

# MB-606RE

## Introduction

The MB-606RE is a re-edit of CYM/HH and BD/SD drum parts of the Roland TR-606 to be controlled via MIDI (midibox) or CV through analog-Sequencers , in a a Eurorack-designed panel. Well known Circuit Mods from around Web & time are included by default.

## FrontPanel

On Re-design

First Version:



- [Drilling + Engraving + SmashTV Core32 Layout](#)

## General Design

The MB-606re is part of the EuroLand Group... (606, 808, 909)

It can be used in 2 Cases:

Midi /CV+Trig

**1. Midi:** Use the MB-Modulbox Standartmodules, for Digital UI and CV+Trig-Generation

**2. CV+Trig:** Just Plug CV or Trig Jacks into the Analog Modules...without Midibox.

## Use with Midi

### MB-Modulbox Main PCB UI

**Access** to System-Settings, Channel, NoteNumbers  
**CV+Trig Out-Jacks** for Euroland Drum Modules

### MB-Modulbox 8xPotentiometer Module

When using the Euroland Modules via Midi, then there are some Performance Parameters available: accessible via MB-Modulbox 8xPot - PCB. Have to be activated via Software. (Menu Point)

All Functions have effect on all 8 Voices @ once.

- 1.Velocity Offset** (-+64 > with Center Position = normal)
- 2.Velocity Kill depending Note Kill** (-+64 > with Center Position = normal > Full Spectrum)
- 3.Random Kill** (0=full Kill, 127 no Kill, Normal Position > 127)
- 4.Velocity 2 TriggerLength** (-+64 > with Center Position = normal 10ms, turn right:time inc by velocity in%, turn left:decrease%)
- 5.Accent:** (0-127-normal 127)
- 6.—:** could be something like Roll
- 7.—:** not used, could be something like a Accent for a Group of CVs
- 8.—:** not used, could be something like a Accent for a Group of CVs

### MB-Modulbox 8x8 LED-Button-Matrix

Set CV + Trig Routing (some kind of trigger matrix), standard is 1:1 routing, so no need for this if fixed setup.

## Use with Midi or with Analog CV+Trig

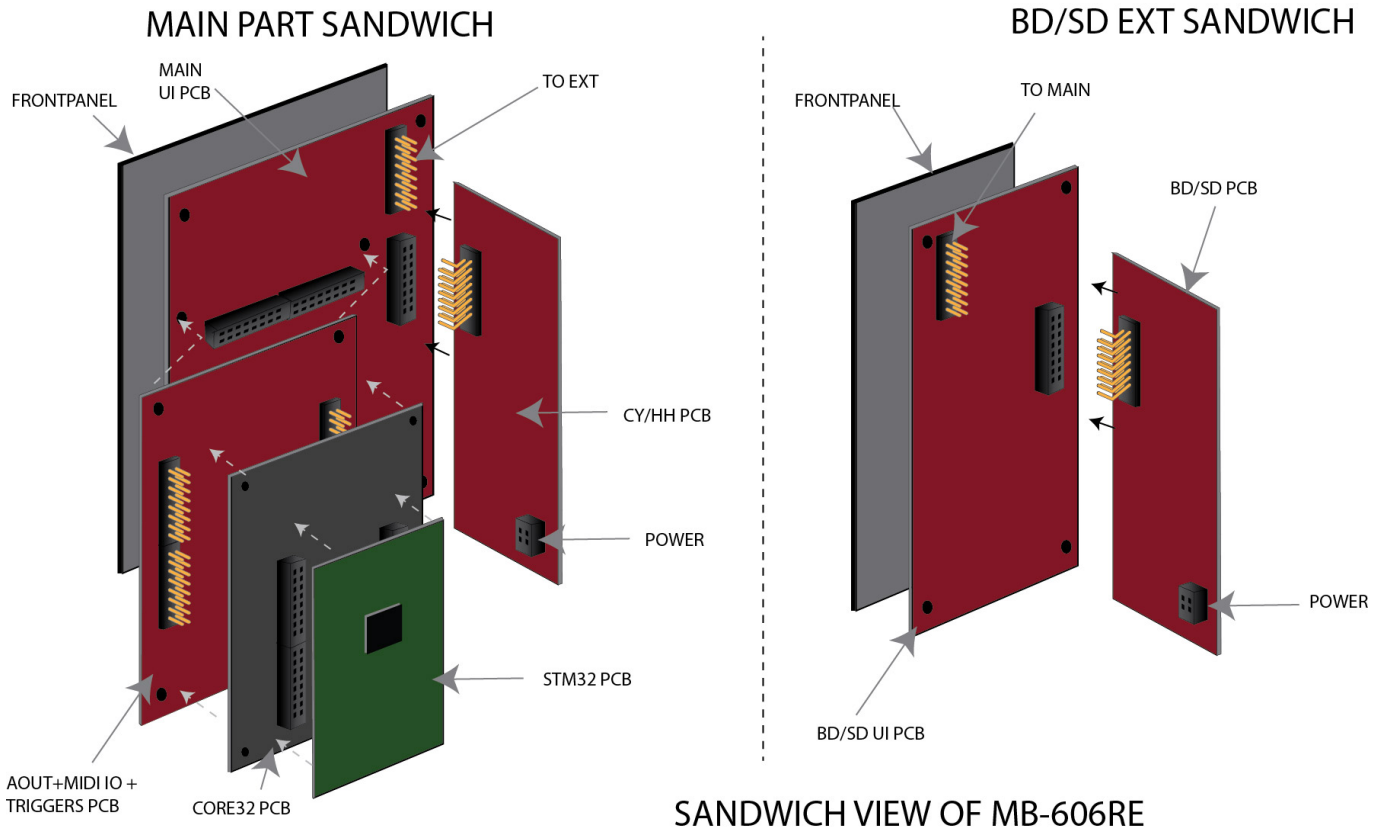
Here are only the Analog-Drum-PCB discussed, since all other Digital UI is based on MB-Modulbox Standard Modules, the MB-Modulbox Main PCB2 is special Variant, described here.

### 606 BD+SD, 606 HH+CY

To spare Space: **we sandwich in 2 layers**

- **1st PCB** : BD+SD UI-PCB / HH+CY UI-PCB »> Breakoutboard+Potentiometer Boards
- **2nd PCB** : Analog Circuits: 2n We get the Analog Circuits mounted 90° angled with vertical female socket and angled DIL Pinheaders for better heat dissipation

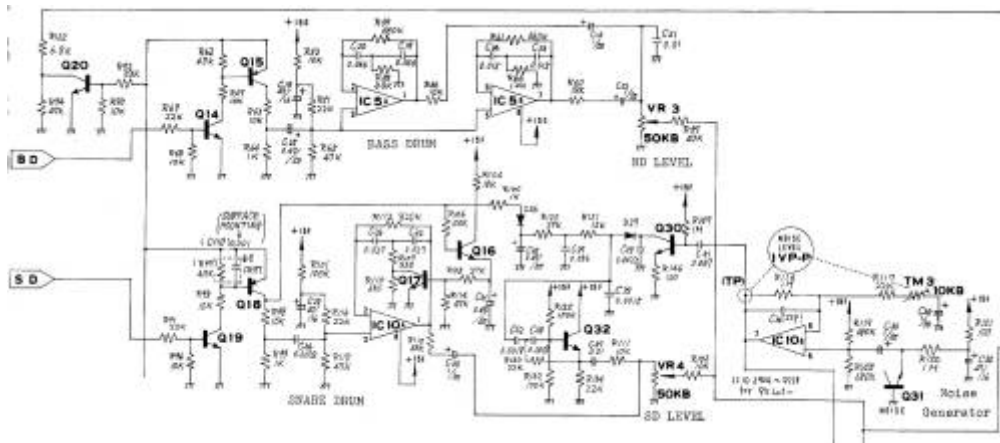
# Sandwich view - Analog Boards



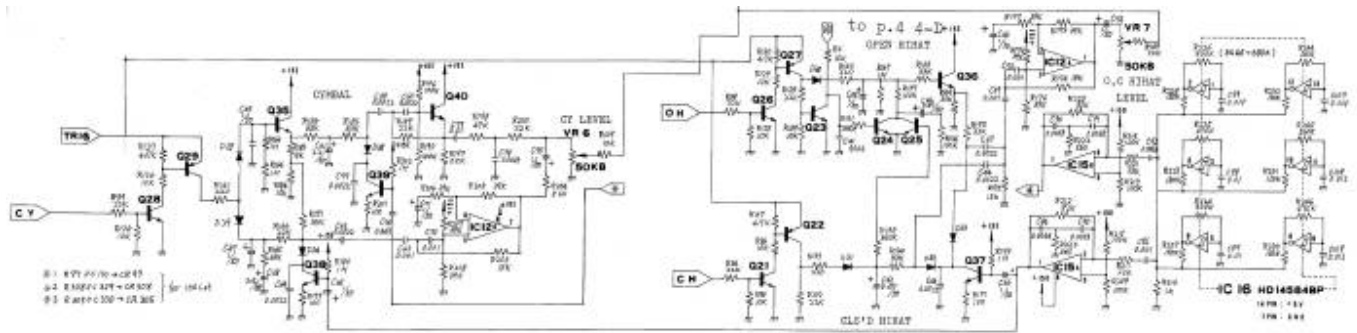
# Original Schematics



### BD / SD



### CY / HH



## Mods

### Mod Sources

- [Geoff Waterston](#)
- [confusedmachines](#)
- [amazona-workshop](#)

### Analog Mods

- **HH Noise:** 10K or 50K lin or log, have to check, originally 10K trimpot, only change volume not to absolute silence.
- **6OSC-Gain:** 50K log (not sure)
- **CY-HH Ext:** 50K lin
- **CY-HH BPF-Resonance:** 100K Stereo lin
- **CY-HH BPF1:** 5K lin
- **CY-HH BPF2:** 5K lin
- **CY-HPF:** : 50K log
- **HH-HPF:** 50K log
- **OH Decay:** 1M lin
- **CH Decay:** 1M lin
- **CY Decay:** 2M lin (internet) Phats machine has a 4M log
- **BD Tune:** 50K Log
- **BD Decay:** 2M lin
- **BD Tone:** 100K lin
- **Noise:** 50K log
- **SD Snappy:** 100K lin
- **SD Decay:** 500K lin
- **SD Tune:** 1M lin

## On-Going

### 1. UI Parts Listing

## Frontpanel

- [Jacks 3.5mm @ Thonk](#)
- [SPDT Switch ON-OFF-ON @ Rs-components](#)
- [Mini DIN 4 poles @ Rs-components](#)

Value	Type	Qty
3.5mm Jack	Vertical PCB-Mount	13
Switch	SPDT Vertical PCB-Mount ON-OFF-ON	1

## Pots / Knobs

- [Alps RK11K Series](#)
- [Alpha Pots @ Thonk](#)
- [Knobs Suppliers](#)

Value	Type	Qty
5K	Linear	2
10K	Linear	6
50K	Linear	6
50K	Logarithmic	6
100K	Linear	2
1M	Linear	3
2M?	Linear	2
Knobs	Soft/Plastic/Alu	31

## 2. BD/SD - CYM/HH Parts Listing

### Modded BD

Value	Type	Qty	Original Designation
2SA733/BC547	Transistor	1	Q15
2SC945/BC557	Transistor	2	Q14,Q20
JRC2904/LM2904	OpAmp	1	IC5
50K $\Omega$	Pot Log	2	Level, ModTune
100K $\Omega$	Pot Linear	1	ModTone
2M $\Omega$	Pot Linear	1	ModDecay
0,47 $\mu$ F/50V	Capa Elec	1	C25
1 $\mu$ F/50V	Capa Elec	1	C22
33 $\mu$ F/16V	Capa Elec	1	C19
47 $\mu$ F/16V	Capa Elec	1	C18
0,015 $\mu$ F	Capa Ceram	2	C23,C24
0,01 $\mu$ F	Capa Ceram	1	C21
1K $\Omega$	Res 1/4W	1	R64
3,3K $\Omega$	Res 1/4W	1	R58
4,7K $\Omega$	Res 1/4W	1	R62
6,8K $\Omega$	Res 1/4W	1	R122

Value	Type	Qty	Original Designation
10KΩ	Res 1/4W	5	R52,R56Mod/R67/R68/R93
22KΩ	Res 1/4W	2	R51,R69
33KΩ	Res 1/4W	1	R92
47KΩ	Res 1/4W	3	R59,R65,R94
100KΩ	Res 1/4W	1	R57
470KΩ	Res 1/4W	1	R56
560KΩ	Res 1/4W	1	R61

### Modded Noise/SD

Value	Type	Qty	Original Designation
2SA733/BC547	Transistor	1	Q18
2SC945/BC557	Transistor	6	Q19,Q17,Q16,Q30,Q31,Q32
JRC4558/NJM4558D	OpAmp	1	IC10
50KΩ	Pot Log	2	Level,Noise
100KΩ	Pot Linear	1	ModSnappy
500KΩ	Pot Linear	1	ModDecay
1MΩ	Pot Linear	1	ModTune
1N4148	Diode	2	D26,D27
22pF	Capa Ceram	1	C36Mod
0,001μF	Capa Ceram	1	C97
0,0015μF	Capa Ceram	1	C38
0,0018μF	Capa Ceram	2	C52,C58
0,0033μF	Capa Ceram	1	C34
0,01μF	Capa Ceram	1	C57
0,027μF	Capa Ceram	2	C32,C33
0,047μF	Capa Ceram	1	C51
0,055μF	Capa Ceram	1	C37
2,2μF	Capa Ceram	1	C35Mod
0,47μF/50V	Capa Elec	2	C31,C35
1μF/50V	Capa Elec	2	C30,C53
47μF/16V	Capa Elec	2	C28,C54
100Ω	Res 1/4W	2	R146,R151
330Ω	Res 1/4W	2	R107,R153
680Ω	Res 1/4W	1	R115
1KΩ	Res 1/4W	2	R99,R100
2,2KΩ	Res 1/4W	1	R91Mod
4,7KΩ	Res 1/4W	1	R97
5,6KΩ	Res 1/4W	1	RDecayMod
10KΩ	Res 1/4W	5	R95,R96,R98,R102,R111
15KΩ	Res 1/4W	1	R121
18KΩ	Res 1/4W	1	R104
22KΩ	Res 1/4W	2	R113,R154
27KΩ	Res 1/4W	2	R105,R120
47KΩ	Res 1/4W	2	R114,R118

Value	Type	Qty	Original Designation
68KΩ	Res 1/4W	2	R110,R148
100KΩ	Res 1/4W	4	R101,R106,R152,R155
470KΩ	Res 1/4W	1	R112Mod
680KΩ	Res 1/4W	1	R119
1MΩ	Res 1/4W	3	R116,R147,R150

### Modded CY

Value	Type	Qty	Original Designation

### Modded HH

Value	Type	Qty	Original Designation

## 3.MB-Modulbox-Main2-PCB > 4xAOUT\_LC + 8xTrigger In PCB Parts Listing

Integrate CV Scaling circuit

Value	Type	Qty	Original Designation

## 4.Footprints List

- ALPS Pots
- Alpha Pots
- 3,5mm Jack
- Switch

## 5. Schematics in KiCAD

[KiCad Pre-Project MAIN by Phatline](#) » schematics have to be overworked

1. Analog drums PCBs
2. UI PCBs
3. Special MB-Modulbox-Main2 PCB (4xAOUT-LC+8xTrigger out)

From: <https://wiki.midibox.org/> - **MIDIbox**

Permanent link: <https://wiki.midibox.org/doku.php?id=mb-606re&rev=1469321135>

Last update: **2016/07/24 00:45**

