

SL-392

**ADVANCED  
INTERCONNECT PACKAGING  
FOR MILITARY AND AEROSPACE**

**Amphenol**  
Backplane Systems

[www.amphenol-abs.com](http://www.amphenol-abs.com)



## Amphenol Backplane Systems, The Leading Choice

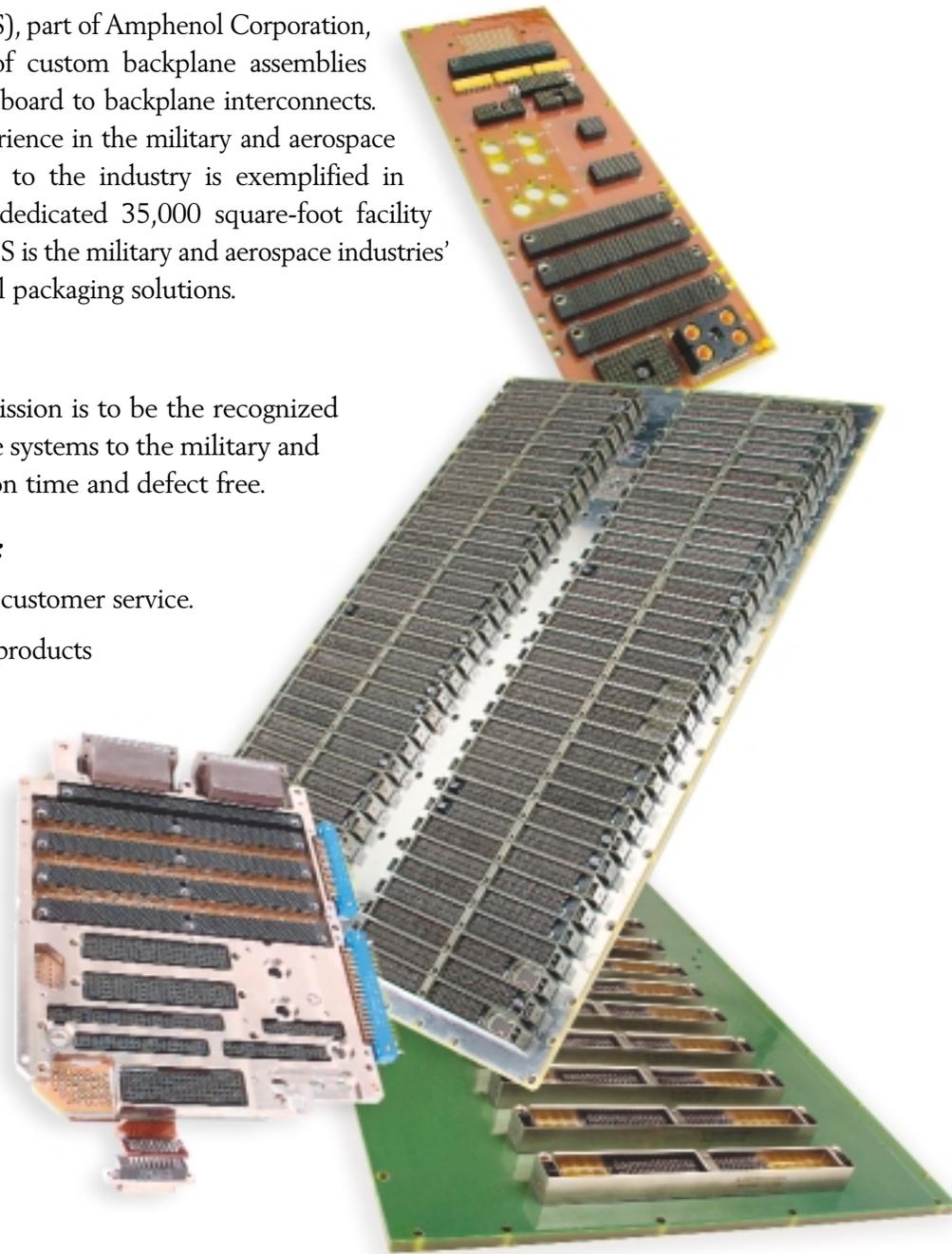
Amphenol Backplane Systems (ABS), part of Amphenol Corporation, is the leading manufacturer of custom backplane assemblies using high-density, ruggedized, board to backplane interconnects. We have over 30 years of experience in the military and aerospace market and our commitment to the industry is exemplified in everything we do. With our dedicated 35,000 square-foot facility in Nashua, New Hampshire, ABS is the military and aerospace industries' premier choice for system-level packaging solutions.

### Mission Statement

Amphenol Backplane System's mission is to be the recognized worldwide leader in backplane systems to the military and aerospace market; delivering on time and defect free.

#### ***We will accomplish this mission by:***

- Providing the highest quality customer service.
- Developing industry leading products and services.
- Focusing on cost effective, innovative systems solutions.
- Continuous improvement of processes.



**AMPHENOL BACKPLANE SYSTEMS IS THE LEADING  
PRODUCER OF SYSTEM-LEVEL PACKAGING SOLUTIONS  
FOR MILITARY AND AEROSPACE PROGRAMS.**



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## ABS Products are Required to Perform in the Most Demanding Environments

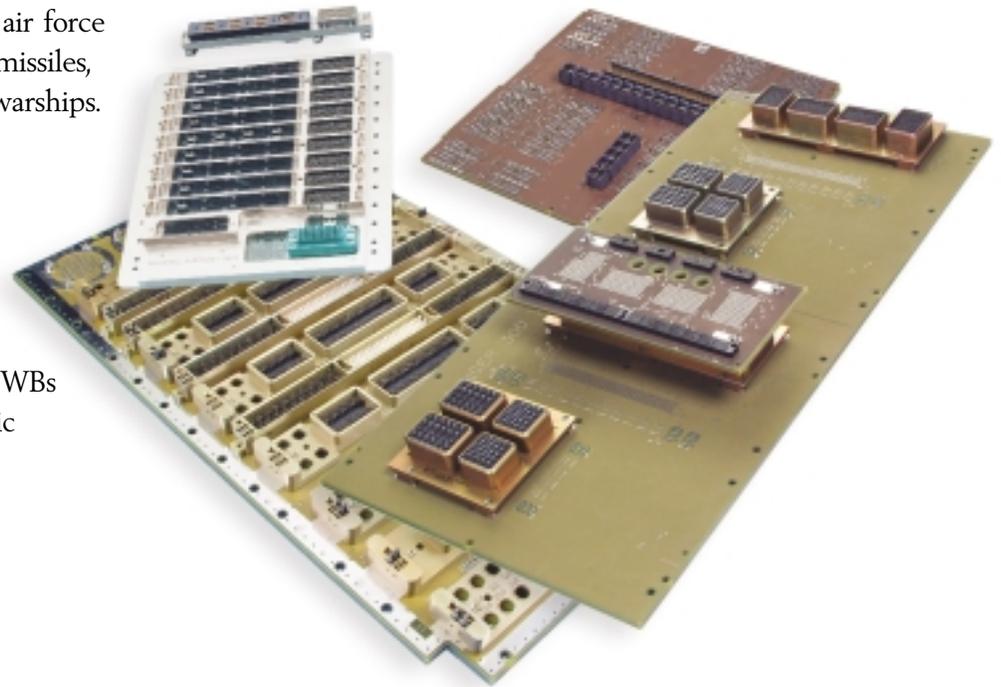
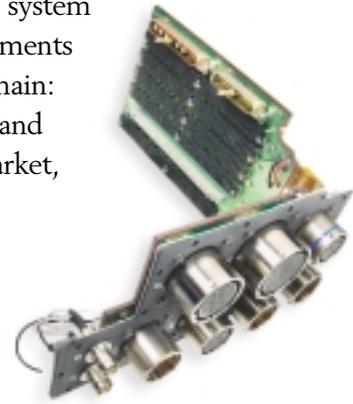
Whatever your environmental requirements are, ABS is the choice for system level packaging solutions. ABS leads the industry by offering the elements necessary for success in the military and aerospace OEM supply chain: design, applications engineering, fabrication, value-added assembly, and testing. Coupled with the largest interconnect offering on the market, Amphenol can support all of your interconnect needs.

### *ABS's solutions at the pinnacle of technology*

Our packaging solutions are used on programs such as the F-35 Joint Strike Fighter, F-22 Raptor, F-18 Super Hornet, Theater High Altitude Air Defense Radar, AH-64 Apache, RAH-66 Comanche, and AEGIS radars used on U.S. Navy warships. From avionics to fire control and communications, ABS's interconnect products can be found worldwide aboard commercial airliners, army helicopters, navy and air force fighters, C4I electronics, missiles, ground vehicles, and navy warships.

### **Product Solutions**

- Backplane Assemblies
  - Press-fit
  - Through-Hole
  - Surface Mount
  - Rigid and Rigid Flex PWBs
  - Hybrid Optical Electric
- Value Added Assembly
  - Cabling
  - Bussing
  - Hardware
- Full System Assembly
  - Chassis Builds
  - Optical Electric Rack Assemblies



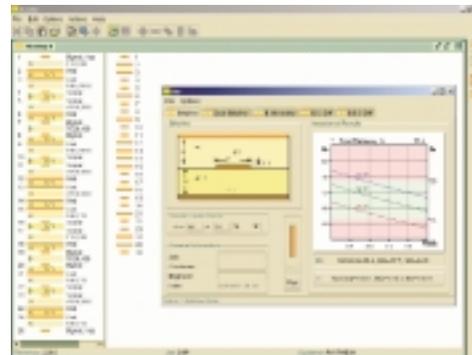
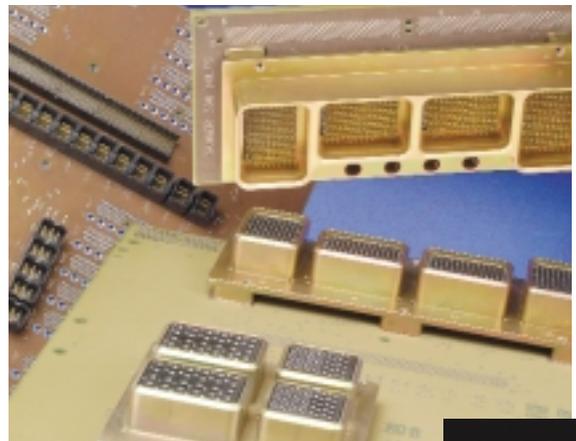
## The ABS Engineering Edge

Amphenol Backplane Systems tackles problems such as PWB routing, signal integrity, mechanical robustness, and reliability concurrently rather than independently by value-added applications engineering support. Solving complex packaging challenges depends on making sure that environmental, mechanical, and electrical factors are all addressed at the systems-level. By taking this systems-level perspective and focusing on these factors, Amphenol Backplane Systems is able to meet your program's most challenging packaging requirements. We are an extension of your design team, providing expert design and applications engineering assistance at every step of the way to ensure program success. This is a perspective that connector vendors and other backplane assembly suppliers cannot match.

ABS will evaluate your backplane design for manufacturability and cost-efficiency, frequently suggesting enhancements in order to meet or exceed your requirements for performance, cost and reliability. Our expertise is used to optimize your design prior to production.

### Engineering Capabilities

- Concurrent applications engineering support
- Connector selection
- Impedance and Signal Integrity Modeling
- Mechanical Design
- Solid modeling and CAD software tools
- Design for Manufacturability and Assembly (DFMA)
- Design to Cost (DTC)
- PWB Design Rule Check (DRC) software
- PWB Design Services
  - Multiple software systems
  - PWB Fabrication and Assembly drawings
  - Analysis Reports and Test Specifications
- PWB Design Support
  - Board Materials
  - Impedance/Stack-up modeling
  - Line Widths/Spacing
- Innovative Power Solutions
- Product Development and Derivatives
- Integration of Hybrid Optical Electric backplanes

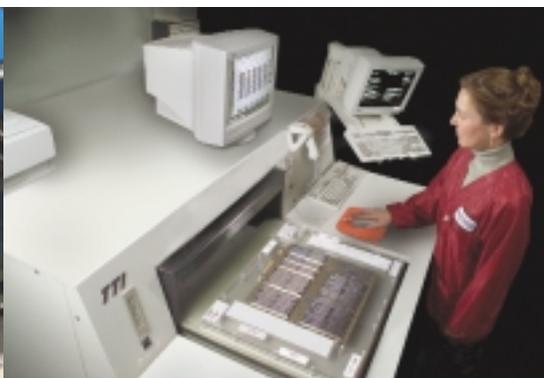


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## At ABS Your Program is Assured of Success

ABS offers total solutions for military and aerospace programs. Total solutions entails meeting demands for program management, time to market, and reliability with broad connector offerings, advanced printed circuit board technology, custom backplane assemblies, chassis assembly, and test. With superior program management, the ABS team is an extension of your supply chain, delivering quick-turn prototypes and high-technology production volumes cost effectively, on time and defect free.



## ABS OFFERINGS

- *Prototypes Through Production*
- *Large Format PWB Fabrication*
  - *Process panel size up to 54"*
  - *High aspect ratio plating up to 15:1*
  - *Panel thickness exceeding .400"*
  - *PWBs exceeding 50 layers*
- *Large Format Surface Mount Assembly and Soldering*
- *Innovative Through-Hole Soldering Processes*
- *Conformal Coat*
- *I/O Solutions and Cabling*
- *Value Added Assembly*
- *Advanced Test Capabilities*
  - *Board*
  - *Assembly*
  - *In-circuit*
- *Chassis Assembly*

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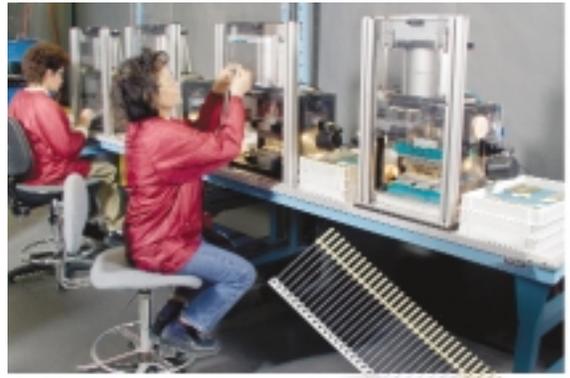
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*or call toll free 888-318-3553.*

## Why Do Business With Us?

### ***Our customer support means customer satisfaction***

We take pride in partnering with our customers to deliver a quality product, on time and in response to your program requirements. Our account management team is focused on your requirements to ensure your satisfaction. Our application engineers provide support throughout the process from design and product development to manufacturability. And, our worldwide sales coverage is structured and positioned for customer intimacy.



### ***Our investment in technology means more than equipment***

Only Amphenol Backplane Systems combines a wide range of innovative product and process technologies, advanced component manufacturing, and process control with highly focused, customer specific program management and testing at the assembly level. In addition, we provide expert design and applications engineering assistance at every step of the way.

ABS production capabilities are the result of Amphenol's significant investment in new state-of-the-art equipment and software including: press-fit installation; through-hole soldering; aqueous cleaning; conformal coat; and electrical test. ABS mil-spec qualifications include MIL-C-28859 (for components) and MIL-A-28870 (for assembled backplanes). Coupled with this is our process control focus. Our process engineers work to ensure that we are manufacturing product to your exact requirements to ensure conformance the first time and every time.



### ***The one-stop solution for interconnects and backplane systems***

Amphenol provides printed circuit processing capabilities that are among the world's most advanced, specializing in high technology multilayer backplane applications. We are able to offer large panel sizes with high layer counts and features such as high-aspect ratio plating, small-diameter plated-through holes, and fine lines and spaces. Our applications engineers will help you sort through design and manufacturing issues such as board size, layer counts, trace routing, material selection, and power distribution. Investments at this stage ensure predictable, repeatable manufacturability with reduced costs. We offer this in conjunction with Amphenol Corporation's complete breadth of interconnect products, giving our customers a one-stop solution.



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## ***Our High Density Interconnects***

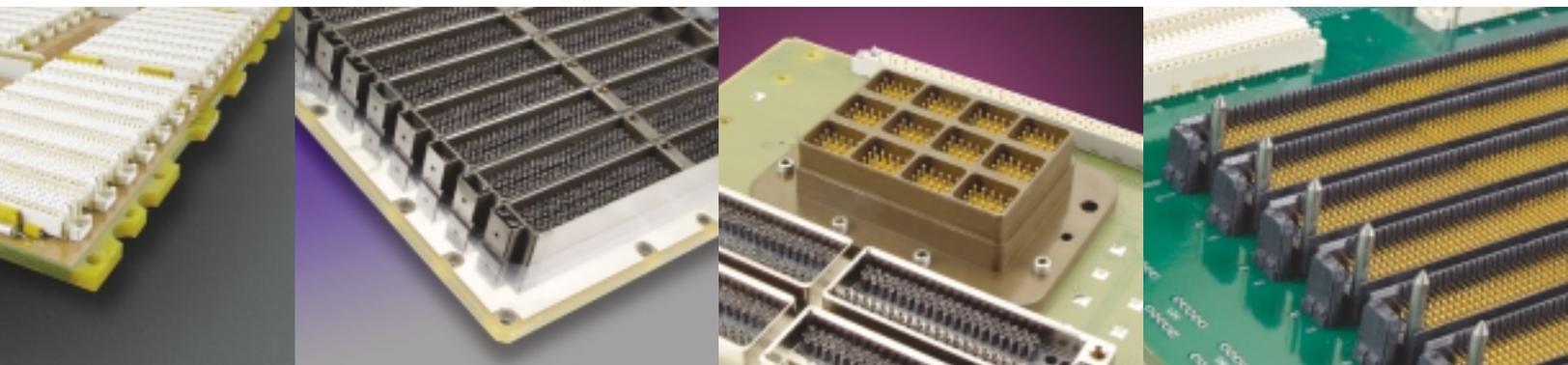
When you're looking for high performance interconnects, ABS is capable of supplying multiple connector types integrated into a rigid or rigid-flex backplane system. ABS solutions include a wide range of connector technology to include: 0.100" x 0.100" NAFI fork and blade, 0.100" x 0.100" Bristle Brush, 0.100" x 0.050" Ultra High Density (UHD) fork and blade, LRM with MIL-C-55302 type bristle brush, GEN-X with MIL-C-55302 type bristle brush, ruggedized VME-64X, filtered and non-filtered MIL-C-38999, filtered and non-filtered ARINC, as well as other manufacturer's interconnect products used throughout the industry. In fact, there isn't a connector on the market which we haven't integrated into a backplane.

Teamed with the U.S. Navy as co-developer of solderless press-fit contact technology and the leading manufacturer of backplane systems, ABS understands the relationship between the connector and backplane. We use this knowledge to provide complete backplane systems that meet your program needs. Our interconnects meet the increasing signal and power demands of advanced military and aerospace applications. Amphenol also offers electro-optical backplane interconnect systems for advanced avionics systems requiring high speed optical/digital signal processing. Available in SEM-E or custom form factors, these systems integrate your total electrical and optical interconnect needs into one discreet package.



**WE TAKE PRIDE IN PARTNERING WITH OUR CUSTOMERS**

**AND SUPPLIERS TO DELIVER A QUALITY PRODUCT ON TIME**





# **Amphenol**

## **Backplane Systems**

*Amphenol Backplane Systems, 18 Celina Avenue, Nashua, New Hampshire 03063*

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