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 MB-Modulbox) 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:
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

accessable via MB-Modulbox 8xPot - PCB. Just plug it in, and acitivate the AIN-Port in MIOS

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 you use a fixed setup.

Use with Midi or with Analog CV+Trig

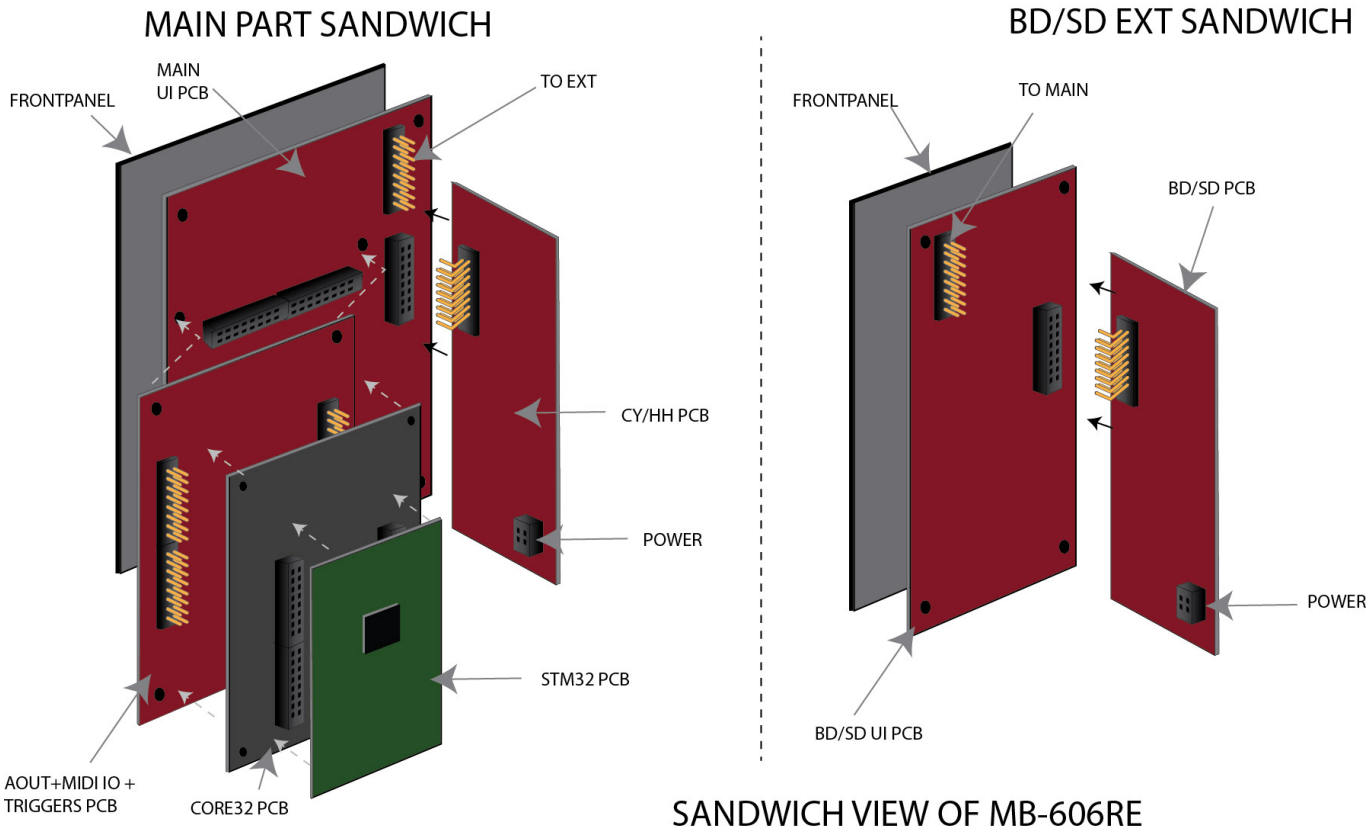
Here are only the Analog-Drum-PCB discussed, since all other Digital UI is based on MB-Modulbox Standart Modules, the MB-Modulbox Main PCB2 is special Variant, described here.

606 BD+SD, 606 HH+CY

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

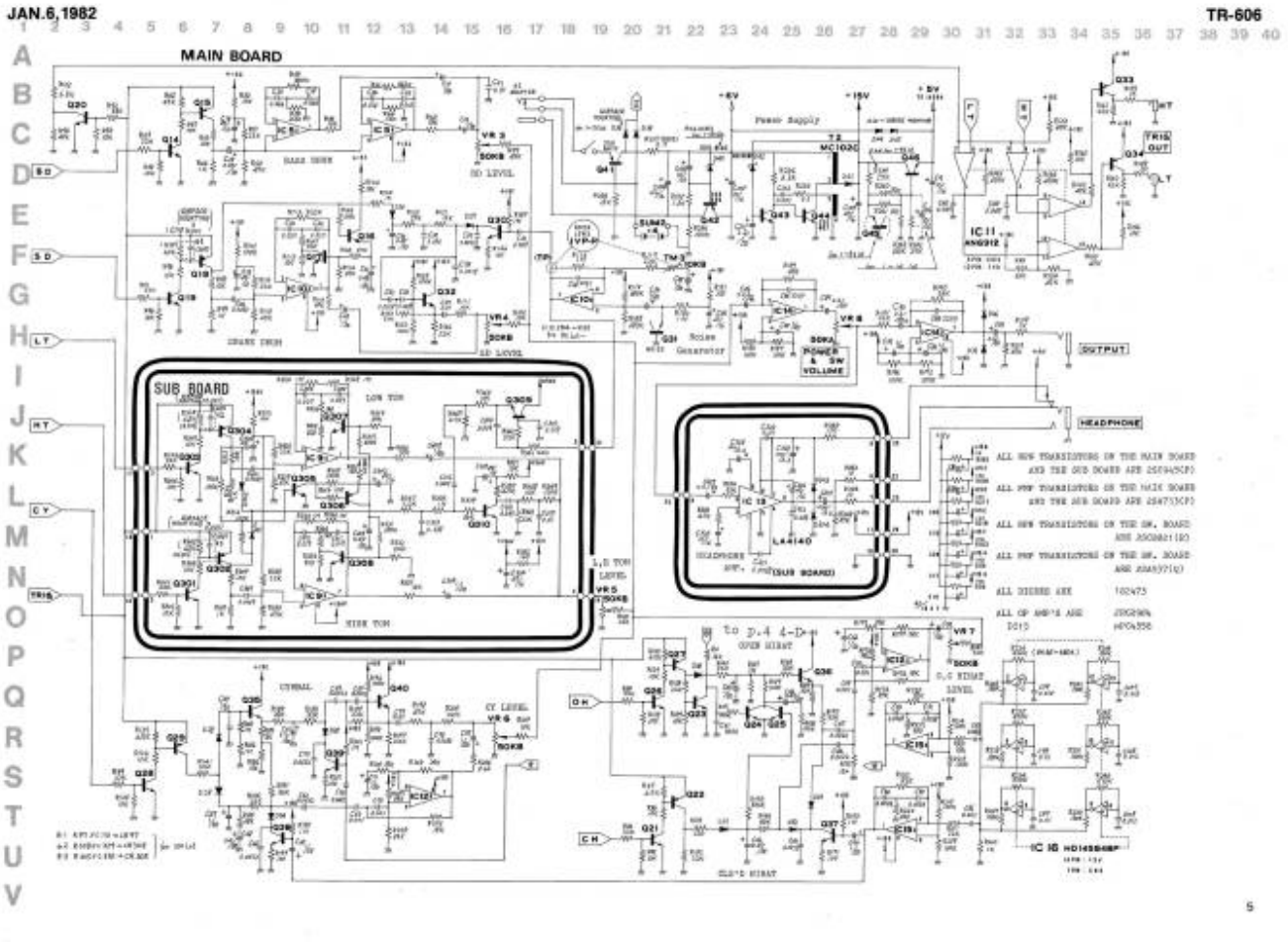
- **1st PCB** : BD+SD UI-PCB / HH+CY UI-PCB »> Breakoutboard+Potentiometer Boards
- **2nd PCB** : Analog Circuits: 2n We get the Analog Circuits mounted 90° angled with vertical female socket and angled DIL Pinheaders for better heat dissipation

Sandwich view - Analog Boards

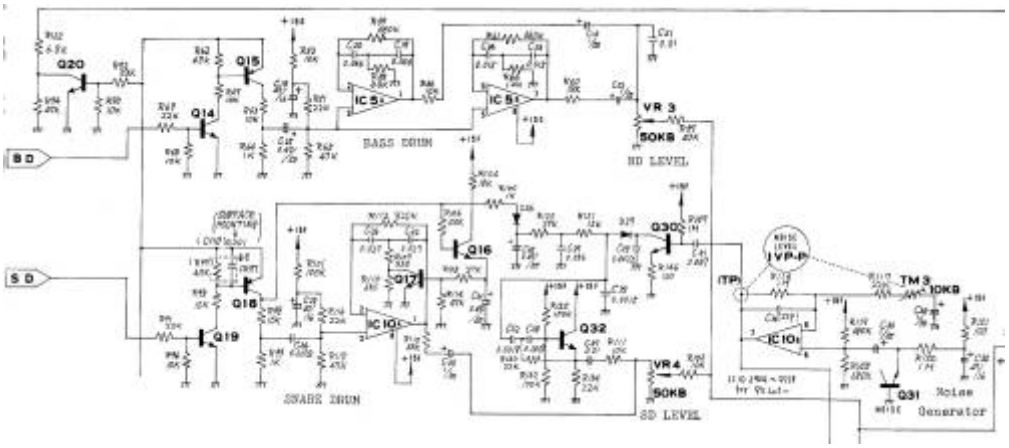


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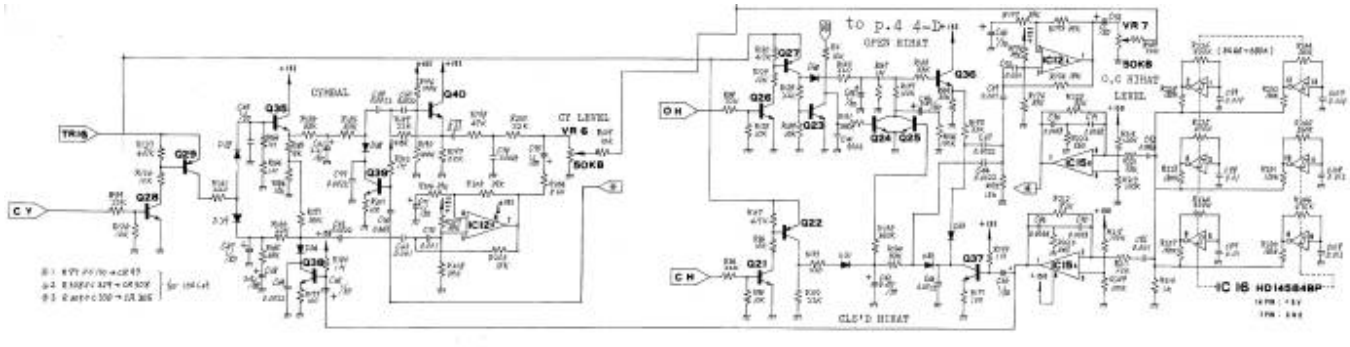
Original Schematics


JAN.6,1982
TR-606
MAIN BOARD
SUB BOARD
HEADPHONE
OUTPUT

BD / SD


BD
SD
BASS DRUM
SNARE DRUM
VR 3
50KB
BD LEVEL
VR4
50KB
SD LEVEL
IVP-P
TM 3
10KB
Noise Generator

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

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 » 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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