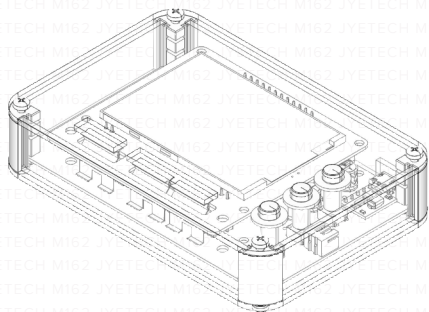


ASSEMBLY GUIDE (REV. 01)

M162 LCR METER DIY KIT



MODEL M162
PCB VERSION MAIN: 109-16202-00B
ANALOG: 109-16201-00F
FIRMWARE 113-16202-060

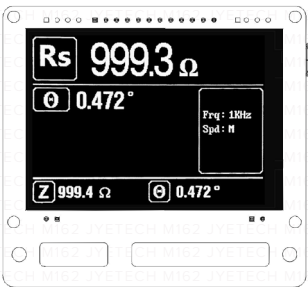
REQUIRED TOOLS

- 25W Soldering Iron
- Soldering Wire (Rosin-core Recommended)
- Digital Multimeter
- Screwdriver - Phillips #1
- Flush (wire) cutter
- Tweezers
- Micro-USB power cable

1 Getting Started

TEST THE MAIN BOARD

- Connect the USB Cable to the Micro-USB port on the Main Board and a USB power source.
- Ensure your M162 main board boots up correctly. When powered on, the LED (D1) will blink twice. The display will then go through two splash screens and enter into a state similar to the below illustration.
- The values of the numbers are random. Please ignore them and just ensure the display is normal.



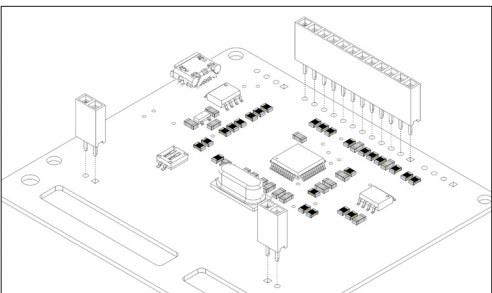
Apply power

(PCB 109-16202-00B shown)

If your M162 main board does not power up, or powers up with a blank screen, please contact us at support@jyotech.com. Do not solder any parts onto the board if you encounter any issues as this will void the warranty.

2 Main Board Assembly

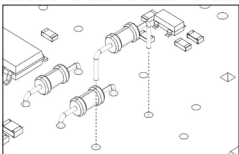
STRIP SOCKETS



- J4 12x1 strip socket
- J8, J9 2x1 strip socket

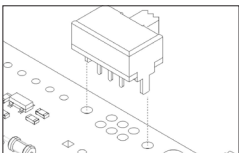
3 Analog Board Assembly

RESISTORS



Use a multimeter or a resistor color code to identify the resistor values.

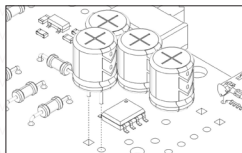
SLIDE SWITCH



- SW4 SK-22D03T

- R1, R2, R4, R5, 1KΩ
- R8, R11, R15, 100Ω
- R16, R19, R20, 560Ω
- R3, R12, 100KΩ
- R6, 100KΩ
- R10, 5.1KΩ
- R14, 6.2KΩ
- R17, R21, 47Ω
- R23, R24, 10Ω
- R18, 47Ω
- R27, R28, 10Ω

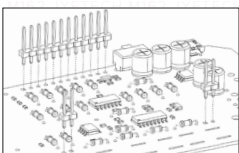
CAPACITORS



- C9, C10, C11, 100μF, 16V
- C12, C13

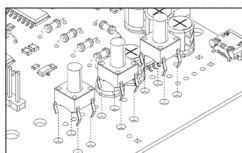
Ensure the polarity of the capacitors are installed correctly. The positive pole goes into the holes of the square pads.

PIN HEADERS



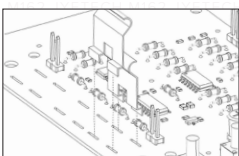
- J5 12x1 pin header
- J8, J9 2x1 pin header

PUSH BUTTONS



- SW1, SW2, SW3 6.2x6.2x9.5 mm tact switch

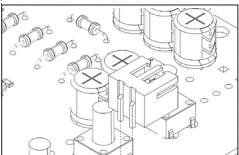
CONTACT ARMS



- J13, J14, J15, J16, J17, J18

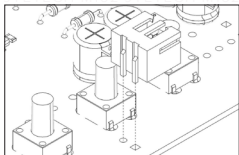
Use the provided tool to hold the arms in place with your fingers or a clip. Solder at the bottom side.

CONNECTOR (optional)



- J11 XH2.54 2-pin header, right-angled

CHARGER BOARD (optional)

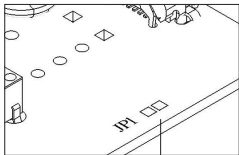


- BOB1 JYE118 battery charger breakout board (with 5x1 strip pin header)

CLOSE JP1

(Note: skip this step if the battery charger board is installed.)

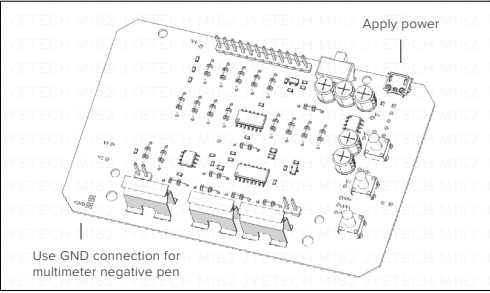
- JP1



Short the two pads with solder

4 Verify Voltages

- 1 Apply 5V power supply via the micro-USB connector on the analog board.
- 2 Spot check the voltages on the board at the test points labeled to ensure they measure to the voltages in the chart below.

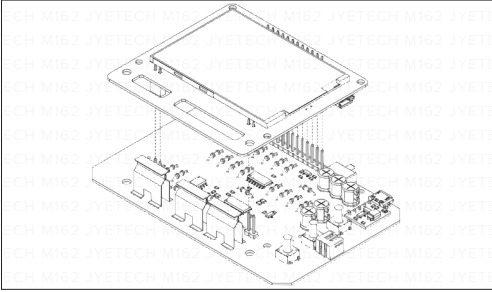


REFERENCE

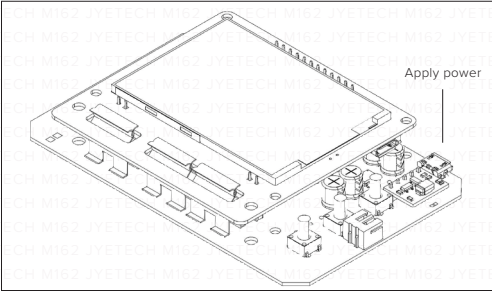
Test Points	Voltage		
	Min	Typical	Max
V+	3.60V		5.50V
VS+	3.60V		5.50V
AV+	3.10V	3.30V	3.50V
V-			-2.50V
VS-			-2.50V
AV-	-2.20V	-2.00V	1.80V
V1		0.0V	
V2		0.0V	
V3		0.0V	
V4	1.40V	1.65V	1.80V

5 Quick Test

- 1 Attach the main board to the analog board.



- 2 Apply power supply via the micro-USB connector on the analog board and slide the power switch to ON position.

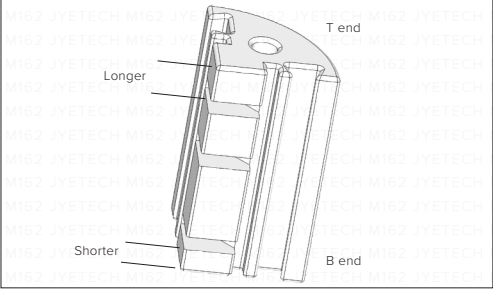


- 3 Once the device starts up, hold down RCL button to bring up the menu. Select the "Default" option to set all the parameters to their default values
- 4 Test measurement with the provided resistors (1Ω & 1MΩ), capacitor (0.1μF), and inductor (1mH), or with your own components.

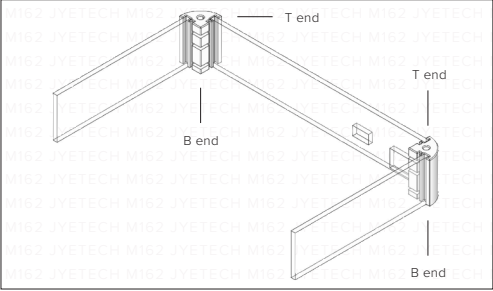
Note: The provided resistors are 1% tolerance. The capacitor and inductor tolerance can be 10% or higher. If the measured values are away from their labeled value they might not reflect a problem of the meter. Further confirmation is required.

6 Enclosure Assembly

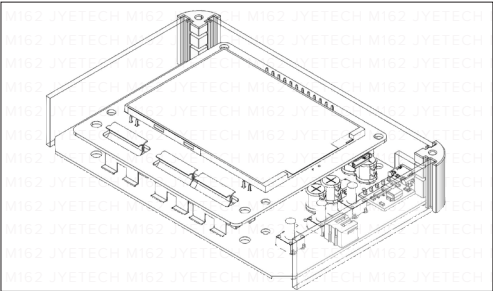
- 1 Identify the ends of the standoffs.



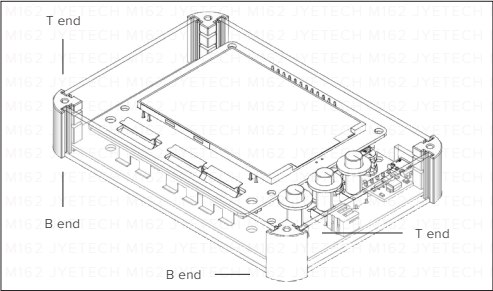
- 2 Assemble the two side pieces and back piece. Ensure the standoffs are at the correct orientation.



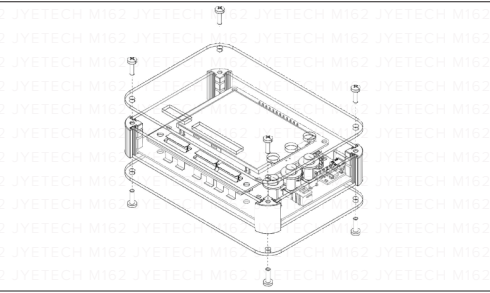
- 3 Insert the assembled main board-analog board with the analog board fitted into the standoff slots near the bottom ends.



- 4 Assemble the front piece. Ensure the standoffs are at the correct orientation.



- 6 Assemble the top and bottom pieces with screws. Remember to attach the 3 caps to the pushbuttons before securing the top piece.



- 7 This is how your M126 LCR Meter should look once enclosure assembly is complete:

