


# Amphenol



**Interconnect**  
solutions  
for **Geophysical**  
market



# ABOUT US



**Amphenol** was founded in 1932.

The company is **one of the largest manufacturers of interconnect products** in the world.

The company designs, manufactures and markets electrical, electronic and fiber optic connectors, interconnect systems and coaxial and flat-ribbon cable. Its activities are geared towards **7 majors markets** :

AEROSPACE / MILITARY – AUTOMOTIVE – BROADBAND COMMUNICATION – INDUSTRIAL –  
INTERNET EQUIPMENT – MOBILE PHONES – WIRELESS INFRASTRUCTURE

**Amphenol** is headquartered in Connecticut, USA and employs more than 32,000 workforce on a worldwide basis with manufacturing and assembly operations in the Americas, Europe and Asia.

*The technology used in oil exploration has steadily increased in sophistication over the years and Amphenol has been there in the forefront.*

## Geophysical market

EVERY OIL AND GAS MARKET IS SUPPORTED WITH **AMPHENOL** DEDICATED PRODUCTS

### Land Seismic

Land seismic surveys require to be performed in more and more diverse environments (from hot and sandy deserts to cold and icy arctic environments), with an increased channel count. Amphenol has the range of copper, Ethernet, coaxial, fiber optic ... contacts, in an infinite number of shells, to meet your need.

### Transition zone

Swamps, rivers, shallow waters ... any humid environment has dedicated connectors. You need wet mateable solutions, or connectors working under up to 15 m (50ft) of water? Ask Amphenol, we have the solution.

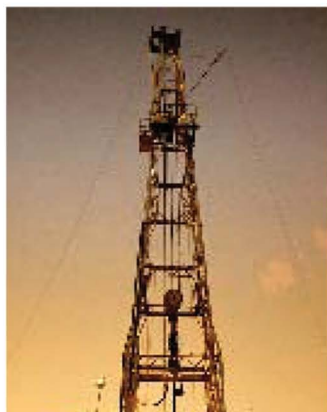
### Marine

Amphenol supports those who need on deck marine grade connectors, lead in hermetic solutions, air gun and tail buoy connectors, electrical or hybrid custom design streamer inserts, high pressure OBC solutions...

### Downhole

This challenging environment requires high density solutions working in high pressure, high temperature, highly corrosive environments. Amphenol has the local engineering resources to support your specific needs and standard range of downhole fiber optic, hermetics and PCB connectors.





The technology used in oil exploration has steadily increased in sophistication over the years and Amphenol has been there at the forefront.

## OIL & GAS market

EVERY OIL AND GAS MARKET IS SUPPORTED WITH **Amphenol** DEDICATED PRODUCTS

### Geophysics

**Land and Marine Seismic** systems require more rugged connectors and higher bandwidth.

You need geophysical cables, sensing devices, connectors (electrical and fiber optic), cable assemblies, copper or hybrid streamers? Amphenol has the solution.

**Downhole** environment is covered with high temperature, high density, high pressure solutions like the Deepsight fiber optic connector, and PEEK connectors.

### On / Offshore & Drilling

Drilling rigs, FPSO, down-time cost can be so important, that using communication and power links you can rely on is paramount.

Real harsh environment solutions like the heavy duty Star-Line® (with an explosion proof version), and the TFOCA II® are just two examples.

Subsea ROV market is served with Aqualink dry mate 300 bars certified solution.

### Production

Amphenol has the industry experience to supply connectors and cable assemblies to any harsh environment. From offshore platform communication with stainless steel or bronze connectors, to cable glands and reinforced Ethernet switches for petro-chemical industry.



## ■ ETHERNET & USB SOLUTIONS

No tool, no cabling to transform your standard cordset (RJ45 Ethernet (Cat.5e), USB, RJ11...) into a rugged shell. Provides environmental protection : IP67, dust, shocks and vibrations. Excludes hazardous and costly in-field assembly.

[www.rjfield.com](http://www.rjfield.com)



## ■ ETHERNET SWITCHES

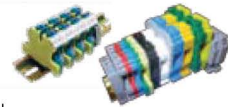
Amphenol Ethernet switches provide a suitable interconnect solution in extreme conditions. They include deterministic Ethernet network, power supply redundancy, ring topology and quick recovery time, «store and forward» switching process, manageable and unmanageable versions... A version for Explosion proof zone 2 environment is also available.

[www.RJswitch.com](http://www.RJswitch.com)



## ■ DIN TERMINAL BLOCKS

Standard and custom range of PC board terminal blocks, discrete wire solutions, DIN rail.



## SUBSEA - ROV



## ■ AQUALINK

AFSI offers the AquaLink cost-effective series of drymate submersible fiber optic connectors for underwater applications up to 300bars.



## EXPLOSIVE ENVIRONMENT



## ■ STAR-LINE® EX

Reference in the Top Drive industry with arrangements up to 143 contacts, 1300 Amps. Star-Line® EX is certified to comply with IEC & ATEX standard (Zone 1 hazardous environment - Ex d IIC T6).



## ■ AMPHE-EX™

New miniature explosion-proof threaded connector, using coax, fiber optic cables, Ethernet Class D/Cat 5e or USB as well as standard copper. ATEX and IECex approved for Zone 1 rated applications.



## ■ TFOCA-II EX

AFSI offers the TFOCA-II EX connector to provide fiber optic connectivity in Zone 1 and Zone 21 hazardous environments.



## ■ FIELD SERIES EX

ATEX Zone 2 II3G ExnAIIIT6 explosion proof Field Series (RJ45, USB, RJ 11) and Switches (EEx nA T4).

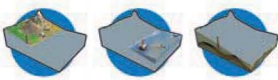
[www.rjfield.com](http://www.rjfield.com)



## IN/OUT ELECTRICAL CONNECTORS

### ■ PT / 451 / 62GB SERIES

Miniature bayonet cylindrical connector available in solder or crimp versions. Rugged shells very suitable for harsh ground applications. Size 20 and 16 contacts, from 2 to 61 contacts. PCB and WW versions also available. Numerous product extensions available.



PT/451/62GB Series

### ■ RPT SERIES

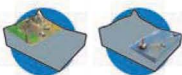
RPT series, Rugged PT connectors, has been designed for the Geophysical application's harsh environment. With a stronger shell and an interfacial seal (air leakage: 10<sup>-7</sup> atm.cm<sup>3</sup>.s<sup>-1</sup> max), these connectors provide reliability in extreme temperature and moisture conditions.



RPT Series

### ■ AMPHE ARMOR

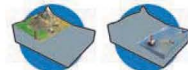
Overmolded rugged PT style connect or which features superior durability and water tight construction. The field-installable, field-repairable, constructed of high-impact glass-filled thermoplastic is the ideal solution for Geophysical Seismic Contractors.



Amphe Armor

### ■ FIELD SERIES

Rugged circular and rectangular interconnect which can be fitted directly -without particular tooling- with standard cordsets such as RJ45 Ethernet (Cat.5e), USB, Firewire (IEEE1394), RJ11 and the MTRJ and LC fiber optic interfaces. Available in Mil-DTL-38999 series III, Mil-C-26482 low cost Cat. 6 RJFRB circular shells, or rectangular shells such as SIM. Provides environmental protection : IP67, dust, shocks and vibrations. Excludes hazardous and costly in-field assembly.



Field Series

### ■ SWITCH ETHERNET

A switch is a key-point element in an Ethernet Architecture. Amphenol ethernet switches are designed to provide a suitable interconnect solution in extreme conditions such as vibrations, temperature, oil, water, EMI - RFI standard compliant... by using high performance electronic components and heavy duty packaging and rugged Ethernet and Power supply connectors such as RJField TV. Amphenol Ethernet switches broad offering includes deterministic Ethernet network, power supply redundancy, ring topology and quick recovery time, "store and forward" switching process, manageable and unmanageable versions...



Switch Ethernet

### ■ FLEX & RIGID ASSEMBLIES ACT

Save weight and geometrically fit wiring into tight space requirements with Flex or Rigid Flex Circuits. Sculptured® Flexible Circuits with built-in termination eliminate the failures associated with crimped or soldered-on contacts. Flat, sculptured, or rigid-flex styles are strong, yet highly flexible for use with I/O connectors.



Flex & rigid assemblies act

### ■ STREAMERS

Amphenol supplies multi-channel hybrid optical/electrical inserts to the marine seismic industry for use in towed-array geoseismic systems up to 30 Bars. All connectors for this application are custom designed to suit customer requirements.



Streamers

■ **PCB**

Amphenol provides high density interconnection solutions for Printed Circuit Boards, for a high level of performances usage. The design combines modularity, flexibility, and cost savings to installation. In accordance with the RoHS regulation. Qualified up to 240°C

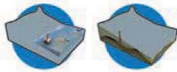


PCB

■ **HERMETIC – HIGH PRESSURE**

These connectors are available in the miniature or subminiature product range as well as D-sub connector. Hermetic connectors are fitted with glass-filled insert. Air leakage is less than 1.10exp-7 cubic cm per second under 1 bar differential pressure. Power versions.

High pressure connectors are dedicated to downhole environment. Peek overmoulding withstanding a 25 000 psi, 175°C environment.



Hermetic

■ **BUS BAR**

Unique custom-design provide significant benefits in terms of weight reduction and size. Copper or nickel plated aluminum bars with epoxy coats working up to 180°C environment. Amphenol Bus bar are perfectly adapted to down hole challenging worlds.



Bus Bar

**OPTICAL SOLUTIONS**

■ **OPTICAL TERMINI**

Optical termini for customers wanting to design their own interconnect systems. The optical termini range from ferrules sizes of 2.5 mm to 1.25 mm for both PC and APC applications.



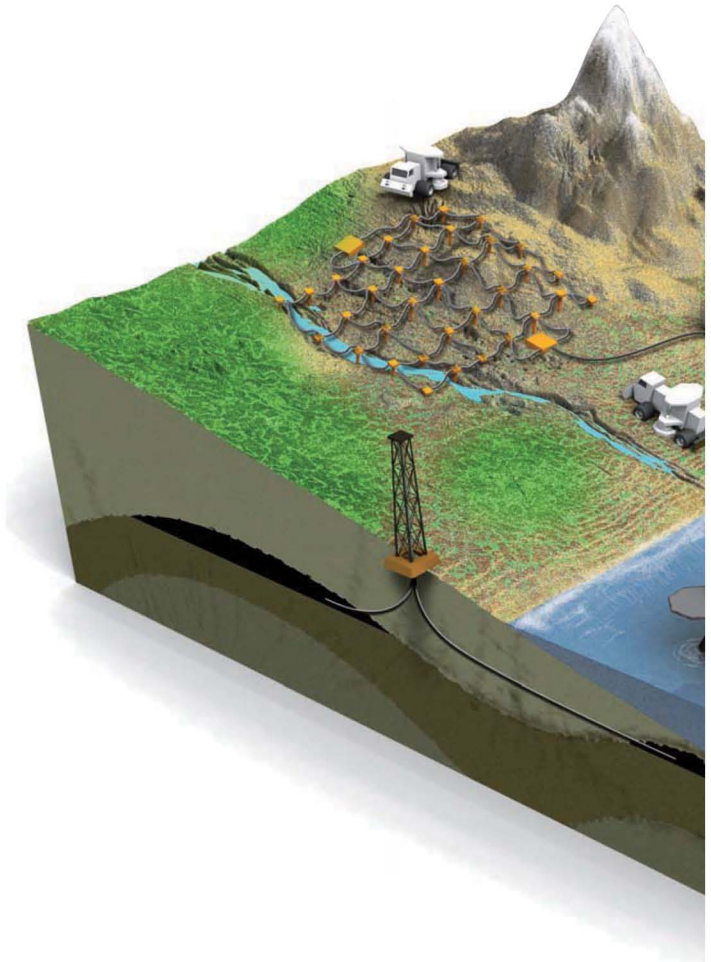
Optical Termini

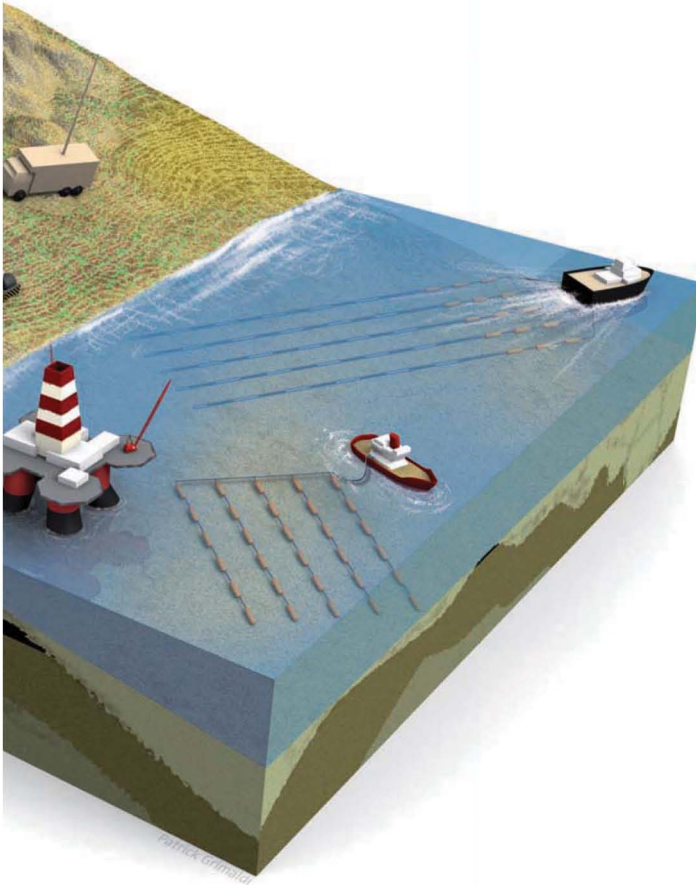
■ **CTOS / CTOL**

CTOS and CTOL series are robust optical connectors for rapid deployment of high-speed transmission links under harsh environments. The hermaphroditic mating facilitates daisy chaining. Specific lens design guarantees large beam diameter and low loss connection, less sensitive to dirt and dust. Blind mating. Flat protective window providing an easy to clean surface for improved performances and protection. From 1 to 8 channels. Multimode or singlemode.



CTOS / CTOL





## ■ TFOCA II

The heart of the TFOCA-II® family of deployable fiber optic connectors centers on the TFOCA-II® sealed free floating termini. The unique termini design enables TFOCA-II® connectors to seal against high humidity and moisture conditions while allowing full axial and orbital movement of the mated termini, providing low insertion loss and minimal back reflection. This unique connector series was designed and patented by Amphenol Fiber Systems International for use in environmentally harsh conditions.



TFOCA II

## ■ OPTRON

Circular hybrid connector designed and qualified to MIL-PRF-28876, Rev. E. Optron connectors are precision machined to stringent tolerances and designed to provide superior optical performance in extreme environmental conditions. Not only is it simple to install, it is also simple to maintain. Available in 3 shell sizes: 13 (4 ch), 15 (6, 8 ch), 23 (18, 31 ch). Multimode, singlemode, signal and power contacts.



OPTRON

## ■ HMAtwo

This environmental legacy hermaphroditic fibre optic lens connector facilitates the interconnection of multiple identical fibre optic cable assemblies known as daisy chaining, thus eliminating the need for polarising the assemblies and the use of in-line adapters. The Connector is available in 1 to 4 way configurations for a variety of multi-mode, single mode fibres and both 850 and 1300nm applications and is inter-mateable/interchangeable with other manufacturers equivalent products.



HMAtwo

## ■ INTEGRATED MEDIA CONVERTER

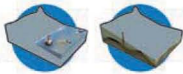
Electro-optics conversion in a rugged connectors, when you want the robustness of an electrical connection and bandwidth of a fiber optic cable



Integrated Media Converter

## ■ DEEPSIGHT

The DeepSight fiber optic connector is used in down-hole and OBC Applications. DeepSight has the ability to withstand the high pressure (25 000 psi), high temperature (175°C) and corrosive fluids found in downhole environments. 1 to 4 channels; multimode or singlemode.



DeepSight

## ■ SPLICE

The FTOS (Flexible tactical optical splice) allows Easy repair of tactical cables in the field with no epoxy handling. The special splice shell restores all the functions of the cable such as tensile strength flexibility, crush resistance and low losses. The repaired cable can be rolled and unrolled on a reel as before.

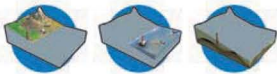


Splice

## CUSTOM DESIGN - MOULDING

### ■ CUSTOM DESIGN

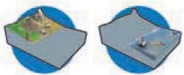
Your application is specific, you expect a solution at the edge of technology on an exclusive and confidential project: Amphenol has the innovative and global structure to answer your need.



Custom design

### ■ MOULDING

Land, Marsh and Marine Geophone, Hydrophone and Array Connectors. Gender and polarity pocket adapters, battery and specialty over moulded connectors. Cable overmoulding, bi-injection, peek, polyurethane overmoulding, nylon, silicon... Amphenol masters a large range of moulding technologies.



Moulding

## CABLES

### ■ ARMORLITE™ – RODENT PROOF CABLE

For many years, Seismic Exploration Companies have looked for a rodent proof solution. Amphenol Steward Cable Inc. has designed a cost effective solution to expensive conventional armoring of cable and has found a solution ensuring the crew's productivity through ArmorLite™ protected cable



Armorlite™

### ■ CABLE ASSEMBLIES

Amphenol has the worldwide structure to design and assemble electrical and fiber optic strings. Reliable System Specific Cables, ARAM, ION, Sercel, Fairfield Box and Specialty Cables. Leader Wire both looped and Un-looped.



Cable Assemblies

## GEOPHONES

### ■ GEOPHONES

Geophone Elements are manufactured to Amphenol Steward Enterprises stringent specifications and are covered under a 3 year limited warranty. Available in SCI-375-2.5, SCI-395-2, SCI-395-2.5 and SCI-395-4.5



Geophones

### ■ GEOPHONES STRING CONNECTORS & ARRAYS

Amphenol manufactures reliable specific cables assemblies from Sercel, ION, ARAM, Fairfield systems.



Geophones String Connectors & Arrays



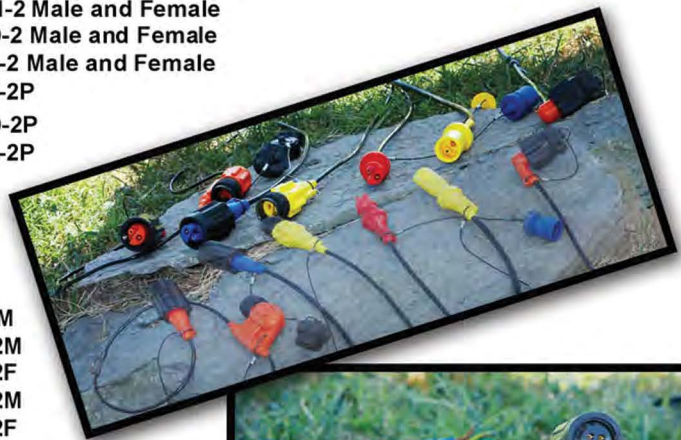


## Land Connectors

I/O System Connectors  
 Sercel System Connectors  
 Aram System Connectors  
 Fairfield Box System Connectors  
 Opseis System Connectors

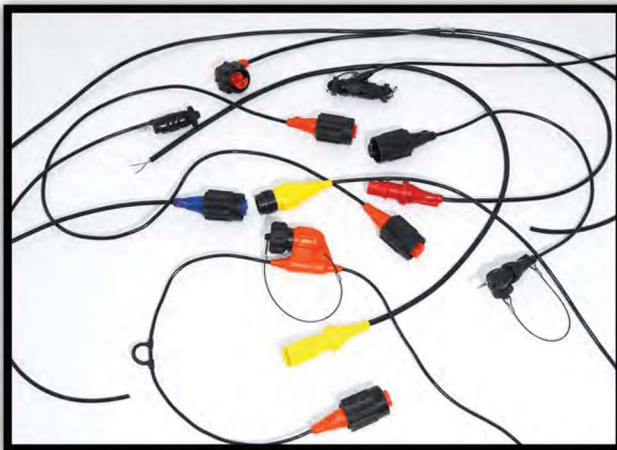
## Geophone String Connectors & Arrays

HCT-2 Male and Female  
 HCM-2 Male and Female  
 HCD-2 Male and Female  
 HCL-2 Male and Female  
 HCT-2P  
 HCD-2P  
 HCL-2P



## Pocket Adaptors

HCT-2F to HCL-2M	HCL-2F to HCT-2M
HCT-2F to HCL-2M	HCD-2M to HCT-2M
HCT-2M to HCL-2M RA FDC	HCD-2M to HCT-2F
HCL-2M to HCT-2M	HCD-2M to HCL-2M
HCL-2M to HCT-2F	HCD-2M to HCL-2F
HCL-2M CW to HCT-2M RA	HCD-2F to HCT-2M
HCL-2F to HCT-2F	HCD-2F to HCT-2F
HCL-2F to HCL-2M	HCD-2F to HCL-2M
HCL-2F to HCT-2M RA	HCD-2F to HCL-2F



## Accessories

Splice Boot Leader  
 Splice Mold Halves  
 HCL-2 Banana Pin W/ Lock Washer  
 HCL-2 Removable Seat  
 D-Loop Standard Molded  
 D-Loop Small Molded  
 D-Loop Field Installable 84  
 D-Loop Field Installable Cable to Leader  
 Pad, Base Housing PE-3 Land Case  
 Pad, Base Housing PC-801 LPC Case  
 Pad, Geophone Housing  
 LRS1011/PC801-LP Land Case  
 Artic Housing, Geo Case

**Amphenol**<sup>®</sup>  
Industrial

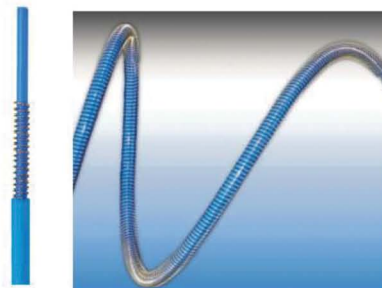
**ASE**  
AMPHENOL STEWARD ENTERPRISES

## ArmorLight™ Patent #7,705,241

Have this?



Get this!!!!!!



Many animals naturally and instinctively chew on anything, including cables. They cannot however chew through ArmorLight™ protected cables. For many years Seismic Exploration Companies have looked for a solution to keep their seismic crews working in conditions where small animal and rodent bites have shut them down. Amphenol Steward Enterprises has designed a cost effective solution to expensive conventional armoring of cables and has found a solution ensuring the crew's productivity through ArmorLight™ protected cables.

Seismic Crews using cables protected with ArmorLight™ have seen their production in these areas improve tremendously. Another benefit for cables using Armor Light is the crush factor which improves cable life in areas where multiple road crossings are encountered.

#### Key Benefits:

- Low cost solution to conventional Armoring
- Improved Crush Factor
- **Light Weight** Only 7 lbs per 1000 ft on a .340" OD cable
- Bend Radius of 2 inches **"Very Flexible"**
- Cable sizes from .250" to .500"
- Durable polyurethane jacket with UV stabilizer
- Abrasion Resistant Protection for inner cable bundle
- Operational Temperatures -40 Celsius to + 70 Celsius

Crossover to other industries: Aerospace, Military, Industrial, Oil & Gas, Heavy Equipment, Top Side

# SYSTEM CABLE



## Reliable system-specific cables

### Input/Output

**System Two**  
**System 2000**  
**Image**  
**RSR-3 and RSR-2**  
**RSR-3 Vectorseis Digital**  
**System IV**  
**Scorpion**  
**Firefly**

### Sercel

**368 Land and Transition Zone**  
**388 Land and Transition Zone**  
**Opseis Eagle**  
**408/428 Land and Transition**

### Aram

**Aram 24**  
**Aram Aries**

### Fairfield

**Box Land**  
**Box Transition Zone**  
**Box Marine**

## Specialty Cables

### Refraction cables

**Leader wire**  
**Looped leader**



# Worldwide PRESENCE



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