

# *Millenium*

HD-50  
e-drum set



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# 1 General information

This manual contains important instructions for the safe operation of the unit. Read and follow the safety instructions and all other instructions. Keep the manual for future reference. Make sure that it is available to all those using the device. If you sell the unit please make sure that the buyer also receives this manual.

Our products are subject to a process of continuous development. Thus, they are subject to change.

## 1.1 Further information

On our website ([www.thomann.de](http://www.thomann.de)) you will find lots of further information and details on the following points:

Download	This manual is also available as PDF file for you to download.
Keyword search	Use the search function in the electronic version to find the topics of interest for you quickly.
Online guides	Our online guides provide detailed information on technical basics and terms.
Personal consultation	For personal consultation please contact our technical hotline.
Service	If you have any problems with the device the customer service will gladly assist you.

## 1.2 Notational conventions

This manual uses the following notational conventions:

### Letterings

The letterings for connectors and controls are marked by square brackets and italics.

**Examples:** *[VOLUME]* control, *[Mono]* button.

### Displays

Texts and values displayed on the device are marked by quotation marks and italics.

**Examples:** *'24ch'*, *'OFF'*.

**Instructions**

The individual steps of an instruction are numbered consecutively. The result of a step is indented and highlighted by an arrow.

**Example:**

1. ➤ Switch on the device.
2. ➤ Press [Auto].
  - ⇒ Automatic operation is started.
3. ➤ Switch off the device.


**Cross-references**

References to other locations in this manual are identified by an arrow and the specified page number. In the electronic version of the manual, you can click the cross-reference to jump to the specified location.

Example: See ➤ 'Cross-references' on page 5.

**1.3 Symbols and signal words**

In this section you will find an overview of the meaning of symbols and signal words that are used in this manual.

Signal word	Meaning
<b>DANGER!</b>	This combination of symbol and signal word indicates an immediate dangerous situation that will result in death or serious injury if it is not avoided.
<b>CAUTION!</b>	This combination of symbol and signal word indicates a possible dangerous situation that can result in minor injury if it is not avoided.
<b>NOTICE!</b>	This combination of symbol and signal word indicates a possible dangerous situation that can result in material and environmental damage if it is not avoided.
Warning signs	Type of danger
	Warning – danger zone.

## 2 Safety notes

### Intended use

Drum modules are intended to be used for converting digital trigger signals from drum pads to various percussion sounds. Use the unit only as described in this manual. Any other use or use under other operating conditions is considered to be improper and may result in personal injury or property damage. No liability will be assumed for damages resulting from improper use.

This device may be used only by persons with sufficient physical, sensorial, and intellectual abilities and having corresponding knowledge and experience. Other persons may use this device only if they are supervised or instructed by a person who is responsible for their safety.

### Safety



#### **DANGER!**

##### **Danger for children**

Ensure that plastic bags, packaging, etc. are disposed of properly and are not within reach of babies and young children. Choking hazard!

Ensure that children do not detach any small parts (e.g. knobs or the like) from the unit. They could swallow the pieces and choke!

Never let children unattended use electrical devices.



#### **CAUTION!**

##### **Possible hearing damage**

With loudspeakers or headphones connected, the device can produce volume levels that may cause temporary or permanent hearing impairment.

Do not operate the device permanently at a high volume level. Decrease the volume level immediately if you experience ringing in your ears or hearing impairment.



#### **NOTICE!**

##### **Operating conditions**

This device has been designed for indoor use only. To prevent damage, never expose the device to any liquid or moisture. Avoid direct sunlight, heavy dirt, and strong vibrations.



**NOTICE!**

**External power supply**

The device is powered by an external power supply. Before connecting the external power supply, ensure that the input voltage (AC outlet) matches the voltage rating of the device and that the AC outlet is protected by a residual current circuit breaker. Failure to do so could result in damage to the device and possibly the user.

Unplug the external power supply before electrical storms occur and when the device is unused for long periods of time to reduce the risk of electric shock or fire.

### 3 Features

- 193 sounds
- 10 preset drum kits, 1 user kit
- 10 songs
- Metronome
- Recording and playback function
- Flexible assignment of pad sounds
- Headphones, AUX IN and USB-MIDI interface
- Provisionable standby feature



## 4 Scope of delivery

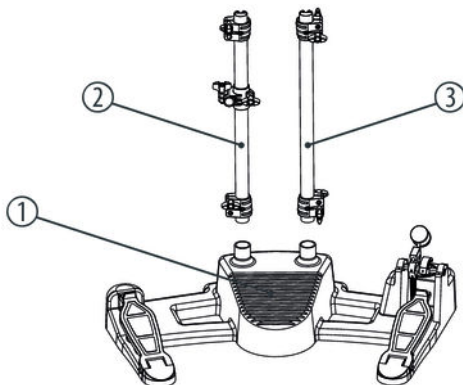


*Verify before assembling the e-drum set that the entire delivery is included, as listed below.*

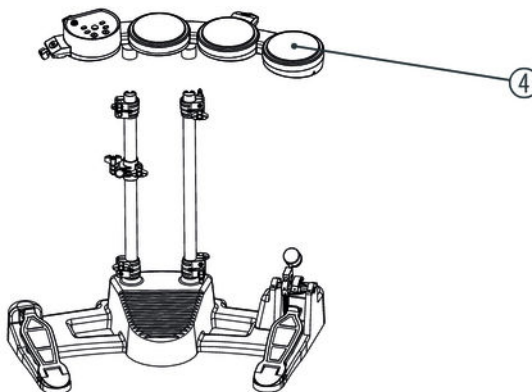
- Bottom case with bass-drum pedal and hi-hat controller
- 2 × stand tube (left-hand stand tube with snare drum support)
- Drum module with three toms
- 2 × longer cymbal holders for ride and crash cymbals
- shorter hi-hat cymbal stand
- 3 × cymbal (ride, crash and hi-hat)
- Snare drum support
- Snare drum
- Complete pad cabling
- 9 V  $\Rightarrow$  power supply unit

## 5 Assembly

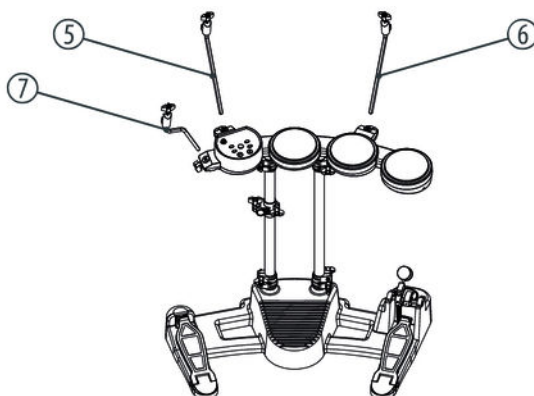
Loosen the wing nuts on the holder clamps before inserting the tubes. Mount the various elements in the specified sequence as shown in the illustration below.



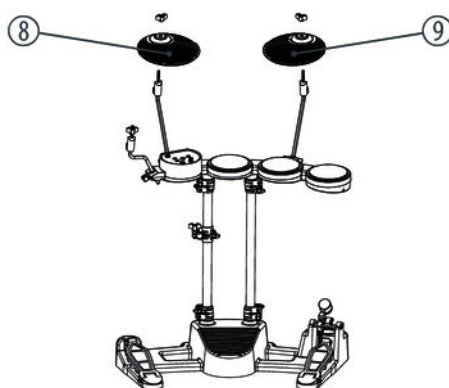
1. Put the bottom case with the bass-drum pedal and the hi-hat controller (1) on the floor. Insert the two stand tubes (2, with snare drum support) and (3) and tighten the wing nuts on the holder clamps.



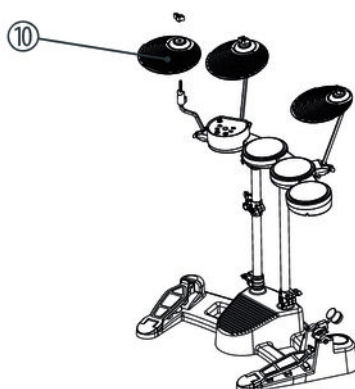
2. Insert the drum module with the three toms (4) into the stand tubes (2) and (3) and tighten the holder clamps on the wing nuts.



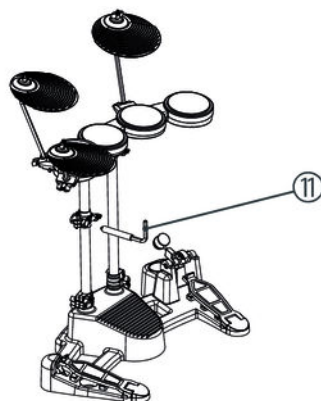
3. Insert the two longer cymbal holders (5) and (6) for the ride and crash cymbals and the shorter hi-hat holder (7) into the guides provided as shown in the illustration and tighten the wing nuts on the holder clamps.



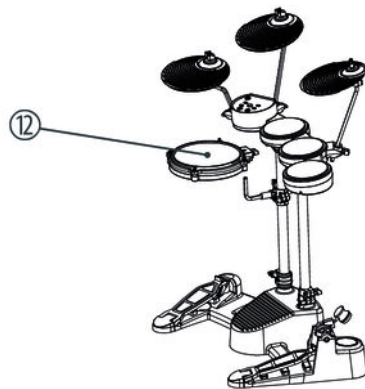
- 4.** Place the two ride and crash cymbals (8) and (9) onto the cymbal holders (5) and (6) as shown in the illustration and tighten the corresponding wing nuts.



- 5.** Place the hi-hat cymbal (10) onto the holder (7) as shown in the illustration and tighten the corresponding wing nut.

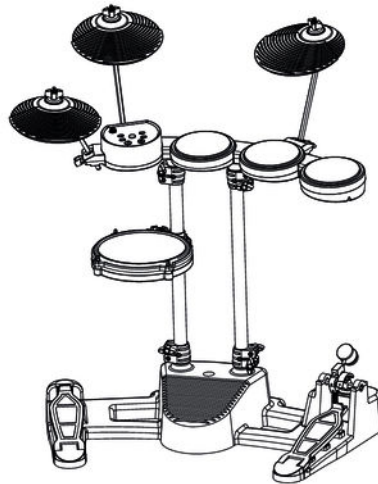


- 6.** Insert the longer end of the L-piece snare drum support (11) into the holder clamp provided on the left-hand stand tube (2) and tighten the wing nut on the holder clamp.



7. ➤ Place the snare drum (12) onto the shorter end of the L-piece snare drum support and tighten the wing nut on the holder clamp.

The assembled e-drum set should now look like the following illustration:

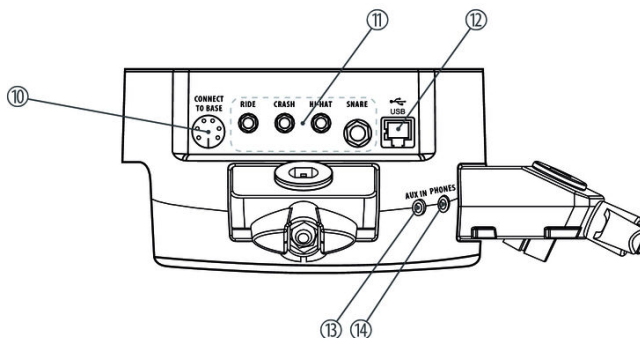


## 6 Installation

### Set-up and cabling

Set up the pads and cymbals according to your needs. In a next step, the drum module needs to be connected to the rear of the bottom case and all triggers need to be cabled with the drum module. Please observe the labelling on the rear of the drum module and the labelling on the individual cable ends. Finally check that all cables between the pads and the drum module have been properly connected.

### Connecting the bass-drum pedal and the hi-hat controller to the drum module



Connect the CONNECT TO BASE (10) terminal on the rear of the drum module with the CONNECT TO MODULE terminal on the rear of the bottom case using the included 6-pole cable in order to connect the bass-drum pedal and the hi-hat controller to the drum module.

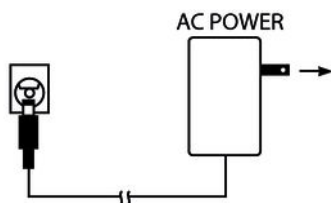
### Hi-hat controller

- You produce a closed hi-hat sound when you pedal the hi-hat controller while hitting the hi-hat
- You produce an open hi-hat sound when you do not pedal the hi-hat controller while hitting the hi-hat
- You produce the hi-hat pedal sound when pedalling the hi-hat controller directly without hitting the hi-hat
- An open hi-hat sound changes smoothly to a closed hi-hat sound when you pedal the hi-hat controller while hitting the hi-hat.

### Connecting the pads

Connect the included pad cables to the corresponding RIDE, CRASH, HI-HAT and SNARE inputs on the rear of the drum module. The cables have different lengths. Each cable is labelled on both ends with the corresponding pad designation.

### Connecting the power supply



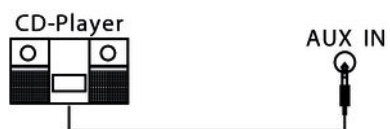
Connect the included power supply unit to the DC 9V input on the rear of the bottom case and then insert the power plug into the socket outlet.

## Connecting USB devices



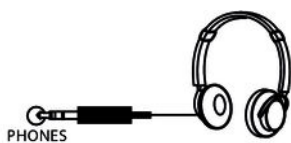
Connect your PC (Windows Vista/XP® or Windows7, Mac) to the USB port (12) on the rear of the drum module.

## Connecting audio devices



Connect audio devices like CD or MP3 players, etc. to the AUX IN input (13) on the rear of the drum module.

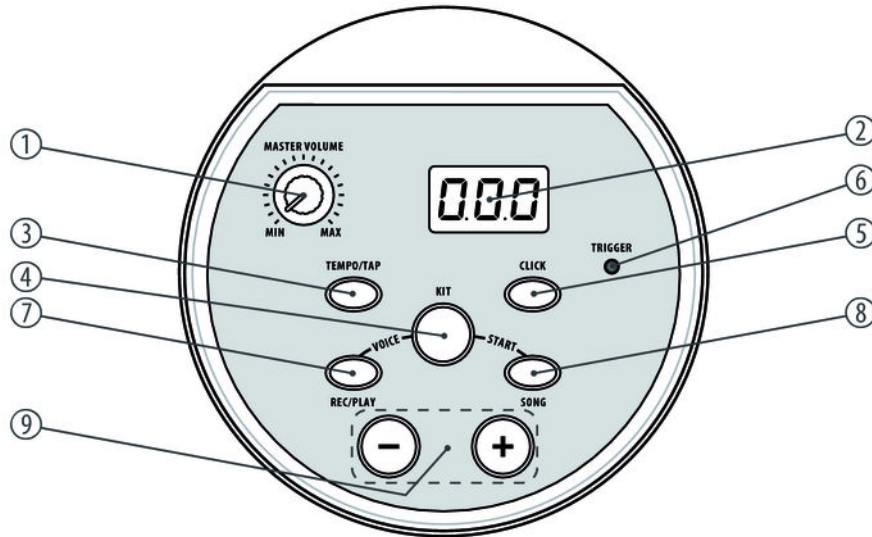
## Connecting headphones




Connect your stereo headphones to the PHONES output (14) on the rear of the drum module.

## 7 Connections and controls

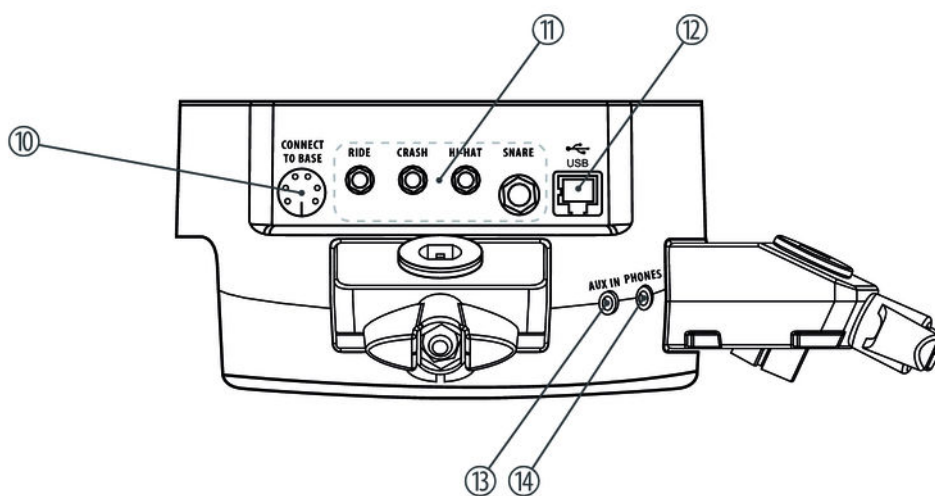
### Drum module top view



1	<i>[MASTER VOLUME]</i> Knob control for adjusting the overall volume of the drum module.
2	LED display  Displays the Song, Kit and Pad numbers and various setting parameters. In the SONG mode, the song number appears on the display. In the PAD mode, an abbreviated pad name for snare, crash, tom, etc. appears. In the KIT mode, the drum kit number appears on the display.
3	<i>[TEMPO / TAP]</i> Adjusts the tempo of the click and of the song playback.
4	<i>[KIT]</i> Opens the Kit menu and/or the Setup mode to adjust different parameters and to switch on and off the standby feature.
5	<i>[CLICK]</i> Turns the metronome on and off and opens the click menu.
6	<i>[TRIGGER] LED</i> Lights up when trigger pulses are generated.

7	<i>[REC/PLAY]</i> Allows you to record and play back your performance.
8	<i>[SONG]</i> Controls the selection and playback of songs.
9	<i>[-] / [+]</i> Buttons to navigate through the ten drum kits, select parameters, sounds, etc.

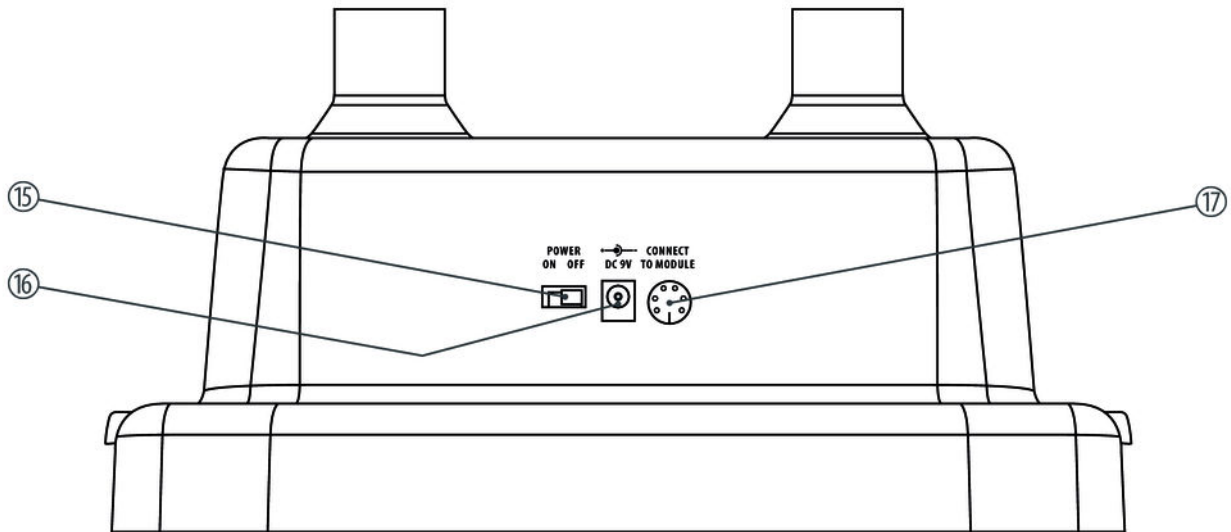
### Rear of the drum module



10	<i>[CONNECT TO BASE]</i> 6-pole input for connecting the bass-drum pedal and hi-hat controller to the drum module using the included cable.
11	Trigger input jacks for <i>[RIDE]</i> , <i>[CRASH]</i> , <i>[HI-HAT]</i> and <i>[SNARE]</i> Input jacks for connecting the pads using the included cables.
12	<i>[USB]</i> USB port for connecting a PC with USB-MIDI interface.
13	<i>[AUX IN]</i> Input jack (3.5-mm stereo mini jack) for connecting audio devices, such as CD, MP3 players, etc.
14	<i>[PHONES]</i> Headphones (3.5-mm stereo mini jack)



Rear of the bottom case

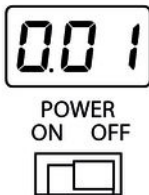


15	<p>[POWER ON / OFF] Main switch to turn the device on and off.</p>
16	<p>[DC 9V] Connecting socket for power supply unit.</p>
17	<p>[CONNECT TO MODULE] 6-pole input for connecting the bass-drum pedal and hi-hat controller to the drum module using the included cable.</p>

## 8 Operating

### 8.1 Functions

#### Switching on



Check all cable connections for correct fit before turning on.  
Before switching on, turn the [MASTER VOLUME] control of the drum module to minimum.

Use the [POWER ON/OFF] switch on the rear of the bottom case to switch on the drum module.

#### Adjusting the volume



To set the volume, hit a pad while slowly turning the [MASTER VOLUME] control clockwise.

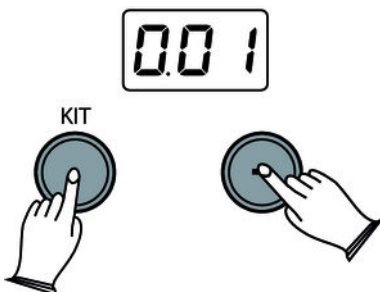
#### Selecting a drum kit



A drum kit is a compilation in which a certain sound and several sound parameters are assigned to each trigger. Selecting different drum kits lets you customise the sound of your e-drum sets in seconds to the desired music genre. In addition to the ten preset drum kits you can create and save your own user kit (for more information, see [Chapter 12.1 'Kit list' on page 27](#)).

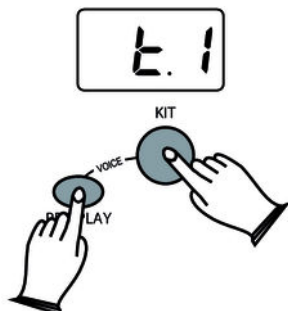
1. ➤ Press [KIT]. The display shows the number of the first preset drum kit.
2. ➤ Use the [-] / [+] keys to select the desired drum kit. Value range: '001' to '010'.

#### KIT button



- ➔ Press the [KIT] and [+] or [-] buttons simultaneously to adjust the pad volume. You also can select the individual pads by hitting them. Value range: '0' to '127'.

### Selecting a sound



Press **[KIT]** and **[REC/PLAY]** simultaneously, then hit a pad for which you want to change the sound and use the **[+]** or **[-]** button to select the sound.

Example: Selecting a sound for tom 1

1. ➤ Press **[KIT]** and **[REC/PLAY]** simultaneously. The LED display shows the selected pad. Hit tom 1, and the LED display will show tom 1.
2. ➤ Hit another pad and select its sound using the **[+]** or **[-]** buttons.
3. ➤ You can also press **[CLICK]** to listen to the sound.
4. ➤ Finally press the **[REC/PLAY]** button to save your settings in the user kit.
5. ➤ Press any other key to exit the menu.

### CLICK button



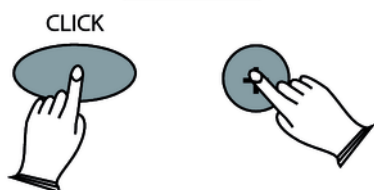
1. ➤ Click type

Press **[CLICK]** for two seconds to enter the metronome type menu, then use the **[+]** or **[-]** buttons to select the click type. Value range: '1/4', '2/4', '3/4', '4/4', '6/4', '3/8', '6/8', '12/8'. Default setting: '4/4'.



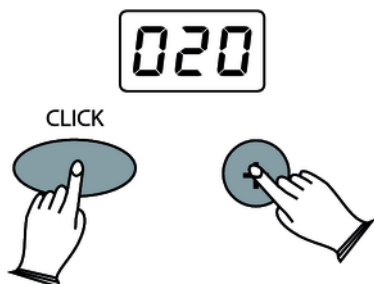
2. ➤ Click sound

When the click is activated press and hold **[CLICK]**, then use the **[+]** or **[-]** buttons to select the click sound. Value range: '001' to '003'.



3. ➤ Click volume

When the click is deactivated press and hold **[CLICK]**, then use the **[+]** or **[-]** buttons to select the click volume. Value range: '001' to '032'.



## REC/PLAY button



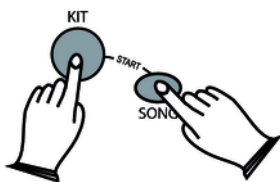
### 1. Recording

Press and hold [REC/PLAY] for two seconds. The metronome does a one-bar precount before recording starts.

### 2. Playing record

Press [REC/PLAY] to play back your recording. Press [REC/PLAY] again to stop playback.

## SONG button



Your drum module provides 10 preset songs. Press [SONG] and [KIT] simultaneously to enter the SONG mode.



### 1. Switching the percussion track on and off

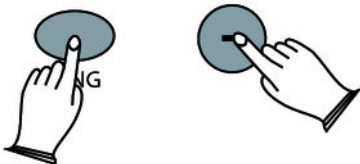
In the SONG mode, press and hold [SONG] for two seconds. The LED display shows 'oN' or 'oFF'.

- 'oN'  
The percussion track of the song is switched on.
- 'oFF'  
The percussion track of the song is muted.



### 2. Selecting a song

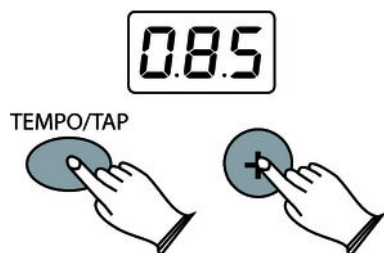
Press [SONG], then use the [+] or [-] buttons to select any of the ten songs.



### 3. Song volume

In the SONG mode, press and hold [SONG], then use the [+] or [-] buttons to select the song volume. Value range: '000' to '032'.

### TEMPO/TAP button



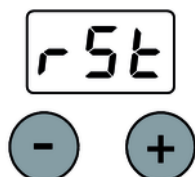
There are two way you can adjust the tempo using the [TEMPO/TAP] button:

1. ➤ Press [TEMPO/TAP]. The LED display shows the currently set tempo that you can adjust by means of the [+ ] or [- ] buttons. Value range: '020' to '240'.
2. ➤ Press and hold [TEMPO/TAP] for two seconds to enter the TAP mode. The LED display is flashing.

Hit four times rhythmically on a pad to change the tempo. The value is determined by the time interval between the last two hits.

## 8.2 Factory settings

### 8.2.1 Reset to factory defaults

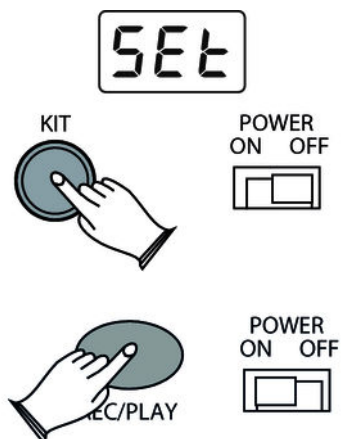


To reset the drum module to its factory defaults, do the following:

1. ➤ Use the POWER ON/OFF switch on the rear of the bottom case to switch off the drum module.
2. ➤ Press and hold the [+ ] and [- ] buttons on the drum module simultaneously with one hand an turn on the drum module using the POWER ON/OFF switch on the rear of the bottom case.

This will reset your drum module to the factory defaults and delete all your settings.

### 8.2.2 Setup mode



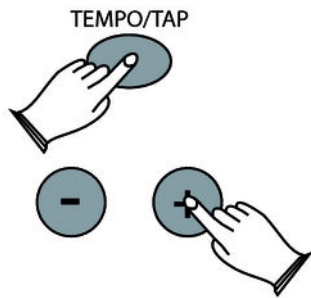
In this setup mode, you can adjust some global parameters according to your wishes and expectations. To enter the setup mode, switch off the drum module, then press and hold [KIT] while you switch it on again.

1. ➤ To switch off the standby feature, press and hold the [REC/PLAY] button until the display shows 'SoF'.  
⇒ The standby feature is disabled.

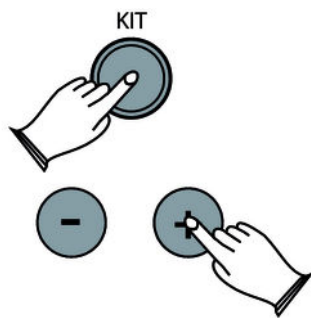
2. ➤ To switch on the standby feature, press and hold the [REC/PLAY] button until the display shows 'SoN'.  
⇒ If the module is not being used and there is no signal input for 30 minutes, it will automatically enter standby mode.



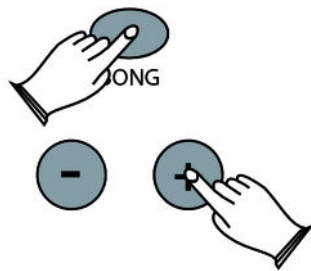
The standby feature is enabled by default when the module is turned on.



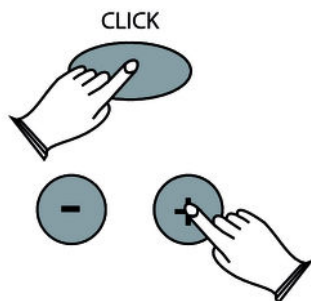
3. ➤ Press [TEMPO/TAP] and use the [+] or [-] buttons to set the sensitivity. Value range: '001' to '008'.



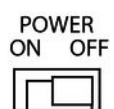
4. ➤ Press [KIT] and use the [+] or [-] buttons to set the trigger threshold. Value range: '001' to '050'.



5. ➤ Press [SONG] and use the [+] or [-] buttons to set the velocity curve. There are four possible settings: 'NORM' (normal), 'DYNM' (dynamic), 'EASY' and 'FIXD' (fixed).



6. ➤ Press [CLICK] and use the [+] or [-] buttons to set the cross-talk value 'XTALK'. Value range: '001' to '080'.



**7.** → Press [REC/PLAY] to save your settings.

## 9 Technical specifications

Pads	Seven drum pads with touch response including bass-drum pedal and hi-hat controller
Sounds	193
Drum kits	10 preset drum kits 1 user kit
Songs	10
Connections	CONNECT TO BASE (connection to bass-drum pedal and hi-hat controller) RIDE, CRASH, HI-HAT, SNARE (connection for included pad cables) USB-MIDI AUX IN ( (3.5-mm stereo mini jack)) Headphones ( (3.5-mm stereo mini jack))
Operating supply voltage	9 V $\Rightarrow$ power supply unit , 800 mA



## 10 Cleaning

### Device parts

Clean the accessible parts of the device regularly. The frequency of cleaning depends on the operating environment: moist, smoky or particularly dirty environments may cause a higher accumulation of dirt on the components of the device.

- Use a dry soft cloth for cleaning.
- Remove stubborn stains with a slightly damp cloth.
- Never use cleaners containing alcohol or thinner.
- Never put any vinyl items on the device, as vinyl can stick to the surface or lead to its discolouration.

## 11 Protecting the environment

### Disposal of the packaging material



For the transport and protective packaging, environmentally friendly materials have been chosen that can be supplied to normal recycling.

Ensure that plastic bags, packaging, etc. are properly disposed of.

Do not just dispose of these materials with your normal household waste, but make sure that they are collected for recycling. Please follow the notes and markings on the packaging.

### Disposal of your old device



This product is subject to the European Waste Electrical and Electronic Equipment Directive (WEEE). Do not dispose with your normal household waste.

Dispose of this device through an approved waste disposal firm or through your local waste facility. When discarding the device, comply with the rules and regulations that apply in your country. If in doubt, consult your local waste disposal facility.

## 12 Appendix

### 12.1 Kit list

No.	Name	No.	Name
1	Acoustic_kit_1	7	Electronic_kit
2	Acoustic_kit_2	8	Analog_kit
3	Room_kit NL	9	Latin_kit
4	Rock_kit	10	Modern R&B
5	Dance_club_kit	11	User kit
6	Jazz_kit		

### 12.2 Song-style list

No.	Name	No.	Name
01	Rock Shuffle	06	Pop Bossa
02	Surf Pop	07	80's Rock
03	Techno	08	16 Beat
04	60's Rock	09	Pop Shuffle
05	Hard Rock	10	Guitar Pop

### 12.3 Sound list

Group 1: Kick Drums		
Acoustic_kick_01	Latin_kick	Rock_kick_04
Acoustic_kick_02	Pop_kick_02	Rock_kick_05
Room_kick_01	Trash_kick	Electronic_kick_01
Room_kick_02	Rock_kick_03	Electronic_kick_02
Rock_kick_01	Brush_kick	Analog_kick
Jazz_kick_01	Modern_RnB_kick	Drum_machine_kick
Early_RnB_kick	Boom_snap_kick	
Compressed_kick	Rock_kick_02	

Group 2: Snare Drums		
Acoustic_snr_01	Reggae-pop_snr	Dance_club_snr+2
SPic_snr_01c	Brush_snr_01	9-oh_snr_+2-5
SPic_snr_02f	Early_RnB_snare	Drum_box_snr+5
Room_snr_01_6L	Pop_snr_01	Acoustic_xstick_01
Room_snr_02	Latin_snr+tambourine	SPic_xtk-01
Rock_snr_01	Electro-pop_snr	Rock_xstick_01
Rock_snr_06	Rap-hop_snr	Jazz_xstick_01
Cmpressed_snr_6L	Analog_snr_01	Room_xstick
Jazz_snr_01	Modern_RnB_snr	Modern_RnB_xstick
Acoustic_snr_02	Rock_snr_03	Electronic_xstick_01
Boom_snap_snr	Electronic_snr_01	Crunch_xstick
Trash_snare	Drum_machine_snr_01+1	Analog_xstick
Pop_snr_02	8-oh_snr_+1	Drum_machine_xstick

Group 3: Toms		
Acoustic_tom_H_01	Rock_tom_M_01	DW_low_tom
Acoustic_tom_M_01	Rock_tom_L_01_6L	Rock_tom_H_04
Acoustic_tom_L_01	Rock_tom_H_03	Rock_tom_M_02_6L
Acoustic_tom_H_02	Rock_tom_M_03	Rock_tom_L_03
Acoustic_tom_M_02	Rock_tom_L_02	Modern_RnB_tom_h
Acoustic_tom_L_02	Pop_tom_H_01	Modern_RnB_tom_m
Room_tom_H_01	Pop_tom_M_01	Modern_RnB_tom_L
Room_tom_M_01	Pop_tom_L_01	Jazz_tom_H_01
Room_tom_L_01	Boom_snap_tom_H	Jazz_tom_M_01
Compressed_tom_H	Boom_snap_tom_M	Jazz_tom_L_01
Compressed_tom_M	Boom_snap_tom_L	Brush_tom_H
Compressed_tom_L	DW_high_tom	Brush_tom_M
Rock_tom_H_01	DW_mid_tom	Brush_tom_L

**Group 3: Toms**

Latin_tom+conga_M	Electronic_tom_H_02	Analog_tom_L
Latin_tom+conga_L	Electronic_tom_M_02	Drum_machine_tom_H
Electronic_tom_H_01	Electronic_tom_L_02	Drum_machine_tom_M
Electronic_tom_M_01	Analog_tom_H	Drum_machine_tom_L
Electronic_tom_L_01	Analog_tom_M	

**Group 4: Cymbals**

cr_49_crash	Cym_splash_03+6	Room_ride
cr_49_crash_1L	9-oh_crash	Acoustic_ride_02
Rap-hop_crash	Boom_snap_crash	Latin_ride+cowbell
Brush_crash_-3	Dance_club_ride	Electronic_ride_02
Rock_crash_02	Analog_crash	Analog_ride
Crunch_crash-7	Electronic_crash_01	Drum_machine_ride
Cym_crash_18	Sizzle_ride+bell	Electronic_ride_01
Cym_crash_18_-4	Cymbal_ride_bell	

**Group 5: Hi-hats**

Brush_hat_cl_01	Rock_hat_cl_03	Electronic_hat_cl_01
Brush_hat_foot_01	Rock_hat_foot_02	Electronic_hat_foot_01
Brush_hat_op_01	Rock_hat_op_03	Electronic_hat_op_01
Acoustic_hat_cl_2	Compressed_hat_cl_6Lv2	Analog_hat_cl
Acoustic_hat_foot_2	Cym_hat_foot_+0	Analog_hat_foot
Acoustic_hat_op_2	Compressed_hat_op_6Lv2	Analog_hat_op
Room_hat_cl	Cympal_hat_cl_6L+1-37	Drum_machine_hat_cl
Room_hat_foot	Cymbal_foot_+1-37	Drum_machine_hat_foot
Room_hat_op	Cymbal_hat_op_6L+1-37	Drum_machine_hat_op
Rock_hat_cl_01_6L	Snappy_brush_hat_cl	Modern_RnB_hat_cl
Rock_hat_foot_01	Snappy_brush_hat_foot	Modern_RnB_hat_foot
Rock_hat_op_01_6L	Snappy_brush_hat_op	Modern_RnB_hat_op

Group 6: Percussion		
Agogo_H	Timbale_L	Shaker_01
Agogo_L	Triangle_mute	Tambourine_down
Latin_tom_agogo_H	Triangle_open	Tambourine_up
Conga_H	Triangle_op+mt	Tambourine_up+down
Conga_L	Woodblock_H	Cowbell
Hand-claps	Woodblock_L	8-oh_cowbell
Timbale_H	Latin_xstick_woodblocks	

## 12.4 MIDI implementation

Function		Transmitted	Recognized	Remarks
Basic Channel	Default	1-16	1-16	Memorized
	Changed	1-16 each	1-16 each	
Mode	Default	Mode 3	Mode 3	
	Messages	No	No	
	Altered	*****	No	
Note Number		0 – 127	0 – 127	
	True voice	*****	0 – 127	
Velocity Note	Note ON	Yes, 99H, v = 1 – 127	Yes, 9nH, v = 1 – 127	
	Note OFF	Yes, 89H, v = 0	Yes, 8nH, v = 0 or 8nH – 127	
After Touch		No	No	
Pitch Bend		No	Yes	

Function		Transmitted	Recognized	Remarks
Control Change	0,32	No	No	Bank Select
	1	No	Yes	Modulation
	5	No	Yes	Portamento Time
	6	No	Yes	Data Entry
	7	No	Yes	Volume
	10	No	Yes	Pan
	11	No	Yes	Expression
	64	No	Yes	Sustain
	65	No	Yes	Portamento
	66	No	Yes	Sostenuto
	67	No	Yes	Soft Pedal
	80, 81	No	Yes	DSP Type
	91, 93	No	Yes	DSP Depth
	100, 101	No	Yes	RPN LSB, MSB
121	No	Yes (*1)	Reset All Controllers	
Program Change	True #	Yes 0 – 10	Yes 0 – 127	
System Exclusive		No	No	
System Common	Song Position Pointer	No	No	
	Song Select	No	No	
	Tune Request	No	No	
Aux Messages	Local ON/OFF	No	Yes	All Notes Off is sent as All Sounds Off (CC# 120)
	ALL Notes OFF	Yes	Yes	
	Active Sensing	No	Yes	
	System Reset	No	Yes	

\*1: Registered parameter number: #0: Pitch sensitivity, #1: Fine tuning, #2: Coarse tuning

#### MIDI channel modes

	POLY	MONO ON
OMNI ON	Mode 1	Mode 2
OMNI OFF	Mode 3	Mode 4











