Amphenol Commercial Products
Product Overview

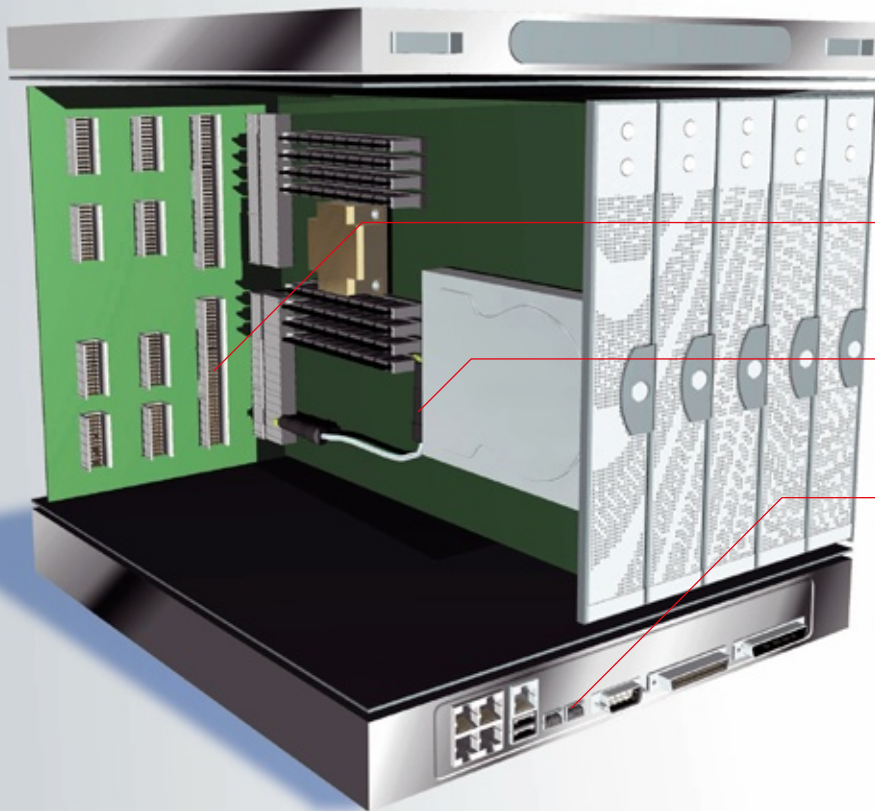# Amphenol

Now you're connected!

Amphenol

Now you're connected!

Backplane Interconnect

Internal I/O

External I/O

Portable Device Connectors

Backplane Interconnect

Ventura, GbX, VHDM, Airmax,

2mm Future Bus, DIN 41612,

Backplane Power, PCI-Express,

Headers & Sockets

Internal I/O

SATA, SAS, Mini-SAS, Internal Disk Drive Connectors,

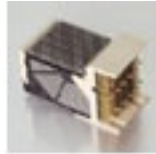Slimline SATA, Slim I/O,

PATA, SCSI, SCA2

External I/O

RJ 45 / 11, D-Sub, INFINITY, VHDCI,

SFP, External SATA, External Mini-SAS, Mini-DIN

Audio A-Typ XLR, Phone Plugs & Jacks, RCA Jacks,

USB, Firewire, Micro-Ribbon, Mini D Ribbon, DVI

Portable Device Connectors

Memory Card & PCMCIA Sockets,

I/O & Docking Station Connectors,

Battery & POGO Connectors, FPC, BTB,

Audio Jacks, SIM Card Connectors,

Mini USB

Backplane Connectors

Amphenol is regarded as the world's most technically capable backplane manufacturer. Amphenol TCS offers high performance circuits together with a full range of high-speed, high-density connectors, providing the widest range of backplane interconnect solutions tailored to customers' needs for different standards. This includes the Ventura, GbX, VHDM and the cost effective Airmax VS® family, with speeds ranging from less than 1Gbps to 25 Gbps. Amphenol Commercial Products supplies the more traditional 2mm Futurebus and DIN 41612 connector systems, and a series of innovative high-power Line card power connectors.

Backplane Power Connectors

Amphenol's Backplane Power series is designed to package high power availability in a small form factor, with customized options. This new range has many unique features to meet or exceed existing competitive products in power density.
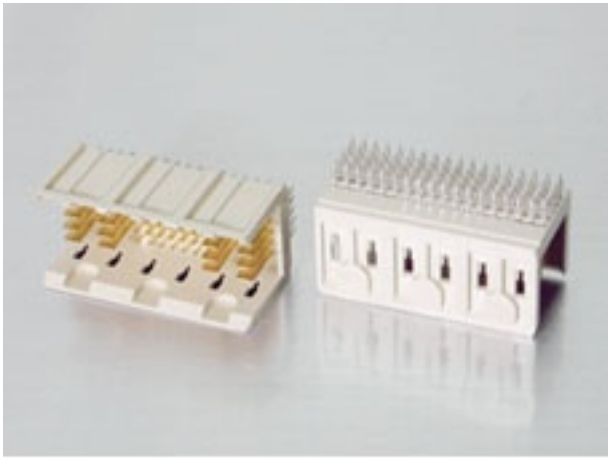
The connectors are available in various forms to transfer power from source to line cards, and from the backplane to line cards or mezzanine cards. Other designs allow for direct power from the bus bar into the line cards without adding complexity to mid-plane. These connectors are available with 40 amp and 60 amp contacts.

The 60 amp contacts incorporate the Radsok technology allowing a 50% increase in current.

Features

· High reliability

· Low voltage drop

· High cycle durability

· Low insertion force

· Low cost

· High power density

2mm Future Bus

The Amphenol's 2mm FB (Futurebus+) connector is a modular 2.00mm grid system for high-density, board-to-board and cable-to-board applications. 2mm FB is available in 4- and 5-row versions and complies with the hard metric packaging standards used in high-density applications such as Futurebus+. The 2mm FB system offers design flexibility with PCB receptacles and headers that are end-to-end stackable in modular building blocks. The system includes a unique high-pressure press-fit pin design in both headers and receptacles. Available in header and receptacle assemblies with a choice of solder, press-fit or IDC lead.

DIN 41612

The DIN 41612 interconnection system from Amphenol is based on a family of two printed circuit board connectors, with a 0.100 inch contact and termination grid, and a variety of termination types. It allows users to mix different connector styles (B, C/2, C, and R) within the same rack. The complete range DIN 41612 is fully intermateable and interchangeable with all Euroconnectors.

Discrete wire IDC DIN 41612 series has pre-loaded contacts for discrete wire quick IDC (Insulation Displacement Contact) solderless termination. 2/3 rows, stackable, from 14 to 96 contacts with polarization keys. Options include cable hoods and locking devices in straight and 45 degree cable outlets. Typical for backplane data cable assembly in datacom and telecom applications.

Cardedge Connectors

The Amphenol Cardedge connectors include PCI, AGP, DIMM, DDR2 connectors. The latest member is PCI-Express which complies with the PCI SIG specification for desktop PCI-Express implementation. It supports a 2.5 Gbps data transfer rate (per pair of data bandwidths). Its scalable modular design maximizes card interoperability for user flexibility. PCI-Express enables hot plug connection and hot swap. Available in 1X (36pos), 4X (64pos), 8X (98pos) and 16X (164pos).

Headers & Sockets (812 / 816 / 821 Series)

Amphenol 812 series IDC Socket connectors can be used where quick connect and disconnect capabilities are required. Termination is fast and simple by means of IDC technology. Available in various sizes from 10 to 64 contacts with or without mold-in center polarizing key.

Amphenol 816 series 4 wall-protected headers are available in right angle / straight mounting, with different tail lengths. Lock and eject latches may be added to reduce strain on the cable and PCB when removing mating socket connectors.

The Amphenol 821 series of low profile protected headers is a cost effective solution to applications requiring quick connect and disconnect capability.

SATA / PATA & Internal Disk Drive Connectors

Amphenol is at the leading edge of technology in the fast growing Server and Storage market, offering integrated inside-the-box interconnect solutions including SATA, SAS, PATA, SCSI, SCA2, Mini-SAS, CF I and CFII. We offer various mounting methods including Straddle Mount, Straight or Right Angle Solder DIP and SMT. The solutions cover board mount connectors, device I/Os and cable assemblies for all form factors of hard disk drives including 0.8", 1", 1.8", 2.5" and 3.5". In addition, we supply a complete family of internal connectors for hard disk drives.
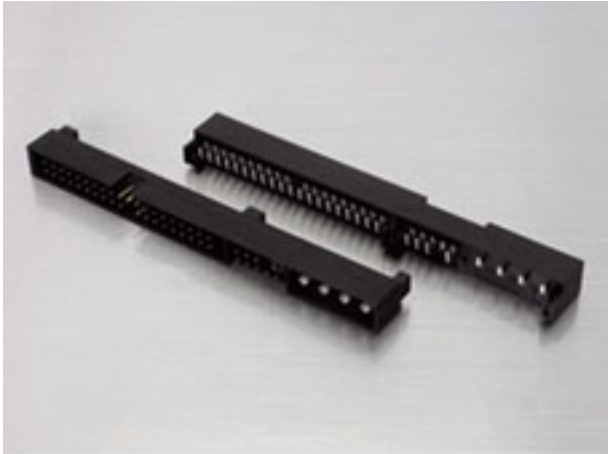
SATA (Serial ATA)

Serial ATA provides much higher speed data transfer than the traditional Parallel ATA standard. Its cable is much smaller than that of PATA and provides better airflow within the device box, lowering manufacturing and maintenance costs. It also allows for flexibility in system design. Amphenol offers a complete range of plug and receptacle connectors (signal and power). Standards and customized cable assemblies are offered in conjunction with connectors.

Plug / Receptable	Options
Combo Plug	• Straddle Mount, SMT or Solder DIP
(Signal + Power)	• Combo Plug with Testing Pin
	• Combo Plug with Legacy Combo Solder DIP
Combo Receptacle	• Combo Receptacle Straight SMT
(Signal + Power)	• Combo Receptacle Straight Solder DIP
Plug	• Straight or Right Angle Solder DIP or SMT
(Signal)	• Double Deck Right Angle SMT
	• 4x1 Straight or Right Angle SMT
Cable end	• Solder or crimping
(Signal / Power)	

PATA (Parallel ATA)

A PATA connector is included in the Amphenol traditional 864 series, which combines signal, power and control in one connector. This feature yields lower manufacturing cost and high productivity in the PCB assembly. The connector meets SFF-8059 Specification. PATA cable assemblies are available for customized requirements.

· Polarizing features available for proper mating

· Higher temperature plastic available for SMT assembly

· Four friction dimples in the power portion hold the mating receptacle more firmly

· Straddle mount for PCB thickness: 1.22 +/- 0.13mm

· Through hole for PCB thickness: 1.27 +/-0.13mm

Slim I/O & Slimline SATA

The Amphenol slim I/O board-to-board connector is designed to fit into low profile, 0.8mm contact space for standard PATA interface. The connector is used in applications such as the thin DVD or CD-ROM drive bay for notebook computers.

Amphenol slimline SATA is designed to achieve size compatability with PATA connector slimline designs. Without changes to the drive case, media tray, or internal mechanics, it simply requires a replacement of the PATA PCB with a SATA controller and the slimline connector.
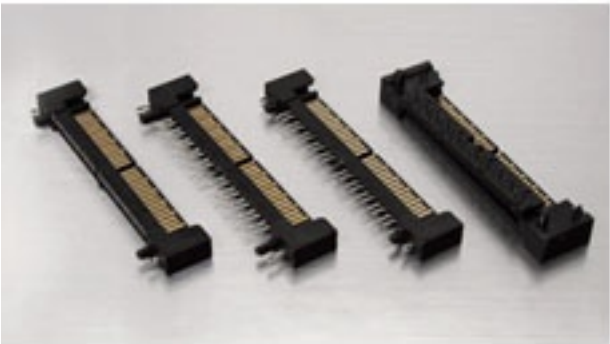
Internal Disk Drive Connectors

Amphenol supplies Board-to-Board and Spin Motor connectors specifically designed for hard disk drive application for all form factors including 0.8", 1", 1.8", 2.5" and 3.5". Our Read/Write connectors range from compressive, header/socket, to board to board connectors. In addition, Amphenol supplies a full range of spin motor connectors and jumpers. Amphenol is also a leading supplier of interconnect solutions to other storage devices such as optical drives.

Amphenol has been a leading supplier of SCSI connectors, cable and cable assemblies. We have also established a full range of the next generation SAS (Serial attached SCSI). Together with other intern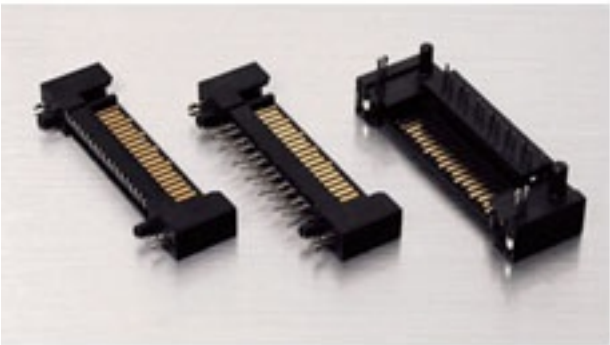al interconnect products, Amphenol enables customers unprecedented flexibility in choosing the right class of connection in environments requiring performance, scalability and reliability.

SAS (Serial attached SCSI)

SAS (Serial attached SCSI) is a point to point connectivity storage system architecture that has many advantages over its parallel SCSI predecessor. It is designed to replace the SCSI interconnect system with a much smaller, more flexible serial design. SAS connectors allow devices to be cabled or directly attached to the backplane. Data speed can be up to 6 Gbps. Amphenol provides a full range of SAS cable and board mount connectors as well as cable assemblies.
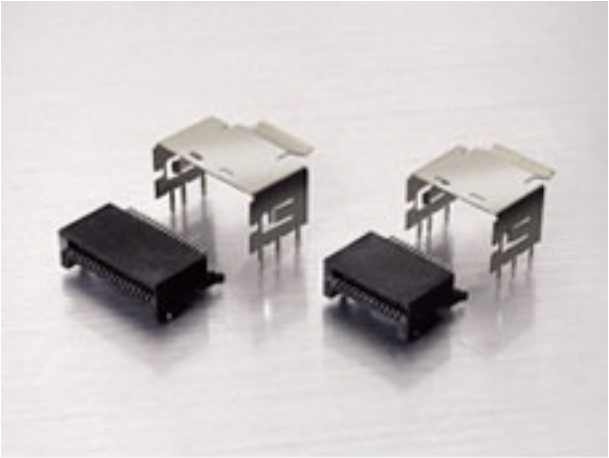
Connector Position	19-pos, 29 pos, 32pos
Backplane	Straight Receptacle Solder DIP
	Straight Receptacle SMT
	Straight Receptacle Hybrid (Solder DIP + SMT)
	Straight Receptacle Press-Fit
	Straight Plug SMT
	Straight Plug Press-Fit
	Right Angle Receptacle Solder DIP
	Right Angle Receptacle SMT
	Right Angle Plug SMT
Cable-end	Cable Plug
	Cable Receptacle

· Faster data speed (up to 6.0Gbps) and much better system performance

· Point-to-point topology eliminating the need of hubs allows for flexible system topology and better scalability of system

· Allows more disk arrays in the same space as needed in the SCSI system

· The cable length can be longer than 8 meters without causing any defect in signal transmission

· Simpler cable routing and better system airflow

· Compatible also with SATA disk drives

· Meets the requirement of SFF-8482 Specification

Mini-SAS

Amphenol offers a full range of Mini-SAS Interconnect Systems for both connector and cable assemblies.

In particular, Amphenol offers conversion cables to legacy SFF-8484 4X SAS interfaces and break-out cables to individual SATA or SAS drives. The cable assemblies provide 100Ω differential impedance with tight skew control and low cross talk. They also offer multiple cable lengths as a standard, as well as customized lengths upon request.

Connector Position	26-pos, 36-pos
Backplane	Straight or Right Angle Receptacle SMT
Cable-end	Solder Type
Cable Assembly	Internal 36-pos

SCSI and Wide-SCSI

Amphenol provides a wide range of SCSI-1, -2, -3 connectors for cable mounts, PCB mounts and cable assembly. SCSI (Small Computer System Interface) is a parallel I/O bus system used to connect computers to peripheral devices such as disk drives, tape drives and printers. The Amphenol wide-SCSI 3-in-1 combo combines the signal, ID and power together in one connector with the following selections:

· SCSI + Header (6x2) + Power, Straddle Mount

· SCSI + Header (6x2) + Power, Surface Mount, Single in Line

· SCSI + Header (16x2) + Power, Straddle Mount

SCA2

Amphenol SCA2 (Single Connector Attachment) allows SCSI disk drives to be attached directly to backplanes.

· Available in 40- or 80-position

· Blindmate direct attachment of disk drives to backplanes or motherboards

· Single I/O connector for 3.5" SCSI disk drives

· Accepted polarized "D" connector interface

· Meets the requirements of Specifications SFF-8045 and SFF-8046

Traditional I/O Connectors

Amphenol provides a wide range of input/output connectors for different market segments and applications. In addition to complete product families of high-speed interconnect, modular jacks, D-Subs and professional audio connectors, Amphenol manufactures all industrial standard products as well as customized connectors that are tailored to our customers' unique environments.

Micro-Ribbon Connectors

The 57 series Micro-Ribbon (Centronics) connectors offers a fast, economical and distinctively different method of achieving electrical interconnection with contacts designed to mate easily and positively. The connectors are available in rack and panel, cable to panel, cable to cable and PCB types. The 57LE series Micro-Ribbon connectors offers a low cost, Right Angle PCB mount version.

The 157 series Mirco-Ribbon IDC cable mount connectors combines the field-proven features and reliability of 57 series Micro-Ribbon solder type connectors with the speed and convenience of IDC solderless terminations.

The 257 series (SCSI-2) provides a cost effective solution to data transfer applications. Available with 50, 68 and 100-way contact connectors, cable mount and board mount.
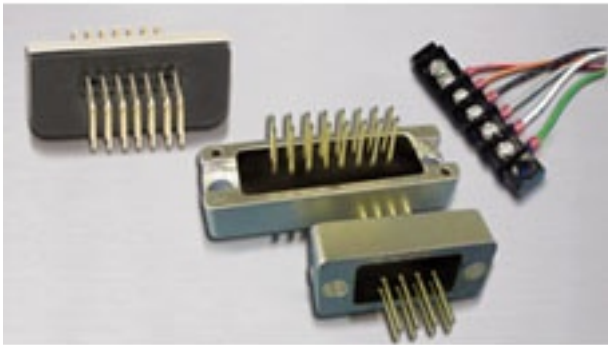
The 858 MDR (Mini D Ribbon) connectors are high-density shielded I/O connectors. Available with 26, 68 and 100-way contact connectors, cable mount and board mount.

The 957 connectors are tailor made double deck, high-density Micro-Ribbon connectors.

Filtered Micro-Ribbon Connectors

Amphenols FCC57 series of Filtered "Micro-Ribbon" connectors provides a very cost effective solution to EMI. This family of connectors is the telephone industry's standard connectors for multiple lines interconnect. Available in 36, 50 and 64 sizes, Amphenol also offers a variety of termination styles: male/female adapters, right angle PCB, vertical, press-fit and solder cup. A variety of capacitance values are available including capacitors that can meet high voltage requirements. These connectors were designed to fit in the same footprint as the 57/157 standard micro-ribbon connectors.

Filtered Terminal Blocks and Filtered Headers

Filtered Terminal Blocks filter power lines against noise and transients. The product closes EMI windows to protect the sensitive electronics of telephony switches, ADSL racks and industrial controllers.

Snap-In Filtered Headers protect Board-to-Board signals for telecom power supplies and switches against radiated and conducted EMI. This header snaps into place without assembly tools and saves space.

Bolt-In Filtered Headers have ceramic filter elements isolated from mating and handling loads, which means assembly works every time.

USB & Harsh Environment USB

The Amphenol series of USB receptacles and plugs is a complete system of interconnection technology designed in accordance with Universal Serial Bus Specifications Version 2.0 and using asynchronous and isochronous data transfer rates of up to 480 Mbps. Available with different mounting options, including through hole, SMT stack and vertical mount. Connector type includes Type A, Type B and Type AB.

Amphenol's harsh environment MUSB is designed to meet IP67, military shock and vibration standards. Utilizing die cast metal shells, MUSB is usable with various mounting and termination methods. The PosiLock USB series provides a locking latch to prevent accidental un-mating. The series accepts standard USB plugs.

Firewire

The Amphenol Firewire serial bus connector meets the IEEE 1394 standard. This high temperature, fully shielded connector interface is designed for transmission rates up to 400 Mbps. The hot pluggable connector system is designed for 1500 mating cycles. Available in 4, 6 and 9 positions and with different mounting options, including through hole, SMT stack and vertical mount.

Mini-DIN & DVI

The Amphenol Mini-DIN circular connector is manufactured in accordance with the DIN circular specifications. The plug is available in snap-in assembly type and overmolded type, to cater for different cable assembly requirements. The receptacle can be either panel mounted or PCB mounted.

Amphenol provides a complete range of Digital Visual Interface (DVI) connectors in both PCB and cable mounts, with various options and accessories for applications to digital flat panel displays, digital monitors, multimedia projectors, and video I/O for high-performance PC's and digital TV's. In addition to connectors, cable assemblies and adapters are also available.

High-Speed I/O

Amphenol offers a full range of high-speed connectors with data rates ranging from 1 Gbps to 80 Gbps and beyond, meeting customers' various high-speed connector requirements and objectives including:

- Increased platform density for scaling improved performance in defined physical space
- Servers that can scale I/O and processing power independently
- Racks of servers that can be managed as one autonomous unit
- Servers that can share I/O resources
- True "plug-and-play" I/O connectivity

Connector	Data Speed
RJ Mag Giga	1 Gbps
VHDCI	4 Gbps and higher
SFP	4 Gbps and higher
External SATA	6 Gbps
External Mini-SAS	3 Gbps and higher
Infinity 4x	10 Gbps and higher
XFP	10 Gbps
Infinity 12x	30 Gbps

RJ45 (with Integrated Magnetics)

Amphenol offers high-speed (>1 Gbps) RJ45 with integrated magnetics that have the following advantages:

- Full spectrum of data speed - for RJ45 from 10 Mbps through 100 Mbps (Fast Ethernet) up to and beyond 1Gbps
- Signal Integrity - improves overall interface performance by eliminating traces between magnetics and RJ45
- Cost reduction - reduces required board space and simplifies PCB board design
- Simple process - reduces the number of components that need to be purchased (1 instead of 9), simplifying significantly the manufacturing process
- Compatability - fits into the same panel cut out for basic Amphenol RJ45 (RJHSE series) products. Complies with IEEE 802.3 standard requirements
- Integrated solution - can also incorporate Ethernet LEDs into the connector package for easy port identification; includes EMI termination components

RJ45 Integrated Magnetic Products

Speed	Configurations
10/100 Mbps	· RJ over dual USB · Single Port Tap Up / Tap Down · Single Port Low Profile Tap Down (includes SMT version) · Multi-port (1x2, 1x4, 1x8) short and long body, · Stacked (2x1, 2x4, 2x8)
1 Gbps	· RJ over dual USB · Single Port Tap Up (Short or Long body) · Single Port Ultra Low Profile (Through hole or SMT version) · Multi-port (1x2, 1x4, 1x8) short and long body · Stacked (2x1, 2x4, 2x8)

VHDCI (Very High Density Cable Interface)

VHDCI (Very High Density Cable Interface or Ultra-SCSI) provides interconnections where space limitations and high performance are key requirements. Designed to be compact, these fully shielded connectors support ESD/EMI protection, are capable of transferring data up to 4 Gbps and meet EIA700A0AF specifications. Receptacles are available in both right angle and straddle-mount configurations with or without shield EMI tabs. Plugs are available with a variety of back shells, or without a back shell for over-molding purposes. VHDCI cable assemblies are available for customized requirements.

SFP, IPF and XFP Connector and Cage Assembly

Amphenol's extensive range of high-speed SFP/IPF connector and cage solutions utilize a 20 position connector with a metal cage enclosing the connector. SFP (Small Form Factor Pluggable) is used to support Fiber Channel, Fast Ethernet and Gigabit Technology. We offer all sizes including single port, ganged (1xN) and the stacked (2xN) family, with data speeds up to 4 Gbps per port and higher. More special features such as LEDs will continue to be introduced. The cages are a one-piece construction with enhanced transceiver mating tabs. The cages are available in a press-fit or solder version and longer or shorter pins are available. The next generation XFP connector and cage will allow the speed to reach 10 Gbps per port.

External SATA

Amphenol's high performance external SATA has evolved from SATA that was originally designed as internal or inside-the-box interface technology. External SATA brings the same performance and features to external storage needs. A data speed of 6 Gbps is much faster than contemporary external storage solutions such as USB 2.0 and Firewire (IEEE 1394). Available in both board mount and cable end connectors, e-SATA cable assemblies satisfy customized requirements.

External Mini-SAS

Amphenol's External Mini-SAS is one of the latest members of the high-speed I/O family. This connection system is based on industry-proven card edge style contacts. Mini-SAS is designed to satisfy the needs for gigabit serial data transmissions with signal speeds across the connector interface of up to 3 Gbps and higher. The cage is mounted separately to the body so that the stress imposed by insertion and removal of the cable plug does not affect the signal / body solder joints.

INFINITY (4X/12X)

Amphenol's INFINITY 4X & 12X series of connectors facilitates data speeds up to 10 & 30 Gbps respectively, as required by InfiniBand™, Fiber Channel and Serial Attached SCSI Trade Associations, with superior EMI performance. INFINITY connectors are high-density and hot pluggable, and meet Specifications SFF-8470. A variety of receptacles, plugs and cable assemblies are available to fit multiple connectors into a 1U form factor and PCI bracket. Plug kits are available with a variety of cable size options as well as a unique low profile version that will allow a belly-to-belly configuration in a 1U form factor chassis. INFINITY cable assemblies are available for customized requirements.

Modular Jacks RJ 11/45

Amphenol offers one of the broadest product ranges of PCB mounted RJ 11/45 Modular Jacks and Magnetic Jacks with exceptional quality and performance. Our extensive range is built to suit specific customer environments and addresses most customer applications. We also work closely with our customers to develop customized solutions that meet specific customer requirements. Our standard products include:

· Single port, Multi-port (1xN) and Stacked (2xN) version, with tab-up or tab-down versions
· Shielding and Filtered options for enhanced EMI performance
· RJ45 (with Integrated Magnetics)
· RJ45 (with Power over Ethernet ICs)

· High, low and ultra low profile
· Built in LEDs or lightpipes
· Color body options for color key applications
· Harsh environment configuration
· Through Hole or SMT with true vacuum pick and place

Standard Modular Jacks

The RJHSE (high temperature) and RJES (low temperature) series of EMI Quiet RJ45/RJ11 Modular Jacks are designed to exceed Category 5 Ethernet performance. These series are available in both right angle and vertical PCB mount configurations with a tab-up latch for easy mating and unmating. These families are ideal for networking, storage, server, telecom, medical, industrial, office and home applications. Highly automated manufacturing provides cost effective and high reliability products.

RJHSE Selection Matrix

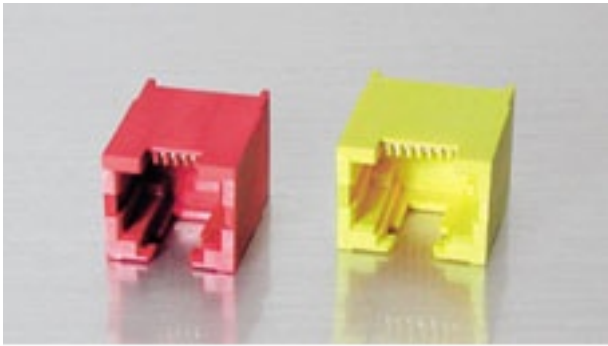| Options	Descriptions
LED	· Single or bi-color LEDs: yellow, red, green or orange
	· Standard (5.0 V) and low current LEDs for 3.3V systems
	· Blocked (without LED)
Multiport (1xN)	1, 2, 3, 4, 5, 6, 7 and 8 ports
Gold Plating	6μ, 15μ, 30μ, 50μ
Positions	4, 6 and 8 contacts

Filtered and Shielded Connectors

The FRJE and FRJAE series of shielded and filtered connectors offers effective EMI control within standard RJ45 and RJ11 connector footprints. EMI control is obtained through a completely shielded connector and/or with the use of high resistivity and high impedance ferrite block.

Shielding Options
· No shield
· Shielded with additional top & side ground tabs or ground lug;
· Completely shielded connector

Low and Ultra Low Profile Connectors

The RJLSE series are tab-down RJ45/RJ11 with Low/Ultra low profile. These series are true pick and place SMT connectors and are available with different shielding, numbers of contacts, plating thickness and color options including Black, Yellow & Red.

SMT Series Connectors

The RJSSE series represents SMT expansion of the RJHSE tab-up series. These connectors are designed to exceed Category 5 Ethernet performance. The light pipe option is a second operation for SMT LED. This configuration helps lower the electrical EMI noise found in typical LED jacks. The series comes shielded or unshielded in single, two or four port options.

Stacked Connectors

The RJSSA series are RJ45/RJ11 stackable connectors with up to 2 LEDs per port. The connectors are designed to exceed Ethernet Cat5 performance. Port configurations include 2x1, 2x2 and 2x4, shielded and unshielded. These series are also available with ferrite filter, similar to the FRJE/FRJAE series.

Harsh Environment Modular Jacks

Amphenol ruggedized RJ45 cordsets and receptacles are ideal for harsh environments where Ethernet/IP protocol is used. This series is fully water proof (IP 67 compliant) in un-mated and mated conditions.

4 different easy field terminations with no special tools required:

· Direct PCB mountable

· With RJ as an adapter

· With flat ribbon cable header

· With screw terminal block

The ID75 series features a built-in spring loaded dust cover that provides environmental protection in the un-mated condition. The dust cover also acts as a positive latching mechanism with the mating plug. The series utilizes the metal die cast shell for best EMI protection and extra robustness. Available in RJ45 and USB configurations.

D-Subminiature Connectors

Amphenol's complete range of D-Subminiature rack and panel connectors is part of an industry standard for applications requiring reliable, rugged connectors. These connectors are designed to accommodate rack and panel, cable to panel and cable to cable applications. D-Subminiature connectors are pin and socket devices that employ contacts encased in a molded dielectric insert surrounded by a "D" shaped shell for polarization. We offer a broad selection of dielectric materials, and contact styles and configurations to meet all our clients' design requirements.

· RS232 and RS449 mating configurations per EIA standards

· Inserts are flame-retardant thermoplastic

· Automatic and manual tooling is available for both crimp and IDC versions

· Accessories for all applications are available including strain reliefs, cable clamps, shielded backshells, mating hardware and connector to board mounting hardware

Standard and High Density D-Subs

The standard and high density D-Subminiature connectors are available in five shell sizes offering a wide choice of contact positions: 9, 15, 25, 37 and 50 in standard density and 15, 26, 44, 62 and 78 positions in high density.

The high density 17BH series (Right Angle PCB Mount) is available with Stamped and Formed contacts. The high density 17HD series (Straight PCB Mount and Solder Cup) are available with both Fixed Screw Machined, and Stamped and Formed contacts.

Standard Density Cable Mount Selection Matrix

Options	Termination Method
Fixed Precision-Formed Contact	Solder Cup
Fixed Machined Contact	Solder Cup or Solderless Wire Wrap With Screw Termination
Rear Release Crimp	Removal, reusable contacts Automatic and manual tooling available

Standard Density Board Mount Selection Matrix

Options	Mounting Method
Fixed Precision-Formed Contact	Right Angle PCB Mount Straight PCB Mount and Solder Cup
Fixed Machined Contact	Available in Straight and Right Angle PCB Mount
Dual Port Stacked	Available in Right Angle PCB Mount, with same gender or mixed gender
High-Temperature, Front Metal Shell	Right Angle PCB Mount Straight PCB Mount
SMT	Right Angle PCB Mount

Combination (Hybrid) D-Subs

Amphenol's 17TW series of hybrid D-Subminiature connectors is available with power, coax, high voltage and signal contacts assembled in the same connector body. Available with board mount and cable mount, these connectors are supplied with screw-machined contacts which are fixed in the insulator.

The board-mount product includes straight and right-angle terminations. The cable connectors are available in crimp and solder terminations. These connectors are compatible with the infra-red reflow soldering process. The 17TW series offers eighteen housing configurations in five shell sizes.

Filtered D-Subs

Amphenol's FCC17 series of Filtered D-sub Connectors incorporates a filter element into the connector forming one neat, compact interconnect device that can filter unwanted EMI. With minimized lead inductance and short, direct paths to ground, performance will typically out-perform the same filter components on a PCB by a factor of three to one. Amphenol's Patented Stress Isolation Design concept contributes to the superior mechanical and thermal shock characteristics of these connectors. The FCC17 filtered D-Subs fit standard non-filter connector footprints. They are available in 9, 15, 25 and 37 size, solder cup, right angle PCB, vertical, combo, press-fit, stacked and IDC. A variety of capacitance values are also available including capacitors that can meet high voltage requirements.

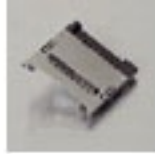| Board Mount	Cable Mount
Filtered Combo	Filtered Combo
Dual Port Stacked	IDC
Press-Fit	
Harsh Environment (FD 308)	

Harsh Environment D-Subs

Amphenol's MDB series provides a cost effective option for harsh environments. This cost efficient environmentally sealed D-Subminiature connector utilizes high performance thermoplastic or metal die cast shells and is supplied with screw machine contacts.

The SD308 sealed series utilizes a one piece machined aluminum shell and is available in the full range of standard density and high density insert arrangements, with pin or socket contacts. These connectors are supplied with fixed screw machine contacts and are available in Solder Cup, Straight PCB, and Right Angle PCB terminations.

Amphenol's Portable Devices series offers a wide range of connector products for portable consumer electronics such as MP3 players, PDAs, Portable Media Players and Handsets.

The series includes Memory Card and SIM Card connectors, Battery and POGO connectors, FPC, BTB, Mini-USB, Phone Jacks, I/O Sockets and Docking Station Connectors.

Memory Card & PCMCIA Sockets

Amphenol offers a full range of flash memory connectors (SD, Mini-SD, Micro-SD, xD, CF1 & 2 etc.) with numerous features such as Low profile design, Normal or Reverse mounting, Manual or Push-Push insert style and a Locking feature to prevent the card from dropping out. Available in SMT, Straddle Mount or Through Hole termination.

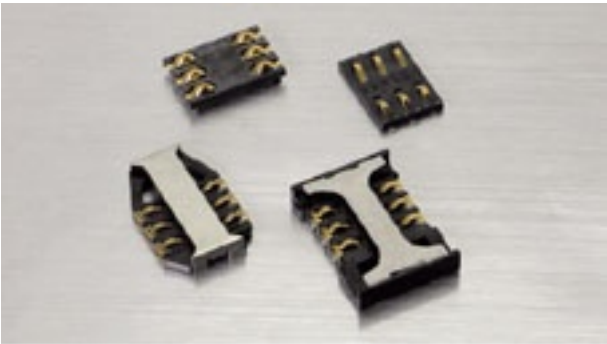| **Single Type**	SD, MMC, MS, xD, CF, PCMCIA
Combo	10 in 1: CF1 / CF 2 / MD / xD / SD / MMC / MS / MS-PRO / RS-MMC / MS-DUO
	6 in 1: SD / Mini SD / MMC / MMC 4.0 / RS-MMC / RS-MMC 4.0
	6 in 1: SD / MMC / MMC 4.0 / MS / MS PRO / xD
	5 in 1: SD / MMC / MMC 4.0 / MS / MS PRO

Amphenol also offers PCMCIA with a through hole termination. Available in single and double deck.

Battery and POGO Connectors

POGO connectors provide a space-effective design for PCBs. Amphenol provides a wide range of products from single to multi-pin, in different heights, pitches and spring forces to meet all design requirements. In addition to battery interconnects, POGO is also supplied for antenna interconnects. Amphenol's battery connectors are available in multiple working heights and pitch sizes. Available in POGO or finger type with high durability and a high number of mating cycles.

SIM Card Connectors

Amphenol provides a wide variety of SIM cards that vary in size, profile and configuration for different applications.

SIM Block
- Spoon contact suitable for SIM Card insert from both sides; housing height from 2.20 to 4.00mm, with 0.20mm intervals
- Low profile SIM Block, housing height between 1.10 to 2.20mm, with 0.10mm intervals
- Mini Size design, 9.70mm x 7.50mm x 1.60mm

Wing Block
- Wing block design ensures precision in connection
- Mini Wingblock to save PCB space, height is between 2.40mm and 3.20mm, with 0.20mm intervals
- Cover instead of two wings to make connection more stable

FPC

Amphenol flexprint connectors (C007 series) accommodates 0.3mm thick flexprint cable with different contact configurations and pitch sizes. Double sided, pre-stressed contact shape guarantees secure contact between the flexprint circuit and the connector and allows insertion of the flexprint cable in either upward or downward direction.

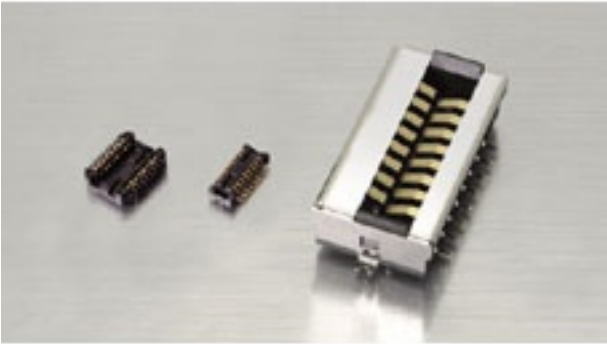|	
Mounting Type	· SMT Right Angle
	· Solder Dip, Straight
	· Solder Dip, Right Angle type
	· SMT Vertical
Contact configuration	5, 8, 10,12, 14, 16, 17, 18, 22, 25, 26 and 30
Pitch size	0.5mm and 1.0mm pitch

BTB

Board-to-board connectors available in plug-socket pairs with pin counts ranging from 8 to 50.

Spring-type board-to-board connectors are robust and suitable for use in applications where vibration is common, such as application in a car audio system.

USB & Mini-USB

The Amphenol series of USB receptacles and plugs is a complete system of interconnection technology designed in accordance with Universal Serial Bus Specifications Version 2.0.

In addition to normal USB Type A and B, Amphenol also supplies compact Mini-USB. Available with SMT mount.
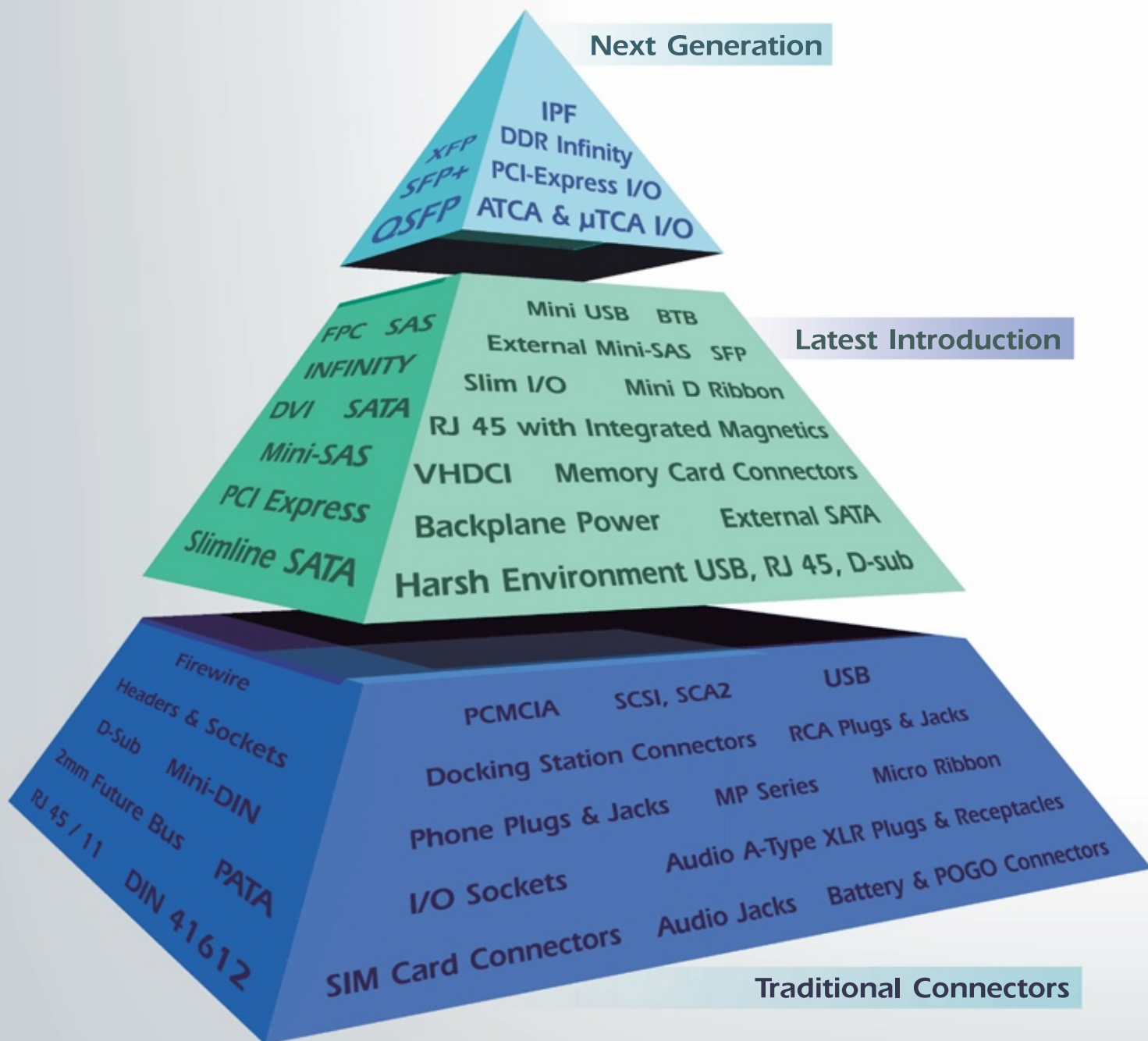
I/O Sockets and Docking Station Connectors

Amphenol provides both I/O connectors for portable devices as well as docking I/Os of 0.50mm pitch. Designed with Blind Mating and Locking features, the connectors have also high durability and a high number of mating cycles. Additional solder tail design for stable mounting is also available.

Amphenol

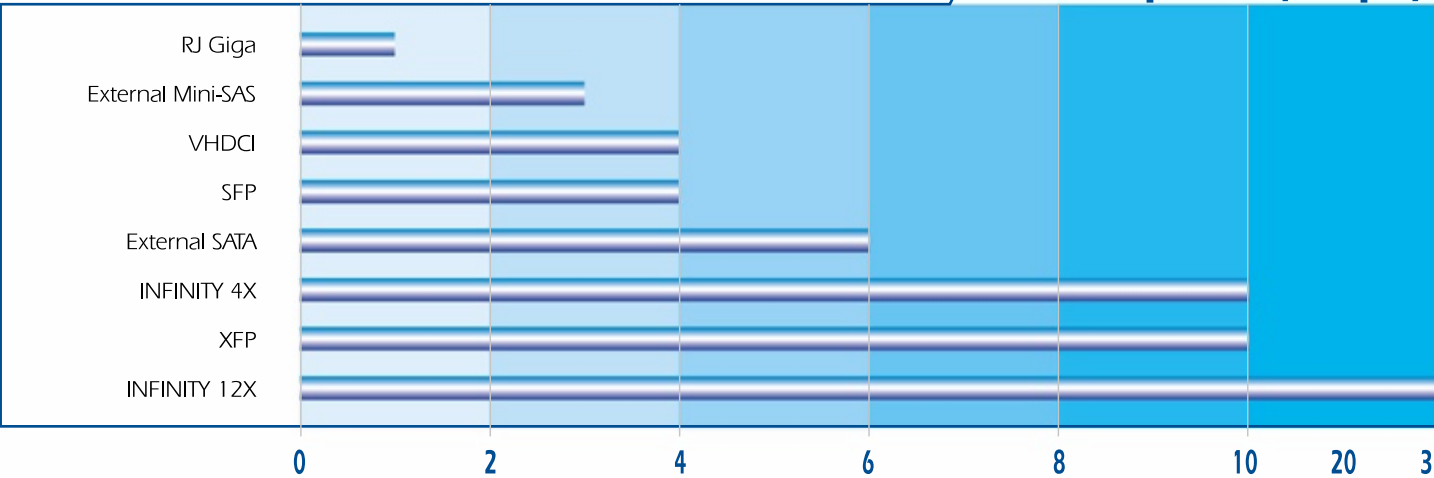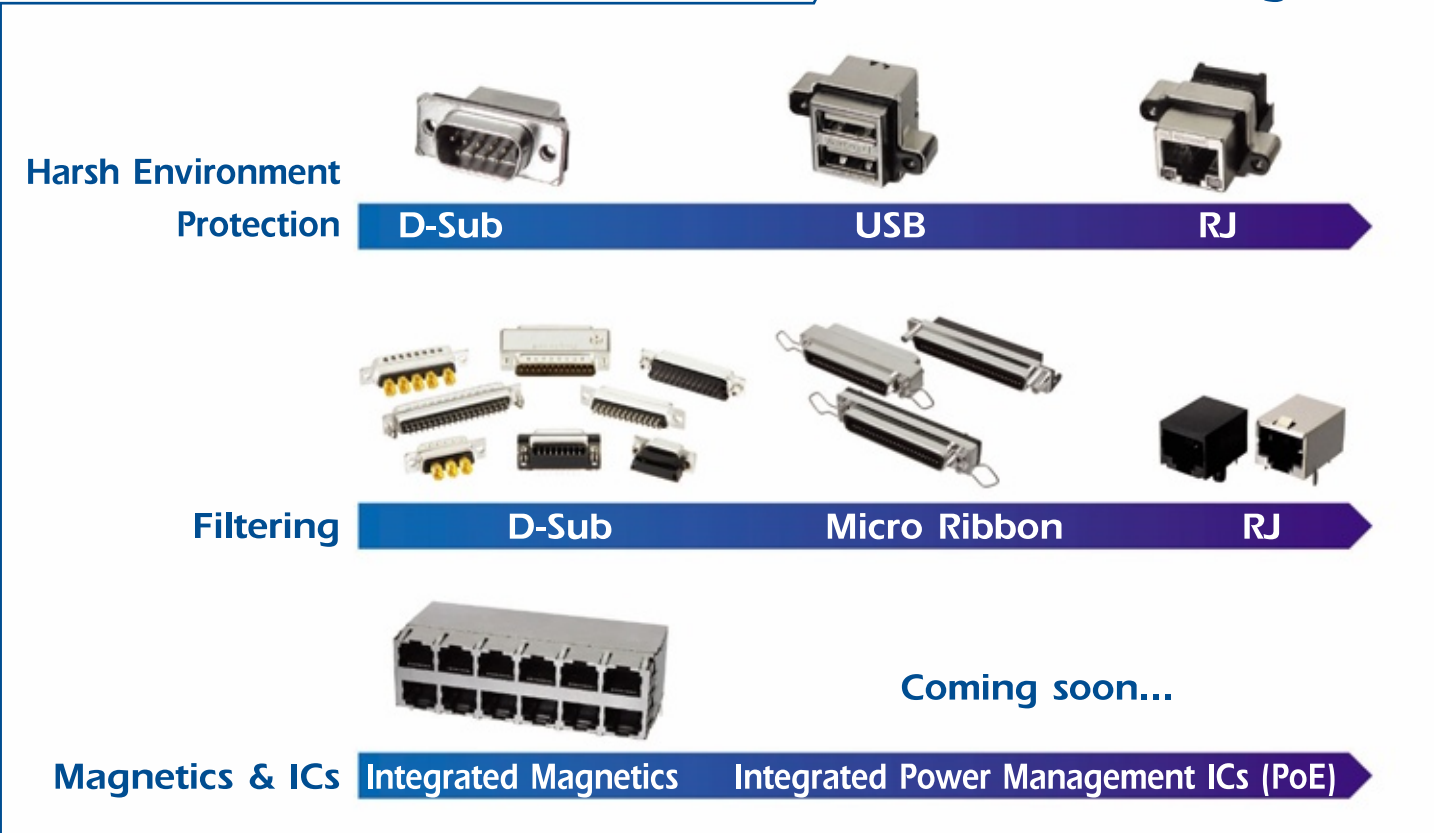Evolution and Acceleration of New Generation Products

Next Generation

IPF
XFP DDR Infinity
SFP+ PCI-Express I/O
QSFP ATCA & µTCA I/O

Latest Introduction

Mini USB   BTB
FPC   SAS   External Mini-SAS   SFP
INFINITY   Slim I/O   Mini D Ribbon
DVI   SATA   RJ 45 with Integrated Magnetics
Mini-SAS   VHDCI   Memory Card Connectors
PCI Express   Backplane Power   External SATA
Slimline SATA   Harsh Environment USB, RJ 45, D-sub

Traditional Connectors

Firewire
Headers & Sockets   USB
D-Sub   Mini-DIN   PCMCIA   SCSI, SCA2
2mm Future Bus   Docking Station Connectors   RCA Plugs & Jacks
RJ 45 / 11   PATA   MP Series   Micro Ribbon
DIN 41612   Phone Plugs & Jacks
          I/O Sockets   Audio A-Type XLR Plugs & Receptacles
          Audio Jacks   Battery & POGO Connectors
          SIM Card Connectors

Examples of Product Evolution

Form Factor

Connectors for Hard Disks

| 3.5" | 2.5" | 1.8" | 1.0" | 0.8" |

Data Speed (Gbps)

	0	2	4	6	8	10	20	30
RJ Giga								
External Mini-SAS								
VHDCI								
SFP								
External SATA								
INFINITY 4X								
XFP								
INFINITY 12X								

Value Added Integration

Harsh Environment Protection

| D-Sub | USB | RJ |

Filtering

| D-Sub | Micro Ribbon | RJ |

Coming soon...

Magnetics & ICs

| Integrated Magnetics | Integrated Power Management ICs (PoE) |

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