



# ***WHAT'S UP WITH SIERRA?***

THAT'S WHAT EVERYONE SEEMS TO BE ASKING THESE DAYS.  
IT IS EVIDENT THAT SIERRA CIRCUITS IS ON THE MOVE, FROM  
ACQUISITIONS TO TECHNOLOGY UPGRADES, TO RESEARCH AND  
DEVELOPMENT. SIERRA CIRCUITS HAS CAPTURED THE  
IMAGINATION OF THE PRINTED CIRCUIT BOARD INDUSTRY.

So,

IF YOU WANT TO KNOW WHAT'S UP WITH SIERRA...

TURN THE PAGE.

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# **WELCOME TO THE NEW SIERRA CIRCUITS**

SIERRA CIRCUITS IS AMERICA'S COMPLETE PRINTED CIRCUIT BOARD RESOURCE.  
WHATEVER YOUR NEEDS, SIERRA WILL FILL THEM.

## **Sierra Circuits Business Units**

### **Sierra Life Span Project/Support Objective** **All Technology Levels – All Turn Times – All Volumes**

#### **Sierra Proto Express**

Standard Full Service  
Quick Turn Protos  
Mil Spec

#### **Sierra HDI Tech Center**

Quick Turn HDI's  
Hi Tech Protos  
Mil Spec

#### **Sierra Micro-Electronics**

Sub 2 Mil Lines  
Ultra Thin HDI's  
Mil Spec

#### **Sierra Midwest**

Small Production  
Medium Production  
Mil Spec

#### **Sierra Offshore**

Offshore  
High Volume  
Production

#### **Sierra No Touch**

Online / Low Cost  
Self Service  
Protos

#### **Sierra India**

PCB Protos for  
Indian Market



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# SIERRA CIRCUITS PRESENTS

## YOUR COMPLETE PRINTED CIRCUIT BOARD RESOURCE

### **Sierra Proto Express Sunnyvale, California**

- Prototype and small production volumes
- Differential impedance
- 2 to 30 layers
- Lead-free process
- 3 mils lines/spaces (0.003")
- Filled vias
- 24 hour – 5 day turn typ.
- Hole in pad
- Mil spec
- Metal core
- Carbon paste
- Plated edge holes
- Milled edges
- Heavy copper

### **Sierra Midwest Chanute, Kansas**

- Small to medium production volumes
- 1 to 10 layers
- Lead-free process
- 5 mils Lines/spaces (0.005")
- 5 day – 3 week turn typ.
- Mil spec

### **Sierra HDI Tech Center Sunnyvale, California**

- Blind/buried via technology in 3 day turns
- Down to 2 mils lines/spaces (0.002")
- Sequential lamination
- Lead-free and Halogen-free materials available
- 0.4 mm pitch BGA
- Expert technical assistance available

### **Sierra Offshore China and Taiwan**

- Strong alliance with manufacturing companies in Asia – Five people in China, resident in manufacturers' facilities
- Formal qualification procedure for process and products
- Formal schedule for periodic re-certification of process and products
- ISO9001:2000, QS9000/TS16949:2002, UL, IPC

### **Sierra Micro-Electronics Sunnyvale, California**

- 30 Micron lines/spaces (1.25 mils) (0.00125")
- Very thin film build-ups down to 1 mil thick
- Low CTE metal cores
- Coplanar Surfaces
- Blind/buried vias
- Multilayer sequential buildup
- Laser-drilled holes as small as 2 mils
- Fast Delivery (<4 weeks available)
- Can engage in R&D projects

### **Sierra No Touch World Wide Web**

- Low cost, self-service, internet specials
- Standard technology PCBs
- FR-4 material, 0.062" thick
- Standard surface finishes
- Free automatic file verification of your design
- Typically 3 to 10 day turns
- [www.protoexpress.com/notouch](http://www.protoexpress.com/notouch)

### **Current Manufacturing Technologies**

- Multilayer Boards, up to 30 layers and 0.250" thick
- Materials Include: FR-4 (140Tg, 170Tg, 200Tg), Polyimide, GETEK, Rogers 4003, Others Upon Request
- Controlled Impedance - (RamBus Capable)
- Blind and Buried Vias & Microvias
- Carbon Inks, Conductive Epoxies, Filled Holes
- Metal Core Boards
- Burn-In Boards
- Surface Finishes: HASL, White Tin, Tin-Nickel, Hard Gold, Soft Bondable Gold, Immersion Gold, Immersion Silver, Entek
- ISO9001:2000, UL, IPC
- Military Certified 55110 – Renewed 2006
- See more capabilities at [www.protoexpress.com/capability](http://www.protoexpress.com/capability)

### **Capability Snapshot**

	<b>Standard</b>	<b>Controlled</b>
Minimum Drill Size	.0059"	.004"
Aspect Ratio	10:1	20:1
Line Width & Space	.002"	.00125"

- All surface finishes available
- All materials available (except ceramics)
- All layer counts available

# AND WE'RE JUST GETTING STARTED...

STICK AROUND, THERE'S A LOT MORE TO COME:  
MORE ACQUISITIONS, HIGHER TECHNOLOGY, RESEARCH AND  
DEVELOPMENT THAT IS GOING TO CHANGE *EVERYTHING!*

WE HAVE SERVED INNOVATORS EVERYWHERE SINCE 1986.  
ASK US WHAT WE CAN DO FOR YOU!

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