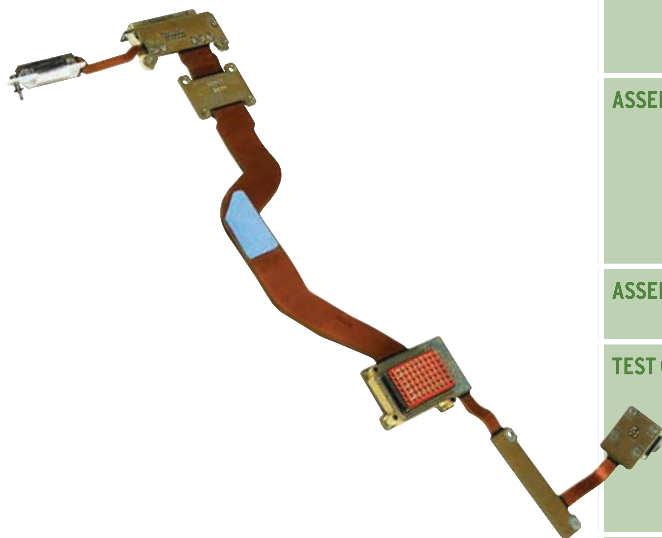
Flexible and Rigid-Flex Printed Circuit Board Capabilities

APC is one of the industry's leading manufacturers of flexible and rigid-flex circuit interconnects. For more than 30 years, APC has been providing quick turn prototypes from initial concept through full rate production with cutting-edge technologies including interconnects with blind and buried vias, microvias, and bookbinder.

Our assembly centers of excellence, located in Nashua, New Hampshire and Nogales, Mexico are fully ITAR qualified, providing competitive value-added services including SMT, wave and manual through-hole assembly as well as many other electro-mechanical solutions.

APC works closely with our customers to understand their true system requirements. This allows us to deliver the most cost-effective interconnect solutions with up-front engineering and consistent manufacturing techniques. From functional testing and turn-key assembly, APC's commitment to our customers success is what sets us apart in the industry.



DESIGN FORMATS	DXF Gerber	IGES Pads
PANEL SIZE	12" x 18" 18" x 24" 24" x 24" 24" x 36" 24" x 54"	
PANEL THICKNESS	.003" - .225"	
LAYER COUNT	1-30+	
INTERCONNECT FORMATION TYPES	Thru Hole Buried Blind	SMT Filled Via's Dual Diameter
FINISHED HOLE SIZE	Compliant Pinned (rigid zone only) Via (A/R dependent) Buried Vias Microvias (up to 3 electrical layers)	0.018" (0.457mm) 0.008" (0.203mm) 0.006" (0.152mm) 0.004" - .006" (0.101mm)
BLIND VIA ASPECT RATIO	1.25:1	
INTERNAL FEATURES (COPPER WEIGHT DEPENDENT)	Trace Spacing	0.003" (0.0762mm) 0.003" (0.0762mm)
MATERIALS	Polyimide - Standard Acrylic Polyimide - FR Polyimide - AP Polyimide - GI	Silver Epoxy Shielding Copper Epoxy Shielding Soldermask FR-4/ -24, 26 and 28
COPPER PROCESSING	1/4 oz. - .400"	
IMPEDANCE SINGLE & DIFFERENTIAL	± 10% ± 7%	
SURFACE FINISHES	HASL Reflowed Tin/Lead OSP-Entek 106 ENIG	Immersion Tin Immersion Silver Bright Tin Ni/Au
ASSEMBLY CAPABILITIES	Full Turn-Key Thru-Hole - Wave & Manual SMT - Pick & Place Wire-Bond Crimp RoHS Compliance	
ASSEMBLY FINISHING	Conformal Coat - UR, Acrylic, Parylene, Flouropel Glop Top	
TEST CAPABILITIES	Overmolding Impedance Testing Hi-Pot Up To 5,000 VDC 2,000+ Points Per Circuit Insulation Resistance up to 1,000 VDC Four Wire Kelvin .001Ωto 1Ω	Bed of Nails Flying Probe Flex Cycling Environmental Functional Test
CERTIFICATIONS	IPC-6013 Class I, II, and III; Types 1-5 Mil-P-50884 Types 1-5 ITAR Registered AS9100 Certification	IPC-610 UL94VO ISO 9001:2000

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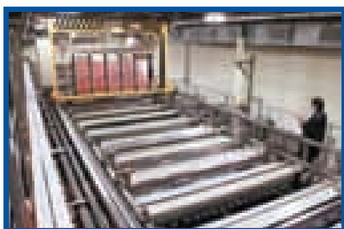
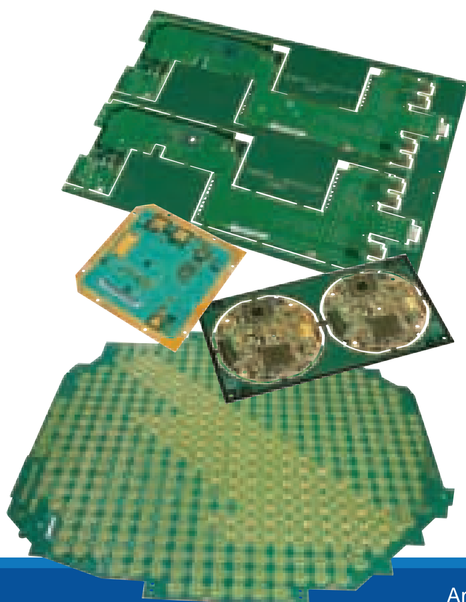
Printed Circuit Board Capabilities

Amphenol Printed Circuits' (APC) capabilities are among the world's broadest and most advanced, delivering consistent quality and reliability for demanding high-bandwidth systems and mission critical applications for more than 25 years. Proven engineering and manufacturing expertise eliminates printed circuit board design obstacles.

APC's North America printed circuit board operation provides tightly controlled processes for prototype through production printed circuit board volumes. The 214,000 square foot New Hampshire facility features state-of-the-art PCB manufacturing equipment and optimized material handling to ensure the highest quality and consistency.





DESIGN FORMATS	Mentor PADS	Cadence Zuken	
MANUFACTURING FORMATS	ODB++ (preferred) DXF Gerber 274X	Autoplot Excellon HPGL	DPF Gerber 274D IPC-D-356
MAXIMUM PANEL SIZE	24" x 54" (609.5mm x 1371.5mm) 30" x 44" (762.0mm x 1117.5mm) 36" x 42" (914.4mm x 1066.8mm)		
MAXIMUM PANEL THICKNESS	.500" (12.7mm)		
LAYER COUNT	Up to 64		
INTERCONNECT FORMATION TYPES	Back Drilled Dual Diameter Thru Hole* *with conductive and non-conductive via fill	Blind (laser& mechanical)* Electrically Isolated	Buried SMT
ASPECT RATIO - DRILLED SIZE	Compliant Holes > = 0.225 Via Holes < .022	17:1 13:1	
FINISHED HOLE SIZE	Compliant Pinned Via (A/R dependent) Buried Vias Microvias (up to 3 electrical layers)	0.018" (0.457mm) 0.008" (0.203mm) 0.006" (0.152mm) 0.004" (0.101mm)	
BLIND VIA ASPECT RATIO	1.25:1		
INTERNAL FEATURES	Lines Spacing Buried Resistors Buried Capacitance Minimum Core Thickness	0.003" (0.0762mm) .5 oz. copper 0.003" (0.0762mm) .5 oz. copper No No 0.001" (0.0254mm)	
EXTERNAL FEATURES	Lines Spacing	0.004" (0.1016mm) .5 oz. copper 0.004" (0.1016mm) .5 oz. copper	
MATERIALS	Low Tg FR4 (including phenolic cure) Getek Nelco 4000-13 & Nelco 4000-13 SI Rogers 4350/FR4 BT Please contact Applications Engineering for the availability of additional materials	High Tg FR4 (including phenolic cure) Isola FR408 Rogers 4350 Polyimide Cyanate Ester Megatron 6	
COPPER PROCESSING	1/4 oz. - 10 oz. copper (U/L 7 oz.)		
IMPEDANCE SINGLE & DIFFERENTIAL	± 10% ± 7.5% ± 5.0%		
SURFACE FINISHES	Electrolytic Ni/Au HASL Immersion Tin Reflowed Tin/Lead	ENIG Immersion Silver OSP-Entek 106	
CERTIFICATIONS	IPC-A-600 Class I, II, and III AS 9100-B / ISO 9001:2000 ITAR Registration MIL-PRF-31032/2a	IPC-6012 Class I, II, and III ISO 14001:1996 MIL-PRF-31032/1b MIL-P-55110	

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