PEdAL SYnC™

AUDIO CONTROL CHIPS
the future just showed up

PedalSync™

Master Control KIT (MV-58)

Assembly Instructions

Following are the assembly instructions for the PedalSync Master Control KIT (MV-58).

Please refer to the
Master Control Owner's Manual and Master Control Development Board Datasheet
for more information about part function and pedal use.

Kit parts:

3x	2-pin 0.1" header connectors with 6" leads
2x	3-pin 0.1" header connectors with 6" leads
1x	12-pin header strip
1x	MIDI Jack - riveted to enclosure
1x	Pre-Drilled Enclosure
1x	Plastic Lens for enclosure opening
1x	B5K 16mm Potentiometer
1x	Knob for Potentiometer
1x	3-Segment LED Display
2x	LED Bezels
1x	Red LED
1x	Green LED
1x	Panel-Mount DC Jack
4x	SPST Momentary Footswitches
4x	#4 PCB Screws
4x	#4 Locking Nuts
1x	Master Control MV-58 Dev. Board Circuit Board (pre-programmed)

Note: a few of the early kits do not include the header connectors and pin strips and must be hand-wired.

Things you will need:

- Eye Protection
- Solder
- Soldering Iron
- Wire Cutters
- Wire Strippers
- Jumper wire (about 2 feet)
- Epoxy
- 1/4" wrench or nut driver
- Philips Screwdrivers for enclosure and PCB screws
- 10mm wrench for Potentiometer
- 14mm wrench for DC jack
- 15mm wrench for Footswitches
- Needlenose Pliers
- A happy state of mind!

Assembly Instructions:

Remove the screws holding on the back and take out the parts.

If you plan to paint your enclosure NOW IS THE TIME!

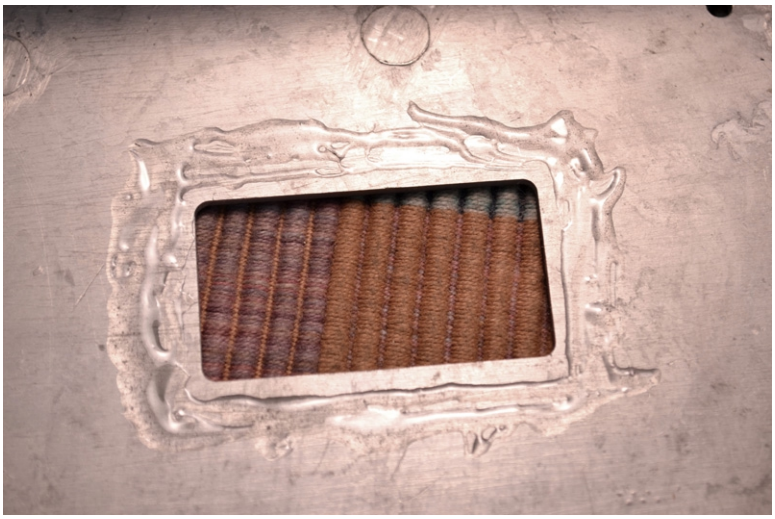
The MIDI Jack comes pre-attached to the enclosure with rivets. You can remove it by using a 1/8" drill bit and drilling out the rivets. In the alternative, cover it with masking tape during painting.

To re-attach the MIDI Jack, use #4 screws or 1/8" rivets.

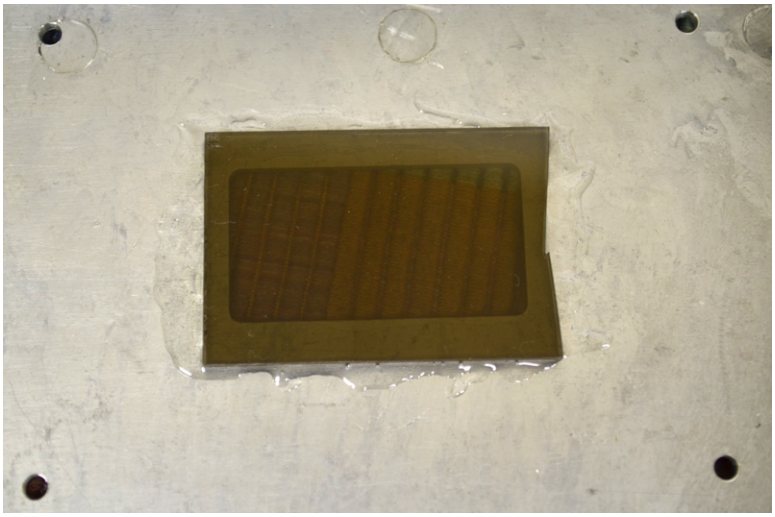
After the paint has dried, the rectangular brown plastic display lens will be attached using epoxy. Be sure to get the kind that you can mix before applying to ensure a thorough blend.

Wipe off the inside of the enclosure, then remove the paper backing from both sides of the lens and set it carefully aside.

Mix the epoxy then using a toothpick or nail smear a strip of epoxy near the opening for the lens, leaving about 1/8" gap from the opening to give the epoxy room to expand.



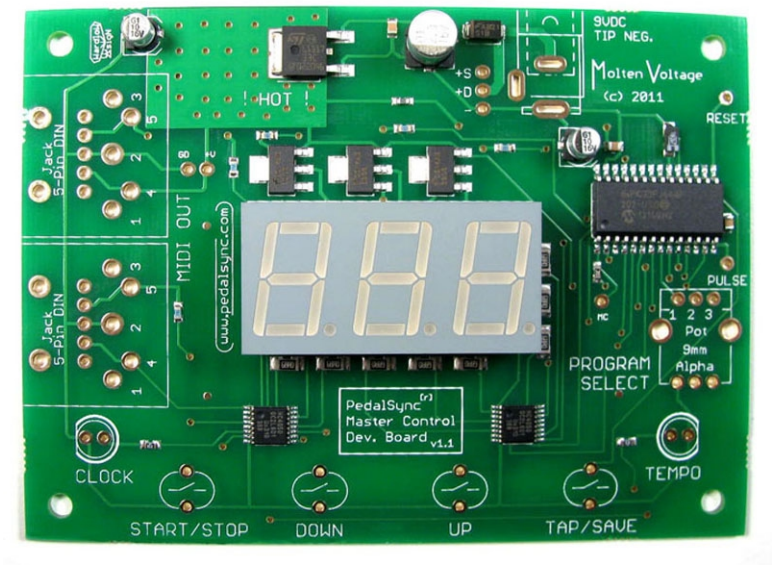
Carefully place the lens over the opening - **YOU ONLY GET ONE CHANCE** - so take your time and line it up before allowing it to contact the epoxy!!!

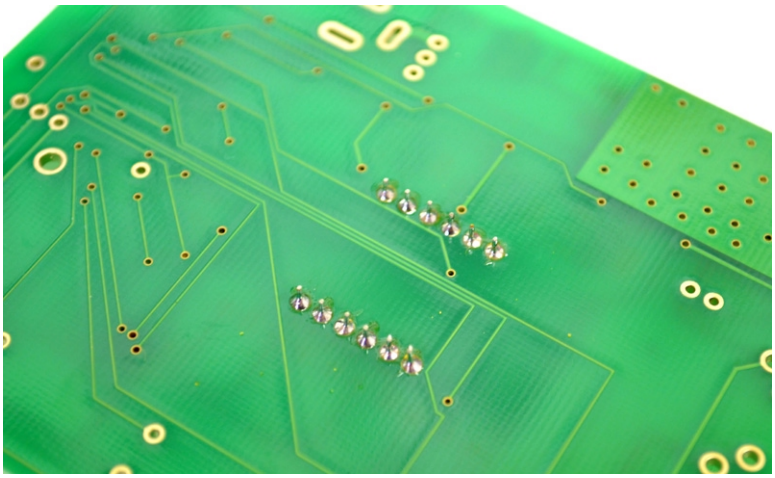


Press it down hard enough to make good contact, but not as hard as you can. Try hard not to let it shift from side to side.

Allow the epoxy to set until it is completely hard before continuing.

Solder the display to the PCB, making sure the display decimal points are closest to the switch connections on the PCB as shown in the photo:





Wiring Off-Board Components

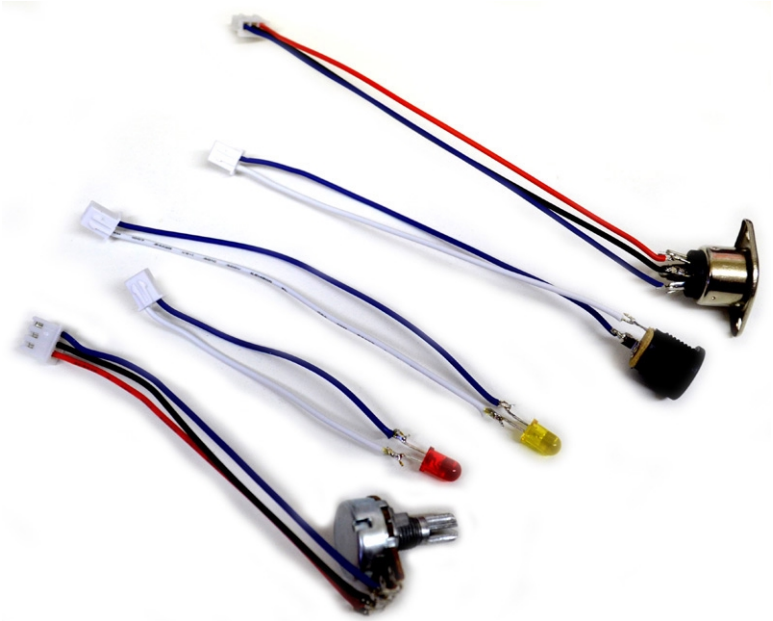
Trim an extra 1/4" insulation from the other 3-pin connector and solder to the 3 middle pins of the MIDI jack.

Use of a hobby vise is recommended.

Cut and trim the leads on a 3-pin connector to 4 inches, then solder to the B5K pot.

Cut and trim the leads on a 2-pin connector to 4.5 inches, then solder to the outside lugs of the DC Jack.

Cut and trim the leads on a 2-pin connector to 3 inches, then cut and bend the legs to the Clock LED and solder in place.



Cut and trim the leads on a 2-pin connector to 4.5 inches, then cut and bend the legs to the Tempo LED and solder in place.

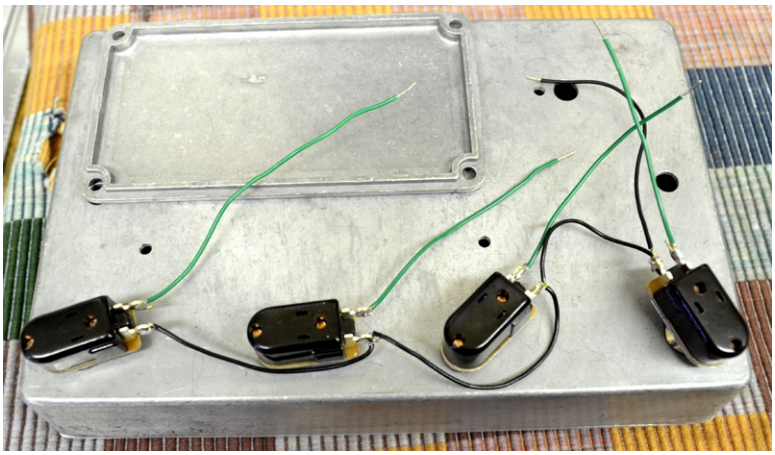
Cut to length and solder the header pin strips to the LED holes, DC Jack (bottom 2 lugs), and MIDI Jack (middle 3 holes).

Switches

Cover the display lens then turn the enclosure over and place the footswitch buttons upside down in their holes.

Measure wires to go from one jack to another and solder one lug from each together with an additional 3 inch wire on the far right switch to connect to the PCB.

Left to Right jumper wire lengths for switches: 3.5" - 3.0" - 2.5" - 2.5"

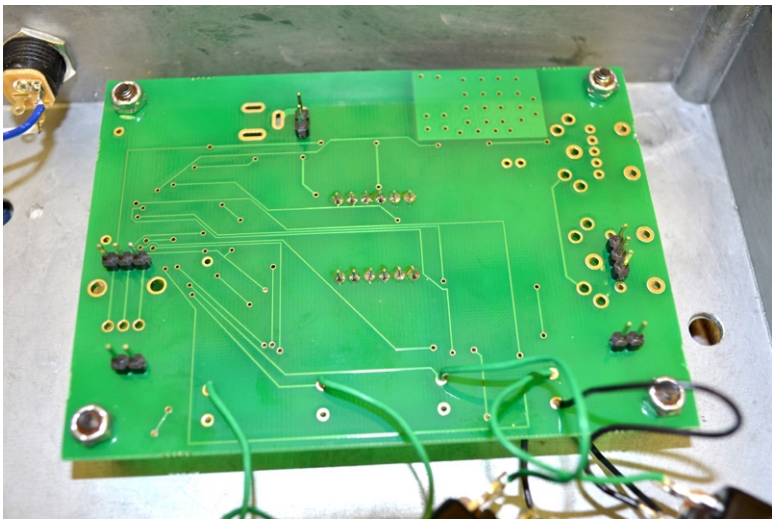


Attach the switches to the enclosure being careful not to hit the lens.

Gently wipe and dust from the lens then attach the PCB using the 4 screws and locking nuts.

Do not to rub the display against the lens!

Attach the far corners first, the tighten the nut so the screw pokes past the nut a bit, then attach the other 2 and tighten evenly a little at a time until the board is firmly mounted.



Be careful not to overtighten the nuts and bend the PCB more than a little!

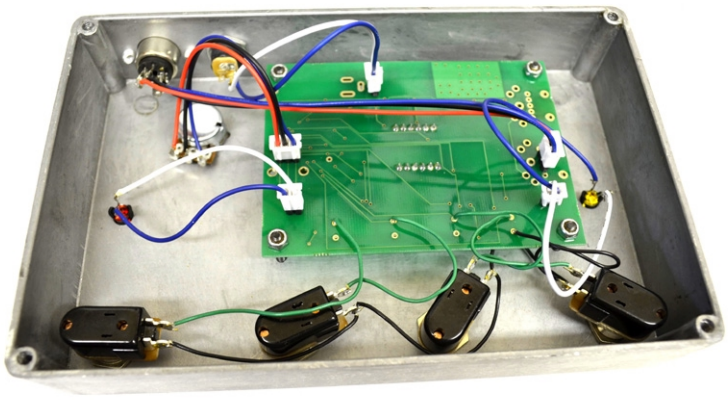
Attaching Off-Board Components

Secure the DC Jack with a 14mm wrench and attach to the PCB - the bent center lug attaches to the lower (ground) pin.

Secure the B5K Pot with a 10mm wrench and attach to the PCB. The closest wire goes to the furthest header pin.

Insert the LED bezels the insert the LEDs until they click.

Be certain the leads on the LEDs do not touch!

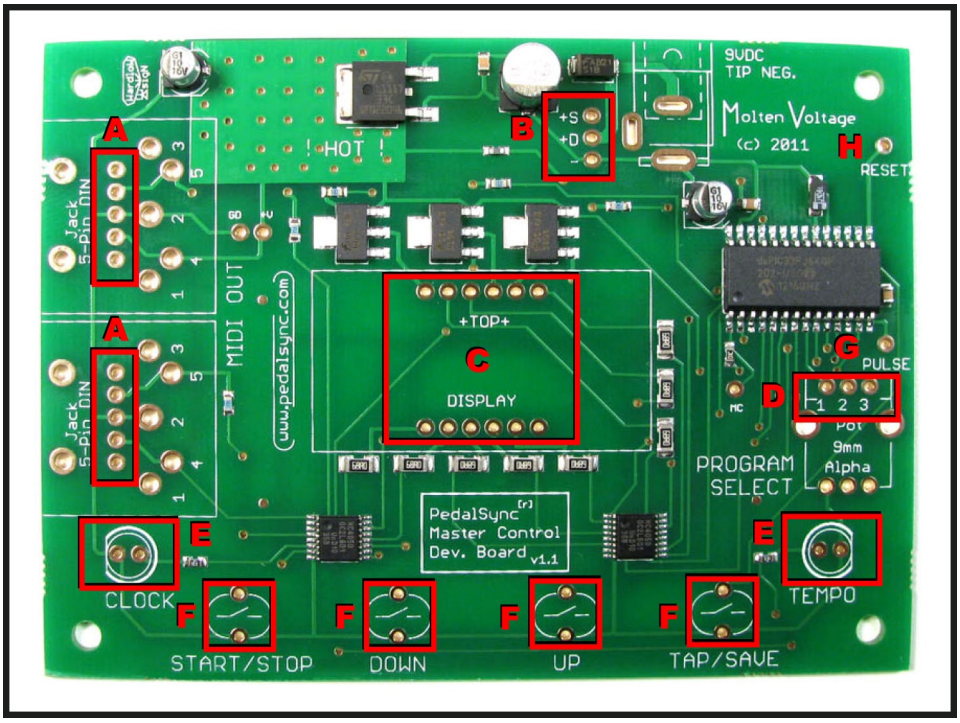


Plug in and test the pedal. Secure the back and put on the knob.

Get your Clock On!

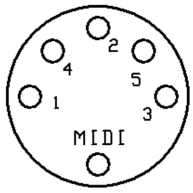
Header Pads for External Connections

The off-board connections are as follows:



A) MIDI Out header pins.

Connect pins 4, 2, and 5 to the corresponding pins on a MIDI Jack.



MIDI JACK
Looking from outside

B) Power Jack

+S	Shunt connection
+D	Direct connection for positive voltage (6-9 VDC)
-	Ground

The square black Voltage Regulator and the top and bottom copper pads under it get hot. The copper pad is labeled as !HOT! on the circuit board.

Do not allow wires or other parts to rest against the Voltage Regulator or its rectangular copper pads.

Note: the lower the input voltage (9 VDC max.), the less heat the voltage regulator will generate

Power Connection

The square black Voltage Regulator and the top and bottom copper pads under it get hot. The copper pad is labeled as !HOT! on the circuit board.

Do NOT allow wires or other parts to rest against the Voltage Regulator or the copper pads under it.

The power jack accepts a 2.1mm tip-negative 6-9 volt DC input. Do not exceed 9 volts.

Note: the lower the input voltage, the less heat the voltage regulator will generate

C) Display

The Display is included, but is not connected prior to shipping.

If the standard Display placement is used, solder the Display in place, being sure the decimal points are at the bottom.

If your design requires an alternate placement for the Display, remote connection can be achieved by the use of two 6-pin ribbon cables with standard 0.1” spacing.

D) Potentiometer

Connect a B5K potentiometer to the holes marked 1, 2, and 3 at the top of the PROGRAM SELECT pot mounting area.

Note: when holding a potentiometer upright, lugs facing you, lug 1 is on the left

E) LEDs

The CLOCK and TEMPO LED header pins have a direct ground connection (labeled -), and a power connection via a series 330 ohm resistor (labeled +).

F) Momentary Switches

The START/STOP, DOWN, UP, and TAP/SAVE header pins allow the connection of external SPST momentary normally open switches.

Electrical Considerations

The datasheet for the underlying dsPIC33FJ64GP202 chip can be found here:
http://www.microchip.com/wwwproducts/Devices.aspx?dDocName=en532310

Related Products

- Control the Tru-Foot™ LFO chips (MV-55 & MV-55B) and Module
- Control the Four Pots chip (MV-56) and Module
- Control the Pulse Output chip (MV-60)
- Control the MIDI Pulse chip (MV-61)
- Control the 9 Switches chip (MV-62)
- Select MV-58B Banks and Programs with an external controller using MIDI Bank Select Chip (MV-65)

  Many more compatible chips available soon!

Support

info@PedalSync.com

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