

# 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

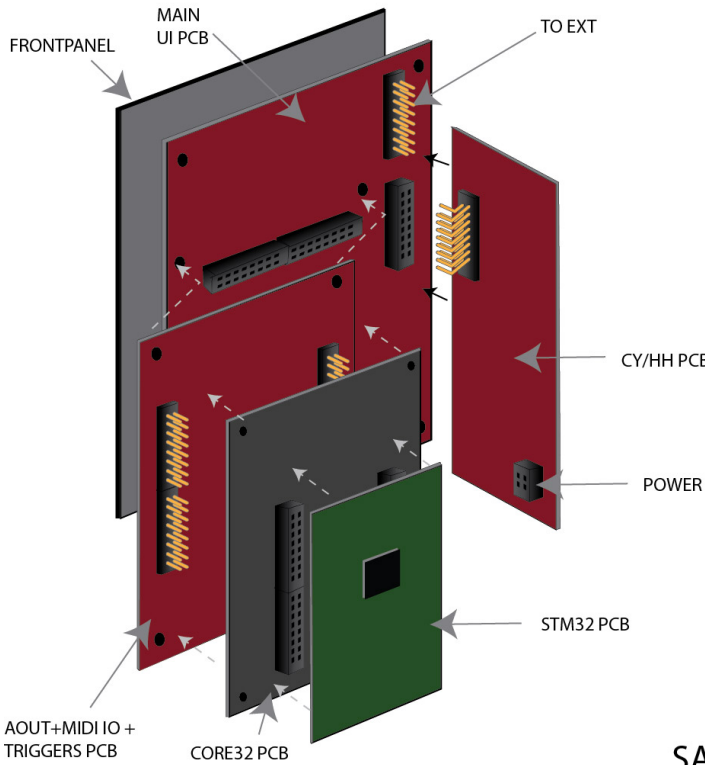
**Access** to System-Settings, Channel, NoteNumbers  
**CV+Trig Out-Jacks** for Euroland Drum Modules

### MB-Modulbox 8xPotentiometer Module

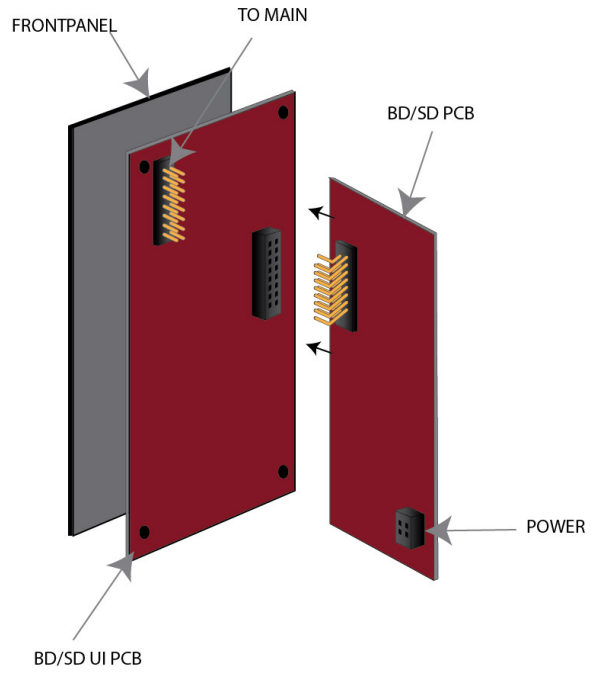
When using the Euroland Modules via Midi, then there are some Performance Parameters available: accessible via MB-Modulbox 8xPot - PCB. Have to be activated via Software. (Menu Point) All Functions have effect on all 8 Voices @ once. **1.Velocity Offset** (-+64 > with Center Position = normal) **2.Velocity 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**



### MAIN PART SANDWICH

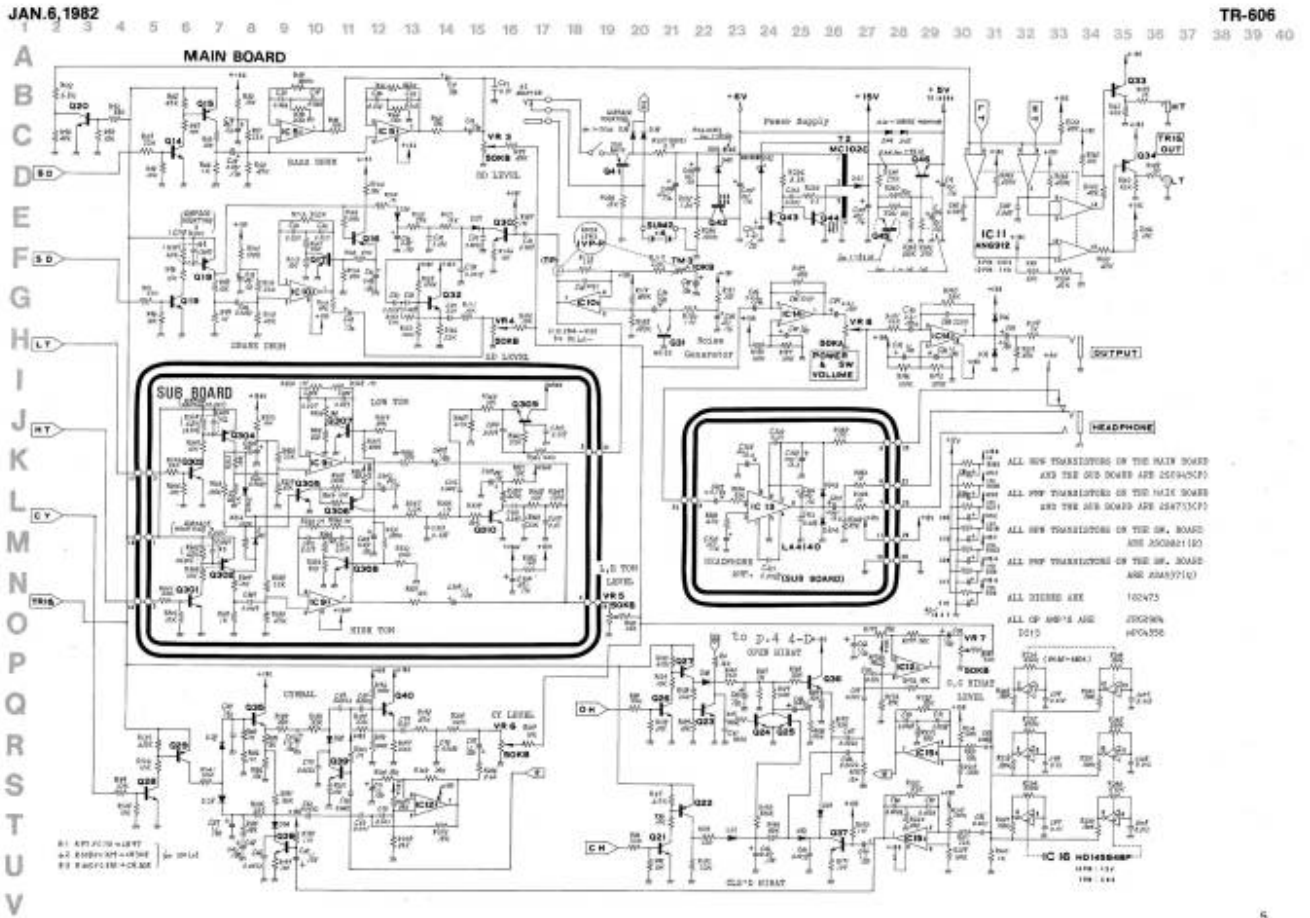


### BD/SD EXT SANDWICH

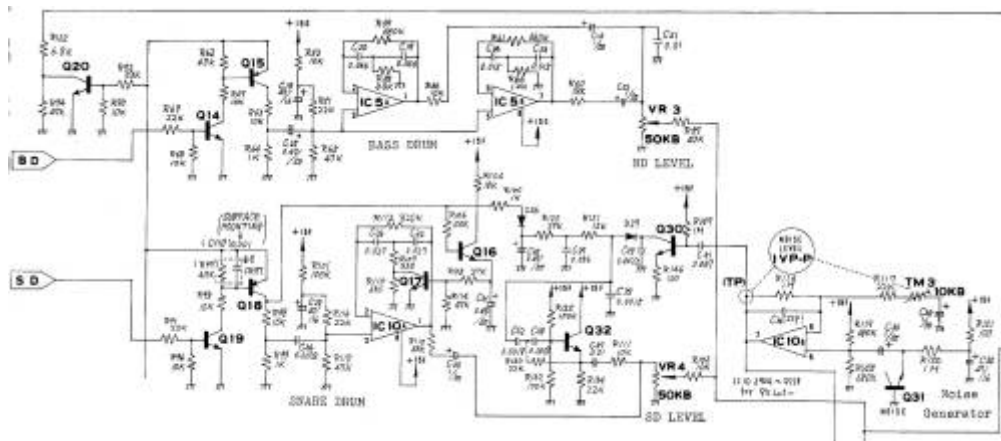


### SANDWICH VIEW OF MB-606RE

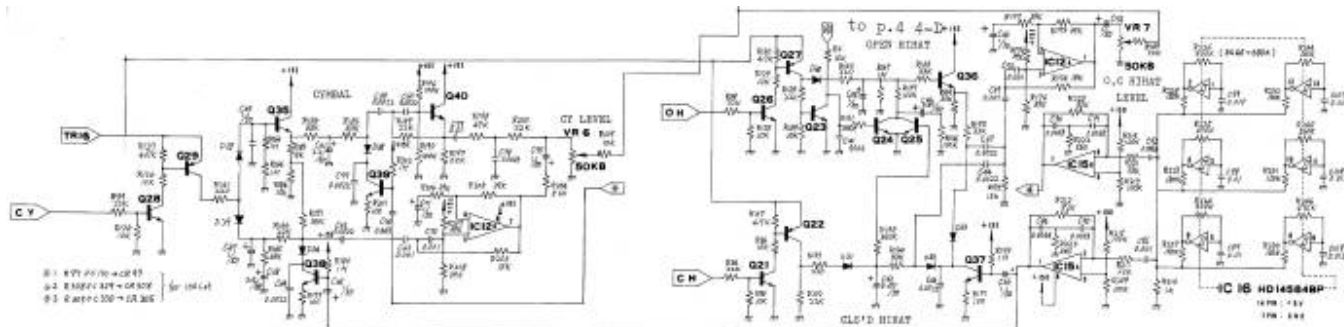
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ics =====



===== 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 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                    |
| 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                   |
| 10K $\Omega$     | Res 1/4W   | 5   | R52,R56Mod/R67/R68/R93 |
| 22K $\Omega$     | Res 1/4W   | 2   | R51,R69                |
| 33K $\Omega$     | Res 1/4W   | 1   | R92                    |
| 47K $\Omega$     | Res 1/4W   | 3   | R59,R65,R94            |
| 100K $\Omega$    | Res 1/4W   | 1   | R57                    |
| 470K $\Omega$    | Res 1/4W   | 1   | R56                    |
| 560K $\Omega$    | 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                    |
| 50K $\Omega$     | Pot Log    | 2   | Level,Noise             |
| 100K $\Omega$    | Pot Linear | 1   | ModSnappy               |

| Value      | Type       | Qty | Original Designation  |
|------------|------------|-----|-----------------------|
| 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](#) » schematics 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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