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

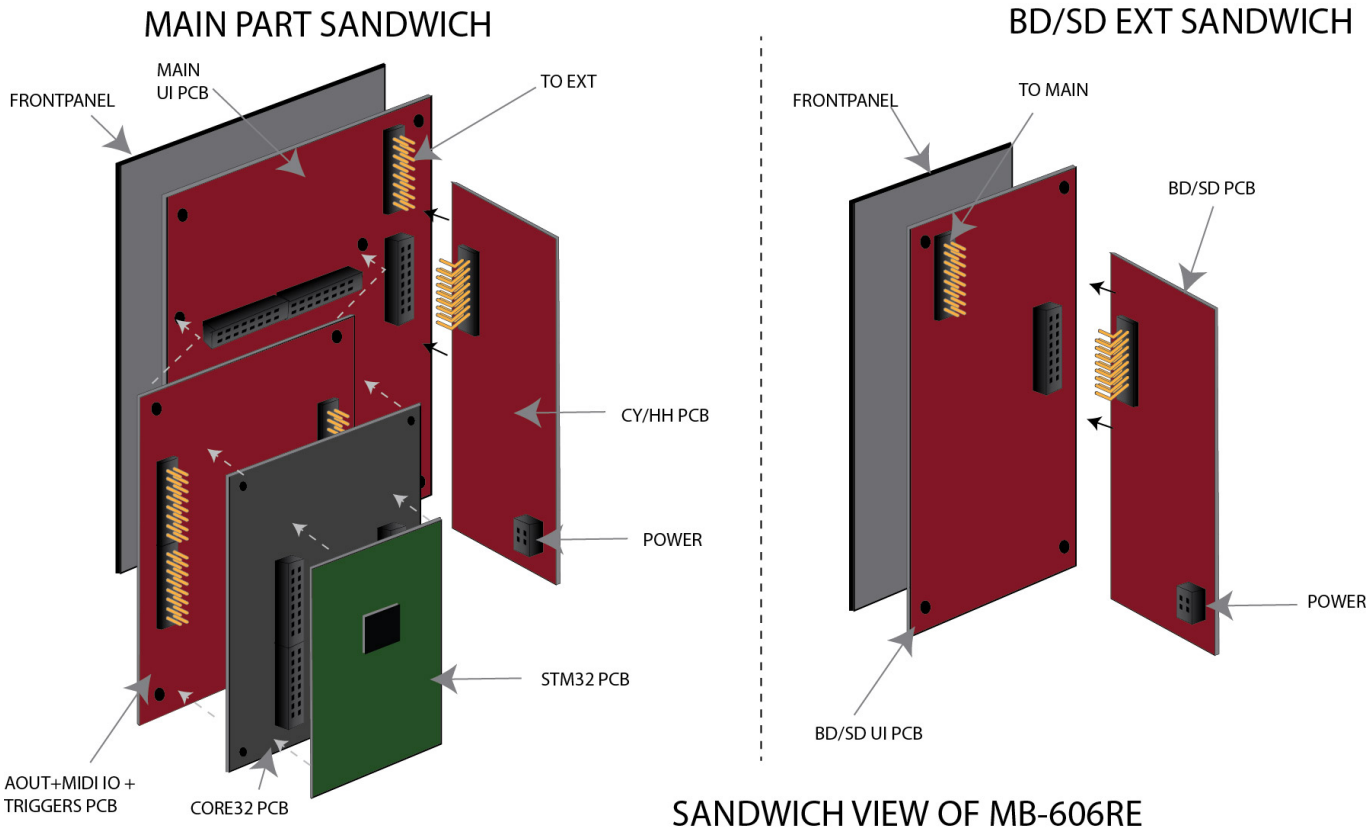
Here are only the Analog-Drum-PCB discussed, since all other Digital UI is based on MB-Modulbox Standart Modules, the MB-Modulbox Main PCB2 is special Variant, described here.

606 BD+SD, 606 HH+CY

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

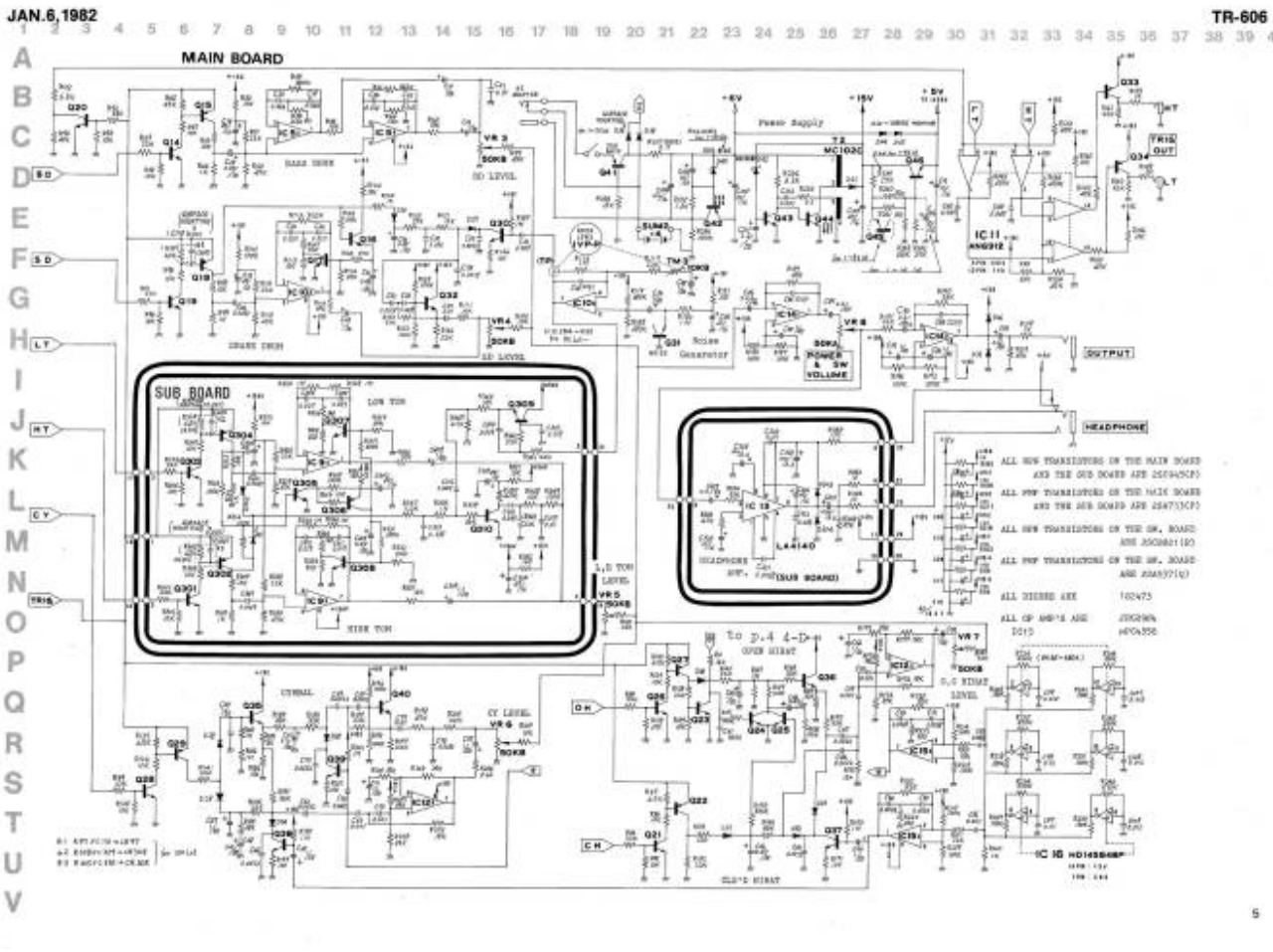
- **1st PCB** : BD+SD UI-PCB / HH+CY UI-PCB »> Breakoutboard+Potentiometer Boards
- **2nd PCB** : Analog Circuits: 2n We get the Analog Circuits mounted 90° angled with vertical female socket and angled DIL Pinheaders for better heat dissipation

Sandwich view - Analog Boards

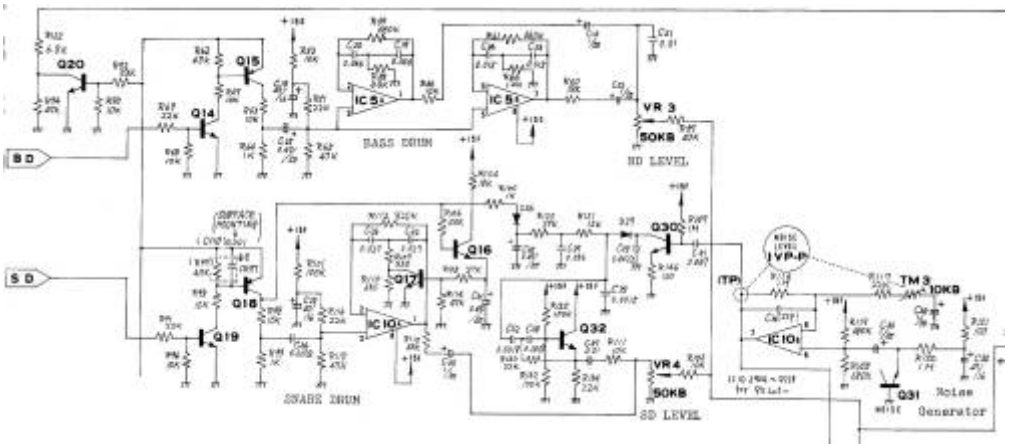


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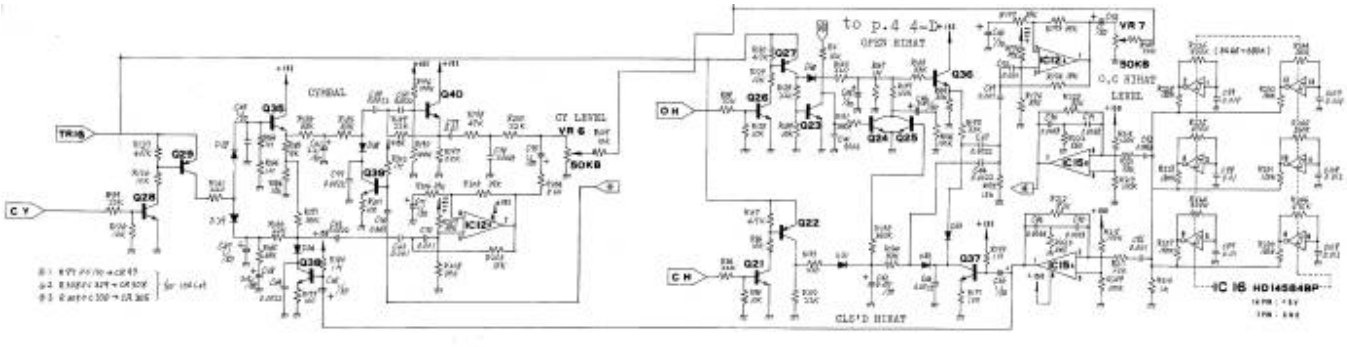
Original Schematics


JAN.6,1982
TR-606
MAIN BOARD
SUB BOARD
BASS DRUM
SNARE DRUM
LOW TOM
MID TOM
HIGH TOM
CYMBAL
OPEN HIHAT
CLOSED HIHAT
Power Supply
OUTPUT
HEADPHONE
VOLUME
BD LEVEL
SD LEVEL
CY LEVEL
HT LEVEL
LT LEVEL
OH LEVEL
CH LEVEL
TRIG OUT
Noise Generator

BD / SD


BASS DRUM
SNARE DRUM
BD LEVEL
SD LEVEL
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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