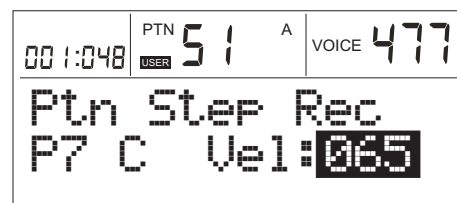
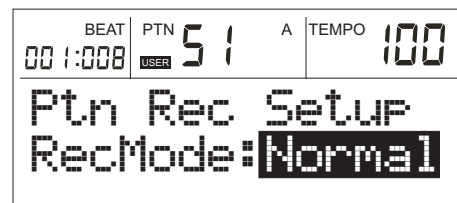
|  | STANDBY                             | READY                   | RECORDING                          | PAUSED                             |
|--|-------------------------------------|-------------------------|------------------------------------|------------------------------------|
|  | Enter record ready state (press)    | Standby (press)         | N/A                                | N/A                                |
|  | Select next pattern set (press)     |                         |                                    |                                    |
|  | Select previous pattern set (press) |                         |                                    |                                    |
|  |                                     | Start recording (press) | Pause recording (press)            | Resume recording (press)           |
|  |                                     | Standby (press)         | Stop recording and standby (press) | Stop recording and standby (press) |

# Recording Pattern

## Recording a Pattern in Step Mode

Step mode is often used to make a more precise pattern recording.

1. Press [PATTERN/SONG] to enter the pattern mode and select a user pattern to record.
2. Press [REC] to enter a record-ready state. The [REC] button splash, LCD will display "RecMode:Normal".
3. Press [+] to choose "RecMode:Step".
4. Press [PLAY/PAUSE] to start recording. LCD will display Beat/Tick (top left on the LCD), Pad and its velocity values.
5. Hit the pad to be recorded, The pad will record the velocity as well as voice.
6. Press[F.F/NEXT]/[REW/PREV] to move one step forward or one step backward. The length of one step is defined by the quantize settings (Quantize resolution and swing setting on Rec Setup Menu).
7. When complete, press [STOP] to stop recording.

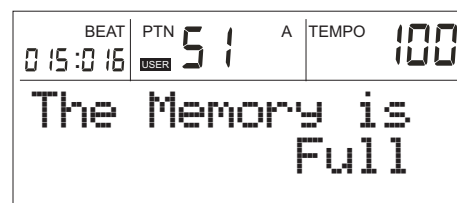


There has 3 states in Step Record mode: record ready, recording and recording pause.  
The following table illustrate the state changes achieved by the control buttons when in pattern step recording states.

|  | STANDBY | READY                                      | PAUSED                                |
|--|---------|--|---------------------------------------|
|  | Ready   | Standby (press)                            | N/A                                   |
|  |         | Start recording (press)<br>Standby (press) | Preview (press)                       |
|  |         | N/A  | Stop recording and<br>standby (press) |
|  |         | N/A  | Move one step forward<br>(press)      |
|  |         | enter MENU                                 | Move one step<br>backward (press)     |
|  |         | enter MENU                                 | Move one note forward<br>(press)      |
|  |         |  | Move one note<br>backward (press)     |

### Note:

The capacity of one user pattern is 300 notes, if no memory, LCD will display full. But recording will not be stopped immediately, because recorded notes can also be edited or erased.





## Naming and Saving User Patterns

User pattern will be saved automatically after the [STOP] button is pressed (during recording).  
 Press [MENU/ENTER] 3 times to enter the user pattern naming screen under Rec Setup Menu.  
 Press [MENU/ENTER] again to enter the “No-/Yes+” menu and confirm.  
 See Naming chapter.



## Copy Patterns

Use [+] / [-] buttons or the Numeric Keys to select a pattern.

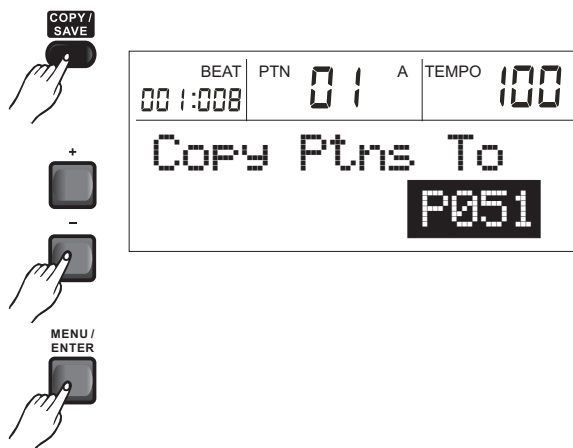
### Copy current user pattern set (overwrite)

1. Press [COPY/SAVE], LCD will display “Copy Ptn Sel Ptn Set/Ptn/Part”;
2. Use [+] and [-] to select “Ptn Set” in the menu, and press [DOWN] to continue;
3. Select the destination user pattern set;
4. Press [MENU/ENTER] to confirm the operation, LCD will display “No-/Yes+”
5. Press [+] to copy or [-] to cancel.



### Copy current user pattern (insert, Figure 2-7)

1. Press [COPY/SAVE];
2. Use [+] and [-] to select “Ptn” in the menu and press [DOWN] to continue.
3. Select the destination user pattern, and press [DOWN] to continue;
4. Adjust the offset by ticks from -191~+191.  
The default value is 0
5. Press [MENU/ENTER] to confirm the operation.
6. Press [+] to copy or [-] to cancel.



### Copy a drum part in current user pattern (parts merged)

1. Press [COPY/SAVE];
2. Use [+] and [-] to select “Part” in the menu, and press [DOWN] to continue;
3. Trigger a drum part to select, and press [DOWN] to continue;
4. Select the destination user pattern, and press [DOWN] to continue;
5. Select the destination drum part;
6. Press [MENU/ENTER] to confirm the operation.

## Recording Pattern

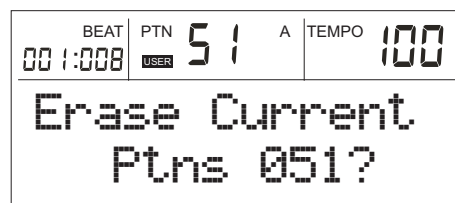
### Editing Patterns in Standby Mode

User patterns can be edited in standby state.

To erase the currently selected User pattern set(all the Main patterns with their Fill Patterns), User patterns (A or B, Main or Fill) , or a drum part, do the following:

#### Erase current user pattern set (all the main patterns with their fill patterns)

1. Press [ERASE];
2. Use [+] and [-] to select (what to erase) "Ptn Set" in the menu;
3. Press [DOWN] to show "Erase Current Ptns xxx?";
4. Press [MENU/ENTER] to confirm the operation.
5. Press [+] to process erasing or [-] to cancel.



#### Erase current user pattern (A or B, main or fill)

1. Press [ERASE];
2. Use [+] and [-] to select "Ptn" in the menu;
3. Press [DOWN] to show "Erase Current Ptn xxx?" :
4. Press [MENU/ENTER]to confirm the operation.
5. Press [+] to erase or [-] to cancel.



#### Erase a drum part in current user pattern

1. Press [ERASE];
2. Use [+] and [-] to select "Part" in the menu;
3. Press [DOWN] and hit the pad to select a drum part; LCD display:
4. Press [MENU/ENTER] to confirm the operation.
5. Press [+] to erase or [-] to cancel.



At any time you may press [EXIT] to cancel and exit.

## Edit Patterns during Recording

User patterns can also be edited during recording.

Select the desired source pattern (A,AF,B,BF).  
Press [REC] to enter "Pattern Rec Setup" and choose Mode(Normal or Step) by using [+]/[-].  
Press [PLAY/PAUSE] to start editing.

### Step mode

In step mode you may erase a single note or change its velocity.

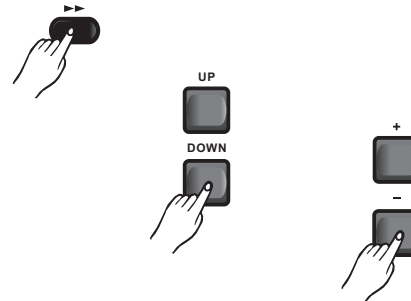
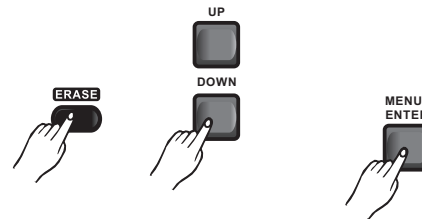
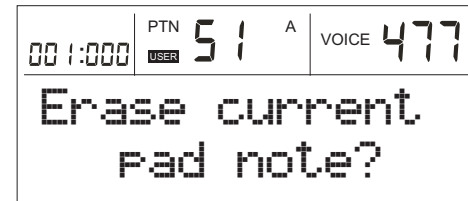
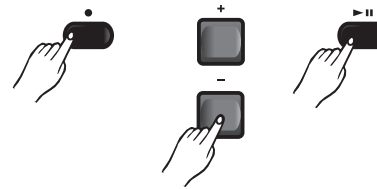
#### Erase single note (only supported in step mode pattern recording)

1. Enter pattern recording step mode. Use [F.F/NEXT] and [REW/PREV] to locate the step which contains the note to be erased;
2. Use [UP] and [DOWN] to select the note;
3. Press [ERASE];
4. Press [MENU/ENTER] to confirm the operation.

#### Change velocity (only supported in step mode pattern recording)

1. Enter pattern recording step mode. Use [F.F/NEXT] and [REW/PREV] to locate the step which contains the note to be modified;
2. Use [UP] and [DOWN] to select the note;
3. Use [+], [-] or numeric keys to set new velocity;

Press [STOP] to exit Step record mode and save changes.



### Normal mode

#### Erase several beats of a drum part (only supported in normal mode pattern recording)

1. Enter pattern recording normal mode. Press [ERASE] and hold;
2. Trigger a drum part to start erasing (the part can't be changed during erasing);
3. Release [ERASE] to finish erasing.



# Playing Back Songs

## About Songs

The module can be switched between pattern mode and song mode by [PATTERN/SONG]. All the songs in the module are user songs. There're 100 songs in the module, which can be recorded or edited.

## Song structure

Song in the module is a link of pattern steps, in which there's a pattern sub-set number with main-to-fill switching information, each song has up to total 128 steps.

## Select a Song

Use [+], [-] (or [F.F/NEXT], [REW/PREV] when song is stopped) or numeric keys to select current song.

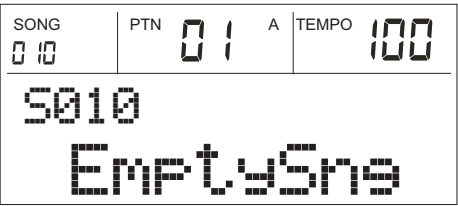


## Playing Back a Song

The module has 3 states in song mode: standby, playing, playing pause. Use control buttons to change the states and control the player.

The LCD screen will display the song number and initial pattern.

1. Press [PLAY/PAUSE] when song stopped (standby state) to start the song playback.
2. During playback, [PLAY/PAUSE] can be used to pause and resume the song playing.
3. During playback, the current step may be repeated by holding the [FILL] button.
4. Play [STOP] to stop song play.



|  | STANDBY                      | PLAYING                          | PAUSED                           |
|--|------------------------------|----------------------------------|----------------------------------|
|  | Start song playing (press)   | Pause playing (press)            | Resume playing (press)           |
|  | Select next song (press)     |                                  |                                  |
|  | Select previous song (press) |                                  |                                  |
|  |                              | Stop playing and standby (press) | Stop playing and standby (press) |

# Recording a Song

All user songs are recordable. Press [REC] when song stopped (standby state) to enter the record ready state.

In record ready state, current user song can't be changed. But the record setup menu is still available. Press [REC] again to quit record ready.

The module supports both normal and step mode for song recording.

## Recording songs in Normal Mode

Normal mode is used to real-time compose (pattern or main-to-fill switching)

1. Press [PATTERN/SONG] to enter the song mode and select a song to record.

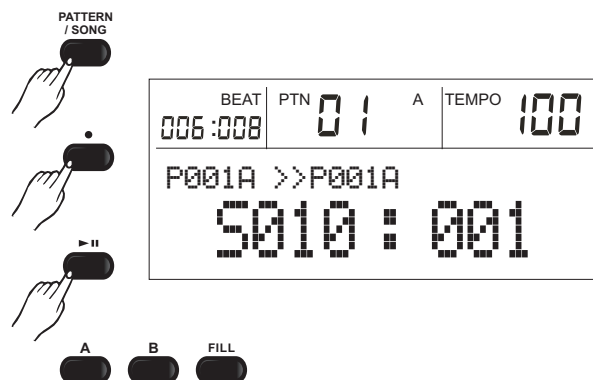
2. Press [REC] to enter a record-ready state.  
The [REC] button splash, LCD display "RecMode:Normal".

3. Press [PLAY/PAUSE] to start recording.  
The [REC] button is lighted.

4. Current playing pattern, pattern changes, A/B/FILL switch, main-to-fill switching during recording paused will be recorded.

5. Recording can be paused by pressing [PLAY/PAUSE] and for user editing.

6. Press [STOP] to stop recording.  
LCD display "Success!".



The following table illustrate the state changes achieved by the control buttons when the module is in Song normal record state.

|  | STOPPED      | READY                   | RECORDING                          | PAUSED                             |
|--|--------------|-------------------------|------------------------------------|------------------------------------|
|  | Record Ready | Standby (press)         | N/A                                | N/A                                |
|  |              | Start recording (press) | Pause recording (press)            | Resume recording (press)           |
|  |              | Standby (press)         | Stop recording and standby (press) | Stop recording and standby (press) |

## Recording songs in Step Mode

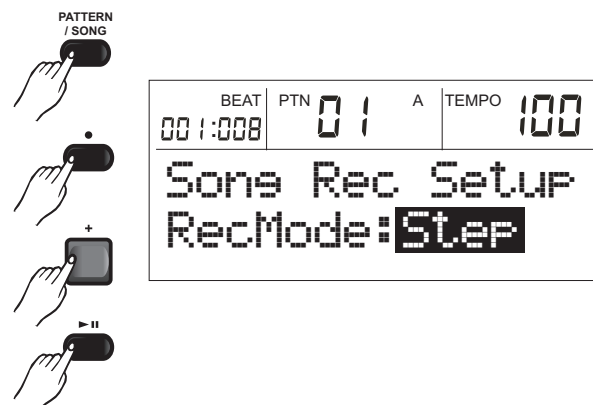
Step mode is used as fine editing. The pattern set number, sub-set pattern (A, A Fill, B, B Fill), and the time of the main-to-fill switching is recorded into a song step.

1. Press [PATTERN/SONG] to enter the song mode and select a song to record.

2. Press [REC] to enter record-ready state.  
The [REC] button splash, LCD will display "RecMode: Normal".

3. Press [+] to choose "RecMode: Step".

4. Press [PLAY/PAUSE] to start recording.  
LCD will display current step, and current pattern.



# Recording a Song

- 5. Press [+]/[-] and numeric keys to edit the pattern number for current step.
- 6. Press [FILL] or [DOWN] to enter FILL insert time screen. Press [+]/[-] and numeric keys to edit the Beat/tick for inserting Fill.
- 7. Press [F.F/NEXT] to move one step forward, LCD display “Stepxxx: End”, then repeat the steps 5,6 to edit for current song step.  
If you want edit the previous step, press [REW/PREV] to move step backward.
- 8. When complete, press [STOP] to stop recording.



The following table illustrate the state changes achieved by the control buttons when the module is in Song step record state.

|  | STOPPED                          | READY                   | PAUSED                             |
|--|----------------------------------|-------------------------|------------------------------------|
|  | Enter record ready state (press) | Standby (press)         | N/A                                |
|  |                                  | Start recording (press) | N/A                                |
|  |                                  | Standby (press)         | Stop recording and standby (press) |
|  | Select next song (press)         | N/A                     | Move one step forward (press)      |
|  | Select previous song (press)     | N/A                     | Move one step backward (press)     |
|  |                                  | N/A                     |                                    |

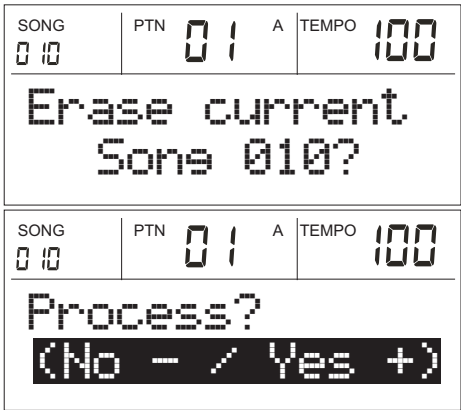
## Editing Songs in Standby Mode

In Standby (stopped) state , songs may be erased or copied.

### Erase a song

Press the [PATTERN/SONG] button and use the [+]/[-] buttons or the numeric keys to select the desired song.

- 1. Press [ERASE]; The erase confirmation screen will be shown.
- 2. Press [MENU/ENTER] to confirm the operation. The Process confirmation screen will be shown.
- 3. Press [+] to erase or [-] to cancel.  
Or press [EXIT] to cancel.



### Copy the currently selected song to another song (insert)

- 1. Press [COPY/SAVE];
- 2. Select the destination user song; and press [DOWN] to continue;
- 3. Set the offset steps;
- 4. Press [MENU/ENTER] to confirm the operation.
- 5. Press [+] to insert or [-] to cancel.



## Edit Songs during Recording(STEP MODE ONLY)

User songs can also be edited during recording.  
During recording you may erase a step, insert a step and/or change patterns or main-to-fill switching times.  
Press [REC] to enter Step Recording mode.

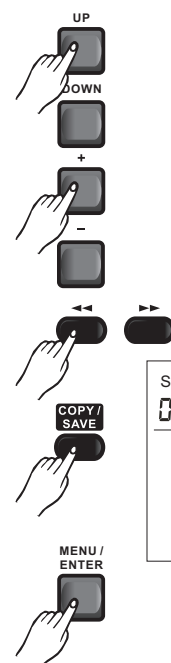
### Erase the current steps:

1. Enter song recording step mode. Use [F.F/NEXT] and [REW/PREV] to locate the step to be erased;
2. Press [ERASE];
3. Press [MENU/ENTER] to confirm the operation.  
Or press [EXIT] to cancel.



### Change pattern or main-to-fill switching time

1. Enter song recording step mode. Use [F.F/NEXT] and [REW/PREV] to locate the step to be modified;
2. Use [+] / [-] or numeric keys to change pattern number, Use [A] / [B] to change pattern set;
3. Use [FILL] or [DOWN] to enter FILL insert time screen. Press [+] / [-] or numeric keys to set new value. Press [ERASE] to erase Fill pattern.



### Insert a step

1. Enter song recording step mode. Use [F.F/NEXT] and [REW/PREV] to locate the step in front of the insert position;
2. Press [COPY/SAVE] to insert a pattern in current step;
3. Press [MENU/ENTER] to confirm the operation;  
Or press [EXIT] to cancel.



# Making the setting for MIDI

## About MIDI

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

### MIDI Connection

**MIDI IN:** This terminal receives MIDI data from an external MIDI device.

**MIDI OUT:** This terminal transmits data from the digital drum to other MIDI devices.

### USB Connection

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

### Note:

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

## 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 can be enable or disable MIDI events output during pattern playing back through MIDI SETUP / Pattern Output menu .

### Recording Your Performance to an External Sequencer

1. Connect the MIDI OUT of the digital drum to the MIDI IN of your sequencer. If you are using a software sequencer on a computer, you can simply connect the USB port of the digital drum to a USB port of your computer using a single USB A-B cable.
2. Ensure to output Pad note. Press the [MENU/ENTER] and [DOWN] button to select the MIDI SETUP menu, press [MENU/ENTER] and [DOWN] button to enter the Pad output menu and set the option to "On" then enable MIDI notes output when pads or pedals triggered.

Enter MIDI SETUP menu, press [MENU/ENTER] and [DOWN] button to enter the MIDI channel menu. Use the [+][-] buttons or the Numeric Keys to assign the Basic MIDI channel selection, 1~16.

3. Setup the active track of your sequencer on Channel 10.



|                     |           |              |
|---------------------|-----------|--------------|
| BEAT<br>00 1:008    | KIT<br>01 | VOICE<br>477 |
| MIDI<br>Pad Out: On |           |              |

|                     |           |              |
|---------------------|-----------|--------------|
| BEAT<br>00 1:008    | KIT<br>01 | VOICE<br>477 |
| MIDI<br>Channel: 10 |           |              |



## Making the setting for MIDI

4. Activate RECORD on your sequencer.
5. Play the pads of your digital drum.
6. Stop recording. Locate your sequencer to the start of your recording.
7. Playback the recorded sequencer.

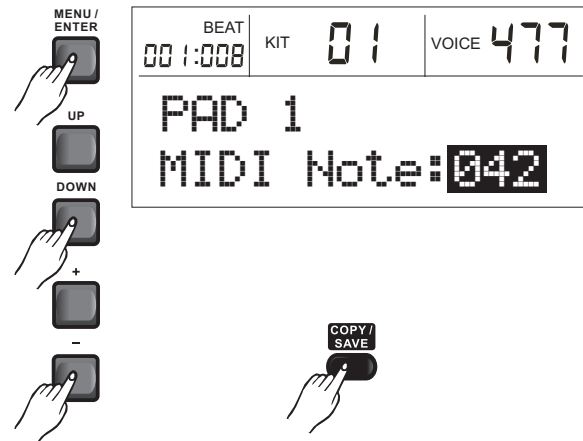
### Setting MIDI Note Number to be Transmitted/Received by Each Pad

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 steps:

1. Press the [MENU/ENTER] and [DOWN] button to select the MIDI SETUP menu,
2. Press [MENU/ENTER] and [DOWN] button to enter the Note map menu,
3. Use the [+] [-] buttons, change the MIDI Note Number for each pad. Hit the pad or trigger the pedal you wish to set.
4. Press the [COPY/SAVE] ,[MENU/ENTER] and [+] button to save the setting.

The Default MIDI NOTE value:

| Pad NAME | Trig NAME   | NOTE | NAME         |
|----------|-------------|------|--------------|
| Pad 1    | Pad 1       | 49   | CRASH1       |
| Pad 2    | Pad 2       | 48   | TOM 1        |
| Pad 3    | Pad 3       | 45   | TOM 2        |
| Pad 4    | Pad 4       | 51   | RIDE         |
| Pad 5    | Pad 5       | 36   | KICK 1       |
| Pad 6    | Pad 6       | 38   | SNARE HEAD   |
| Pad 7    | Pad 7 HH C  | 42   | HIHAT CLOSE  |
| Pad 8    | Pad 8 HH OP | 46   | HIHAT OPEN   |
| Pad 9    | Pad 9       | 43   | TOM 3        |
| Pad 9    | Pad 9 RIM   | 58   | TOM 3 Rim    |
| Pad 10   | Pad 10      | 57   | CRASH 2      |
| Pad 10   | Pad 10 RIM  | 52   | CRASH 2 Rim  |
| Pad 11   | Pad 11 PDL  | 35   | KICK 2       |
| Pad 12   | Pad 12 PDL  | 44   | HIHAT PEDAL  |
| Pad 12   | Pad 12 SPL  | 39   | HIHAT SPLASH |



### Sync with MIDI clock

1. In MIDI SETUP menu, press the [DOWN] button to choose the Sync mode menu.
2. Use the [+] [-] buttons to assign Sequencer sync mode, master sync (local tempo setting and output MIDI clock) or external sync (input MIDI clock).

If master sync mode is selected, the module will send MIDI clock (F8) via MIDI output or USB port according to current tempo;

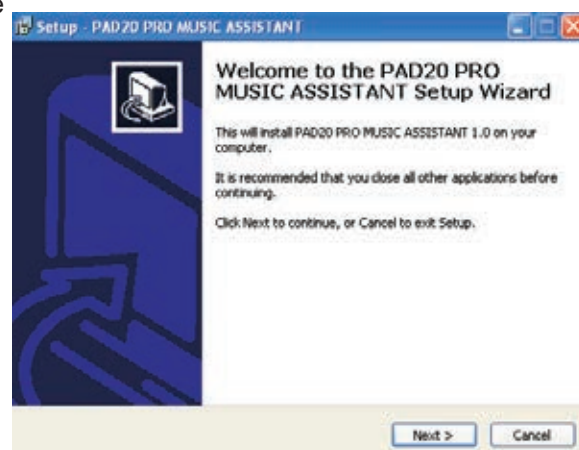
If external sync mode is selected, the module will accept MIDI clock from host device via MIDI input or USB port and change current tempo.

# Music Assistant

MUSIC ASSISTANT is the PC software for the module, which designed as a multi-purpose editor and integrated data manager.

## Installation

Run the setup.exe to start the setup wizard, and then follow the wizard to complete the installation.



## Connection

Turn on the module and connect it to PC via USB cable.

Press module button [MENU/ENTER] and [DOWN] to enter "Utility" menu and choose "Data Trans" sub-menu, press [MENU] and [+] to enter MUSIC ASSISTANT connect waiting mode, LCD display "Data Trans Waiting". (Press [EXIT] to quit MUSIC ASSISTANT connecting mode .)

Open MUSIC ASSISTANT software.  
Click "Option >> MIDI Device" and select the module (USB Audio Device) as the MIDI in/out port.



## Functions

### Pattern Editing

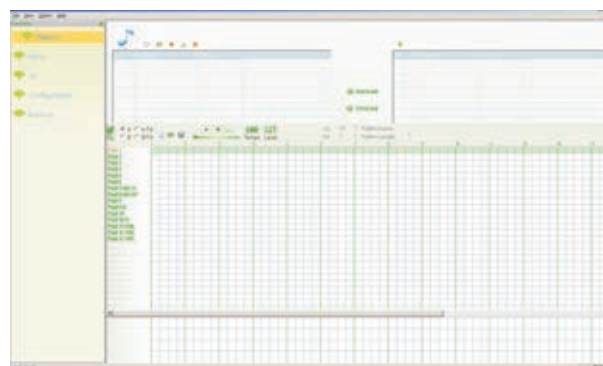
Following functions can be implemented in the pattern editing window.

1. Pattern or pattern set editing
2. Pattern playback
3. Pattern set downloading/uploading

### How to play pattern

If you would like to listen the pattern on PC, you should

1. Set "wavetable,sample source" as MIDI OUT port through "Option-Midi Device" option.
2. Assign a default or user configure file for pattern play through menu option "Option-PathSetting-<choose a config file for playing>". And the tool allow user to create own trigger note mapping on Configure Page.
3. On Pattern Page, press [PLAY] button to play the current pattern and the notes you heard will follow the confure setting which is located on "Option-PathSetting".



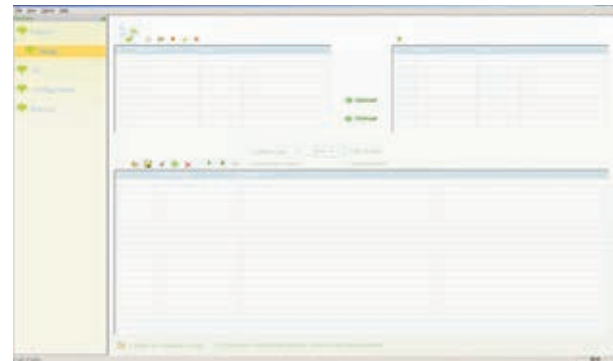
If you would like to listen on PAD module, you should

- 1.Set "USB Audio Device" as MIDI OUT port.
- 2.On Pattern Page, choose an optional Channel/Kit value for play.
- 3.On Pattern Page, press [PLAY] button to play the current pattern and the notes you heard will follow the configure setting which is shown on module MENU "MIDI Setup-MIDI Note".

### Song Editing

Following functions can be implemented in the song editing window.

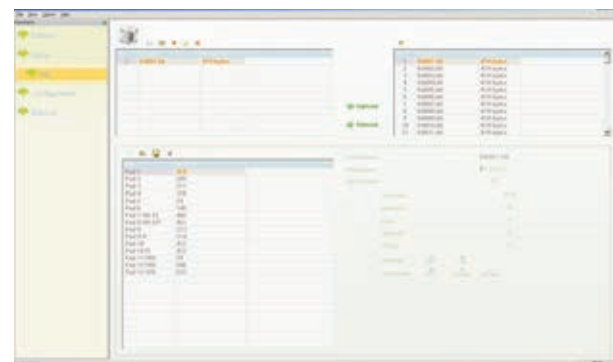
1. Song editing
2. Song playback
3. Song downloading/uploading



### Drum Kit Editing

Following functions can be implemented in the drum kit editing window.

1. Drum kit editing
2. Drum kit downloading/uploading



### MIDI Note Configuration

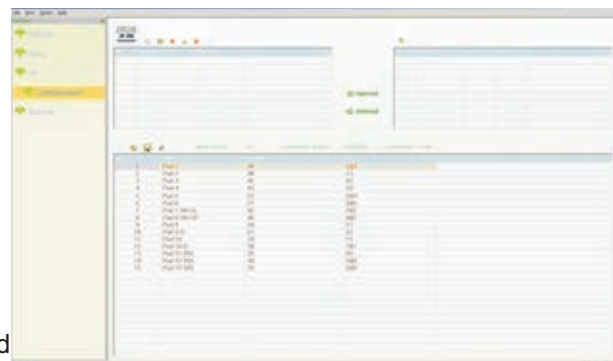
Following functions can be implemented in the MIDI note configuration window.

1. MIDI note map editing
2. MIDI note map downloading/uploading

#### Note:

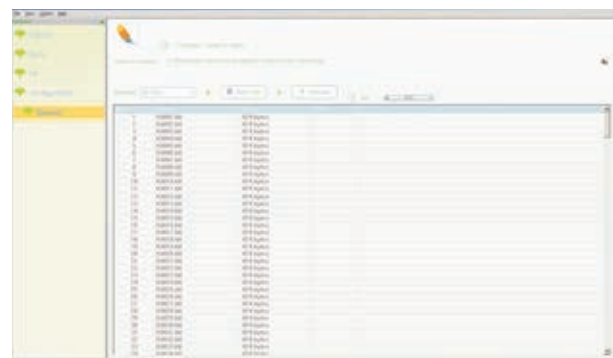
When you change the note map, you should save to file and name it( for example, name as "Config002.map"). Then assign this file as current configure file for play through option "Option-PathSetting-<choose a config file for playing>".

There're 2 Configure files (including Configure001.map as default map and Configure002.map as user map) can be loaded from the PAD module. And the Configure002.map can be edited and download.



### Data Backup

All the data in the module can be uploaded to PC for data backup.



# Troubleshooting

| Problem            | Possible Cause and Solution  |
|--------------------|--|
| No Sound           | 1) Rotate the [VOLUME] knob to be sure that the volume isn't down. |
| No Click Sound     | 1) To be sure not set the volume of the click to 0.                |
| Sound is Distorted | 1) Turn down the volume.   |

## Specification

|                               |  |
|-------------------------------|--|
| <b>Audio outputs</b>          | Master (left/mono and right) and phones output (stereo)                                |
| <b>Aux input</b>              | TRS 1/4"   |
| <b>USB port</b>               | USB2.0 full speed  |
| <b>MIDI port</b>              | MIDI input and output (soft thru supported)  |
| <b>Pads</b>                   | 8 velocity sensitive and 2 external (dual trigger supported)                           |
| <b>Pedals</b>                 | 2 velocity-sensitive pedals (1 hi-hat and 1 general)                                   |
| <b>Drum kits</b>              | 100 (50 preset kits + 50 user kits)  |
| <b>Pattern sets</b>           | Patterns 100 (50 preset patterns + 50 user patterns). Each included 4 sub-set patterns |
| <b>Recorded notes</b>         | Max. 300 notes for each user pattern   |
| <b>Songs</b>                  | 100 (each has max. 128 steps)  |
| <b>Drum/percussion voices</b> | 1120 Voices  |
| <b>Polyphony</b>              | 64   |
| <b>Tempo range</b>            | 20~255bpm  |
| <b>Sample/DAC</b>             | 16/24 bit  |
| <b>Power</b>                  | DC 9V  |
| <b>Display</b>                | Backlit LCD and LED indicators   |

# Preset Drum Kit

| NO. | NAME       |
|-----|------------|
| 1   | Acoustic-1 |
| 2   | Funk Band  |
| 3   | Pwrbd      |
| 4   | Std-1      |
| 5   | Acoust-2   |
| 6   | Fusion     |
| 7   | Camco      |
| 8   | Jz Brush   |
| 9   | Room       |
| 10  | Rock       |
| 11  | Pop Rock   |
| 12  | Jazz       |
| 13  | Brush      |
| 14  | Songo      |
| 15  | 1971's     |
| 16  | Tablas     |
| 17  | O School   |
| 18  | 606        |
| 19  | Disco      |
| 20  | 909        |
| 21  | Drum Bass  |
| 22  | Funk       |
| 23  | HipHop-1   |
| 24  | HipHop-2   |
| 25  | House-1    |
| 26  | House-2    |
| 27  | Vintage    |
| 28  | Junkyard   |
| 29  | M-box      |

| NO.       | NAME       |
|-----------|------------|
| 30        | Step       |
| 31        | Industry   |
| 32        | Low Fi     |
| 33        | Metal      |
| 34        | Electronic |
| 35        | Jz Latin   |
| 36        | Noise      |
| 37        | Std-2      |
| 38        | R&B        |
| 39        | Magic      |
| 40        | Teckno     |
| 41        | Melodic 1  |
| 42        | MusicBox   |
| 43        | Steel Dr   |
| 44        | Indian 1   |
| 45        | Indian 2   |
| 46        | Indian 3   |
| 47        | Indian 4   |
| 48        | Indian 5   |
| 49        | Indian 6   |
| 50        | Indian 7   |
| USER KITS |            |
| 51        | Acoust-3   |
| 52        | Melodic 2  |
| 53        | Melodic 3  |
| 54        | Melodic 4  |
| 55        | Melodic 5  |
| 56        | Melodic 6  |
| 57~100    | EMPTY      |

# Drum Instrument List

| NO          | Full Name        | LCD Display |
|-------------|------------------|-------------|
| <b>KICK</b> |                  |             |
| 1           | Standard Kick 1  | StandK1     |
| 2           | Standard Kick 2  | StandK2     |
| 3           | Classic Kick 1   | ClassK1     |
| 4           | Classic Kick 2   | ClassK2     |
| 5           | Rock Kick 1      | RockK1      |
| 6           | Rock Kick 2      | RockK2      |
| 7           | Rock Kick 3      | RockK3      |
| 8           | Room Kick 1      | RoomK1      |
| 9           | Room Kick 2      | RoomK2      |
| 10          | Jazz Kick 1      | JazzK1      |
| 11          | Jazz Kick 2      | JazzK2      |
| 12          | Big Band Kick 1  | BigBdK1     |
| 13          | Big Band Kick 2  | BigBdK2     |
| 14          | Camco Kick 1     | CamcoK1     |
| 15          | Camco Kick 2     | CamcoK2     |
| 16          | Funk Kick 1      | FunkK1      |
| 17          | Funk Kick 2      | FunkK2      |
| 18          | Funk Kick 3      | FunkK3      |
| 19          | HipHop Kick 1    | HipHopK1    |
| 20          | HipHop Kick 2    | HipHopK2    |
| 21          | HipHop Kick 3    | HipHopK3    |
| 22          | HipHop Kick 4    | HipHopK4    |
| 23          | 1969 Kick        | 1969K       |
| 24          | 1971 Kick        | 1971K       |
| 25          | 1976 Kick        | 1976K       |
| 26          | Power Kick       | PowerK      |
| 27          | R&B Kick         | R&BK        |
| 28          | Voice Kick       | VoiceK      |
| 29          | Acoustic Kick 1  | AcousK1     |
| 30          | Acoustic Kick 2  | AcousK2     |
| 31          | Acoustic Kick 3  | AcousK3     |
| 32          | Acoustic Kick 4  | AcousK4     |
| 33          | Acoustic Kick 5  | AcousK5     |
| 34          | Acoustic Kick 6  | AcousK6     |
| 35          | Acoustic Kick 7  | AcousK7     |
| 36          | Acoustic Kick 8  | AcousK8     |
| 37          | Acoustic Kick 9  | AcousK9     |
| 38          | Acoustic Kick 10 | AcousK10    |
| 39          | Acoustic Kick 11 | AcousK11    |
| 40          | Acoustic Kick 12 | AcousK12    |
| 41          | Acoustic Kick 13 | AcousK13    |
| 42          | Acoustic Kick 14 | AcousK14    |
| 43          | Acoustic Kick 15 | AcousK15    |
| 44          | Acoustic Kick 16 | AcousK16    |
| 45          | Acoustic Kick 17 | AcousK17    |
| 46          | Acoustic Kick 18 | AcousK18    |
| 47          | Acoustic Kick 19 | AcousK19    |
| 48          | Acoustic Kick 20 | AcousK20    |
| 49          | Acoustic Kick 21 | AcousK21    |
| 50          | Acoustic Kick 22 | AcousK22    |
| 51          | Acoustic Kick 23 | AcousK23    |
| 52          | Acoustic Kick 24 | AcousK24    |
| 53          | Acoustic Kick 25 | AcousK25    |
| 54          | Acoustic Kick 26 | AcousK26    |
| 55          | House Kick 1     | HouseK1     |
| 56          | House Kick 2     | HouseK2     |
| 57          | House Kick 3     | HouseK3     |
| 58          | House Kick 4     | HouseK4     |
| 59          | Step Kick        | StepK       |
| 60          | Teckno Kick      | TechnoK     |
| 61          | Drum & Bass Kick | D&BK        |
| 62          | Junkyard Kick    | JunkydK     |
| 63          | Noise Kick       | NoiseK      |
| 64          | Industry Kick    | IndustrK    |
| 65          | Low Fi Kick      | LowFiK      |
| 66          | Disco Kick       | DiscoK      |
| 67          | 808 Kick         | 808K        |

|                |                       |          |
|----------------|-----------------------|----------|
| 68             | 909 Kick              | 909K     |
| 69             | Electronic Kick 1     | ElectK1  |
| 70             | Electronic Kick 2     | ElectK2  |
| 71             | Electronic Kick 3     | ElectK3  |
| 72             | Electronic Kick 4     | ElectK4  |
| 73             | Electronic Kick 5     | ElectK5  |
| 74             | Electronic Kick 6     | ElectK6  |
| 75             | Electronic Kick 7     | ElectK7  |
| 76             | Electronic Kick 8     | ElectK8  |
| 77             | Electronic Kick 9     | ElectK9  |
| 78             | Electronic Kick 10    | ElectK10 |
| 79             | Electronic Kick 11    | ElectK11 |
| 80             | Electronic Kick 12    | ElectK12 |
| 81             | Electronic Kick 13    | ElectK13 |
| 82             | Electronic Kick 14    | ElectK14 |
| 83             | Electronic Kick 15    | ElectK15 |
| 84             | Electronic Kick 16    | ElectK16 |
| 85             | Electronic Kick 17    | ElectK17 |
| 86             | Electronic Kick 18    | ElectK18 |
| <b>SNARE 1</b> |                       |          |
| 87             | Classic Snare 1       | ClasSn1  |
| 88             | Classic Snare Rim 1   | ClasSnR1 |
| 89             | Classic Snare 2       | ClasSn2  |
| 90             | Classic Snare Rim 2   | ClasSnR2 |
| 91             | Classic Snare 3       | ClasSn3  |
| 92             | Classic Snare Rim 3   | ClasSnR3 |
| 93             | Classic Snare 4       | ClasSn4  |
| 94             | Classic Snare Rim 4   | ClasSnR4 |
| 95             | Acoustic Snare        | AcoutSn  |
| 96             | Acoustic Snare Rim    | AcoutSnR |
| 97             | Standard Snare 1      | StdSn1   |
| 98             | Standard Snare Rim 1  | StdSnR1  |
| 99             | Standard Snare 2      | StdSn2   |
| 100            | Standard Snare Rim 2  | StdSnR2  |
| 101            | Standard Snare 3      | StdSn3   |
| 102            | Rock Snare 1          | RockSn1  |
| 103            | Rock Snare Rim 1      | RockSnR1 |
| 104            | Rock Snare 2          | RockSn2  |
| 105            | Rock Snare 3          | RockSn3  |
| 106            | Room Snare 1          | RoomSn1  |
| 107            | Room Snare 2          | RoomSn2  |
| 108            | Room Snare 3          | RoomSn3  |
| 109            | Jazz Snare 1          | JazzSn1  |
| 110            | Jazz Snare Rim 1      | JazzSnR1 |
| 111            | Jazz Snare 2          | JazzSn2  |
| 112            | Jazz Snare Rim 2      | JazzSnR2 |
| 113            | Jazz Latin Snare      | JzLtsn   |
| 114            | Big Band Snare        | BigBdSn  |
| 115            | Camco Snare           | CamoSn   |
| 116            | Camco Snare Rim       | CamoSnR  |
| 117            | Brush Snare 1         | BrushSn1 |
| 118            | Brush Snare 2         | BrushSn2 |
| 119            | Brush Snare Rim       | BrushSnR |
| 120            | Funk Snare 1          | FunkSn   |
| 121            | Funk Stick            | FunkSt   |
| 122            | Funk Band Snare Stick | FuBdSnSt |
| 123            | Funk Band Snare       | FuBdSn   |
| 124            | Funk Band Snare Rim   | FuBdSnR  |
| 125            | Fusion Snare          | FusionSn |
| 126            | Fusion Snare Stick    | FusnSnSt |
| 127            | Snare Stick           | SnareSt  |
| 128            | Power Snare           | PowerSn  |
| 129            | Ringo Snare           | RingoSn  |
| 130            | Ringo Snare Rim       | RingoSnR |
| 131            | HipHop Snare 1        | HipHpSn1 |
| 132            | HipHop Snare 2        | HipHpSn2 |
| 133            | 506 Snare 1           | 506Sn1   |
| 134            | 506 Snare Rim 1       | 506SnR1  |
| 135            | 506 Snare 2           | 506Sn2   |

|     |                      |          |
|-----|----------------------|----------|
| 136 | 506 Snare Rim 2      | 506SnR2  |
| 137 | 1969 Snare           | 1969Sn   |
| 138 | 1969 Snare Rim       | 1969SnR  |
| 139 | 1971 Snare           | 1971Sn   |
| 140 | 1971 Snare Rim       | 1971SnR  |
| 141 | 1976 Snare           | 1976Sn   |
| 142 | 1976 Snare Rim       | 1976SnR  |
| 143 | R&B Snare            | R&BSn    |
| 144 | R&B Snare Stick      | R&BSnSt  |
| 145 | Low Fi Snare         | LowFiSn  |
| 146 | Low Fi Snare Stick   | LoFiSnSt |
| 147 | Voice Snare          | VoiceSn  |
| 148 | Voice Snare Rim      | VoiceSnR |
| 149 | Acoustic Snare 1     | AcoutSn1 |
| 150 | Acoustic Snare 2     | AcoutSn2 |
| 151 | Acoustic Snare 3     | AcoutSn3 |
| 152 | Acoustic Snare 4     | AcoutSn4 |
| 153 | Acoustic Snare 5     | AcoutSn5 |
| 154 | Acoustic Snare 6     | AcoutSn6 |
| 155 | Acoustic Snare 7     | AcoutSn7 |
| 156 | House Snare 1        | HouseSn1 |
| 157 | House Snare 2        | HouseSn2 |
| 158 | House Snare 3        | HouseSn3 |
| 159 | House Snare 4        | HouseSn4 |
| 160 | Step Snare           | StepSn   |
| 161 | Step Snare Stick     | StepSnSt |
| 162 | Teckno Snare 1       | TechSn1  |
| 163 | Teckno Snare 2       | TechSn2  |
| 164 | 808 Snare            | 808Sn    |
| 165 | 909 Snare            | 909Sn    |
| 166 | Industry Snare       | IndustSn |
| 167 | Industry Snare Stick | InduSnSt |
| 168 | Drum & Bass Snare 1  | D&BSn1   |
| 169 | Drum & Bass Snare 2  | D&BSn2   |
| 170 | Junkyard Snare       | JukySn   |
| 171 | Junkyard Snare Stick | JukySnSt |
| 172 | Noise Snare          | NoiseSn  |
| 173 | 606 Snare            | 606Sn    |
| 174 | Electronic Snare 1   | ElecSn1  |
| 175 | Electronic Snare 2   | ElecSn2  |
| 176 | Electronic Snare 3   | ElecSn3  |
| 177 | Electronic Snare 4   | ElecSn4  |
| 178 | Electronic Snare 5   | ElecSn5  |
| 179 | Electronic Snare 6   | ElecSn6  |
| 180 | Electronic Snare 7   | ElecSn7  |
| 181 | Electronic Snare 8   | ElecSn8  |
| 182 | Electronic Snare 9   | ElecSn9  |
| 183 | Electronic Snare 10  | ElecSn10 |
| 184 | Electronic Snare 11  | ElecSn11 |
| 185 | Electronic Snare 12  | ElecSn12 |
| 186 | Electronic Snare 13  | ElecSn13 |
| 187 | Electronic Snare 14  | ElecSn14 |
| 188 | Electronic Snare 15  | ElecSn15 |
| 189 | Electronic Snare 16  | ElecSn16 |
| 190 | Electronic Snare 17  | ElecSn17 |
| 191 | Electronic Snare 18  | ElecSn18 |
| 192 | Electronic Snare 19  | ElecSn19 |
| 193 | Electronic Snare 20  | ElecSn20 |
| 194 | Electronic Snare 21  | ElecSn21 |
| 195 | Electronic Snare 22  | ElecSn22 |
| 196 | Electronic Snare 23  | ElecSn23 |
| 197 | Electronic Snare 24  | ElecSn24 |
| 198 | Electronic Snare 25  | ElecSn25 |
| 199 | Electronic Snare 26  | ElecSn26 |
| 200 | Electronic Snare 27  | ElecSn27 |
| 201 | Electronic Snare 28  | ElecSn28 |
| 202 | Electronic Snare 29  | ElecSn29 |
| 203 | Electronic Snare 30  | ElecSn30 |
| 204 | Electronic Snare 31  | ElecSn31 |



## Drum Voice List

|              |                     |          |
|--------------|---------------------|----------|
| 205          | Electronic Snare 32 | ElecSn32 |
| 206          | Electronic Snare 33 | ElecSn33 |
| <b>TOM 1</b> |                     |          |
| 207          | Classic 1 Tom 1     | Cls1Tm1  |
| 208          | Classic 1 Tom Rim 1 | Cls1TmR1 |
| 209          | Classic 1 Tom 2     | Cls1Tm2  |
| 210          | Classic 1 Tom Rim 2 | Cls1TmR2 |
| 211          | Classic 1 Tom 3     | Cls1Tm3  |
| 212          | Classic 1 Tom Rim 3 | Cls1TmR3 |
| 213          | Classic 1 Tom 4     | Cls1Tm4  |
| 214          | Classic 1 Tom Rim 4 | Cls1TmR4 |
| 215          | Classic 1 Tom 5     | Cls1Tm5  |
| 216          | Classic 1 Tom Rim 5 | Cls1TmR5 |
| 217          | Classic 1 Tom 6     | Cls1Tm6  |
| 218          | Classic 1 Tom Rim 6 | Cls1TmR6 |
| 219          | Classic 2 Tom 1     | Cls2Tm1  |
| 220          | Classic 2 Tom Rim 1 | Cls2TmR1 |
| 221          | Classic 2 Tom 2     | Cls2Tm2  |
| 222          | Classic 2 Tom Rim 2 | Cls2TmR2 |
| 223          | Classic 2 Tom 3     | Cls2Tm3  |
| 224          | Classic 2 Tom Rim 3 | Cls2TmR3 |
| 225          | Classic 2 Tom 4     | Cls2Tm4  |
| 226          | Classic 2 Tom Rim 4 | Cls2TmR4 |
| 227          | Classic 2 Tom 5     | Cls2Tm5  |
| 228          | Classic 2 Tom Rim 5 | Cls2TmR5 |
| 229          | Classic 2 Tom 6     | Cls2Tm6  |
| 230          | Classic 2 Tom Rim 6 | Cls2TmR6 |
| 231          | Camco Tom 1         | CamcoTm1 |
| 232          | Camco Tom 2         | CamcoTm2 |
| 233          | Camco Tom 3         | CamcoTm3 |
| 234          | Camco Tom 4         | CamcoTm4 |
| 235          | Camco Tom 5         | CamcoTm5 |
| 236          | Camco Tom 6         | CamcoTm6 |
| 237          | Acoustic Tom 1      | AcouTm1  |
| 238          | Acoustic Tom Rim 1  | AcouTmR1 |
| 239          | Acoustic Tom 2      | AcouTm2  |
| 240          | Acoustic Tom Rim 2  | AcouTmR2 |
| 241          | Acoustic Tom 3      | AcouTm3  |
| 242          | Acoustic Tom Rim 3  | AcouTmR3 |
| 243          | Acoustic Tom 4      | AcouTm4  |
| 244          | Acoustic Tom Rim 4  | AcouTmR4 |
| 245          | Acoustic Tom 5      | AcouTm5  |
| 246          | Acoustic Tom Rim 5  | AcouTmR5 |
| 247          | Acoustic Tom 6      | AcouTm6  |
| 248          | Acoustic Tom Rim 6  | AcouTmR6 |
| 249          | Standard Tom 1      | StandTm1 |
| 250          | Standard Tom 2      | StandTm2 |
| 251          | Standard Tom 3      | StandTm3 |
| 252          | Standard Tom 4      | StandTm4 |
| 253          | Standard Tom 5      | StandTm5 |
| 254          | Standard Tom 6      | StandTm6 |
| 255          | Rock Tom 1          | RockTm1  |
| 256          | Rock Tom 2          | RockTm2  |
| 257          | Rock Tom 3          | RockTm3  |
| 258          | Rock Tom 4          | RockTm4  |
| 259          | Rock Tom 5          | RockTm5  |
| 260          | Rock Tom 6          | RockTm6  |
| 261          | Room Tom 1          | RoomTm1  |
| 262          | Room Tom 2          | RoomTm2  |
| 263          | Room Tom 3          | RoomTm3  |
| 264          | Room Tom 4          | RoomTm4  |
| 265          | Room Tom 5          | RoomTm5  |
| 266          | Room Tom 6          | RoomTm6  |
| 267          | Timpani             | Timpani  |
| 268          | Funk Tom 1          | FunkTm1  |
| 269          | Funk Tom 2          | FunkTm2  |
| 270          | Funk Tom 3          | FunkTm3  |
| 271          | Fusion Tom 1        | FusnTm1  |
| 272          | Fusion Tom 2        | FusnTm2  |

|     |                   |          |
|-----|-------------------|----------|
| 273 | Fusion Tom 3      | FusnTm3  |
| 274 | 1969 Tom 1        | 1969Tm1  |
| 275 | 1969 Tom 2        | 1969Tm2  |
| 276 | 1969 Tom 3        | 1969Tm3  |
| 277 | 1971 Tom 1        | 1971Tm1  |
| 278 | 1971 Tom 2        | 1971Tm2  |
| 279 | 1971 Tom 3        | 1971Tm3  |
| 280 | 1976 Tom 1        | 1976Tm1  |
| 281 | 1976 Tom 2        | 1976Tm2  |
| 282 | 1976 Tom 3        | 1976Tm3  |
| 283 | HipHop Tom 1      | HipHpTm1 |
| 284 | HipHop Tom 2      | HipHpTm2 |
| 285 | HipHop Tom 3      | HipHpTm3 |
| 286 | HipHop Tom 4      | HipHpTm4 |
| 287 | HipHop Tom 5      | HipHpTm5 |
| 288 | HipHop Tom 6      | HipHpTm6 |
| 289 | Jazz 1 Tom 1      | Jazz1Tm1 |
| 290 | Jazz 1 Tom 2      | Jazz1Tm2 |
| 291 | Jazz 1 Tom 3      | Jazz1Tm3 |
| 292 | Jazz 2 Tom 1      | Jazz2Tm1 |
| 293 | Jazz 2 Tom 2      | Jazz2Tm2 |
| 294 | Jazz 2 Tom 3      | Jazz2Tm3 |
| 295 | Jazz 2 Tom 4      | Jazz2Tm4 |
| 296 | Jazz 2 Tom 5      | Jazz2Tm5 |
| 297 | Jazz 2 Tom 6      | Jazz2Tm6 |
| 298 | Brush 1 Tom 1     | Bsh1Tm1  |
| 299 | Brush 1 Tom 2     | Bsh1Tm2  |
| 300 | Brush 1 Tom 3     | Bsh1Tm3  |
| 301 | Brush 1 Tom 4     | Bsh1Tm4  |
| 302 | Brush 1 Tom 5     | Bsh1Tm5  |
| 303 | Brush 1 Tom 6     | Bsh1Tm6  |
| 304 | Brush 2 Tom 1     | Bsh2Tm1  |
| 305 | Brush 2 Tom Rim 1 | Bsh2TmR1 |
| 306 | Brush 2 Tom 2     | Bsh2Tm2  |
| 307 | Brush 2 Tom Rim 2 | Bsh2TmR2 |
| 308 | Brush 2 Tom 3     | Bsh2Tm3  |
| 309 | Brush 2 Tom Rim 3 | Bsh2TmR3 |
| 310 | Brush 2 Tom 4     | Bsh2Tm4  |
| 311 | Brush 2 Tom Rim 4 | Bsh2TmR4 |
| 312 | Brush 2 Tom 5     | Bsh2Tm5  |
| 313 | Brush 2 Tom Rim 5 | Bsh2TmR5 |
| 314 | Brush 2 Tom 6     | Bsh2Tm6  |
| 315 | Brush 2 Tom Rim 6 | Bsh2TmR6 |
| 316 | Tom Rim           | TomRim   |
| 317 | 606 Tom 1         | 606Tm1   |
| 318 | 606 Tom 2         | 606Tm2   |
| 319 | 606 Tom 3         | 606Tm3   |
| 320 | 606 Tom 4         | 606Tm4   |
| 321 | 606 Tom 5         | 606Tm5   |
| 322 | 606 Tom 6         | 606Tm6   |
| 323 | 808 Tom 1         | 808Tm1   |
| 324 | 808 Tom 2         | 808Tm2   |
| 325 | 808 Tom 3         | 808Tm3   |
| 326 | 808 Tom 4         | 808Tm4   |
| 327 | 808 Tom 5         | 808Tm5   |
| 328 | 808 Tom 6         | 808Tm6   |
| 329 | Electronic Tom 1  | ElectTm1 |
| 330 | Electronic Tom 2  | ElectTm2 |
| 331 | Electronic Tom 3  | ElectTm3 |
| 332 | Electronic Tom 4  | ElectTm4 |
| 333 | Electronic Tom 5  | ElectTm5 |
| 334 | Electronic Tom 6  | ElectTm6 |
| 335 | Step Tom 1        | StepTm1  |
| 336 | Step Tom 2        | StepTm2  |
| 337 | Step Tom 3        | StepTm3  |
| 338 | 909 Tom 1         | 909Tm1   |
| 339 | 909 Tom 2         | 909Tm2   |
| 340 | 909 Tom 3         | 909Tm3   |
| 341 | Junkyard Tom 1    | JunkyTm1 |

|                |                       |           |
|----------------|-----------------------|-----------|
| 342            | Junkyard Tom 2        | JunkyTm2  |
| 343            | Junkyard Tom 3        | JunkyTm3  |
| 344            | Noise Tom 1           | NoiseTm1  |
| 345            | Noise Tom 2           | NoiseTm2  |
| 346            | Noise Tom 3           | NoiseTm3  |
| 347            | Voice Tom 1           | VoiceTm1  |
| 348            | Voice Tom 2           | VoiceTm2  |
| 349            | Voice Tom 3           | VoiceTm3  |
| 350            | Industry Tom 1        | InduTm1   |
| 351            | Industry Tom 2        | InduTm2   |
| 352            | Industry Tom 3        | InduTm3   |
| <b>RIDE 1</b>  |                       |           |
| 353            | Standard 20" Ride     | Std20Rd   |
| 354            | Standard 22" Ride     | Std22Rd   |
| 355            | Standard Ride Bell    | StdRdBI   |
| 356            | Rock Ride             | RockRd    |
| 357            | Rock Bell 1           | RockBI1   |
| 358            | Rock Ride 1           | RockRd1   |
| 359            | Rock Bell 2           | RockBI2   |
| 360            | Dry Ride Bell 2       | DryRdBI2  |
| 361            | Vintage Ride 1        | VintgRd1  |
| 362            | Vintage Ride 2        | VintgRd2  |
| 363            | 60's Ride 1           | 60'sRd1   |
| 364            | 60's Ride 2           | 60'sRd2   |
| 365            | Clean Pop Ride 1      | ClnPpRd1  |
| 366            | Clean Pop Ride Bell 1 | PopRdBI1  |
| 367            | Clean Pop Ride 2      | ClnPpRd2  |
| 368            | Clean Pop Ride Bell 2 | PopRdBI2  |
| 369            | Light Flat Ride 1     | LigFIRd1  |
| 370            | Light Flat Ride 2     | LigFIRd2  |
| 371            | Flat Ride 1           | FlatRd1   |
| 372            | Flat Ride 2           | FlatRd2   |
| 373            | Teckno Ride 1         | TechRd1   |
| 374            | Teckno Ride 2         | TechRd2   |
| 375            | Junkyard Break 1      | JyBreak1  |
| 376            | Junkyard Break 2      | JyBreak2  |
| 377            | Junkyard Metal 1      | JyMetal1  |
| 378            | Junkyard Metal 2      | JyMetal2  |
| 379            | Classic Ride 1        | ClasRd1   |
| 380            | Classic Ride Bell 1   | ClasRdBI1 |
| 381            | Classic Ride 2        | ClasRd2   |
| 382            | Classic Ride Bell 2   | ClasRdBI2 |
| 383            | Acoustic Ride 1       | AcouRd1   |
| 384            | Acoustic Ride Bell 1  | AcoRdBI1  |
| 385            | Acoustic Ride 2       | AcouRd2   |
| 386            | Acoustic Ride Bell 2  | AcoRdBI2  |
| 387            | Jazz Ride 1           | JazzRd1   |
| 388            | Jazz Ride Bell 1      | JazRdBI1  |
| 389            | Jazz Ride 2           | JazzRd2   |
| 390            | Jazz Ride Bell 2      | JazRdBI2  |
| 391            | Brush Ride 1          | BrshRd1   |
| 392            | Brush Ride Bell 1     | BrshRdBI1 |
| 393            | Mute Ride Bell        | MuteRdBI  |
| 394            | Ride Edge 1           | RideEg1   |
| 395            | Ride Edge 2           | RideEg2   |
| 396            | 60's Ride Rim         | 60'sRdR   |
| 397            | Clean Pop Ride Rim    | ClPopRdR  |
| 398            | Sky Ride Rim          | SkyRdR    |
| 399            | Classic Crash Bell 1  | ClcCrBI1  |
| 400            | Classic Crash Bell 2  | ClcCrBI2  |
| <b>CRASH 1</b> |                       |           |
| 401            | Standard Crash 1      | StdCr1    |
| 402            | Class China 1         | ClcChin1  |
| 403            | Class China 2         | ClcChin2  |
| 404            | Standard Crash 2      | StdCr2    |
| 405            | Standard Crash Bell 1 | StdCrBI1  |
| 406            | Standard Crash Bell 2 | StdCrBI2  |
| 407            | China 1               | China1    |
| 408            | Classic Crash 1       | ClassCr1  |

## Drum Voice List

|                |                                |           |
|----------------|--------------------------------|-----------|
| 409            | Classic Crash 2                | ClassCr2  |
| 410            | Classic Crash 3                | ClassCr3  |
| 411            | Classic Crash 4                | ClassCr4  |
| 412            | Splash 1                       | Splash1   |
| 413            | Splash Bell 1                  | SplasBl1  |
| 414            | Rock Crash 1                   | RockCr1   |
| 415            | Rock Splash 1                  | RkSplas1  |
| 416            | Jazz Splash 1                  | JzSplas1  |
| 417            | Jazz Splash Bell 1             | JzSpBl1   |
| 418            | Brush Crash                    | BrushCr   |
| 419            | Crystal Crash                  | CrystlCr  |
| 420            | Crystal Crash Bell             | CryCrBl   |
| 421            | China 2                        | China2    |
| 422            | China Low                      | ChinaLow  |
| 423            | Orchestra Hit 1                | OrHit1    |
| 424            | Orchestra Hit 2                | OrHit2    |
| 425            | Orchestra Hit Bell             | OrHitBl   |
| 426            | Drum & Bass Crash 1            | D&BCr1    |
| 427            | Drum & Bass Crash 2            | D&BCr2    |
| 428            | China 3                        | China3    |
| 429            | 606 Cymbal 1                   | 606Cr1    |
| 430            | 606 Cymbal 2                   | 606Cr2    |
| 431            | 808 Cymbal 1                   | 808Cr1    |
| 432            | 808 Cymbal 2                   | 808Cr2    |
| 433            | 909 Cymbal 1                   | 909Cr1    |
| 434            | 909 Cymbal 2                   | 909Cr2    |
| 435            | Junkyard Cymbal 1              | JunkyCr1  |
| 436            | Junkyard Cymbal 2              | JunkyCr2  |
| 437            | Cymbal Effect 1                | EffecCr1  |
| 438            | Cymbal Effect 2                | EffecCr2  |
| 439            | Laser Ray                      | LaserRay  |
| 440            | Drive By                       | DriveBy   |
| 441            | Industrial Short               | IndShort  |
| 442            | Industrial Long                | IndLong   |
| <b>HIHAT 1</b> |                                |           |
| 443            | Standard Hi-hat Open           | StdHHOp   |
| 444            | Standard 1 Hi-hat 2            | Std1HH2   |
| 445            | Standard 2 Hi-hat Open         | St2HHOp   |
| 446            | Standard 2 Hi-hat Open Rim     | St2HHOpR  |
| 447            | Rock Hi-hat Open               | RockHHOp  |
| 448            | Pop Hi-hat Open                | PopHHOp   |
| 449            | Pop Hi-hat Open Rim            | PopHHOpR  |
| 450            | Brush Hi-hat Open              | BrshHHOp  |
| 451            | 60's Hi-hat Open               | 60'sHHOp  |
| 452            | Mini Hi-hat Open               | MinHHOp   |
| 453            | Mini Hi-hat Open Rim           | MinHHOpR  |
| 454            | Classic Hi-hat Open 1          | ClshHHOp1 |
| 455            | Classic Hi-hat Open 2          | ClshHHOp2 |
| 456            | Camco Hi-hat Open              | CamHHOp   |
| 457            | Voice Hi-hat Open              | VoicHHOp  |
| 458            | House Hi-hat Open              | HousHHOp  |
| 459            | 606 Hi-hat Open                | 606HHOp   |
| 460            | 808 Hi-hat Open                | 808HHOp   |
| 461            | 909 Hi-hat Open                | 909HHOp   |
| 462            | Junkyard Hi-hat Open           | JukyHHOp  |
| 463            | Noise Hi-hat Open              | NoisHHOp  |
| 464            | Bass Hi-hat Open               | BassHHOp  |
| 465            | Standard Hi-hat Half Open      | StdHfOp   |
| 466            | Rock Hi-hat Half Open          | RockHfOp  |
| 467            | Pop Hi-hat Half Open           | PopHfOp   |
| 468            | Pop Hi-hat Half Open Rim       | PopHfOpR  |
| 469            | Brush Hi-hat Half Open         | BrshHfOp  |
| 470            | 60's Hi-hat Half Open          | 60'sHfOp  |
| 471            | Mini Hi-hat Half Open          | MinHfOp   |
| 472            | Mini Hi-hat Half Open Rim      | MinHfOpR  |
| 473            | Classic Hi-hat Half Open Rim 1 | ClHfOpR1  |
| 474            | Classic Hi-hat Half Open Rim 2 | ClHfOpR2  |
| 475            | Camco Hi-hat Half Open         | CamHfOp   |
| 476            | Junkyard Hi-hat Half Open Rim  | JyHfOpR   |

|                     |                          |           |
|---------------------|--------------------------|-----------|
| 477                 | Standard Hi-hat Close 1  | StdHHCs1  |
| 478                 | Standard Hi-hat Close 2  | StdHHCs2  |
| 479                 | Rock Hi-hat Close        | RockHHCs  |
| 480                 | Pop Hi-hat Close         | PopHHCs   |
| 481                 | Pop Hi-hat Close Rim     | PopHHCsR  |
| 482                 | Brush Hi-hat Close       | BrshHHCs  |
| 483                 | 60's Hi-hat Close        | 60'sHHCs  |
| 484                 | Mini Hi-hat Close        | MinHHCs   |
| 485                 | Mini Hi-hat Close Rim    | MinHHCsR  |
| 486                 | Classic Hi-hat Close 1   | ClshHHCs1 |
| 487                 | Classic Hi-hat Close 2   | ClshHHCs2 |
| 488                 | Classic Hi-hat Close Rim | ClshHHCsR |
| 489                 | Camco Hi-hat Close       | CamHHCs   |
| 490                 | Voice Hi-hat Close       | VoicHHCs  |
| 491                 | House Hi-hat Close       | HousHHCs  |
| 492                 | 606 Hi-hat Close         | 606HHCs   |
| 493                 | 808 Hi-hat Close         | 808HHCs   |
| 494                 | 909 Hi-hat Close         | 909HHCs   |
| 495                 | Junkyard Hi-hat Close    | JukyHHCs  |
| 496                 | Noise Hi-hat Close       | NoisHHCs  |
| 497                 | Bass Hi-hat Close        | BashHHCs  |
| 498                 | Standard Hi-hat Pedal 1  | StdHHPd1  |
| 499                 | Standard Hi-hat Pedal 2  | StdHHPd2  |
| 500                 | Rock Hi-hat Pedal        | RockHHPd  |
| 501                 | Pop Hi-hat Pedal         | PopHHPd   |
| 502                 | Brush Hi-hat Pedal       | BrshHHPd  |
| 503                 | 60's Hi-hat Pedal        | 60'sHHPd  |
| 504                 | Mini Hi-hat Pedal        | MiniHHPd  |
| 505                 | Classic Hi-hat Pedal 1   | ClshHHPd1 |
| 506                 | Classic Hi-hat Pedal 2   | ClshHHPd2 |
| 507                 | Camco Hi-hat Pedal       | CamHHPd   |
| 508                 | Voice Hi-hat Pedal       | VoicHHPd  |
| 509                 | House Hi-hat Pedal       | HousHHPd  |
| 510                 | 606 Hi-hat Pedal         | 606HHPd   |
| 511                 | 808 Hi-hat Pedal         | 808HHPd   |
| 512                 | Junkyard Hi-hat Pedal    | JukyHHPd  |
| 513                 | Noise Hi-hat Pedal       | NoisHHPd  |
| 514                 | Bass Hi-hat Pedal        | BassHHPd  |
| 515                 | Hi-hat Splash            | HHSplash  |
| 516                 | Pop Splash               | PopSp     |
| 517                 | Mini Splash              | MiniSp    |
| 518                 | Classic Splash 1         | ClassSp1  |
| 519                 | Classic Splash 2         | ClassSp2  |
| 520                 | Mute                     | Mute      |
| <b>PERCUSSION 1</b> |                          |           |
| 521                 | Scratch                  | Scratch   |
| 522                 | Scratch Push             | ScratchP  |
| 523                 | DJ Electronic FX         | DJEFX     |
| 524                 | High Q                   | HighQ     |
| 525                 | Ding Bell                | DingBl    |
| 526                 | Finger Slaps             | FingeSlp  |
| 527                 | Standard Clap            | StdClap   |
| 528                 | Tambourine               | Tambour   |
| 529                 | Vibra-slap               | Vibraslp  |
| 530                 | Agogo High               | AgogoHi   |
| 531                 | Agogo Low                | AgogoLo   |
| 532                 | Bell Tree 1              | BlTree 1  |
| 533                 | Bongo High               | BongoHi   |
| 534                 | Bongo Low                | BongoLo   |
| 535                 | Shaker                   | Shaker    |
| 536                 | Conga Slap High          | CgslpHi   |
| 537                 | Conga Slap Low           | CgslpLo   |
| 538                 | Electronic Conga Low     | ElecCgLo  |
| 539                 | Open Conga               | OpCga     |
| 540                 | Conga Slap               | Cgaslp    |
| 541                 | Cowbell                  | Cowbell   |
| 542                 | Timbale High             | TimbHi    |
| 543                 | Timbale Low              | TimbLo    |
| 544                 | Timpani High             | TimpHi    |

|               |                 |           |
|---------------|-----------------|-----------|
| 545           | Timpani Low     | TimpLo    |
| 546           | Open Tabla High | OpTblHi   |
| 547           | Open Tabla Low  | OpTblLo   |
| 548           | Tabla Slap      | SlpTbl    |
| 549           | Mute Tabla Slap | MtSlpTbl  |
| 550           | Cabasa          | Cabasa    |
| 551           | Maracas 1       | Mara 1    |
| 552           | Short Whistle   | Whistle   |
| 553           | Short Guiro     | StGuiro   |
| 554           | Long Guiro      | LgGuiro   |
| 555           | Claves          | Claves    |
| 556           | Wood Block      | WoodBl    |
| 557           | Mute Cuica      | MtCuica   |
| 558           | Open Cuica      | OpCuica   |
| 559           | Mute Triangle   | MtTria    |
| 560           | Open Triangle   | OpTria    |
| 561           | Sleigh Bells 1  | SlgBl1    |
| 562           | Wind Chimes     | WindCh    |
| 563           | Castanets 1     | Cst1      |
| 564           | Mute Surdo      | MtSurdo   |
| 565           | Open Surdo      | OpSurdo   |
| 566           | Lotus Drum      | LotusDrum |
| 567           | Cowbell 1       | Cowbel1   |
| <b>INDIAN</b> |                 |           |
| 568           | Bayao 1         | Bayao1    |
| 569           | Bayao 2         | Bayao2    |
| 570           | Bayao Mute 1    | BayaoM1   |
| 571           | Bayao Mute 2    | BayaoM2   |
| 572           | Bayao Mute 3    | BayaoM3   |
| 573           | Tabla 1         | Tabla1    |
| 574           | Tabla 2         | Tabla2    |
| 575           | Tabla 3         | Tabla3    |
| 576           | Tabla 4         | Tabla4    |
| 577           | Tabla 5         | Tabla5    |
| 578           | Tabla 6         | Tabla6    |
| 579           | Tabla 7         | Tabla7    |
| 580           | Tabla 8         | Tabla8    |
| 581           | Tabla 9         | Tabla9    |
| 582           | Tabla 10        | Tabla10   |
| 583           | Tabla 11        | Tabla11   |
| 584           | Tabla 12        | Tabla12   |
| 585           | Tabla 13        | Tabla13   |
| 586           | Tabla 14        | Tabla14   |
| 587           | Tabla 15        | Tabla15   |
| 588           | Tabla 16        | Tabla16   |
| 589           | Tabla 17        | Tabla17   |
| 590           | Tabla 18        | Tabla18   |
| 591           | Tabla 19        | Tabla19   |
| 592           | Tabla 20        | Tabla20   |
| 593           | Tabla 21        | Tabla21   |
| 594           | Tabla 22        | Tabla22   |
| 595           | Tabla 23        | Tabla23   |
| 596           | Tabla 24        | Tabla24   |
| 597           | Tabla 25        | Tabla25   |
| 598           | Tabla 26        | Tabla26   |
| 599           | Tabla 27        | Tabla27   |
| 600           | Tabla 28        | Tabla28   |
| 601           | Tabla 29        | Tabla29   |
| 602           | Tabla 30        | Tabla30   |
| 603           | Dholak          | Dholak    |
| 604           | Mouth Tabla     | MoTabla   |
| 605           | Mridangam       | Mridang   |
| 606           | Sitar           | Sitar     |
| 607           | Veena           | Veena     |
| 608           | Bhangra Beat    | BhgaBt    |
| 609           | Bhangra         | Bhga      |
| 610           | Chenda          | Chenda    |
| 611           | Chimta Beat     | CmtaBt    |
| 612           | Dhol 1          | Dhol 1    |



## Drum Voice List

|     |                    |           |
|-----|--------------------|-----------|
| 613 | Dhol 2             | Dhol2     |
| 614 | Dhol 3             | Dhol3     |
| 615 | Dhol 4             | Dhol4     |
| 616 | Dhol 5             | Dhol5     |
| 617 | Dhol 6             | Dhol6     |
| 618 | Dhol 7             | Dhol7     |
| 619 | Dhol Beat          | DholBt    |
| 620 | Dholak 1           | Dhlk1     |
| 621 | Dholak 2           | Dhlk2     |
| 622 | Dholak 3           | Dhlk3     |
| 623 | Dholak Beat        | DhlkBt    |
| 624 | Dilruba 1          | Dlrba1    |
| 625 | Dilruba 2          | Dlrba2    |
| 626 | Dlrba 3            | Dlrba3    |
| 627 | Dotara 1           | Dotara1   |
| 628 | Dotara 2           | Dotara2   |
| 629 | Dotara 3           | Dotara3   |
| 630 | Duff 1             | Duff1     |
| 631 | Duff 2             | Duff2     |
| 632 | Duff 3             | Duff3     |
| 633 | Duff Beat          | Duff Beat |
| 634 | Esraj 1            | Esraj1    |
| 635 | Esraj 2            | Esraj2    |
| 636 | Gada Singari 1     | Gadas1    |
| 637 | Gada Singari 2     | Gadas2    |
| 638 | Ghatam 1           | Ghatam1   |
| 639 | Ghatam 2           | Ghatam2   |
| 640 | Ghungroo 1         | Ghgro1    |
| 641 | Ghungroo 2         | Ghgro2    |
| 642 | Ghungroo Beat      | Ghgrob1   |
| 643 | Hindu Temple Bell  | Hdutbl    |
| 644 | Ind A Haa          | IndAHaa   |
| 645 | Ind Hey            | IndHey    |
| 646 | Ind Ho             | IndHo     |
| 647 | Ind O Ho           | IndOHo    |
| 648 | Ind Oye            | IndOye    |
| 649 | Ind Tak Dhina Dhin | Dhinadn   |
| 650 | Jal Tarang 1       | JalTrg1   |
| 651 | Jal Tarang 2       | JalTrg2   |
| 652 | Jal Tarang 3       | JalTrg3   |
| 653 | Kanjira 1          | Kjira1    |
| 654 | Kanjira 2          | Kjira2    |
| 655 | Kartal             | Kartal    |
| 656 | Khanjira Beat      | KhjBt     |
| 657 | Khanjira 1         | Khj1      |
| 658 | Khanjira 2         | Khj2      |
| 659 | Khol 1             | Khol1     |
| 660 | Khol 2             | Khol2     |
| 661 | Khol 3             | Khol3     |
| 662 | Khol 4             | Khol4     |
| 663 | Khomak 1           | Khmk1     |
| 664 | Khomak 2           | Khmk2     |
| 665 | Khomak 3           | Khmk3     |
| 666 | Lp Ds Beat         | Lpdsbt    |
| 667 | Madal 1            | Madal1    |
| 668 | Madal 2            | Madal2    |
| 669 | Madal 3            | Madal3    |
| 670 | Madal 4            | Madal4    |
| 671 | Madal 5            | Madal5    |
| 672 | Madal 6            | Madal6    |
| 673 | Madal 7            | Madal7    |
| 674 | Madal Beat         | Madalbt   |
| 675 | Mathalam 1         | Mathlm1   |
| 676 | Mathalam 2         | Mathlm2   |
| 677 | Moresing 1         | Mrsg1     |

|                      |                   |          |
|----------------------|-------------------|----------|
| 678                  | Moresing 2        | Mrsg2    |
| 679                  | Moresing 3        | Mrsg3    |
| 680                  | Mridangam 1       | Mrdgm1   |
| 681                  | Mridangam 2       | Mrdgm2   |
| 682                  | Mridangam 3       | Mrdgm3   |
| 683                  | Mutka             | Mutka    |
| 684                  | Naal 1            | Naal1    |
| 685                  | Naal 2            | Naal2    |
| 686                  | Naqqara 1         | Nqra1    |
| 687                  | Naqqara 2         | Nqra2    |
| 688                  | Pakhawaj 1        | Pkhwj1   |
| 689                  | Pakhawaj 2        | Pkhwj2   |
| 690                  | Piccolo           | Piccolo  |
| 691                  | Pungi             | Pungi    |
| 692                  | Rajasthani Beat 1 | Rjsnbt1  |
| 693                  | Rajasthani Beat 2 | Rjsnbt2  |
| 694                  | Santoor 1         | Stor1    |
| 695                  | Santoor 2         | Stor2    |
| 696                  | Santoor 3         | Stor3    |
| 697                  | Santoor 4         | Stor4    |
| 698                  | Santoor Beat      | Storbt   |
| 699                  | Sarod 1           | Sarod1   |
| 700                  | Sarod 2           | Sarod2   |
| 701                  | Sarod 3           | Sarod3   |
| 702                  | Sarod 4           | Sarod4   |
| 703                  | Shankh            | Shankh   |
| 704                  | Sitar 1           | Sitar1   |
| 705                  | Sitar 2           | Sitar2   |
| 706                  | Taal Beat         | Talbt    |
| 707                  | Tango Beat        | Tgobt    |
| 708                  | Tribal Beat       | Trblbt   |
| 709                  | Tweeks Beat       | Twksbt   |
| 710                  | Udukai 1          | Udukai1  |
| 711                  | Udukai 2          | Udukai2  |
| 712                  | Udukai 3          | Udukai3  |
| 713                  | Veena 1           | Veena1   |
| 714                  | Veena 2           | Veena2   |
| <b>MELODIC SOUND</b> |                   |          |
| 715                  | Celesta 1         | Celesta1 |
| 716                  | Celesta 2         | Celesta2 |
| 717                  | Marimba 1         | Marimba1 |
| 718                  | Marimba 2         | Marimba2 |
| 719                  | Choir Aahs 1      | ChoirAh1 |
| 720                  | Choir Aahs 2      | ChoirAh2 |
| 721                  | Voice Oohs 1      | VoiceOh1 |
| 722                  | Voice Oohs 2      | VoiceOh2 |
| 723                  | Xylophone 1       | Xylopho1 |
| 724                  | Xylophone 2       | Xylopho2 |
| 725                  | Melodic Tom 1     | MeloTom1 |
| 726                  | Melodic Tom 2     | MeloTom2 |
| 727                  | Music Box 1       | MusicBx1 |
| 728                  | Music Box 2       | MusicBx2 |
| 729                  | Steel Drums 1     | SteelDr1 |
| 730                  | Steel Drums 2     | SteelDr2 |
| <b>SFX 1</b>         |                   |          |
| 731                  | Saw Wave          | FX1      |
| 732                  | China Gong        | FX2      |
| 733                  | Dj Cut 1          | FX3      |
| 734                  | Dj Chikah         | FX4      |
| 735                  | Dj Rub 1          | FX5      |
| 736                  | Dj Rub 2          | FX6      |
| 737                  | Guitar Short Chop | FX7      |
| 738                  | Guitar Mute 1     | FX8      |
| 739                  | Guitar Mute 2     | FX9      |
| 740                  | Guitar Mute 3     | FX10     |
| 741                  | Guitar Chop 1     | FX11     |

|     |                     |      |
|-----|---------------------|------|
| 742 | Guitar Chop 2       | FX12 |
| 743 | Hi Q Zap            | FX13 |
| 744 | Gun Shot 1          | FX14 |
| 745 | Dj Rub 3            | FX15 |
| 746 | Dj Rub 4            | FX16 |
| 747 | Drum Stick          | FX17 |
| 748 | Laser Gun           | FX18 |
| 749 | Mouse Click         | FX19 |
| 750 | Cow Bell            | FX20 |
| 751 | Guitar Wipe Strings | FX21 |
| 752 | Guitar Mute 4       | FX22 |
| 753 | Guitar Mute 5       | FX23 |
| 754 | Guitar Mute 6       | FX24 |
| 755 | Finger Snap         | FX25 |
| 756 | Girl Laugh          | FX26 |
| 757 | Scream              | FX27 |
| 758 | Double Punch        | FX28 |
| 759 | Heartbeat           | FX29 |
| 760 | Footstep 1          | FX30 |
| 761 | Footstep 2          | FX31 |
| 762 | Clapping            | FX32 |
| 763 | Open Door           | FX33 |
| 764 | Close Door          | FX34 |
| 765 | Dj Rub 5            | FX35 |
| 766 | Fx 1                | FX36 |
| 767 | Engine Start        | FX37 |
| 768 | Car Brake           | FX38 |
| 769 | Car Rushing         | FX39 |
| 770 | Whomp 1             | FX40 |
| 771 | Cricket             | FX41 |
| 772 | Train               | FX42 |
| 773 | Whomp 2             | FX43 |
| 774 | Helicopter          | FX44 |
| 775 | Hit 1               | FX45 |
| 776 | Hit 2               | FX46 |
| 777 | Spring              | FX47 |
| 778 | Fx 2                | FX48 |
| 779 | Boom                | FX49 |
| 780 | Dog                 | FX50 |
| 781 | Clippety-Clop       | FX51 |
| 782 | Bird Tweet          | FX52 |
| 783 | Leaves Rustling     | FX53 |
| 784 | Thunder             | FX54 |
| 785 | Echo                | FX55 |
| 786 | Burst               | FX56 |
| 787 | Stream              | FX57 |
| 788 | Drain               | FX58 |
| 789 | Cat                 | FX59 |
| 790 | Baby Bird           | FX60 |
| 791 | Tigger              | FX61 |
| 792 | Cheer 1             | FX62 |
| 793 | Ring                | FX63 |
| 794 | Tower Bell          | FX64 |
| 795 | Clap 1              | FX65 |
| 796 | Clap 2              | FX66 |
| 797 | Cheer 2             | FX67 |
| 798 | Bomb                | FX68 |
| 799 | Gun Shot 2          | FX69 |
| 800 | Train Drift Away    | FX70 |
| 801 | Dj Rub 6            | DJ1  |
| 802 | Dj Rub 7            | DJ2  |
| 803 | Dj Chop             | DJ3  |
| 804 | Dj Cut 2            | DJ4  |
| 805 | Dj Rub 8            | DJ5  |
| 806 | Dj Rub 9            | DJ6  |
| 807 | Dj Rub 10           | DJ7  |

## Drum Voice List

|                |           |         |
|----------------|-----------|---------|
| 808            | Dj Shot   | DJ8     |
| 809            | Dj Rub 11 | DJ9     |
| 810            | Dj Ehvit  | DJ10    |
| 811            | Loop 1    | DJ11    |
| 812            | Loop 2    | DJ12    |
| 813            | Loop 3    | DJ13    |
| 814            | One       | One     |
| 815            | Two       | Two     |
| 816            | Three     | Three   |
| 817            | Four      | Four    |
| 818            | Five      | Five    |
| 819            | Six       | Six     |
| 820            | Seven     | Seven   |
| 821            | Eight     | Eight   |
| 822            | Nine      | Nine    |
| 823            | Ti        | Ti      |
| 824            | Ta        | Ta      |
| 825            | Ei        | Ei      |
| 826            | An        | An      |
| 827            | E         | E       |
| <b>KICK 2</b>  |           |         |
| 828            | Kick 1    | Kk1     |
| 829            | Kick 2    | Kk2     |
| 830            | Kick 3    | Kk3     |
| 831            | Kick 4    | Kk4     |
| 832            | Kick 5    | Kk5     |
| 833            | Kick 6    | Kk6     |
| 834            | Kick 7    | Kk7     |
| 835            | Kick 8    | Kk8     |
| 836            | Kick 9    | Kk9     |
| 837            | Kick 10   | Kk10    |
| 838            | Kick 11   | Kk11    |
| 839            | Kick 12   | Kk12    |
| 840            | Kick 13   | Kk13    |
| 841            | Kick 14   | Kk14    |
| 842            | Kick 15   | Kk15    |
| 843            | Kick 16   | Kk16    |
| 844            | Kick 17   | Kk17    |
| 845            | Kick 18   | Kk18    |
| 846            | Kick 19   | Kk19    |
| 847            | Kick 20   | Kk20    |
| 848            | Kick 21   | Kk21    |
| 849            | Kick 22   | Kk22    |
| 850            | Kick 23   | Kk23    |
| 851            | Kick 24   | Kk24    |
| <b>SNARE 2</b> |           |         |
| 852            | Snare 1   | Snare1  |
| 853            | Snare 2   | Snare2  |
| 854            | Snare 3   | Snare3  |
| 855            | Snare 4   | Snare4  |
| 856            | Snare 5   | Snare5  |
| 857            | Snare 6   | Snare6  |
| 858            | Snare 7   | Snare7  |
| 859            | Snare 8   | Snare8  |
| 860            | Snare 9   | Snare9  |
| 861            | Snare 10  | Snare10 |
| 862            | Snare 11  | Snare11 |
| 863            | Snare 12  | Snare12 |
| 864            | Snare 13  | Snare13 |
| 865            | Snare 14  | Snare14 |
| 866            | Snare 15  | Snare15 |
| 867            | Snare 16  | Snare16 |
| 868            | Snare 17  | Snare17 |
| 869            | Snare 18  | Snare18 |
| 870            | Snare 19  | Snare19 |
| 871            | Snare 20  | Snare20 |

|                |           |         |
|----------------|-----------|---------|
| 872            | Snare 21  | Snare21 |
| 873            | Snare 22  | Snare22 |
| 874            | Snare 23  | Snare23 |
| 875            | Snare 24  | Snare24 |
| 876            | Snare 25  | Snare25 |
| 877            | Snare 26  | Snare26 |
| 878            | Snare 27  | Snare27 |
| 879            | Snare 28  | Snare28 |
| 880            | Snare 29  | Snare29 |
| 881            | Snare 30  | Snare30 |
| 882            | Snare 31  | Snare31 |
| 883            | Snare 32  | Snare32 |
| 884            | Snare 33  | Snare33 |
| 885            | Snare 34  | Snare34 |
| 886            | Snare 35  | Snare35 |
| 887            | Snare 36  | Snare36 |
| 888            | Snare 37  | Snare37 |
| 889            | Snare 38  | Snare38 |
| 890            | Snare 39  | Snare39 |
| 891            | Snare 40  | Snare40 |
| <b>TOM 2</b>   |           |         |
| 892            | Tom 1     | Tom1    |
| 893            | Tom 2     | Tom2    |
| 894            | Tom 3     | Tom3    |
| 895            | Tom 4     | Tom4    |
| 896            | Tom 5     | Tom5    |
| 897            | Tom 6     | Tom6    |
| 898            | Tom 7     | Tom7    |
| 899            | Tom 8     | Tom8    |
| 900            | Tom 9     | Tom9    |
| 901            | Tom 10    | Tom10   |
| 902            | Tom 11    | Tom11   |
| 923            | Tom 12    | Tom12   |
| 904            | Tom 13    | Tom13   |
| 905            | Tom 14    | Tom14   |
| 906            | Tom 15    | Tom15   |
| 907            | Tom 16    | Tom16   |
| 908            | Tom 17    | Tom17   |
| 909            | Tom 18    | Tom18   |
| <b>HIHAT 2</b> |           |         |
| 910            | Hi-Hat 1  | HH1     |
| 911            | Hi-Hat 2  | HH2     |
| 912            | Hi-Hat 3  | HH3     |
| 913            | Hi-Hat 4  | HH4     |
| 914            | Hi-Hat 5  | HH5     |
| 915            | Hi-Hat 6  | HH6     |
| 916            | Hi-Hat 7  | HH7     |
| 917            | Hi-Hat 8  | HH8     |
| 918            | Hi-Hat 9  | HH9     |
| 919            | Hi-Hat 10 | HH10    |
| 920            | Hi-Hat 11 | HH11    |
| 921            | Hi-Hat 12 | HH12    |
| 922            | Hi-Hat 13 | HH13    |
| 923            | Hi-Hat 14 | HH14    |
| 924            | Hi-Hat 15 | HH15    |
| 925            | Hi-Hat 16 | HH16    |
| 926            | Hi-Hat 17 | HH17    |
| 927            | Hi-Hat 18 | HH18    |
| 928            | Hi-Hat 19 | HH19    |
| 929            | Hi-Hat 20 | HH20    |
| 930            | Hi-Hat 21 | HH21    |
| 931            | Hi-Hat 22 | HH22    |
| 932            | Hi-Hat 23 | HH23    |
| 933            | Hi-Hat 24 | HH24    |
| <b>CRASH 2</b> |           |         |
| 934            | Crash 1   | Cr1     |

|                     |             |          |
|---------------------|-------------|----------|
| 935                 | Crash 2     | Cr2      |
| 936                 | Crash 3     | Cr3      |
| 937                 | Crash 4     | Cr4      |
| 938                 | Crash 5     | Cr5      |
| 939                 | Crash 6     | Cr6      |
| 940                 | Crash 7     | Cr7      |
| 941                 | Crash 8     | Cr8      |
| 942                 | Crash 9     | Cr9      |
| <b>RIDE 2</b>       |             |          |
| 943                 | Ride 1      | Rd1      |
| 944                 | Ride 2      | Rd2      |
| 945                 | Ride 3      | Rd3      |
| 946                 | Ride 4      | Rd4      |
| 947                 | Ride 5      | Rd5      |
| 948                 | Ride 6      | Rd6      |
| 949                 | Ride 7      | Rd7      |
| 950                 | Ride 8      | Rd8      |
| 951                 | Ride 9      | Rd9      |
| 952                 | Ride 10     | Rd10     |
| <b>PERCUSSION 2</b> |             |          |
| 953                 | Afro Drum   | Afdm     |
| 954                 | Atarigane   | Atrg     |
| 955                 | Agogo       | Agogo    |
| 956                 | Bs 1        | Bs1      |
| 957                 | Bs 2        | Bs2      |
| 958                 | Bs 3        | Bs3      |
| 959                 | Bs 4        | Bs4      |
| 960                 | Bs 5        | Bs5      |
| 961                 | Bs 6        | Bs6      |
| 962                 | Bell Tree 2 | BlTree2  |
| 963                 | Berimbau    | Brmu     |
| 964                 | Ban Gu      | BG       |
| 965                 | Bongo 1     | Bgo1     |
| 966                 | Bongo 2     | Bgo2     |
| 967                 | Bongo 3     | Bgo3     |
| 968                 | Bongo 4     | Bgo4     |
| 969                 | Bali Cymbal | BlCb     |
| 970                 | Bell        | Bell     |
| 971                 | Bd 1        | Bd1      |
| 972                 | Bd 2        | Bd2      |
| 973                 | Clap 3      | Clp3     |
| 974                 | Clap 4      | Clp4     |
| 975                 | Clap 5      | Clp5     |
| 976                 | Clap 6      | Clp6     |
| 977                 | Clap 7      | Clp7     |
| 978                 | Cowbell 2   | Cowbell2 |
| 979                 | Cowbell 3   | Cowbell3 |
| 980                 | Cowbell 4   | Cowbell4 |
| 981                 | Cowbell 5   | Cowbell5 |
| 982                 | Cowbell 6   | Cowbell6 |
| 983                 | Castanets 2 | Cst2     |
| 984                 | Conga 1     | Cga1     |
| 985                 | Conga 2     | Cga2     |
| 986                 | Conga 3     | Cga3     |
| 987                 | Conga 4     | Cga4     |
| 988                 | Conga 5     | Cga5     |
| 989                 | Conga 6     | Cga6     |
| 990                 | Conga 7     | Cga7     |
| 991                 | Conga 8     | Cga8     |
| 992                 | Cabasa 1    | Cabasa1  |
| 993                 | Claves 1    | Claves1  |
| 994                 | Claves 2    | Claves2  |
| 995                 | Claves 3    | Claves3  |
| 996                 | Claves 4    | Claves4  |
| 997                 | Claves 5    | Claves5  |
| 998                 | Clapstick   | Clpsk    |

## Drum Voice List

|     |                |          |
|-----|----------------|----------|
| A00 | Doholla 1      | Dhla1    |
| A01 | Doholla 2      | Dhla2    |
| A02 | Doholla 3      | Dhla3    |
| A03 | Doholla 4      | Dhla4    |
| A04 | Doholla 5      | Dhla5    |
| A05 | Darbuka 1      | Drbka1   |
| A06 | Darbuka 2      | Drbka2   |
| A07 | Drp            | Drp      |
| A08 | Doira          | Dra      |
| A09 | Djembe 1       | Djmb1    |
| A10 | Djembe 2       | Djmb2    |
| A11 | Djembe 3       | Djmb3    |
| A12 | Fall           | Fall     |
| A13 | Finger Cymba   | Fgcb     |
| A14 | Glockenspiel   | Glksp1   |
| A15 | Gong           | Gg       |
| A16 | Glass          | Gls      |
| A17 | Gengari        | Ggr      |
| A18 | Guero          | Guero    |
| A19 | Gu             | Gu       |
| A20 | Hand Clap 1    | Hdcp1    |
| A21 | Hand Clap 2    | Hdcp2    |
| A22 | Hyoshigi       | Hysg     |
| A23 | Ht 1           | Ht1      |
| A24 | Hu Yin         | Hyn      |
| A25 | Jaws Harp 1    | Jwhp1    |
| A26 | Jaws Harp 2    | Jwhp2    |
| A27 | Kalimba        | Klm      |
| A28 | Marimba 3      | Marimba3 |
| A29 | Marimba 4      | Marimba4 |
| A30 | Marimba 5      | Marimba5 |
| A31 | Maracas 2      | Mara1    |
| A32 | Matsuri        | Mtri     |
| A33 | Oht 1          | Ot1      |
| A34 | Oht 2          | Ot2      |
| A35 | Oht 3          | Ot3      |
| A36 | Oht 4          | Ot4      |
| A37 | Oht 5          | Ot5      |
| A38 | Oht 6          | Ot6      |
| A39 | Ohkawa         | Ohkw     |
| A40 | Pandeiro       | Pdro     |
| A41 | Rama Cymbal    | RmCb     |
| A42 | Rain Stick     | RnSk     |
| A43 | Sleigh Bells 2 | SlgBl2   |
| A44 | Sagat 1        | Sgt1     |
| A45 | Sagat 2        | Sgt2     |
| A46 | Shaker 1       | Shaker1  |
| A47 | Shaker 2       | Shaker2  |
| A48 | Shaker 3       | Shaker3  |
| A49 | Shekere        | Shekere  |
| A50 | Samba 1        | Sba1     |
| A51 | Slstk 1        | Slstk1   |
| A52 | Surdo 1        | Sur1     |
| A53 | Surdo 2        | Sur2     |
| A54 | Surdo 3        | Sur3     |
| A55 | Tree Chimes    | Trchm    |
| A56 | Tambura 1      | Tmb1     |
| A57 | Timbale 1      | Tmb1     |
| A58 | Tubular Bells  | Tbrbl    |
| A59 | Timpani 1      | Tmpi1    |
| A60 | Timpani 2      | Tmpi2    |
| A61 | Tambourine 1   | Tmbr1    |
| A62 | Tambourine 2   | Tmbr2    |
| A63 | Tambourine 3   | Tmbr3    |
| A64 | Taiko 1        | Tko1     |
| A65 | Taiko 2        | Tko2     |

[illegible]

# Preset Pattern List

| No | Name     |
|----|----------|
| 1  | Rock1    |
| 2  | Rock2    |
| 3  | Rock3    |
| 4  | HardRock |
| 5  | Blues    |
| 6  | Pop1     |
| 7  | Pop2     |
| 8  | Pop3     |
| 9  | Pop4     |
| 10 | Pop5     |
| 11 | HipHop1  |
| 12 | HipHop2  |
| 13 | R&B1     |
| 14 | R&B2     |
| 15 | R&B3     |
| 16 | Dance1   |
| 17 | Dance2   |
| 18 | Dance3   |
| 19 | Dance4   |
| 20 | Dance5   |
| 21 | Funk1    |
| 22 | Funk2    |
| 23 | Fusion1  |
| 24 | Fusion2  |
| 25 | Swing    |
| 26 | Bigband  |
| 27 | Jazz1    |
| 28 | Jazz2    |
| 29 | Bossa    |
| 30 | Samba    |
| 31 | Rhumba   |
| 32 | Mambo    |
| 33 | Latin1   |
| 34 | Reggae   |
| 35 | Country1 |
| 36 | Country2 |
| 37 | Country3 |
| 38 | Ballad1  |
| 39 | Ballad2  |
| 40 | Ballad3  |
| 41 | Garage   |
| 42 | Punk     |
| 43 | Sky      |
| 44 | Arabic1  |
| 45 | Arabic2  |
| 46 | Dangdut  |
| 47 | Latin2   |
| 48 | Latin3   |
| 49 | Newage1  |
| 50 | Newage2  |

# MIDI Implementation Chart

| Function                            | Transmitted                     | Recognized      | Remarks                 |
|-------------------------------------|---------------------------------|-----------------|-------------------------|
| Basic Default<br>Channel Changed    | 10ch<br>○                       | 1-16ch<br>○     |                         |
| Default<br>Mode Messages<br>Alterde | X<br>X<br>*****                 | X<br>X<br>***** |                         |
| Note<br>Number: True voice          | 0-127<br>*****                  | 0-127<br>0-127  |                         |
| Velocity: Note on<br>Note off       | ○<br>99H,V=1-127<br>○ (99H,V=0) | ○<br>○          |                         |
| After key's                         | X                               | X               |                         |
| Touch Ch's                          | X                               | X               |                         |
| Pitch Bend                          | X                               | X               |                         |
| Control                             |                                 |                 |                         |
| 0                                   | X                               | X               | Bank Select             |
| 1                                   | X                               | X               | Modulation              |
| 4                                   | X                               | X               | Foot switch             |
| 5                                   | X                               | X               | Portamento Time         |
| 6                                   | X                               | X               | Data Entry              |
| 7                                   | X                               | X               | Volume                  |
| 10                                  | X                               | X               | Pan                     |
| 11                                  | X                               | X               | Expression              |
| 64                                  | X                               | X               | Sustain Pedal           |
| 65                                  | X                               | X               | Portamento ON/OFF       |
| 66                                  | X                               | X               | Sostenuto Pedal         |
| 67                                  | X                               | X               | Soft Pedal              |
| 71                                  | X                               | X               | TVF Resonance modify    |
| 72                                  | X                               | X               | Env release time modify |
| 73                                  | X                               | X               | Env attack time modify  |
| 74                                  | X                               | X               | TVF cutoff freq modify  |
| 75                                  | X                               | X               | Env decay time modify   |
| 76                                  | X                               | X               | Vibrato rate modify     |
| 77                                  | X                               | X               | Vibrato depth modify    |
| 78                                  | X                               | X               | Vibrato delay modify    |
| 80                                  | X                               | X               | Reverb Program          |
| 81                                  | X                               | X               | Chorus Program          |
| 86                                  | X                               | X               | Sustain pedal           |
| 90                                  | X                               | X               | Pitch note              |
| 91                                  | X                               | X               | Reverb Level            |
| 93                                  | X                               | X               | Chorus Level            |
| 120                                 | X                               | X               | All Sound Off           |
| 121                                 | X                               | X               | Reset All Controllers   |
| 123                                 | X                               | X               | All Notes Off           |
| 126                                 | X                               | X               | Mono on                 |
| 127                                 | X                               | X               | Poly on                 |
| Program Change                      | ○                               | ○               |                         |
| System Exclusive                    | X                               | X               |                         |
| System :Song Position               | X                               | X               |                         |
| Common :Song Select                 | X                               | X               |                         |
| :Tune                               | X                               | X               |                         |
| System : Clock                      | ○                               | ○               |                         |
| Real Time :Commands                 | ○                               | X               | Start, Stop,Continue    |
| Aux : LOCAL ON/OFF                  | X                               | X               |                         |
| : All Notes Off                     | X                               | X               |                         |
| Messages : Active sense             | ○                               | X               |                         |
| : Reset                             | X                               | X               |                         |

○:YES

X:NO

