

Millenium

MD-90
mobile drum



Musikhaus Thomann
Thomann GmbH
Hans-Thomann-Straße 1
96138 Burgebrach
Germany
Telephone: +49 (0) 9546 9223-0
E-mail: info@thomann.de
Internet: www.thomann.de

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1 General notes

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) 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'*.

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
DANGER!	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.
CAUTION!	This combination of symbol and signal word indicates a possible dangerous situation that can result in minor injury if it is not avoided.
NOTICE!	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 instructions

Intended use

Use the device only as described in this user 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.



NOTICE!

Risk of fire due to incorrect polarity

Incorrectly inserted batteries may destroy the device or the batteries.

Ensure that proper polarity is observed when inserting batteries.



NOTICE!

Possible damage by leaking batteries

Leaking batteries can cause permanent damage to the device.

Take batteries out of the device if it is not going to be used for a longer period.

3 Features

- seven velocity-sensitive drum pads, terminals for bass-drum pedal and hi-hat controller
- three-digit LED display
- headphones, USB and MIDI connection
- 45 drum kits, 5 user kits
- 265 percussion voices, 128 GM voices, 16 MByte voice data
- 80 styles
- 20 songs
- demo song
- recording track
- standby feature

4 Installation and starting up

Connecting the power supply

Connect the power supply unit to the 12 V input on the device, and then insert the power plug into the socket-outlet.

Connecting the pedals

Connect the bass drum pedal and the hi-hat controller to the corresponding inputs on the rear of the drum module.

Connecting headphones

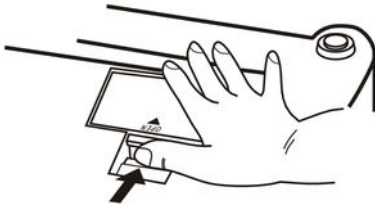
Connect the headphone cable to the corresponding input on the rear of the drum module.

USB/MIDI interface

Connect your MIDI or USB device to the USB/MIDI interface on the rear of the drum module.

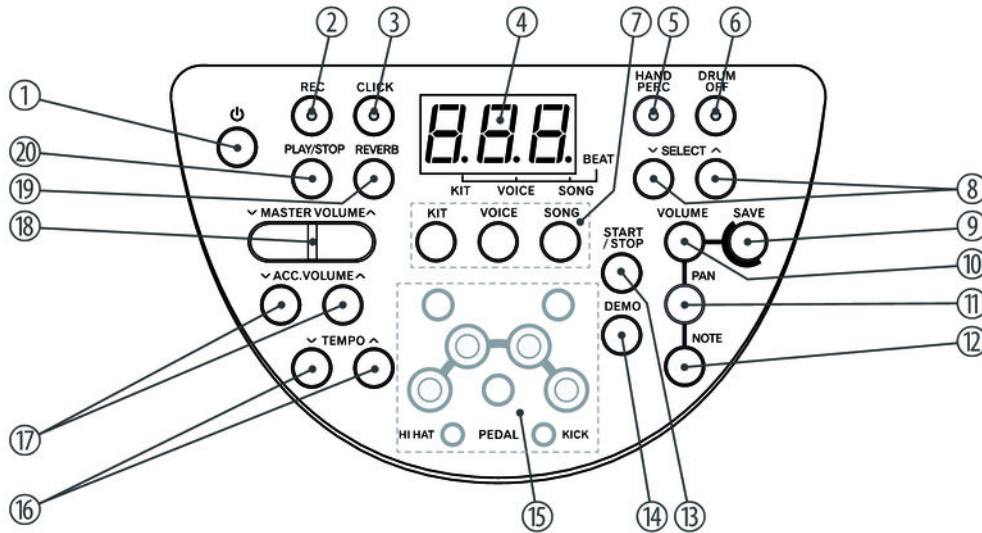
Changing the batteries

To insert or replace the batteries flip over the device, press lightly on the battery compartment cover and slide it in arrow direction. Take off the lid. Insert/replace the new batteries paying attention to the polarity markings and place the cover again into its original position until it locks.



5 Connections and controls

Front panel



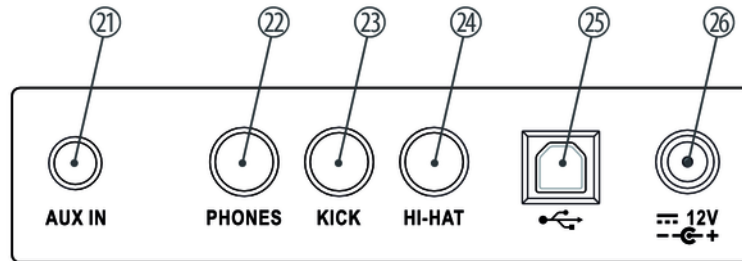
1	<i>[POWER]</i> Main switch to turn the device on and off.
2	<i>[REC]</i> Button with LED indicator to turn the recording function on and off.
3	<i>[CLICK]</i> Button with LED indicator to turn the metronome function on and off.
4	Three-digit LED display The display shows all parameters of the respectively opened menu.
5	<i>[HAND PERC]</i> Button with LED indicator to activate the hand percussion mode.
6	<i>[DRUM OFF]</i> Button with LED indicator to mute the drum track.

7	<i>[KIT]</i> Button to open the KIT menu.
	<i>[VOICE]</i> Button to open the VOICE menu.
	<i>[SONG]</i> Button to open the SONG menu.
8	<i>[SELECT -/+]</i> Buttons to select parameters and to edit values.
9	<i>[SAVE]</i> Button to save current parameters as new user kit.
10	<i>[VOLUME]</i> Key to adjust the pad volume.
11	<i>[PAN]</i> Key to adjust the pan setting.

12	<i>[NOTE]</i> Button to assign MIDI notes.
13	<i>[START / STOP]</i> Button to start and stop song and style playback.
14	<i>[DEMO]</i> Button to start and stop demo song playback.
15	Indicator LEDs In practice mode, these LEDs briefly light up showing the pad that is being played.
16	<i>[TEMPO -/+]</i> Buttons to adjust the playback speed.
17	<i>[ACC.VOLUME -/+]</i> Buttons to adjust the volume of accompaniment tracks.
18	<i>[MASTER VOLUME -/+]</i> Buttons to adjust the overall volume.

- | | |
|----|--|
| 19 | <i>[REVERB]</i>
Button to edit the reverb level. |
| 20 | <i>[PLAY / STOP]</i>
Button to start and stop the recording track playback. |

Rear panel



- | | |
|----|--|
| 21 | [AUX IN]
Input socket for connecting an audio device (e.g. MP3 or CD player). |
| 22 | [PHONES]
Socket for connecting headphones. |
| 23 | [KICK]
Socket for connecting the bass drum pedal. |

24	<i>[HI HAT]</i> Socket for connecting the hi hat controller.
25	USB port
26	Connection socket for the 12 V power supply unit.

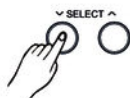
6 Operating

Switching on/off, standby

Turn on/off the device using the main switch on the rear panel.

The unit automatically switches to standby mode when you don't press any key or strike any pad for about 30 minutes. To turn the device on again after an automatic shutdown, press the main switch.

Drum kit



Upon switching on, the device activates the KIT menu by default. The default value is '001'.

Press [*KIT*] to enter the menu. The control LED of the button lights up and the three-digit LED display shows the current kit number. Then you can select the desired kit using the [*SELECT -/+*] buttons.

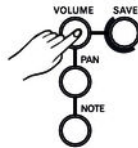
Pad voice



Press *[VOICE]* to enter the menu VOICE. The default value corresponds to the voice number that is assigned to the crash pad in the respective kit, e.g. '96' in kit '001'.

The control LED of the button lights up and the three-digit LED display shows the voice number that is assigned to the activated pad (activation by pressing a button or hitting the pad). Then you can select the desired voice using the *[SELECT -/+]* buttons.

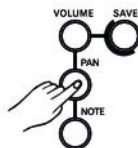
Pad volume



Press *[VOLUME]*, to open the menu VOICE.

The control LED of the button lights up and the three-digit LED display shows the current volume setting of the activated pad (activation by pressing a button or hitting the pad). Now you can adjust the volume using the *[SELECT -/+]* buttons.

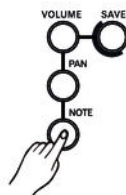
Pan setting



Press **[PAN]**, to open the menu VOICE.

The control LED of the button lights up and the three-digit LED display shows the assignment of the activated pad (activation by pressing a button or hitting the pad). Then you can adjust the position of the pad within the stereo panorama using the **[SELECT -/+]** buttons.

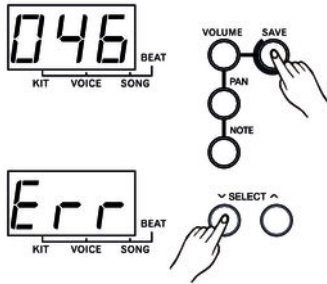
Assign a MIDI note



Press **[NOTE]**, to open the menu VOICE.

The control LED of the button lights up and the three-digit LED display shows the currently assigned MIDI note. Now you can assign any MIDI note using the **[SELECT -/+]** buttons.

Saving a kit



Press **[SAVE]**, to open the menu **SAVE**. You can now assign the current settings to a user kit number using the **[SELECT -/+]** buttons. During this process the display value flashes on the three-digit LED display.

Press the **[SAVE]** button again to store the setting. When this is finished successfully, the user kit is automatically activated via the kit menu.

If an error occurs, the three-digit LED display shows **[Err]**.



Any unsaved changes will be discarded by the selection of another kit.

Song playback



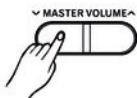
Press *[SONG]*, to open the menu SONG. The default value is '001'.

The control LED of the button lights up and the three-digit LED display shows the current song number. Then you can select the desired song using the *[SELECT -/+]* buttons.

The first 80 songs can be played as a loop. Use the *[START]* and *[STOP]* buttons to start or pause playback. If you skip during playback to the beginning of the following song, the current bar of the current song will be completed first.

For each song, the parameters 'tempo' and 'drum kit' are stored in the system. The corresponding values are loaded automatically when you play the song.

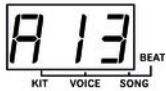
Volume level of device



In the main menu, the three-digit LED display shows the main volume in 'Lxx' format. Using the *[MASTER VOLUME -/+]* buttons you can adjust the volume stepwise from 0...9.

The set value is automatically saved.

Accompaniment track volume



In ACC.VOLUME menu, the three-digit LED display shows the accompaniment volume in 'Axx' format. Using the [SELECT -/+] buttons you can adjust the accompaniment volume stepwise from 0...9.

The set value is automatically saved.

Muting the drum track



Using the [DRUM OFF] button you can mute or unmute the drum track during the playback of songs. The control LED of the button lights up when this function is enabled.

Tempo



Press one of the [TEMPO -/+] buttons once to enter the TEMPO menu. Use the [TEMPO -/+] buttons to adjust the playback tempo (click and song) stepwise in a range of 30...280. To restore normal playback tempo press both buttons simultaneously.

Metronome



During song playback, the beat indicator (control LED) is automatically activated. Press the *[CLICK]* button once to enable a human voice counting. Press twice to enable the click sound. Press the *[CLICK]* button again to turn the metronome off.

Hand percussion



Use the *[HAND PERC]* button to enter the hand percussion mode (song number 5, kit number 21). The control LED of the button lights up when this function is enabled.

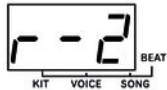
Demo song



Use the *[DEMO]* button to enter the demo mode. The three-digit LED display shows the value 'dE'. Use the *[START]* and *[STOP]* buttons to start or pause the playback of demo songs.



Reverb effect

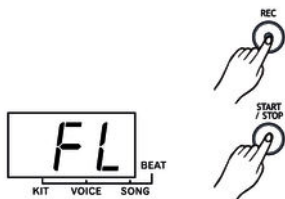


Use the *[REVERB]* button to enter the REVERB menu. The three-digit LED display shows the currently selected reverb level in 'Rxx' format. Use the *[SELECT -/+]* buttons to adjust the level stepwise as desired from 0...3.

The set value is automatically saved.

Recording

1. ▶ Prepare recording: Select a song and a drum kit. Determine the desired tempo and the settings for DRUM OFF and REVERB.
2. ▶ Start recording: Press *[REC]*. The control LED of the button starts flashing. Press *[START/STOP]* or hit a pad to start the recording. The control LED of the button goes out.
3. ▶ Stop recording: Press *[REC]* or *[START/STOP]*. The control LED of the button goes out. If the memory is used up the recording is automatically stopped and the three-digit LED display shows 'FL'



When starting the recording, the vocal voice counting of the metronome is automatically activated but will not be recorded. To turn the metronome off press the [CLICK] button.

Playback of recordings



Use the [PLAY/STOP] button to start or stop the playback of recordings.



When recording a new song, the previous recording will be overwritten. If the power supply is disconnected, the recorded track is deleted.

7 Technical specifications

Pads	Seven velocity-sensitive drum pads, terminals for bass-drum pedal and hi-hat controller
Drum kits	45 drum kits, 5 user kits
Voices	265 percussion voices, 128 GM , 16 MByte voice data
Songs	20, 1 demo song
Styles	80
Display	Three-digit LED display
Connections	USB (MIDI IN/OUT)
	Headphones
	Bass drum pedal
	Hi-hat controller

Voltage supply	Power adapter (12 V $\overline{\text{---}}$) or 6 C cells(C, LR14, 1,5 V)
Dimensions (W × H × D)	500 mm × 157 mm × 370 mm (19.7 in. × 6.2 in. × 14.6 in.)
Weight	3.3 kg

8 Plug and connection assignment

Introduction

This chapter will help you select the right cables and plugs to connect your valuable equipment in such a way that a perfect sound experience is ensured.

Please note these advices, because especially in 'Sound & Light' caution is indicated: Even if a plug fits into the socket, an incorrect connection may result in a destroyed power amp, a short circuit or 'just' in poor transmission quality!

Balanced and unbalanced transmission

Unbalanced transmission is mainly used in semi-professional environment and in hifi use. Instrument cables with two conductors (one core plus shielding) are typical representatives of the unbalanced transmission. One conductor is ground and shielding while the signal is transmitted through the core.

Unbalanced transmission is susceptible to electromagnetic interference, especially at low levels, such as microphone signals and when using long cables.

In a professional environment, therefore, the balanced transmission is preferred, because this enables an undisturbed transmission of signals over long distances. In addition to the conductors 'Ground' and 'Signal', in a balanced transmission a second core is added. This also transfers the signal, but phase-shifted by 180°.

Since the interference affects both cores equally, by subtracting the phase-shifted signals, the interfering signal is completely neutralized. The result is a pure signal without any noise interference.

1/4" TS phone plug (mono, unbalanced)



1	Signal
2	Ground, shielding

1/4" TRS phone plug (mono, balanced)



1	Signal (in phase, +)
2	Signal (out of phase, -)
3	Ground

9 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 these materials with your normal household waste, but make sure that they are fed to a recovery. Please follow the notes and markings on the packaging.

Disposal of batteries



Batteries must not be disposed of as domestic waste or thrown into fire. Dispose of the batteries according to national or local regulations regarding hazardous waste. To protect the environment, dispose of empty batteries at your retail store or at appropriate collection sites.

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 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.

10 Appendix

10.1 Voice list

Nr.	Name	Nr.	Name	Nr.	Name
KICK					
1	22" Acoustic Kick	9	Vintage Kick	17	808 Kick
2	22" Standard Kick	10	HipHop Kick	18	909 Kick
3	Brush Kick	11	Reggae Kick	19	Electronic Kick
4	Rock Kick	12	Old School Kick	20	Dance Kick
5	Jazz Kick	13	Lo-Fi Kick	21	FX Mix Kick
6	Room Kick	14	Junkyard Kick	22	Techno Kick
7	Fushion Kick	15	Noise Kick	23	Electronic Kick 2
8	1970's Kick	16	Drum & Bass Kick	24	Magic Kick

Nr.	Name	Nr.	Name	Nr.	Name
SNARE					
25	14" Acoustic Snare	35	Fusion Snare	45	Power Snare
26	14" Standard Snare	36	Big Band Snare	46	Dance Snare
27	14" Funk Snare	37	Vintage Snare	47	Old School Snare
28	Brush Snare	38	Live Snare	48	House Snare
29	14" Jazz Snare	39	Reggea Snare	49	Lo-Fi Snare
30	14" Rock Snare	40	R&B Snare 1	50	Junkyard Snare
31	13" Damped Snare	41	808 Snare	51	Noise Snare
32	Orchestra Snare	42	909 Snare	52	Drum & Bass Snare
33	Orchestra Snare Rim	43	R&B Snare 2	53	Techno Snare
34	Room Snare	44	Electronic Snare	54	Techno Snare Rim

Nr.	Name	Nr.	Name	Nr.	Name
SNARE		TOM			
55	Magic Snare	64	Acoustic Tom 1	73	Brush Tom 4
56	Acoustic Snare Stick	65	Acoustic Tom 2	74	Brush Tom 5
57	Standard Snare Stick	66	Acoustic Tom 3	75	Brush Tom 6
58	Brush Snare Stick	67	Acoustic Tom 4	76	Jazz Tom 1
59	Rock Snare Stick	68	Acoustic Tom 5	77	Jazz Tom 2
60	Live Snare Stick	69	Acoustic Tom 6	78	Jazz Tom 3
61	Room Snare Stick	70	Brush Tom 1	79	Jazz Tom 4
62	Fusion Snare Stick	71	Brush Tom 2	80	Jazz Tom 5
63	Brush Swirl	72	Brush Tom 3	81	Jazz Tom 6

Nr.	Name	Nr.	Name	Nr.	Name
TOM					
82	808 Tom 1	91	909 Tom 4	100	Power Tom 1
83	808 Tom 2	92	909 Tom 5	101	Power Tom 2
84	808 Tom 3	93	909 Tom 6	102	Power Tom 3
85	808 Tom 4	94	Electronic Tom 1	103	Power Tom 4
86	808 Tom 5	95	Electronic Tom 2	104	Power Tom 5
87	808 Tom 6	96	Electronic Tom 3	105	Power Tom 6
88	909 Tom 1	97	Electronic Tom 4	106	Lo-Fi Tom 1
89	909 Tom 2	98	Electronic Tom 5	107	Lo-Fi Tom 2
90	909 Tom 3	99	Electronic Tom 6	108	Lo-Fi Tom 3

Nr.	Name	Nr.	Name	Nr.	Name
TOM					
109	Lo-Fi Tom 4	119	Noise Tom 2	129	Techno Tom 6
110	Lo-Fi Tom 5	120	Noise Tom 3	130	Magic Tom 1
111	Lo-Fi Tom 6	121	Noise Tom 4	131	Magic Tom 2
112	Junkyard Tom 1	122	Noise Tom 5	132	Magic Tom 3
113	Junkyard Tom 2	123	Noise Tom 6	133	Magic Tom 4
114	Junkyard Tom 3	124	Techno Tom 1	RIDE	
115	Junkyard Tom 4	125	Techno Tom 2	134	20" Funk Ride
116	Junkyard Tom 5	126	Techno Tom 3	135	808 Ride
117	Junkyard Tom 6	127	Techno Tom 4	136	Ride
118	Noise Tom 1	128	Techno Tom 5	137	House Ride

Nr.	Name	Nr.	Name	Nr.	Name
RIDE					
138	Lo-Fi Ride	147	Electronic Crash	156	14" Acoustic Hi-hat Pedal
139	Junkyard Ride	148	Brush Crash	157	14" Acoustic Hi-hat Splash
140	Noise Ride	149	Lo-Fi Crash	158	Rock Hi-hat Close
CRASH		150	China	159	Rock Hi-hat Open
141	16" Acoustic Crash	151	Splash	160	Fusion Hi-hat Close
142	16" Acoustic Crash Edge	HI-HAT		161	Fusion Hi-hat Open
143	16" Rock Crash	152	14" Acoustic Hi-hat Close	162	808 Hi-hat Close
144	16" Rock Crash Edge	153	14" Acoustic Hi-hat Open	163	808 Hi-hat Open
145	808 Crash	154	14" Acoustic Hi-hat Edge Close	164	808 Hi-hat Pedal
146	909 Crash	155	14" Acoustic Hi-hat Edge Open	165	808 Hi-hat Splash

Nr.	Name	Nr.	Name	Nr.	Name
HI-HAT					
166	909 Hi-hat Close	176	Lo-Fi Hi-hat Edge	185	Metronome Bell
167	909 Hi-hat Open	177	Lo-Fi Hi-hat Pedal	186	Vibra Slap
168	909 Hi-hat Pedal	178	Lo-Fi Hi-hat Splash	187	Synthesis Percussion
169	909 Hi-hat Splash	PERCUSSION		188	High Q
170	Dance Hi-hat Close	179	Nan Bang	189	Low Q
171	Dance Hi-hat Open	180	Da Mu Yu	190	Mute Hi Conga
172	Dance Hi-hat Pedal	181	Xiao Bo	191	Open High Conga
173	Dance Hi-hat Splash	182	Xiao Luo	192	Low Conga
174	Lo-Fi Hi-hat Close	183	Peng Lin	193	High Bongo
175	Lo-Fi Hi-hat Open	184	Maracas	194	Low Bongo

Nr.	Name	Nr.	Name	Nr.	Name
PERCUSSION					
195	High Agogo	205	Vibraphone Db3	215	Vibraphone B3
196	Low Agogo	206	Vibraphone D3	216	Vibraphone C4
197	Claves	207	Vibraphone Eb3	217	Vibraphone Db4
198	Jingle Bell	208	Vibraphone E3	218	Vibraphone D4
199	Cowbell	209	Vibraphone F3	219	Vibraphone Eb4
200	Tambourine	210	Vibraphone Gb3	220	Vibraphone E4
201	Cabasa	211	Vibraphone G3	221	Vibraphone F4
202	Long Guiro	212	Vibraphone Ab3	222	Vibraphone Gb4
203	Short Guiro	213	Vibraphone A3	223	Vibraphone G4
204	Vibraphone C3	214	Vibraphone Bb3	224	Vibraphone Ab4

Nr.	Name	Nr.	Name	Nr.	Name
PERCUSSION					
225	Vibraphone A4	235	Vibraphone G5	245	Orchestra Timp E2
226	Vibraphone Bb4	236	Vibraphone Ab5	246	Orchestra Timp F2
227	Vibraphone B4	237	Vibraphone A5	247	Orchestra Timp Gb2
228	Vibraphone C5	238	Vibraphone Bb5	248	Orchestra Timp G2
229	Vibraphone Db5	239	Vibraphone B5	249	Orchestra Timp Ab2
230	Vibraphone D5	240	Vibraphone C6	250	Orchestra Timp A2
231	Vibraphone Eb5	241	Orchestra Timp C2	251	Orchestra Timp Bb2
232	Vibraphone E5	242	Orchestra Timp Db2	252	Orchestra Timp B2
233	Vibraphone F5	243	Orchestra Timp D2	253	Orchestra Timp C3
234	Vibraphone Gb5	244	Orchestra Timp Eb2	254	Orchestra Timp Db3

Nr.	Name	Nr.	Name	Nr.	Name
PERCUSSION					
255	Orchestra Timp D3	259	Orchestra Timp Gb3	263	Orchestra Timp Bb3
256	Orchestra Timp Eb3	260	Orchestra Timp G3	264	Orchestra Timp B3
257	Orchestra Timp E3	261	Orchestra Timp Ab3	265	Orchestra Timp C4
258	Orchestra Timp F3	262	Orchestra Timp A3		

10.2 Kit list

Nr.	Name	Nr.	Name	Nr.	Name
1	Standard	12	909	23	Brush
2	Hard Rock	13	Latin	24	World
3	Ballad	14	Room	25	Orchestra
4	Acoustic	15	Percussion 1	26	Ska
5	Funk Band	16	Metal	27	Songo
6	Funk	17	Vibraphone	28	Lo-Fi
7	Jazz Brush	18	Electronic	29	1970's
8	Dance	19	Reggae	30	HipHop
9	Rock	20	Fusion 1	31	Big Band
10	Jazz	21	Drum & Bass	32	Old School
11	808	22	Pop	33	R & B

Nr.	Name	Nr.	Name	Nr.	Name
34	Magic	40	Techno	46	User 1 (Standard)
35	Live	41	Vintage	47	User 2 (Hard Rock)
36	House	42	Junkyard	48	User 3 (Ballad)
37	Jazz Latin	43	Noise	49	User 4 (Acoustic)
38	Fusion 2	44	Studio 1	50	User 5 (Funk Band)
39	Percussion 2	45	Studio 2		

10.3 Styles

Nr.	Name	Nr.	Name	Nr.	Name
1	Blues Funk	12	Fusion 3	23	3/4 Jazz
2	Nu Jazz Funk	13	Fusion 4	24	Jazz
3	Funk 1	14	Fusion 5	25	Latin Jazz 1
4	Funk 2	15	Fusion 6	26	Latin Jazz 2
5	Funk 3	16	Cool Jazz	27	Dance 1
6	Funk 4	17	Big Band 1	28	Disco House
7	Pop Funk 1	18	Big Band 2	29	Trance
8	Pop Funk 2	19	Big Band 3	30	TripHop
9	Retro Funk	20	Big Band 4	31	Drum 'n' Bass
10	Fusion 1	21	Swing	32	Break Beat 1
11	Fusion 2	22	Bebop	33	Dance Funk

Nr.	Name	Nr.	Name	Nr.	Name
34	HipHop	45	80's Metal	56	Latin Rock 2
35	Dance 2	46	Shuffle	57	Mambo
36	D'n'B 1	47	60's Rock	58	Samba 2
37	D'n'B 2	48	Samba 1	59	Latin Pop
38	Break Beat 2	49	Bossa Nova	60	Gtr Bossa
39	Classic Rock	50	Salsa	61	Latin Dance 1
40	Heavy Rock	51	Ska	62	Latin Dance 2
41	Rock Ballad	52	Reggae 1	63	R&B 1
42	Rock'n'Roll	53	Reggae 2	64	R&B 2
43	Punk	54	Reggae 3	65	Jazzy Funk
44	Rock	55	Latin Rock 1	66	Blues

Nr.	Name	Nr.	Name	Nr.	Name
67	Country	77	8 Beat Ballad 2	87	Country
68	Country Pop	78	16 Beat Ballad 1	88	Latin Jazz
69	Country Blues	79	16 Beat Ballad 2	89	Reggae
70	Ballad 1	80	World	90	Latin
71	Brit Pop	81	Funk 1	91	Boogie
72	8 Beat Pop 1	82	Funk 2	92	Disco
73	60's Pop	83	Modern Jazz	93	R'n'B
74	8 Beat 1	84	Big Band	94	Metal
75	8 Beat 2	85	Swing	95	Hardrock
76	8 Beat Ballad 1	86	Slow Fusion	96	8 beat 1

Nr.	Name	Nr.	Name	Nr.	Name
97	8 beat 2	99	Funk 3	100	Funk 4
98	16 beat 1				

10.4 MIDI implementation

Function		Transmitted	Recognised	Remarks
Basic channel	Default	Ch 10	Ch 1...16	
	Changed	No	No	
Mode	Default	No	1	
	Messages	No	No	
	Altered	*****	No	
Note number	True voice	27...88	0...127	

Function		Transmitted	Recognised	Remarks
		*****	0...127	
Velocity	Note ON	Yes (9nH, V=1...127) No (9nH, V=0)	Yes (9nH, V=1...127) No (9nH, V=0; 8nH, V=0...127)	
	Note OFF	Yes (99H, V: 0)	Yes	
Aftertouch	Keys	No	No	
	Channels	No	No	
Pitch bender		No	Yes	
Control change	0	No	Yes	Bank select
	1	No	Yes	Modulation
	5	No	Yes	Portamento time
	6	No	Yes	Data entry
	7	No	Yes	Volume

Function		Transmitted	Recognised	Remarks
	10	No	Yes	Pan
	11	No	Yes	Expression
	64	No	Yes	Sustain pedal
	65	No	Yes	Portamento ON/OFF
	66	No	Yes	Sostenuto pedal
	67	No	Yes	Soft pedal
	80	No	Yes	Reverb program
	81	No	Yes	Chorus program
	91	No	Yes	Reverb level
	93	No	Yes	Chorus level
	120	No	Yes	All Sound Off
	121	No	Yes	Reset All Controllers
	123	No	Yes	All Notes Off

Function		Transmitted	Recognised	Remarks
Program change		No	Yes	
	Variable range	No	0...127	
System exclusive		*****	Yes	
System common	Song Position	No	No	
	Song Select	No	No	
	Tune	No	No	
System real time	Clock	No	No	
	Command	No	No	
Aux messages	Local ON/OFF	No	No	
	All Notes OFF	No	Yes	
	Active Sense	No	Yes	
	System reset	No	Yes	

- Mode 1: OMNI On, Poly
- Mode 2: OMNI On, Mono
- Mode 3: OMNI Off, Poly
- Mode 4: OMNI Off, Mono



