

## WORLDWIDE QUALITY PRINTED CIRCUIT BOARDS

PCB Solutions is a printed circuit board provider to the ever-changing electronics industry. With a variety of resources, we provide our customers the most competitive solution to their printed circuit board needs. We have established relationships with several high quality fabricators, from domestic to the Pacific Rim. PCB Solutions supports prototyping to high volume production and basic to complex multilayer PCBs. In addition, PCB Solutions offers stocking programs as well as many other value added services.

### LEAD TIME

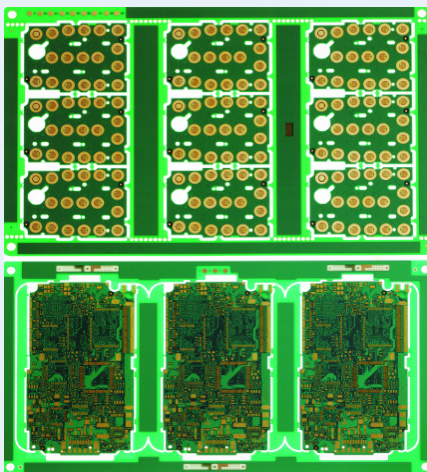
- **PROTOTYPES** (Up to 10 Manufacturing Panels)  
 Double Sided: 3 Days- Plus Transit  
 Multilayer: 4 Days- Plus Transit
- **PRE-PRODUCTION**  
 Double Sided: 4-5 Days- Plus Transit  
 Multilayer: 5-6 Days- Plus Transit
- **MASS PRODUCTION**  
 Repeat P/Ns: 10 Days- Plus Transit  
 New P/Ns: 15 Days- Plus Transit

### SHIPMENTS INCLUDE

- Certificates of Conformance (CofC)
- Electrical Test Certificates
- Cross Section
- RoHS Compliant Materials
- Solder Samples
- Package Labeling

### PROGRAM MANAGEMENT

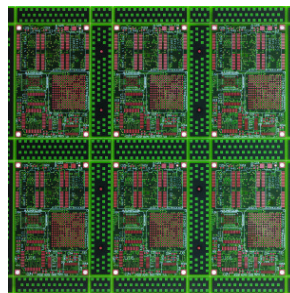
- Scheduled deliveries
- Stocking Programs
- Flexible VMI



KEYPAD/IMMERSION GOLD (ENIG)

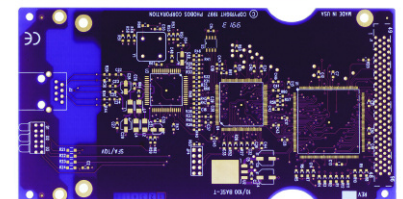
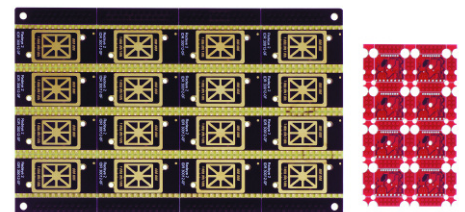
### PCB PRODUCTION CAPABILITIES

- **STANDARD BOARDS**  
 Single Sided  
 Double Sided
- **MULTILAYER**  
 4-30 Layer Boards  
 .004" Line Width  
 .004" Air Gap
- **BOARD MATERIALS**  
 FR-4 (Tg135)  
 FR-4 (Tg180)  
 CEM  
 Rogers  
 Teflon  
 Polyimide
- **SURFACE FINISHES**  
 HASL  
 Lead Free-HASL  
 Etek (OSP)  
 Immersion Gold (ENIG)  
 Electrical Gold Plating  
 Immersion Tin
- **SOLDER MASK**  
 LPI Standard  
 Multiple Colors



14 LAYER, ENTEK (OSP)

- **MINIMUM BOARD THICKNESS**  
 .008" (2 layer)  
 .016" (4 layer)  
 .016" +/- 0.004" (6 layer)  
 .032" +/- 0.004" (8 layer)
- **MAXIMUM BOARD THICKNESS**  
 .250"
- **MAXIMUM PANEL SIZE**  
 24" x 28"
- **MINIMUM DRILL HOLE SIZE**  
 .008"
- **CONTROLLED IMPEDANCE**  
 +/- 5% Standard
- **VALUE-ADDED CAPABILITIES**  
 Blind Vias  
 Buried Vias  
 Micro Vias / HDI Available
- **FABRICATION**  
 N/C Routing  
 V-Scoring/Punching



SURFACE FINISHES/MATERIALS

- **QUALITY CERTIFICATIONS**  
 UL 94-V0  
 IPC-A-600-G Class 2 and 3  
 ISO/TS Certified  
 AS9100  
 ITAR Compliant

“Our relationship with PCB Solutions is a long term strategic partnership which has resulted in mutual success in our respective markets. Their application and implementation of the distributor model for PCB sourcing has been key element in this success. Their on going efforts to provide competitive solutions for our PCB requirements has essentially been seamless. They are truly an extension of our supply chain resources which has allowed our internal resources to concentrate on other elements of our supply chain.”

BOB RIDGEWAY, VICE PRESIDENT OF OPERATIONS, SPECTRUM CONTROLS

## FLEX, RIGID-FLEX

We can supply single-sided, double-sided, multilayer and rigid-flex FPC like the following:

### SINGLE-SIDED

Covering a layer of preservative after etching the circuit on a single-sided PI coated copper board to form a FPC with single-layer conductor.

### NORMAL DOUBLE-SIDED

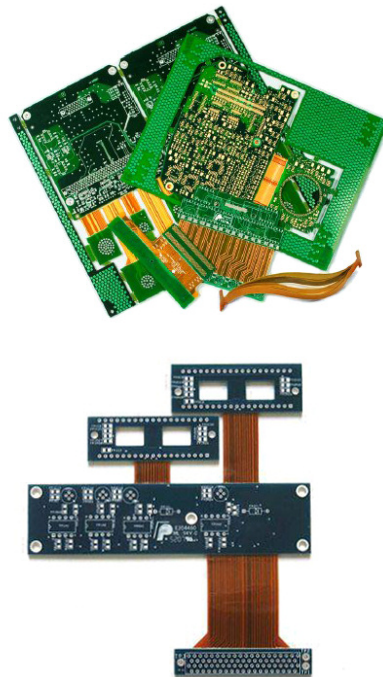
Covering a layer of preservative on each side of a double-sided PI coated copper board after etching the circuit on the two sides of the board to form a circuit board with double-layer conductor.

### MULTI-LAYER

Pressing and gluing several single-sided PI coated copper boards with pressure-sensitive adhesive using the similar technique as that of Double-sided Printed Board with Substrate to form a circuit board with multi-layer conductor structure and a high pliability at the non-glued part.

### RIGID-FLEX

Forming a multi-circuit board making use of flexible board's high pliability and rigid board's high supporting ability.



### FLEX CAPABILITIES

- Up to 12 Layers
- Size up to 10" X 18"
- .0005", .001", and .002" base PI material
- .0005", .001", .002" and .003" PI coverlay film
- Blind and buried vias
- Eco-Bond available
- PI or FR4 stiffeners
- Laser trimming
- IPC 6013 Class 2 and IPC-A-600 inspection standards
- IPC-TM-650, GB/T4677-2002 Test standards
- Design consultation available

## INJECTION MOLDING

We offer a variety injection molding machines ranging from 12-1400 tons. We utilize a wide range of engineering materials in a broad spectrum of injection molding applications, which include IMD, insert molding and overmolding

### ADDITIONAL SERVICES

- UV bonding
- sonic welding
- laser degating
- painting
- shielding
- decorating
- assembly processes
- packaging solutions

## SHEET METAL FABRICATION

### CAPABILITIES

- Sheer / punch and Form (bending)
- Materials cold rolled steel, copper & aluminum
- Spot welding Steel & aluminum, Heliarc, Arc & Mig

### FINISHING

- Powder coating
- Liquid paint
- Plating
- Silk-screening

### TURNKEY

- Engineering & Design, Prototype, to Production
- ESD Electronic Assembly
- Mechanical Assembly
- Function Test to customer specification