

DEFENSE / AEROSPACE

FIELD-PROVEN, HIGH PERFORMANCE SOLUTIONS

Edition 2018



Advanced Microwave Connectivity

FIELD-PROVEN, HIGH PERFORMANCE MICROWAVE CONNECTIVITY & INTERCONNECT



DEFENSE & AEROSPACE



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GigaLane has contributed to the defense, aerospace industries by offering proven RF cable assembly and connector for a wide variety of military applications. We understand how important reliability and performance of RF connectivity and interconnections are for your system. Through our experiences of design and mass-production for military application, we are able to design and manufacture complying with military and aerospace-level quality system and we do provide SDRL, TDP, CoC, 2D/3D modeling as required



Aircraft

With extreme environmental changes and load factors up to 10 g, electrical and electronic systems for aircraft require cables and connectors of superior quality. GigaLane has many years of experience in the development, production and qualification of cables, connectors and cable systems for airborne applications, avionics. Our solutions are used in many systems around the globe and have proven to be reliable and meet the toughest requirements. GigaLane specializes in high performance miniature and lightweight solutions for microwave low-loss interconnection.

Applications

- Fighter jets
- Helicopters
- UAV

Heritage

- FA-50, T-50, APT(T-X)
- KUH, LAH, MUH
- C-UAV, D-UAV

Requirements

- Hermetically sealing
- Low weight and ruggedized solutions
- Small form factor, minimal bend radius
- Low-loss, high phase-stability, phase-matched



HYBRID CABLE ASSEMBLY (MULTIPOINT)

= RF+DC & shielding & Phase-matched & Hermetically sealed

In most modern applications restricted space requires high packing density and reduced weight, while data rates increase and rigorous safety standards require the highest quality and reliability. Hybrid, or multipoint solution offer unequaled advantages

- One stop for low frequency, high frequency and DC signal
- Space saving and easy to install
- Reduces mounting time and increases system reliability

Your options

- To enhance flexibility, we can offer cables-twist solution
- To reduce RF leakage, we provide special shielding tech.



LOW-LOSS MICROWAVE CABLE ASSEMBLIES

= Phase-matched & Hermetically sealed & Light-weight

As required by aircraft sector, modern microwave cable assemblies must be lightweight, small in size and not sacrifice performance. All cables are designed to meet statutory aircraft requirements and are in compliance with MIL-T-81490, which enables the cable to withstand harsh environments over a long period of time.

- Frequency ranges : DC to 18 GHz
- Max VSWR : 1.35
- Normex and Kevlar jacket
- Various connector available including self-locking series
- 10~20% Light-weight than others

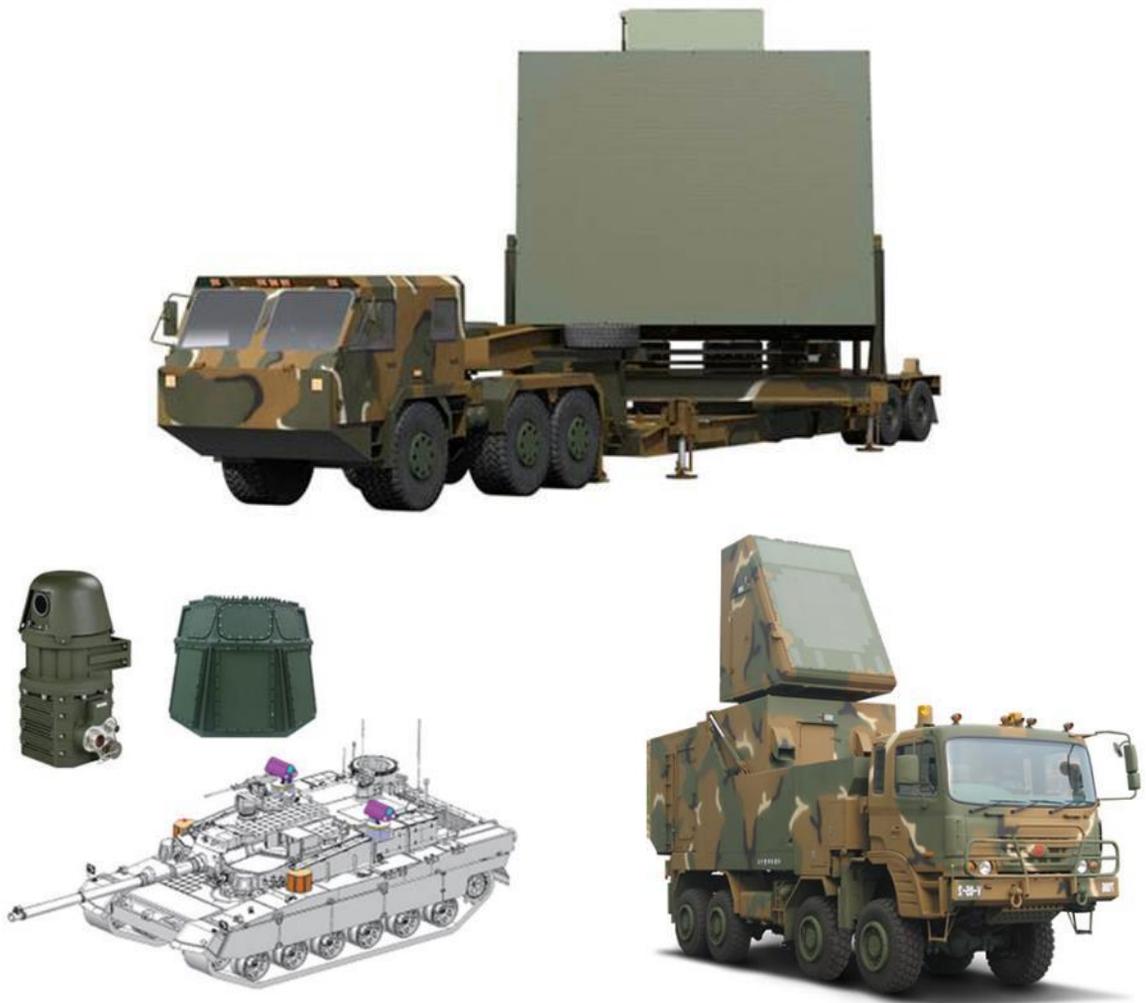


CONNECTORS & ADAPTERS

GigaLane designs and manufactures a wide range of standard and high-performance connectors and adaptors that are ideal for airborne cable assemblies.

Aircrafts normally have many partition walls and GigaLane offers special designed bulkhead adaptors to fit it with full integrity. We also offer self-locking





Radar & Electronic Warfare

High integration level is critical in modern multifunction, AESA Radar and Electronics Warfare (EW) systems, whether Airborne, at sea or ground based. Components featuring high performances, outstanding stability and ease of installation are key to support those systems. With a long experience on Radars and EW systems, GigaLane has developed a unique and high performance RF microwave products, ranging from board to board connectors, to cable assemblies and adapters. Miniaturization is a key driver for higher integration and density. GigaLane is in a unique position to offer optimized end to end solutions suitable for every EW environment and radar platform.

Applications

- Multifunction Radar
- AESA Radar
- RWR(Radar Warning Receiver)
- Datalink
- Altimeter system

Heritage

- FFX B-__ MFR, L-SAM MFR, M-SAM
- KFX AESA RADAR
- LAH RWR
- Datalinks ____, __, ____
- Altimeter systems __, __

Requirements

- Low loss, phase stable cable assemblies
- Small form factor, minimal bend radius

LOW-LOSS MICROWAVE CABLE ASSEMBLIES

= Phase-matched & Phase-stable(Temp., Flex.)

As required by radar and EW sector, modern microwave cable assemblies must be phase-matched and phase stable vs flex. and temp. All cables are designed to meet electrical and environmental requirements for radar

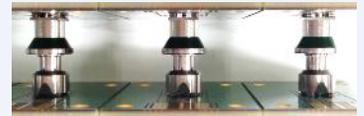
- Frequency ranges : DC to 40 GHz
- Low-loss(GL series), Ultra low-loss(GUL series)



BOARD-TO-BOARD CONNECTOR

Modern radar systems do not have enough room for interconnection, needless to say space for connector assembling inside of the system. Also for array radars connectors on PCBs assembled at once in blind-mated condition. That is why blind-mating board-to-board connectors are the only option. With our various solution, we can advise you our various solution considering your electrical and mechanical requirements and your budget.

- Frequency ranges : DC to 30 GHz
- Working range : Axial 1mm, Radial 4deg.



HAND-FORMABLE & SEMI-RIGID CABLE ASSEMBLIES

More complicated systems evolve through, More point-to-point interconnections between RF modules are needed inside of radar, EW, radio systems.

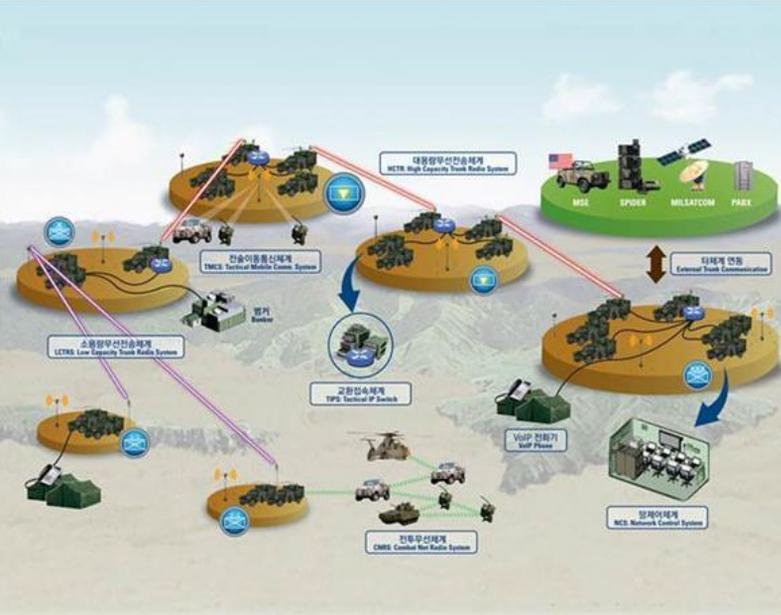
We support cable-path-map modeling and provide you a SR cable-test-jig for your incoming inspection team.



CONNECTORS & ADAPTERS

GigaLane designs and manufactures a wide range of standard and high-performance connectors and adaptors





C4I & Mobile shelter

(C4I : Command, Control, Communication, Computer, Information)

Command and control centers are typically located within mobile shelters or bunker infrastructures and must comply with MIL-STD-188 (or equivalent) shielding specifications. The vast variety of equipment establishes new standards for channel-to-channel isolation requirements, to avoid interferences and to guarantee trouble-free operation of the equipment. GigaLane solutions are distinguished by their high shielding performance, robustness and ease of use in the field. Additionally, our EMP protectors are used in many mobile platforms to harden the equipment against lightning or EMP bomb, and to provide protection from lightning strikes to the equipment.

Applications

- Network Infrastructure
- Mobile shelters
- Security Management System

Heritage

- TMCS(Tactical Maneuver Communication System)
- HCTR(High Capacity Trunk Radio)
- LCTR(Light Capacity Trunk Radio)
- CNRS(Combat Network Radio System)

Requirements

- Easy to install, uninstall, and carry
- More robust than it should be
- Creative solutions for special installation
- Low-loss and light-weight, even in outdoor condition

LOW-LOSS MICROWAVE CABLE ASSEMBLIES

= Outdoor field proven & Phase-stable(Temp., Flex.)

As required by military-communication sector, microwave cable assemblies must satisfy high performance in harsh outdoor environment. Many of them are used by field soldiers, so it needs to be easy to install and carry, and it should be robust than Mil-standard articulated.

- Frequency ranges : DC to 40 GHz
- Low-loss(GL series), Ultra low-loss(GUL series)
- Solutions for special condition for install, uninstall, and carry



HYBRID CABLE ASSEMBLY (MULTIPOINT)

= RF+DC & Shielding & Harnessing

For an antenna mast which has various signal I/O such as RF, DC, optic, etc., we offer special customizing solution which can transfer RF, DC, and other signals at once with minimized interference on other signals.

Your options

- To enhance flexibility, we can offer cables-twist solution
- To reduce RF leakage, we provide special shielding tech.
- To install high, we offer special grip and carabiner



HAND-FORMABLE & SEMI-RIGID CABLE ASSEMBLIES

More complicated systems evolve through, More point-to-point interconnections are needed inside of, and between RF modules and systems.

We support cable-path-map modeling and provide you a SR cable-test-jig for your incoming inspection team.



CONNECTORS & ADAPTERS

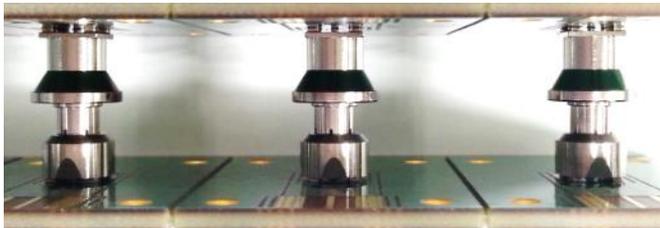
Wide range of standard and high-performance connectors and adaptors



SURGE ARRESTER

Various interfaces and type of surge arrester for your system protection from EMI, lightning





SatCom & Radio & Submodule

Integration density continues to increase with new generations of tactical equipment, including portable SatCom, software defined radios and microwave submodules. GigaLane provides a broad range of standard connectors, adaptors and lightning protectors to meet these requirements, as well as the ability to offer application specific designs. With in-house R&D and machining capabilities, GigaLane can develop a custom design and quick-turn verification samples. As one of the leading companies of board-to-board connectors, GigaLane offers an extensive array of board-to-board interconnect solutions.

Applications

- V-Sat
- Radio
- RF/Microwave modules
- T/R modules

Requirements

- Light weight and robust
- High integration density, smaller form factor
- Customer specific options

Heritage

- Next-gen. Satellite communication
 - : Portable type, carrier type, modem
- TMMR(Tactical Multi-band Multi-role Radio)
 - : Portable type, carrier type, Heli-trunk type
- Power amplifiers, signal process unit, datalinks, etc.

HYBRID CONNECTOR ASSEMBLY (MULTIPOINT)

For small form radio with high performance and various function, we offer unique connector which can transfer RF, DC signal at once. This connector can be customized for counterparts and terminal attachment.

- Meet Mil-STD and aerospace-level standard
- Own patent



LOW-LOSS MICROWAVE CABLE ASSEMBLIES

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