











Military & Aerospace Operations

# AT-A-GLANCE

# Amphenol Military & Aerospace Operations (AMAO) offers unique advantages that no other interconnect manufacturer can:

#### Global footprint, local support:

With 21 divisions in North America, Europe, and Asia, we can provide a local, regional presence to design and build any interconnect solution.

#### **Cost-effective partnerships:**

AMAO utilizes a vertically integrated supply chain to flow down the most competitive costs to our customers, even on the most complex solutions.

#### Manufacturing versatility:

Many AMAO interconnect solutions have dualproduction locations and off-set options which means our customers benefit from low-cost options without the fear of a single-source position.

#### **Technology proliferation from other Amphenol divisions:**

As the second largest interconnect company in the world, we're highly diversified and can provide our proven COTS technology from the antennas, sensors, industrial, and automotive markets to the military and aerospace world.

Amphenol Military & Aerospace Operations is perfectly aligned to provide the latest technologies, cost-effective manufacturing and supply chain management, and local support to solve any military and aerospace interconnect need.

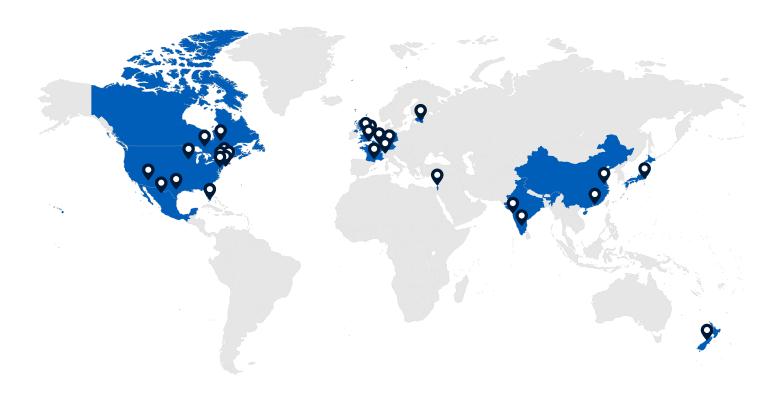








# **International Manufacturing Footprint:**



# **Industry Product Specs:**

- ABS 1152
- ARINC 404
- ARINC 600
- ARINC 801
- ARINC 809
- ARINC 810
- AS39029
- AS85049
- BACC63CM/CN/DB/DC
- EN2997
- EN3155
- EN3545
- EN3645
- EN3661
- EN4165
- ESC10/ESC11
- JSFC15/16/17/18
- M31031
- M39012
- M39030

- M3933
- M55339
- M83517
- MIL-C-9177
- MIL-DTL-22992
- MIL-DTL-24308
- IVIIL-D1L-24306
- MIL-DTL-26482 Series 1 and 2
- MIL-DTL-26500
- MIL-DTL-27599
- MIL-DTL-28876
- MIL-DTL-38999 Series I, II, III
- MIL-DTL-5015
- MIL-DTL-55116
- MIL-DTL-55181
- MIL-DTL-55302
- MIL-DTL-83513
- MIL-DTL-83527
- MIL-DTL-83723
- MIL-PRF-12883
- MIL-PRF-29504

- MIL-S-8805/3
- MIL-T-81714 Series I, II
- SMA
- SMP
- SMPM
- SMPS
- SMPTE 304M
- SSMA
- TFOCA I, II, III
- TNC
- Type N
- VG95328
- VG95319-1006/-1007/-1008
- VG96912
- VG95234
- VG95319-100/-101
- VG95319-1011
- VITA 46/60/66/67
- VME64

# **PRODUCTS**

# Amphenol Military & Aerospace Operations has the **largest** and **broadest selection** of interconnect products in the military and aerospace markets.

Amphenol can provide all interconnect needs, from small, lightweight system attachments to large, complex assemblies and everything in between.







#### **Circular Connectors:**

Mil-Spec Connectors
Micro-Miniature Connectors
Filtered and Sealed Connectors
Audio Connectors
Circular Rack and Panel Connectors
High-Power Connectors
Quick-Disconnect/Push-Pull Connectors



Rectangular Connectors Board-Level Connectors Rack and Panel Connectors D-Sub and Micro-D Connectors Filtered and Sealed Connectors SIM/Modular Connectors VITA Interconnects

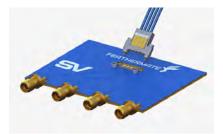
















#### **RF Interconnects:**

TNC and Type N Series SMP, SMPM, SMPS Series PN, PTNC Series Blindmate Connectors FeatherMate Series Multiport High Density Connectors RF Components and Adapters

# **High Speed & Fiber Optics:**

10GB+ Copper Connectors USB, HDMI Solutions ARINC 801 Connectors TFOCA, TFOCA II, TFOCA III Connectors LC and MT Circular Connectors Rugged Ethernet Solutions Fiber-to-Antenna Connectors

















### **Junction Modules & Relay Sockets:**

Grounding Modules
Electronic Splices
Quick-Mount Relay Sockets
PCB Modules
In-Line Junctions
Ground Blocks
Mil-Spec Relay Sockets

# **PRODUCTS**

#### **Contacts & Termini:**

Quadrax, Differential Twinax Contacts
ARINC 801 Termini
MT Ferrules
PC Tail Coax, Twinax, Triax Contacts
Oval Contact System
Lux Beam & Lumiere
Quadrax Fiber Optic Adapters















# **Backshells & System Attachments:**

Environmental & Non-Environmental Backshells EMI/RFI Backshells Adapters & Strain Reliefs Dust Caps P-Clamps & C-Clamps Standoffs & Raceways Cable Separators



# Cabling & Cable Harnesses:

High-Speed and Fiber Optic Cables Engine Harnesses Heavy Duty Power Cables Overmolded Cable Assemblies Ethernet and USB Cables Cable Adapters RF Cable Assemblies







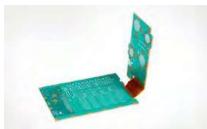












Standard PCBs
Flex Products
Rigid-Flex Products
Backplane Assemblies
Printed Electronics
RF Printed Circuit Boards
Circuit Card Assemblies

## Media Converters & Ethernet Switches:

Copper-to-Fiber Digital Media Converters
Analog-to-Digital Media Converters
Ethernet Media Conversion
Opto-Electronic Contacts
Rugged Ethernet Switches
Expanded Beam Converters
Butt Joint Fiber Connector

















# **Complex Assemblies:**

Electro-Mechanical Integration
Panel Assemblies
Engine & Systems Controls
Aircraft Ground Support Equipment
Ruggedized Displays
Electronic Assemblies
Test Systems

# **TECHNOLOGIES**



#### Size, Weight, and Power (SWaP):

Amphenol has more interconnect options to reduce size and weight, while maintaining needed power requirements, than any other manufacturer. From system attachments to complex assemblies, AMAO has led the industry in the use of lightweight materials, high contact density design, and unique packaging without sacrificing power and performance.



#### Ruggedization:

Amphenol has the broadest range of ruggedized, harsh environment interconnect solutions in the industry. For over 60 years, AMAO has led the military and aerospace industries with countless designs that withstand high altitude and temperature ranges, shock, vibration, humidity, and the harshest sealing requirements.



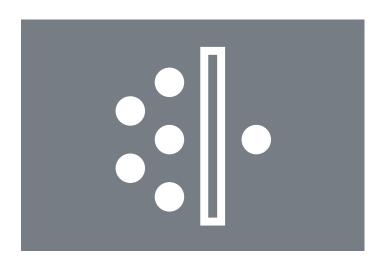
#### **High-Speed:**

Amphenol designs and builds custom connector and cable solutions for High Speed Copper, Fiber Optic, and Integrated applications. AMAO has numerous interconnect options to solve any high-speed data transmission needs from 10 Gb/s and beyond, while incorporating solutions for all high-speed protocols and media conversion.



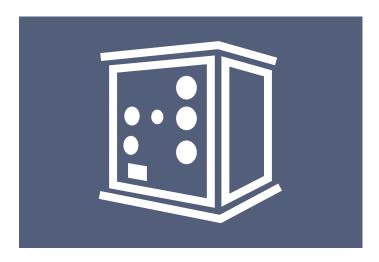
#### **RF Transmission:**

Amphenol designs and manufactures standard and custom RF/Microwave coaxial connectors, cable assemblies and passive components designed for military, satellite, aerospace, and commercial applications. AMAO has the most extensive RF connector Mil-Spec product offering of any supplier, including adapters, attenuators, and terminations.



#### **EMI and EMP Protection:**

Amphenol's EMI & EMP Protection solutions offer the versatility of standard connectors with EMI/EMP protection for sensitive circuits. Internal housing of the EMI/EMP devices eliminates costly and bulky exterior discrete protection devices. Virtually all circular and rectangular connectors can be incorporated with filter devices.



#### **Electronics Packaging:**

At Amphenol, we understand that high reliability electronics requires state-of-the art equipment, experienced and passionate people, and rigorous process validation. AMAO's expertise in electronics design, design-for-manufacturer, assembly, and test is second-to-none in the industry.

# **MARKETS**



## Military Aircraft:

Amphenol is at the leading edge of the latest products and technologies demanded by the military aircraft market. Whether its proven legacy aircraft, the newest unmanned aircraft or rotorcraft, or the most technologically advanced future aircraft, Amphenol designs and builds high-speed, high-reliable, ruggedized product solutions for all subsystems to keep these aircraft flying.



#### **Commercial Aircraft:**

Amphenol follows the latest trends in the commercial aerospace market to ensure we provide the right product solutions for the smallest general aviation and business jet to the largest commercial airliner. The transition to a more electric and lighter aircraft is reflected in our interconnect design and development. We hold many industry specification qualifications and our years of material innovations has resulted in multiple interconnect developments.



#### **Avionics:**

Amphenol's product portfolio is perfectly suited for the high-speed, high-density demands of flight control systems, both in military and commercial aircraft. From the terminal blocks and relay sockets to complex solutions combining fiber optics, EMI/EMP protection, backplane assemblies, and custom metal machining, Amphenol helps keep aircraft flying safely and reliably.



#### **Unmanned Systems:**

As the world of unmanned systems continues to grow, so does Amphenol's product innovations. While early unmanned systems utilized legacy interconnect product, the newest systems place a premium on small, lightweight, high-speed developments for air, land, and sea unmanned systems.



#### Space:

Amphenol has a rich history with space-related product developments found on many of the landmark space achievements over the years. As the market transitions to incorporate more commercial space development, Amphenol is working closely with the industry to ensure we're leading the design of interconnect solutions for the next generation of space exploration to Mars and beyond.



#### **Ground Systems:**

Amphenol leads the military ground vehicle market with interconnect solutions. Current and future ground vehicles demand more sophisticated onboard C4I systems, power distribution, and active protection systems. Amphenol's innovative engineering and diverse product offerings meet and exceed the challenges of SWaP, high speed, and material restrictions for any vehicle sub-system.



#### **Missiles and Missile Defense:**

Reliability is the most important aspect of interconnect design for missiles and missile defense. The systems need to work perfectly every time, without fail. Amphenol has a wide range of high-reliable, high-speed, high-bandwidth products that reduce SWaP: from micro-miniature and backplane connectors to RF, power cables and rigid-flex assemblies, to ensure effective missile defense.



#### C4ISR:

In the ever growing market of communications and surveillance, Amphenol provides a reliable, rugged, and innovative array of products to support the important task of information collection. From powering individual systems to providing secure and efficient transfer of data, Amphenol has the technology to accommodate any C4ISR application. Amphenol allows our soldiers to continue to obtain the most important resource of all, knowledge.



#### Naval:

Amphenol is an industry leader of harsh environment electronic interconnects servicing the Naval market. Whether powering vital control systems, initiating countermeasures, or transmitting critical communication data; Amphenol's broad product offerings and high reliability ensure a safe and successful mission. We take pride in supporting the Naval market and will continue to provide our highest level of technology, quality, and service to do so.



#### **Soldier Systems:**

The modern warfighter is a walking network, connected to multiple sensors, their command, and each other. A premium is placed in simple, yet powerful connectivity that reduces weight while being ergonomic and rugged at the same time. Amphenol's micro-miniature, high-speed interconnect solutions are ideal for keeping the soldier connected.

# **Manufacturing Contact Information:**

#### **Amphenol Aerospace Operations**

40-60 Delaware Avenue Sidney, NY 13838 800-678-0141

#### **Amphenol Commercial Air Division**

40-60 Delaware Avenue Sidney, NY 13838 1-800-687-0141

#### **Amphenol Nexus Technologies**

50 Sunnyside Avenue Stamford, CT 06902 203-327-7300

#### **Amphenol PCD**

72 Cherry Hill Drive Beverly, MA 01915 978-624-3400

#### **Amphenol SV Microwave**

2400 Centrepark West Drive West Palm Beach, FL 561-840-1800

#### **Amphenol Times Microwave, Inc.**

358 Hall Avenue Wallingford, CT 06492 800-867-2629

#### **Amphenol Fiber Systems International**

1300 Central Expressway North, Suite 100 Allen, TX 75013 214-547-2400

#### **Amphenol Borisch Technologies**

4511 East Paris AVE Grand Rapids, MI 49512 616-554-9820

# Amphenol Printed Circuit Board Technology

91 Northeastern Boulevard Nashua, NH 03062 603-324-4500

#### **Amphenol Griffith Enterprises**

6000 East Coury Drive Cottonwood, AZ 86326 928-634-3685

#### **Amphenol Canada**

605 Milner Avenue Toronto, ON Canada M1B 5X6 416-291-0647

#### **Amphenol Invotec**

Unit 1-3, Hedging Lane Industrial Estate Dosthill, Tamworth, B77 5HH United Kingdom +44 (0) 1827 263250

#### **Amphenol Ionix Systems**

Prospect House, Taylor Business Park Risley, Warrington, WA3 6HP United Kingdom +44 (0) 1942 685200

#### **Amphenol Limited**

Thanet Way Whitstable, Kent, CT5 3JF United Kingdom +44 (0) 1227 773200

#### Amphenol Socapex

948 Promenade De L'Arve – BP 29 74311 Thyez France +33 (0) 4 50 89 28 00

#### **Amphenol Air LB SAS**

2 Rue Clément Ader, Zac de Wé 08110 Carignan France +33 (0) 03 24 22 78 49

#### Amphenol AirLB GmbH

Am Kleinbahnhof 4 D-66740 Saarlouis Germany +49 (0) 68 31/98 10 0

#### **Amphenol SEFEE**

Z.I. des Cazes – BP243 12402 Saint-Affrique Cedex France +33 (0) 5 65 98 11 00

#### **Amphenol Interconnect India**

105, Bhosari Industrial Area Pune – 411 026 India +91 20 27120363

#### Amphenol Japan, Ltd.

471-1, Deba, Ritto-City Shiga, 520 3041 Japan +81 77 553 8501

#### **Amphenol Martec Limited**

St. Augustines Business Park Swalecliffe, Whitstable, Kent CT5 2QJ United Kingdom +44 (0) 1227 793 733

#### **Amphenol Optimize**

Carretera Internacional Km 6.5 Col. Parque Industrial Nogales, Sonora, México. C.P. 84094 +52 (631) 311-160

#### Amphenol Ionix Systems OÜ

Pikk Street 59b Kuressaare 93815 Estonia +372 4521 780

#### Amphenol Military & Aerospace Operations – European Sales Operations

Via Barbaiana 5 20020 Lainate Milano, Italy +39 02 932 541

#### Amphenol Bar-Tec Ltd.

3 Hagavish st POB 2479 Kfar-Saba 44641 Israel +972-9-7644100



www.amphenolmao.com



www.q-flex.fi info@q-flex.fi +358 2 4894 500