PCB ASSEMBLY CHECKLIST

Pentalogix wants our customers to experience a seamless and accurate assembly process. To ensure that your job is not placed on hold, please follow these guidelines:

☐ **1. Accurate Data**
An error free assembly process requires accurate data. Each job should have a BOM (bill of materials), a pick and place file (also known as a centroid file) and matching Gerber data. Add a DO NOT POPULATE (DNP) column to the BOM if there are parts which should not be populated on the PCB.

☐ **2. Ensure Proper Footprints**
Some parts are available in different packages. Make sure that the part you specify in the BOM matches the footprint on the PCB.

☐ **3. Organize Components**
Parts should be separated into individual bags or trays. Each bag or tray should be marked with Manufacturer name and Manufacturer part number and all reference designators where the part is used. If needed, you can substitute distributor name and part number in place of (or in addition to) manufacturer information.

☐ **4. Multiple Jobs Per Order**
The parts for each job should be packaged separately. Include separate BOM and pick and place file for each job

☐ **5. Component Quantities**
Include extra parts to account for possible attrition during assembly.
- Extra parts will be required on small builds (1 to 25 boards) to be as follow:
- 0201 to 0603 size: Minimum extra quantity 25 plus required quantity.
- 0805 to 1206 size: Minimum extra quantity 10 plus required quantity.
- On large size components 1 or 2 extra parts is fine.
- We prefer all SMT parts to be on a continuous strip or reel.
- For large runs extra parts by percentage is OK

We will return any unused parts to you when we ship your assembled boards back to you.

☐ **6. Update your BOM and Pick and Place File**
If you have any last-minute design changes, please remember to reflect these changes in your BOM, pick and place file and any other relevant documentation.

☐ **7. Mark Polarity** Make sure you indicate proper orientation for all parts that have polarity. Place a dot or a number "1" on pin 1 of ICs where the orientation is not obvious. Ensure that polarized capacitors and diodes are properly marked.

☐ **8. Special Instructions**
Provide detailed instructions for any special procedures required to assemble your boards. Include sketches, photos, PDF files and/or drawings as needed

☐ **9. Drop Shipping from Suppliers**
Please ask your suppliers to place your PCB Unlimited Order Number on the outside of any package dropped shipped to us.