Unipulse Installation for Boss DR-110



The kit includes:

- modified Unipulse 606 pcb
- 3,5mm TRS jack and nut (optional 5pin DIN jack and mounting hardware)
- 2 slide switches
- 4 M2 screws for the slide switches
- 1N4148 diode

Introduction

Installation of Unipulse in a Boss DR-110 requires some serious case cutting work. Please be carefull, although the plastic material is quite soft it is quite easy to break.

All measurements given in this manual are in mm. Please check the positions before you start cutting, especially Switch 2 (BD kill switch) can easily interfere with the Unipulse board, so use common sense and check if there is enough space for the switch to fit.

In case you don't want a TRS jack but a standard 5pin DIN jack as MIDI jack please tell us when ordering. There is a picture how this can be accomplished, but no further details are given, so you have to figure this out yourself.

Operation

As the internal trigger routine is not implemented as easy as it might look we had to install a second slide switch to be able to disconnect the internal trigger for the bass drum. Otherwise when not disconnecting the trigger the BD would also be triggered when the Cymbals gets triggerd via MIDI, so if you want to trigger the voices from a DAW you need to disconnect the internal trigger with the slide switch.

That leads to the following modes of operation:

Standalone (internal sequencer, no MIDI)

- both slide switches to the left

MIDI Sync (internal pattern synced to MIDI clock, no voice triggering via MIDI)

- left slide switch to the left, right slide switch to the right

Voices triggered via MIDI

- left slide switch to the right, right slide switch to the left

Voices triggered via MIDI on top of an internal pattern

- both slide switches to the right (BD will only be triggered via MIDI, not the internal sequencer)

Case cutouts



After you cut out the holes for the switches take the switch, place it in the cut out from the outside and mark the holes for the mounting screws. Drill 4 2mm holes.



Optional 5pin DIN jack. This is not easy and chances that you break the case are high. We strongly recommend the TRS jack.





Installation pictures

These are just for reference, please refer to the schematics above for exact placement. All designators are marked on the backside of the Unipulse board.

Board placement:

Make sure that Unipulse doesn't interfere with switch 2. Double and triple check placement of both. Use double-sided tape to glue Unipulse to the upper board of the DR-110 as shown.



Power connection and BD trigger:

Connect the 5V and 15V wires to the wire jumper shown. It's easier to solder wires to the jumper than to the leg of the capacitor.

Lift the leg of R68 pointing upwards in direction of the ribbon wire.

Solder a wire to the place where the lifted leg of the resistor was located. This wire gets soldered to switch 2 pin 1.

Solder a wire and P5 from the Unipulse board to the lifted leg of R68. The other end of the wire gets soldered to switch 2 pin 2.



Switch 1 and MIDI jack:

Solder a wire from switch 1 pin 2 to R12. Solder the Start wire from Unipulse to switch 1 pin 3. Solder the MIDI 1 wire from Unipulse to the tip connection of the TRS jack. Solder the MIDI 2 wire from Unipulse to the ring connection of the TRS jack.

Accent:

Solder the CV wire from Unipulse to the anode of the provided diode. Solder the cathode side of the diode to R94.



Clock:

Solder the clock wire from Unipulse to R26. Cover switch 2 with a piece of insulating tape to prevent short circuits with the Unipulse board.



GND and voice triggers:

Connect the GND wire from Unipulse to the jumper between C6 and C7 as shown in the picture. Connect P3, P7, P8 and P9 to the points shown in the picture, refer to the schematics for exact placement.



Connect P6, P11 and P12 to the points shown in the picture, refer to the schematics for exact placement.



Start/Stop:

Connect P4 und P13 from Unipulse to the points shown in the picture (upper pcb of the DR-110)



That's it. Now you need to put it all back together. It's a tight fit, but if you took care while placing the board and switch 2 it should work out smoothly.

Check and have fun.