# 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

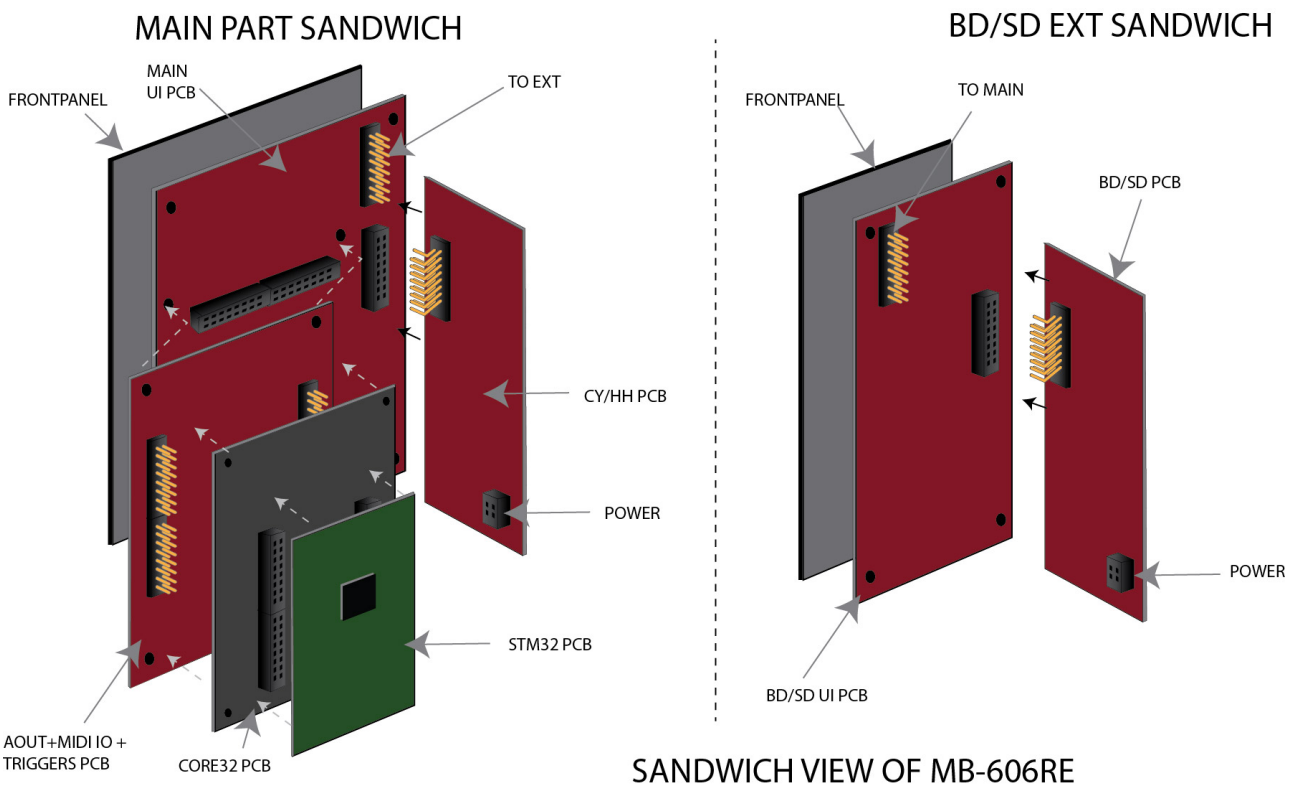
### MB-Modulbox Main PCB UI

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

### MB-Modulbox 8xPotentiometer Module

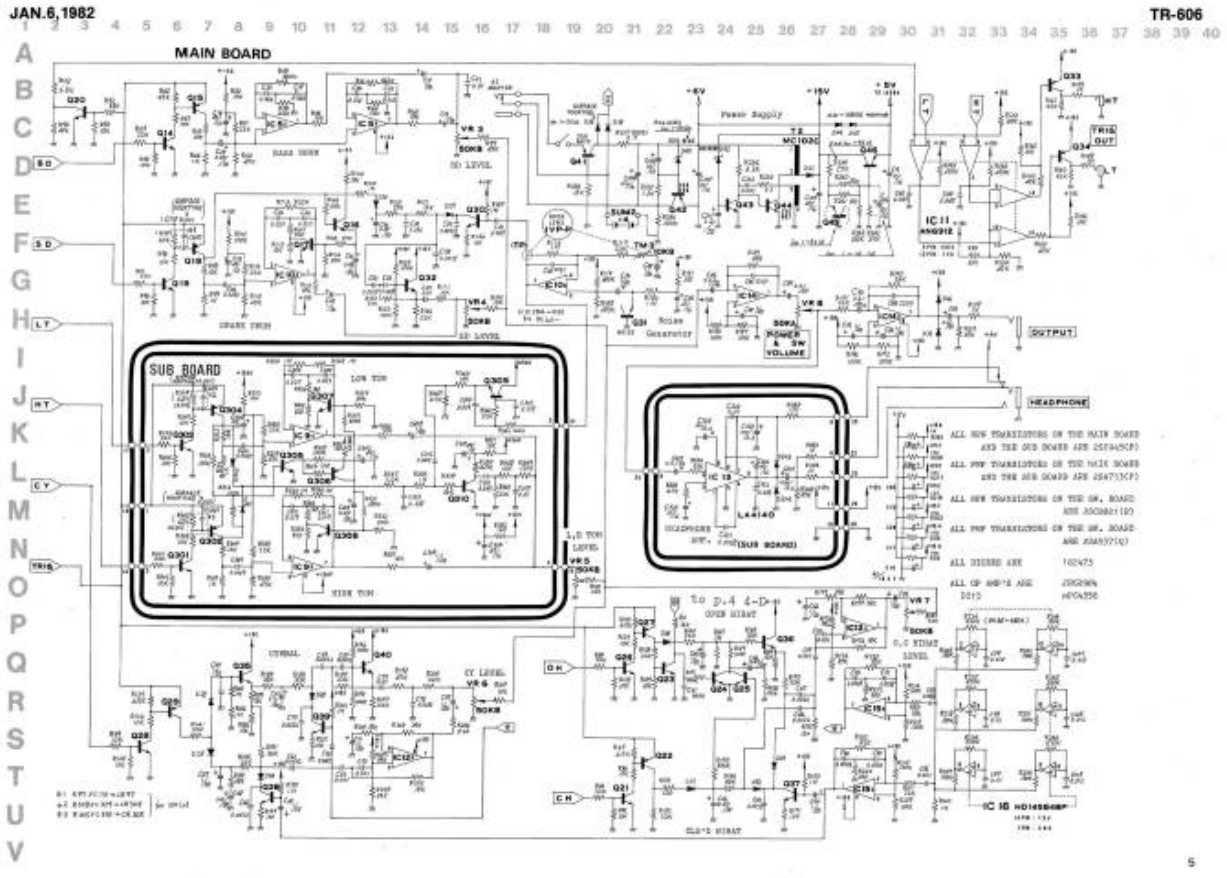
When using the Euroland Modules via Midi, then there are some Performance Parameters aviable: accessable via MB-Modulbox 8xPot - PCB. Have to be activated via Software. (Menue Point) All Functions have effect on all 8 Voices @ once.

- **1.Velocity Offset** (-+64 > with Center Postiton = 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 8×8 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 Standart 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 ====**

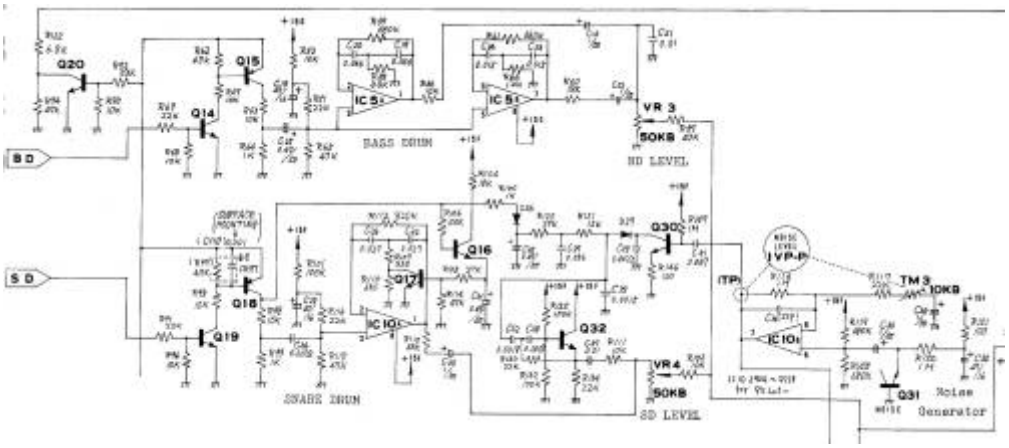



SANDWICH VIEW OF MB-606RE

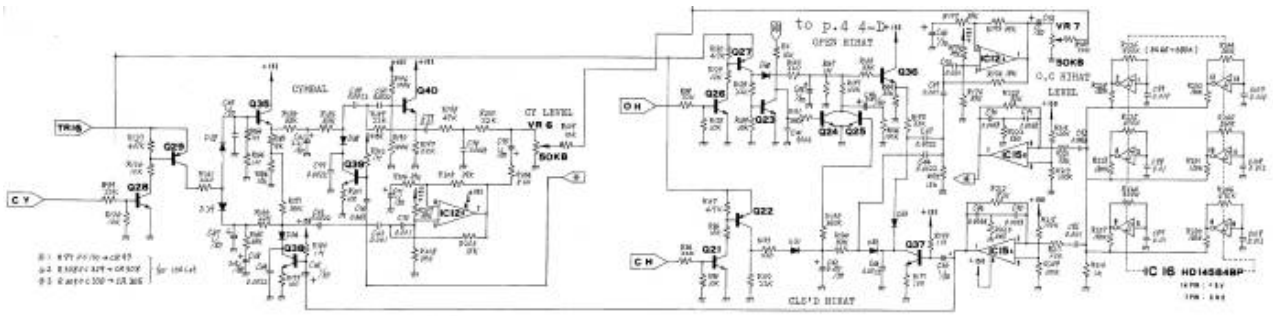
**. ===== Original Schematics =====**




==== 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 , orginally 10K trimpot, only change volume not to absolutely 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 |
| 50KΩ | Pot Log | 2 | Level, ModTune |
| 100KΩ | Pot Linear | 1 | ModTone |
| 2MΩ | Pot Linear | 1 | ModDecay |
| 0,47µF/50V | Capa Elec | 1 | C25 |
| 1µF/50V | Capa Elec | 1 | C22 |
| 33µF/16V | Capa Elec | 1 | C19 |
| 47µF/16V | Capa Elec | 1 | C18 |
| 0,015µF | Capa Ceram | 2 | C23,C24 |
| 0,01µF | Capa Ceram | 1 | C21 |
| 1KΩ | Res 1/4W | 1 | R64 |
| 3,3KΩ | Res 1/4W | 1 | R58 |
| 4,7KΩ | Res 1/4W | 1 | R62 |
| 6,8KΩ | Res 1/4W | 1 | R122 |
| 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 |

| Value | Type | Qty | Original Designation |
|---|---|---|---|
| 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 |
| 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 » shematics have to be overworked

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

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