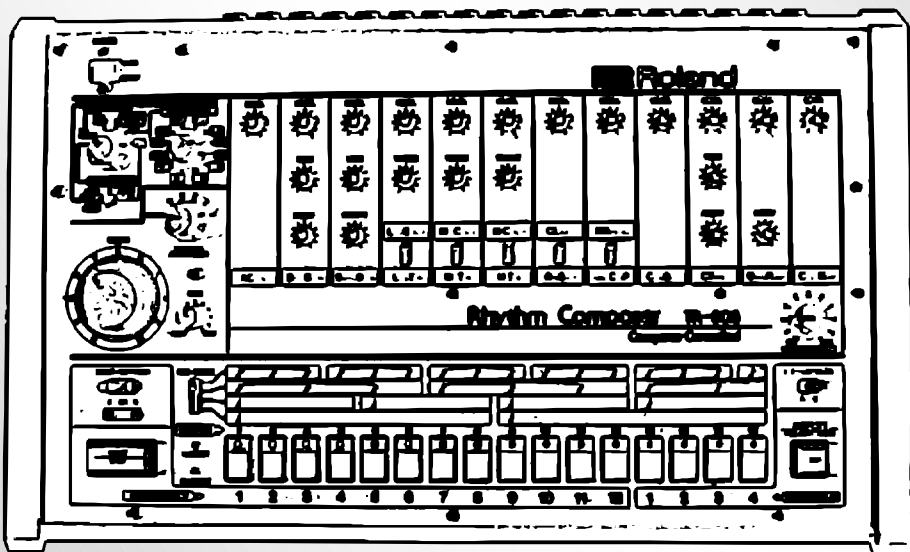


TR808-M

ROLAND TR-808 RHYTHM COMPOSER MIDI INTERFACE



Model 8-448 ver. 3.2

OWNER'S MANUAL



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Manufacturer :
CHD Elektroservis
9.května 78/35, 198 00 Praha 9, Czech Republic
www.chd-el.cz
info@chd-el.cz

1. MIDI INTERFACE DESCRIPTION

The TR-808 MIDI retrofit enables your Roland TR-808 to be connected to MIDI host system. TR-808's sequencer can be synchronized with other MIDI devices. Also TR-808's sound generators can be launched via MIDI notes include their dynamics. TR-808 then works like polyphonic velocity sensitive MIDI drum expander.

2. CONNECTION OF TR-808 TO HOST SYSTEM

TR-808 with installed interface can be connected to DIN-SYNC bus exactly the same way as before the interface installation. More over the instrument can be controlled from any MIDI transmitter via MIDI commands.

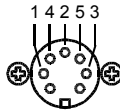
Seven-pins connector on rear panel of TR-808 is used for connection to both DIN-SYNC and MIDI buses.

2.1. CONNECTION OF TR-808 TO DIN-SYNC BUS

Pins number 1 to 5 of SYNC connector on TR-808's rear panel are used for DIN-SYNC bus. For connection, standard four-core shielded cable with 5-pin DIN connector on both ends of cable is used – the connection is the same as before the interface installation.

Also all functions of DIN-SYNC bus stay the same. The bus works in both directions – required operating mode (input / output) is selected by slide switch near the SYNC connector on TR-808's rear panel (see below).

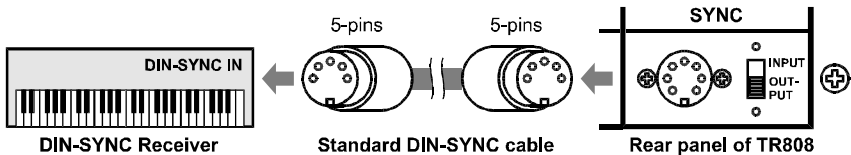
DIN-SYNC IN / OUT



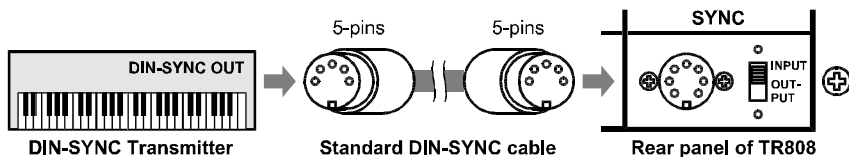
Front view:

- 1 - DIN-SYNC Start / Stop
- 2 - COMMON (Ground)
- 3 - DIN-SYNC Clock
- 4 - DIN-SYNC Fill In
- 5 - DIN-SYNC Reset / Start

Pic. 1 – Connection of TR-808 to DIN-SYNC bus – OUTPUT mode



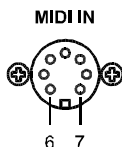
Pic. 2 – Connection of TR-808 to DIN-SYNC bus – INPUT mode



2.2. CONNECTION OF TR-808 TO MIDI BUS

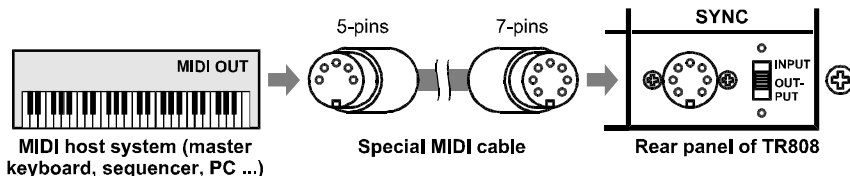
Pins number 6 and 7 of SYNC connector on TR-808's rear panel are used for MIDI bus. For connection, **special MIDI cable** (part of the interface delivery) is necessary. 7-pin connector on one side of the cable is used for SYNC connector on TR-808's rear panel and 5-pin connector on the other side of the cable is used for output of MIDI transmitter.

For proper functionality of MIDI control, the switch near the SYNC connector on TR-808's rear panel must be in center position. Host MIDI system must transmit sync data MIDI Clock, Transport and Note-On commands.



Front view:
 6 - MIDI In (+)
 7 - MIDI In (-)

Pic. 3 – Connection of TR-808 to MIDI system



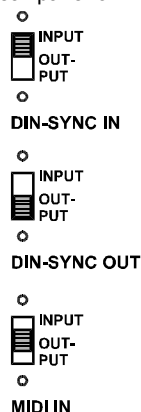
3. OPERATION

MIDI interface is activated by setting of SYNC switch on TR-808's rear panel to center position. Then the interface works automatically (in dependence on global parameter setting and on selected program number) and it need not any next user's incidence.

3.1. TR-808'S OPERATION MODES SELECTION

TR-808's operation mode is selected by three-position SYNC slide switch on rear panel of TR-808:

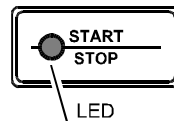
- In upper position "INPUT", input mode of DIN-SYNC bus is selected. MIDI interface is turned off in this mode and all functions of TR-808 stay the same as in original instrument. TR-808 is controlled via external analogue sync signals and/or by controllers on TR-808's panel respectively.
- In lower position "OUTPUT", output mode of DIN-SYNC bus is selected. MIDI interface is turned off in this mode and all functions of TR-808 stay the same as in original instrument. TR-808 is control by controllers on TR-808's panel and corresponding commands are transmitted to DIN-SYNC output simultaneously.
- In center position (without label) of SYNC switch, MIDI mode is selected. TR-808 is controlled via received MIDI commands and/or by controllers on TR-808's panel (selectable). Activity of MIDI mode is indicated by light of LED indicator under START / STOP button on TR-808's panel.



3.2. OPERATION MODES INDICATION

In all working modes (DIN-SYNC and MIDI), the functionality of all original LEDs on TR-808's panel remains the same as on the original non-retrofitted instrument.

LED installed under the START / STOP button indicates MIDI operation mode. The LED lights continuously while MIDI operation mode is active and the interface works normally. The LED can indicate received MIDI commands too. This function can be enabled or disabled by user with help of MIDI SysEx message. If the function is enabled, the LED always shortly blinks if acceptable MIDI command is received. But in the case of dense data flow, short blinks are merged and the LED doesn't light at all apparently. So the indication of received MIDI commands is disabled during factory setting.



3.3. GLOBAL PARAMETERS

After TR-808 is turned on (after reset), the interface reads setting of global parameters from its internal memory. The parameters then control interface's function during operation. Values of global parameters are programmable by user – changes can be done with help of MIDI System Exclusive Messages.

3.3.1. "MIDI CHANNEL" PARAMETER

The parameter selects MIDI channel number for MIDI data receiving if TR-808 is working in MIDI mode. Any of MIDI channel 1 to 16 can be programmed by user.

MIDI channel Nr. 10 is programmed for MIDI communication during factory setting. MIDI channel number can be changed with help of MIDI SysEx message if necessary.

3.3.2. “DEFAULT PROGRAM NR.“ PARAMETER

The parameter specifies number of program which will be set as active after TR-808 is turned on (after reset).

Program Nr. 1 (see table 2) is set as default during factory setting. If necessary, default program number can be changed with help of MIDI SysEx message.

3.3.3. “MIDI MSG INDICATOR“ PARAMETER

The parameter enables or disables indication of received MIDI data in MIDI operation mode.

Indication of MIDI data receiving is disabled during factory setting. If necessary, it can be enabled with help of MIDI SysEx message.

3.3.4. “DAC CALIBRATION“ PARAMETER

The parameter calibrates amplitude of trigger pulses for TR-808's sound generators so that all generators would be launched correctly.

Parameter value is set to 127 during factory setting. If necessary, its value can be changed with help of MIDI SysEx message.

Calibration procedure in detail is described in installation manual.

4. MIDI IMPLEMENTATION

In MIDI operation mode, the interface uses MIDI channel commands, common system commands and System Exclusive Messages.

4.1. CHANNEL MIDI MESSAGES

The interface receives channel MIDI commands on MIDI channel selected by “MIDI Channel“ global parameter. Factory setting is MIDI channel Nr. 10. Default MIDI channel number can be changed with help of MIDI SysEx message if necessary.

From channel MIDI commands, only “Note On“ and “Program (Patch) Change“ are accepted. All others channel commands are ignored by the interface.

4.1.1. NOTE-ON COMMANDS

The interface accepts MIDI note numbers in range from 0 (00h) to 120 (78h). Any of eleven TR-808's sound generators can be assigned to every of accepted MIDI notes. Also none sound generator can be assigned – that MIDI note is then ignored.

Assigning of TR-808's sound generators to particular MIDI notes is user programmable with help of MIDI SysEx messages. Assigning programmed during factory setting is listed in table 1 (also see pic. 5). That setting conforms to C/M, GM, GS, XG standards Complete drum maps of these standards are listed in table 5 (see appendix C.).

**Table 1 – MIDI notes assigning after “Factory Reset”**

Note Nr.		Assigned sound generator				Note Nr.		Assigned sound generator			
dec	hex	Nr.	Instrument name	Dynamics		dec	hex	Nr.	Instrument name	Dynamics	
				From	To					From	To
0	00	0	None	0	127	41	29	3	Lo Tom / Lo Conga	0	127
1	01	0	None	0	127	42	2A	11	Closed Hi-Hat	0	127
2	02	0	None	0	127	43	2B	3	Lo Tom / Lo Conga	0	127
3	03	0	None	0	127	44	2C	10	Open Hi-Hat	0	127
4	04	0	None	0	127	45	2D	4	Mid Tom / Mid Conga	0	127
5	05	0	None	0	127	46	2E	10	Open Hi-Hat	0	127
6	06	0	None	0	127	47	2F	4	Mid Tom / Mid Conga	0	127
7	07	0	None	0	127	48	30	5	Hi Tom / Hi Conga	0	127
8	08	0	None	0	127	49	31	9	Cymbal	0	127
9	09	0	None	0	127	50	32	5	Hi Tom / Hi Conga	0	127
10	0A	0	None	0	127	51	33	9	Cymbal	0	96
11	0B	0	None	0	127	52	34	0	None	0	127
12	0C	0	None	0	127	53	35	10	Open Hi-Hat	0	32
13	0D	0	None	0	127	54	36	7	Hand Clap / Maracas	0	127
14	0E	0	None	0	127	55	37	9	Cymbal	0	96
15	0F	0	None	0	127	56	38	8	Cow Bell	0	127
16	10	0	None	0	127	57	39	9	Cymbal	0	127
17	11	0	None	0	127	58	3A	0	None	0	127
18	12	0	None	0	127	59	3B	9	Cymbal	0	96
19	13	0	None	0	127	60	3C	3	Lo Tom / Lo Conga	0	127
20	14	0	None	0	127	61	3D	4	Mid Tom / Mid Conga	0	127
21	15	0	None	0	127	62	3E	5	Hi Tom / Hi Conga	0	127
22	16	0	None	0	127	63	3F	4	Mid Tom / Mid Conga	0	127
23	17	0	None	0	127	64	40	5	Hi Tom / Hi Conga	0	127
24	18	0	None	0	127	65	41	0	None	0	127
25	19	0	None	0	127	66	42	0	None	0	127
26	1A	0	None	0	127	67	43	0	None	0	127
27	1B	0	None	0	127	68	44	0	None	0	127
28	1C	0	None	0	127	69	45	7	Hand Clap / Maracas	0	96
29	1D	0	None	0	127	70	46	7	Hand Clap / Maracas	0	127
30	1E	0	None	0	127	71	47	0	None	0	127
31	1F	2	Snare Drum	0	64	72	0C	0	None	0	127
32	20	6	Rim Shot / Claves	0	64	73	0D	0	None	0	127
33	21	1	Bass Drum	0	64	74	0E	0	None	0	127
34	22	6	Rim Shot / Claves	0	127	75	0F	0	Rim Shot / Claves	0	127
35	23	1	Bass Drum	0	127	76	10	0	None	0	127
36	24	1	Bass Drum	0	127	77	11	0	None	0	127
37	25	6	Rim Shot / Claves	0	127	78	12	0	None	0	127
38	26	2	Snare Drum	0	127	79	13	0	None	0	127
39	27	7	Hand Clap / Maracas	0	127	80	14	0	None	0	127
40	28	2	Snare Drum	0	127	81	15	0	None	0	127

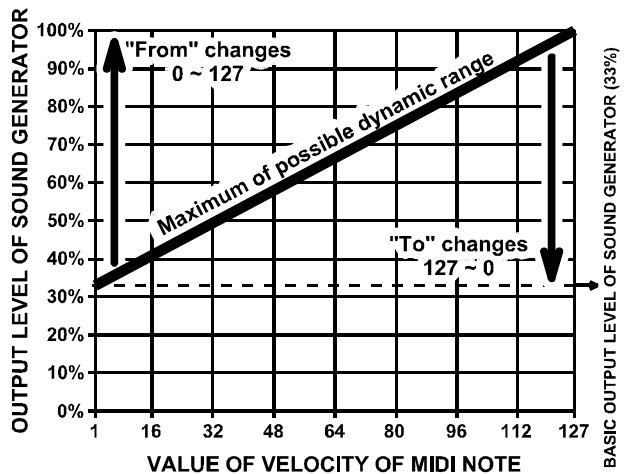
Table 1 –MIDI notes assigning after “Factory Reset” (Continue)

Note Nr.		Assigned sound generator				Note Nr.		Assigned sound generator			
dec	hex	Nr.	Instrument name	Dynamics		dec	hex	Nr.	Instrument name	Dynamics	
				From	To					From	To
82	16	0	Hand Clap / Maracas	0	64	102	66	0	None	0	127
83	17	0	None	0	127	103	67	0	None	0	127
84	18	0	None	0	127	104	68	0	None	0	127
85	19	0	None	0	127	105	69	0	None	0	127
86	1A	0	None	0	127	106	6A	0	None	0	127
87	1B	0	None	0	127	107	6B	0	None	0	127
88	1C	0	None	0	127	108	6C	0	None	0	127
89	1D	0	None	0	127	109	6D	0	None	0	127
90	1E	0	None	0	127	110	6E	0	None	0	127
91	1F	2	None	0	127	111	6F	0	None	0	127
92	20	6	None	0	127	112	70	0	None	0	127
93	21	1	None	0	127	113	71	0	None	0	127
94	22	6	None	0	127	114	72	0	None	0	127
95	5F	0	None	0	127	115	73	0	None	0	127
96	60	0	None	0	127	116	74	0	None	0	127
97	61	0	None	0	127	117	75	0	None	0	127
98	62	0	None	0	127	118	76	0	None	0	127
99	63	0	None	0	127	119	77	0	None	0	127
100	64	0	None	0	127	120	78	0	None	0	127
101	65	0	None	0	127						

Pic. 4 – Setting of sound generator’s dynamics

TR808-M interface receives info about dynamics too – “Velocity” value of Note-On MIDI commands is converted to output level of acoustic signal outgoing from assigned sound generators. Independent conversion slope (i.e. dynamic range of assigned sound generator) can be defined for every of acceptable MIDI notes. Conversion slope can be defined with help of MIDI System Exclusive Messages. Dynamic range programmed during factory setting is listed in table 1.

Required dynamic range of assigned sound generator is specified with values of “Dynamics From” and “Dynamics To” parameters. “Dynamics From”



defines output level sound generator if value of "Velocity" is 1 and "Dynamics To" defines output level of sound generator if value of "Velocity" is 127.

For all others "Velocity" values (from 2 to 126), output level of sound generator is linearly interpolated between "Dynamics From" and "Dynamics To" values.

So maximal possible dynamic range is set for value 0 for "Dynamics From" and value 127 for "Dynamics To". This range corresponds to range of ACCENT controller on TR-808's panel if sound generators are driven by TR-808's internal sequencer.

Pic. 5 – Drumset after factory reset

Note 1: TR-808 tone generators reaction to the MIDI Velocity is different for each particular drum sound. Some of the sounds have large accent sensitivity range and some of the generators provide only minor changes with the higher accent level. This is done by the TR-808 construction and it is not possible to change it without major TR-808 circuitry modification.

Note 2: Dynamic range is defined for every MIDI note independently so if one sound generator is assigned to more than one MIDI note, it may have different range for every of that notes.

4.1.2. PROGRAM (PATCH) CHANGE COMMANDS

Program (Patch) Change commands choose method of control and time synchronization for internal sequencer and method of launching of sound generators of TR-808.

The interface uses full range of program numbers 0 to 127. Required control functions can be programmed (with help of SysEx Message) for any program number independently. Also a program number can be ignored – no changes occur after that program number receiving.

User can choose which of programs will be active after the interface reset (after TR-808 is turned on). Global parameter "Default Program" specifies that program number.

Appropriate combination of control functions (for internal sequencer and sound generators control) is activated in dependence on selected program number. Definition of control functions for particular programs is listed in table 2.

• Control of tempo of internal sequencer

Tempo of internal sequencer of TR-808 can be control by TR-808's internal clock pulses generator or it can be derived from MIDI Clock commands. Also both clock sources can be turned off. Internal sequencer of TR-808 is totally deactivated in that case.

31		Snare Drum
32	32	Rim Shot / Claves
33		Bass Drum
34	34	Rim Shot / Claves
35		Bass Drum
36		Bass Drum
37	37	Rim Shot / Claves
38		Snare Drum
39	39	Hand Clap / Maracas
40		Snare Drum
41		Low Tom / Low Conga
42	42	Cloded Hi-Hat
43		Low Tom / Low Conga
44	44	Open Hi-Hat
45		Mid Tom / Mid Conga
46	46	Open Hi-Hat
47		Mid Tom / Mid Conga
48		High Tom / High Conga
49	49	Cymbal
50		High Tom / High Conga
51	51	Cymbal
52		Cymbal
53		Open Hi-Hat
54	54	Hand Clap / Maracas
55		Cymbal
56	56	Cow Bell
57		Cymbal
58	58	-
59		Cymbal
60		Mid Tom / Mid Conga
61	61	High Tom / High Conga
62		Low Tom / Low Conga
63	63	Mid Tom / Mid Conga
64		High Tom / High Conga
65		-
66	66	-
67		-
68	68	-
69		Hand Clap / Maracas
70	70	Hand Clap / Maracas
71		-
72		-
73	73	-
74		-
75	75	Rim Shot / Claves
76		-
77		-
78	78	-
79		-
80	80	-
81		-
82	82	Hand Clap / Maracas

- **Control of run of internal sequencer**

Run of internal sequencer (its START and STOP) can be control by START / STOP button on TR-808's panel or it can be control by MIDI Transport commands (Start, Stop, Continue). Also both methods of control can be chosen simultaneously. If both sources of clock pulses for the sequencer are turned off (see above), the sequencer is deactivated at all and it can't be launched anyway.

- **Launching of sound generators**

TR-808's sound generators can be launched with internal sequencer of TR-808 only or they can be launched with help of MIDI Note-On commands simultaneously. With help of MIDI notes, sound generators are launched anytime without dependence on status of TR-808's internal sequencer.

Not all combinations of control function have a meaning. Valid combinations are put into fourteen top positions of programs during factory setting. Others program numbers are ignored:

Table 2 – Program map after “Factory Reset”

Program Nr.	Control function			Remarks
	Sound generators activity	Tempo of sequencer	Start / Stop commands	
1	sequencer or MIDI notes	only internal	internal or MIDI cmd	¹⁾
2	sequencer or MIDI notes	only MIDI clock	internal or MIDI cmd	¹⁾
3	sequencer or MIDI notes	only internal	only internal	¹⁾
4	sequencer or MIDI notes	only MIDI clock	only internal	¹⁾
5	sequencer or MIDI notes	only internal	only MIDI commands	¹⁾
6	sequencer or MIDI notes	only MIDI clock	only MIDI commands	
7	sequencer	only internal	internal or MIDI cmd	¹⁾
8	sequencer	only MIDI clock	internal or MIDI cmd	¹⁾
9	sequencer	only internal	only internal	¹⁾ ²⁾
10	sequencer	only MIDI clock	only internal	¹⁾
11	sequencer	only internal	only MIDI commands	¹⁾
12	sequencer	only MIDI clock	only MIDI commands	
13	MIDI notes	sequencer disabled	none	³⁾
14	none	sequencer disabled	none	⁴⁾
15 to 128	no changes	no changes	no changes	⁵⁾

¹⁾ Internal means that TR-808 can be control by controllers on device's panel.

²⁾ MIDI interface disabled – TR-808 is controlled only by its own controllers.

³⁾ TR-808 works as MIDI sound expander. Its own controllers are disabled.

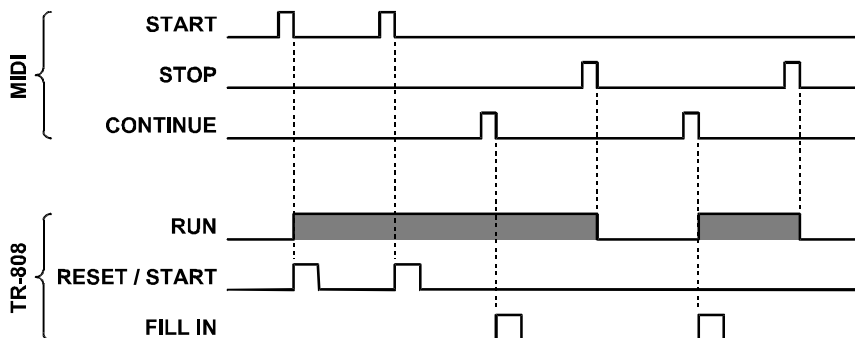
⁴⁾ Both TR-808 and MIDI interface are disabled.

⁵⁾ Ignored program numbers – no changes occur after their receiving.

4.2. COMMON SYSTEM MESSAGES

Only "MIDI Clock", "Start", "Stop" and "Continue" common system commands are used for the interface control. These commands control tempo and launching and stopping of TR-808's internal sequencer in dependence on synchronization method (i.e. on selected program number).

Pic. 6 – Reaction of TR808-M to system MIDI commands



For the proper synchronization, the "MIDI Clock" tempo must be between 40 and 260 BPM. For lower or higher tempo, TR-808's sequencer already can't synchronize. Reaction of TR-808 to "Start", "Stop" and "Continue" MIDI commands is shown on pic. 6.

4.3. SYSTEM EXCLUSIVE MESSAGES

The interface disposes with MIDI System Exclusive communication system for remote control and programming. With help of System Exclusive messages, global parameters can be changed and instrument and program maps can be defined. System Exclusive communication enables direct control of the interface too.

System Exclusive communication is described in standalone publication in detail.

Special software generator for easy creation of SysEx messages is available on supplemental CD-ROM. Any required message can be created with the help of this generator without difficult calculation of hexadecimal numbers. Generator is based on Java scripts so it is possible to use it with any PC operation system, but a web browser must be installed on the computer.

APPENDICES

A. WARRANTY CONDITIONS

The equipment is provided with **thirty-month warranty** starting from the date of the equipment take-over by the customer. This date must be specified on warranty list together with dealer's confirmation. During this period of time, all defects of equipment or its accessories, caused by defective material or faulty manufacturing, will be removed free of charge. Warranty repair is asserted by the customer against the dealer. Warranty period is to be extended for the time period, during which the product was under the warranty repair. The relevant legal regulations take effect in case of cancellation of purchase contract.

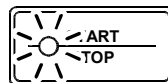
The customer will lose the right for free warranty repair, if he will not be able to submit properly filled out warranty list or if the defects of the product had been caused by:

- unavoidable event (natural disaster),
- connecting the device to the incorrect supply voltage,
- inputs or outputs overloading by connecting the signals source or load source with not-corresponding characteristics etc.,
- faulty equipment operation, which is at variance with the instructions referred-to in the operating manual,
- mechanical damage caused by consumer during transportation or usage of equipment,
- unprofessional interference with the equipment or by equipment modification without manufacturer's approval.

B. ERROR INDICATION

Table 4 – Error statuses			
Error Nr.	Error description		Blinks of LED
	Name	Indicated problem	
1	EEPROM Malfunction	MIDI interface internal memory does not communicate with CPU - reset the interface by switching the TR-808 off and on. If the error remains after the reset it is a hardware failure. Please contact the authorized service.	1
2	EEPROM Busy	MIDI interface internal memory is reacting too slowly to the CPU requirements - reset the interface by switching the TR-808 off and on. If the error remains after the reset it is a hardware failure. Please contact the authorized service.	2
3	EEPROM Failed Cell	Invalid data in the internal memory MIDI cell - reset the interface by switching the TR-808 off and on. If the error remains after the reset it is a hardware failure. Please contact the authorized service.	3
4	MIDI Buffer Overflow	MIDI data loss at the MIDI input - too much MIDI data has been sent to the instrument.	4
5	DAC Malfunction	Internal D/A converter of the MIDI interface does not communicate with CPU - reset the interface by switching the TR-808 off and on. If the error remains after the reset it is a hardware failure. Please contact the authorized service.	5

The LED under the START / STOP button is used as an error indicator. Blinking LED is indicating the error status i.e. some error occurs and it disallows correct operation of the interface. The number of LED blinks is indicating the error number - see table 4. To reset the interface, switch the TR-808 off and then on.



C. DRUM SETS OF C/M, GM, GS AND XG STANDARDS

Table 5 – C/M , GM, GS, XG standards				
Note No.	Standard			
	C/M Instruments	GM Instruments	GS Instruments	XG Instruments
13	-	-	-	Muted Surdo
14	-	-	-	Open Surdo
15	-	-	-	High Q
16	-	-	-	Whip Slap
17	-	-	-	Scratch Push
18	-	-	-	Scratch Pull
19	-	-	-	Finger Slap
20	-	-	-	Click Noise
21	-	-	-	Metronome Click
22	-	-	-	Metronome Bell
23	-	-	-	Seq Click Low
24	-	-	-	Seq Click High
25	-	-	Snare Roll	Brush Tap
26	-	-	Finger Slap	Brush Swirl Low
27	-	-	High Q	Brush Slap
28	-	-	Slap	Brush Swirl High
29	-	-	Scratch Push	Snare Roll
30	-	-	Scratch Pull	Castanet
31	-	-	Sticks	Snare Low
32	-	-	Square Click	Sticks
33	-	-	Metronome Click	Bass Drum Low
34	-	-	Metronome Bell	Open Rim Shot
35	Acoustic Bass Drum	Acoustic Bass Drum	Bass Drum 2	Bass Drum Mid
36	Acoustic Bass Drum	Bass Drum 1	Bass Drum 1	Bass Drum High
37	Rim Shot	Side Stick	Side Stick	Side Stick
38	Acoustic Snare Drum	Acoustic Snare Drum	Snare Drum 1	Snare Drum Mid
39	Hand Clap	Hand Clap	Hand Clap	Hand Clap
40	Electric Snare Drum	Electric Snare Drum	Snare Drum 2	Snare Drum High
41	Low Tom	Low Floor Tom	Low Tom 2	Low Floor Tom
42	Closed Hi-Hat	Closed Hi-Hat	Closed Hi-Hat	Closed Hi-Hat
43	Low Tom	High Floor Tom	Low Tom 1	High Floor Tom
44	Open Hi-Hat 2	Pedal Hi-Hat	Pedal Hi-Hat	Pedal Hi-Hat
45	Mid Tom	Low Tom	Mid Tom 2	Low Tom
46	Open Hi-Hat 1	Open Hi-Hat	Open Hi-Hat	Open Hi-Hat
47	Mid Tom	Low-Mid Tom	Mid Tom 1	Low-Mid Tom
48	High Tom	Hi-Mid Tom	High Tom 2	Hi-Mid Tom
49	Crash Cymbal	Crash Cymbal 1	Crash Cymbal 1	Crash Cymbal 1
50	High Tom	High Tom	High Tom 1	High Tom

Table 5 – C/M , GM, GS, XG standards (Continue)

Note No.	Standard			
	C/M Instruments	GM Instruments	GS Instruments	XG Instruments
51	Ride Cymbal	Ride Cymbal 1	Ride Cymbal 1	Ride Cymbal 1
52	-	Chinese Cymbal	Chinese Cymbal	Chinese Cymbal
53	-	Ride Bell	Ride Bell	Ride Cymbal Cup
54	Tambourine	Tambourine	Tambourine	Tambourine
55	-	Splash Cymbal	Splash Cymbal	Splash Cymbal
56	Cow Bell	Cow Bell	Cow Bell	Cow Bell
57	-	Crash Cymbal 2	Crash Cymbal 2	Crash Cymbal 2
58	-	Vibraslap	Vibraslap	Vibraslap
59	-	Ride Cymbal 2	Ride Cymbal 2	Ride Cymbal 2
60	High Bongo	High Bongo	High Bongo	High Bongo
61	Low Bongo	Low Bongo	Low Bongo	Low Bongo
62	Muted High Conga	Muted High Conga	Muted High Conga	Muted High Conga
63	Open High Conga	Open High Conga	Open High Conga	Open High Conga
64	Low Conga	Low Conga	Low Conga	Low Conga
65	High Timbale	High Timbale	High Timbale	High Timbale
66	Low Timbale	Low Timbale	Low Timbale	Low Timbale
67	High Agogo	High Agogo	High Agogo	High Agogo
68	Low Agogo	Low Agogo	Low Agogo	Low Agogo
69	Cabasa	Cabasa	Cabasa	Cabasa
70	Maracas	Maracas	Maracas	Maracas
71	Samba Whistle Short	Short Whistle	Short High Whistle	Samba Whistle High
72	Samba Whistle Long	Long Whistle	Long Low Whistle	Samba Whistle Low
73	Quijada	Short Guiro	Short Guiro	Short Guiro
74	-	Long Guiro	Long Guiro	Long Guiro
75	Claves	Claves	Claves	Claves
76	-	High Wood Block	High Wood Block	High Wood Block
77	-	Low Wood Block	Low Wood Block	Low Wood Block
78	-	Muted Cuica	Muted Cuica	Muted Cuica
79	-	Opened Cuica	Open Cuica	Open Cuica
80	-	Muted Triangle	Muted Triangle	Muted Triangle
81	-	Open Triangle	Open Triangle	Open Triangle
82	-	-	Shaker	Shaker
83	-	-	Jingle Bell	Jingle Bell
84	-	-	Bell Tree	Bell Tree
85	-	-	Castanets	-
86	-	-	Muted Surdo	-
87	-	-	Open Surdo	-

D. MIDI IMPLEMENTATION CHART

 Device : **TR808-M**
 Model : **8-448**

 Date : 7 / 2009
 Version : 3.1

Function		Transmission	Reception	Remarks
Basic Channel	Default	X	10	1)
	Changed	X	1~16	
Mode	Default	X	Mode 3	Not Altered
	Messages	X	X	
Note Number		X	0~120	2)
Velocity	Note ON	X	O	
	Note OFF	X	X	
After Touch	Key's	X	X	
	Channel's	X	X	
Pitch Bender		X	X	
Control Changes		X	X	
Program Change		X	O	
System Exclusive		X	O	See System Exclusive description
System Common	Song Position	X	X	
	Song Select	X	X	
	Tune	X	X	
System Real Time	Clock	X	O	
	Command	X	O	
Others	Local ON/OFF	X	X	
	All Notes Off	X	X	
	Active Sensing	X	X	
	Reset	X	X	

Notes :

1) Can be changed by SysEx Msg.

2) Only "Note-On" commands are received. Notes with numbers out of range are ignored.

 Mode 1 : **OMNI ON, POLY**
 Mode 3 : **OMNI OFF, POLY**

 Mode 2 : **OMNI ON, MONO**
 Mode 4 : **OMNI OFF, MONO**
O : Yes
X : No

