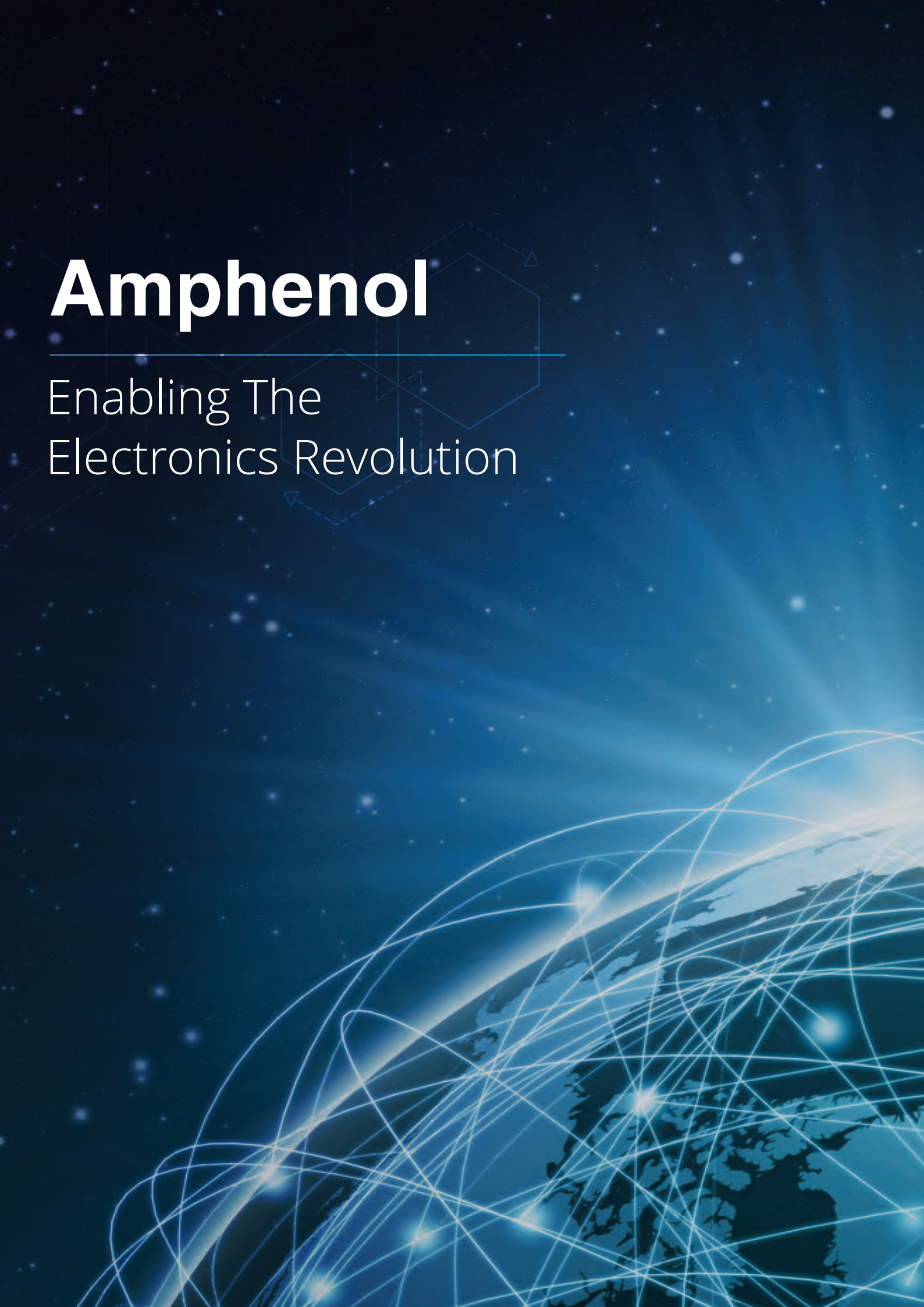
Amphenol

Enabling The
Electronics Revolution



Overview

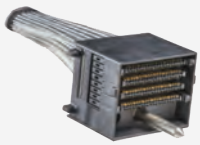
Amphenol

High Speed Backplane Products CABLES

www.amphenol-icc.com/high-speed-backplane

XCede®

- Supports designs from 8G to 56G PAM4
- Scalable and flexible design supports all your system requirements
- Supports Embedded Capacitors



ExaMAX®

- Cost optimized with scalable performance beyond 56G PAM4
- Innovative design supports low insertion/extraction forces along with reduced crosstalk and low insertion loss
- Flexible architecture supports direct orthogonal, traditional backplane, coplanar and cable requirements

Paladin®

- Supports data rates beyond 112G PAM4; industry leading signal to noise performance
- Consistent signal integrity performance over the entire mating range
- Flexible architecture supports direct orthogonal, traditional backplane, mezzanine, coplanar and cable requirements

High Speed Backplane Products CONNECTORS

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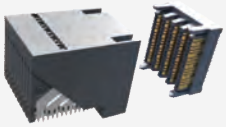
XCede® HD

- Supports designs from 8G to 56G PAM4
- The de facto standard for high performance backplane designs with industry leading density
- Supports Embedded Capacitors



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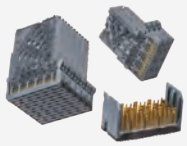


XCede®

- Supports designs from 8G to 56G PAM4 Scalable and flexible design supports all your system requirements
- Supports Embedded Capacitors

ExaMEZZ®

- Cost optimized with scalable performance up to 56G PAM4
- Innovative design supports low insertion/extraction forces along with reduced crosstalk and low insertion loss
- Stacked height range from 15 to 45mm in 2 and 4 pair configurations

AirMax®

- Cost optimized with scalable performance beyond 25G PAM4
- Traditional backplane offering including standard and inverse gender
- Standard is 3-, 4- and 5-pair

High Speed IO CABLES

www.amphenol-icc.com/high-speed-io

100G / 200G QSFP Cables

- 4 lanes per cable – 28G & 56G per lane capability
- Passive & active cables; 26AWG to 32 AWG cable
- Supports cable lengths up to 5 meters

200G / 400G QSFP DD Cables

- 8 lanes per cable – 28G & 56G per lane capability
- Double the bandwidth per port vs. QSFP
- Backwards plug compatibility with QSFP

200G / 400G OSFP Cables

- 8 lanes per cable – 28G & 56G per lane capability
- Thermal management engineered into cabled solution
- PAM4 modulation providing solutions up to 400G aggregate bandwidth

100G QSFP Active Optical Cables

- Capable of speeds up to 25.78125Gb/s or 28.056Gb/s per channel
- Supports 100G Ethernet and Infiniband 4xEDR and 4x32FC protocol
- Transmission distance up to 100m (MMF)

300G CXP2 Active Optical Cables

- Capable of transmittng data at rates up to 25.78125Gb/s
- Full duplex 12 channel transmissions
- Up to 300Gb/s aggregate bandwidth per channel

Mini-SAS HD Active Optical Cables

- Fully compliant to SAS 2.1 (6Gb/s) and SAS 3.0 (12Gb/s) industry standards
- Supports PCI Express Gen3 (8Gb/s) applications
- Operates up to 48Gb/s aggregate bandwidth
- Transmission distance up to 100m (MMF)

High Speed IO CONNECTORS

www.amphenol-icc.com/high-speed-io

CFP2

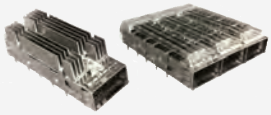
- Rated for 56G per channel with resonance dampening for improved signal integrity
- Designed to be compatible with 100G Form Factor Pluggable (CFP) Multi-Source Agreement for Ethernet and other applications

OSFP

- High speed high signal integrity octal SFP footprint is optimized for signal integrity performance
- Supports up to 400G in aggregate over an 8x50G electrical interface

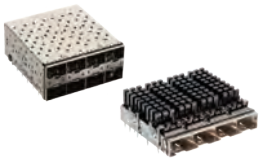
QSFP-DD

- High speed double density QSFP interface supports up to 400G in aggregate over an 8 x 50G electrical interface



ExtremePort™ QSFP+

- Electrical interface employs 4 lanes that operate up to 56G. PAM4 modulation providing solutions up to 200G aggregate bandwidth
- Backwards compatible with QSFP28
- Meets CEI56GPAM4 VSR requirements
- Available in Ganged, Stacked, and Stacked SMT

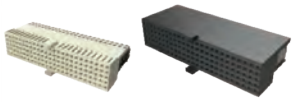


ExtremePort™ SFP+

- Electrical interface employs 1 lane that operates up to 56G
- Backwards compatible with SFP28
- Available in Ganged and Stacked

FCi Basics

www.amphenol-icc.com/basics



Millipacs® High Speed (HS)

- 2mm hard metric backplane with mating compatibility to IEC 61076-4-101 series hard metric connectors, and can be upgraded up to 25Gb/s

Minitek® MicroSpeed

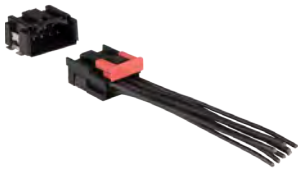
- Outstanding signal integrity for high data rates

BergStak® 0.50mm and 0.80mm

- High density and flexible solutions for high-speed applications

OCTIS™ Outdoor IO

- High speed signal and power, lightning protection, EMI shielding, and ease of installation for outdoor, compact and harsh environments



Minitek MicroSpace™

- Crimp-to-Wire connector platform's unique design enables LV214 Severity-2 and performs at 1.8, 1.5 and 1.27mm pitch

Conan®

- Unique design with an audible 'click' sound enhances the security and ease of use

Power Solutions

www.amphenol-icc.com/power-solutions

EnergyEdge™ X-treme

- Dual-contact design for 3000W at 12V
- 25% improvement in current linear density
- 23% size reduction compared to traditional card edge connectors

BarKlip® IO

- Rated up to 200A/contact
- Part of OCP Standard Design
- Ultrasonically welded for long-term reliability

PwrBlade Ultra® HD

- Now has 2.0mm pitch for high density signals
- Side guide design allows for additional 2 rows of contacts
- High Power – 75A/contact
  Low Power – 45A/contact

CoolPower® SDM

- Rated up to 35A/contact
- 5.6mm x 14mm footprint for space constraint applications
- Backplane, coplanar, and orthogonal configurations

PwrMAX® G2

- 18% depth reduction on the board
- Additional gatherability of +/- 0.5mm for blind mate applications
- Rated up to 100A/contact

PwrBlade+® IO

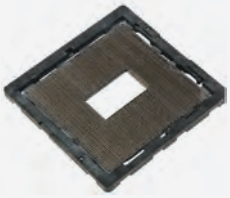
- High power – 60A/contact
  Low power – 25A/contact
- Cable-to-cable and cable-to-board configurations
- Part of OCP Standard desig

Mezzanine Products

www.amphenol-icc.com/mezzanine

M-Series™ 56

- Designed to support high technology products in board-to-board or flex assembly architectures from 4-15mm
- Next-generation differential pair contact design for 56G NRZ, 112G PAM4 performance



cLGA® & cSTACK

- Mechanically robust dual compression technology with pin counts up to 5000+
- High performance sBGA configurations are readily available with speeds to 56G+

cSTACK™ & CUSTOM FLEX

- Designed for applications where flexibility, space, weight and performance are critical
- Available with BGA, LGA, SMT, press-fit or thru-hole connector terminations

Lynx™ QD

- Designed in multiple form factors: right angle, coplanar and vertical stacker
- Optimized for differential pair signaling to support PCIe Gen5 and 56G performance

Chameleon®

- Designed for a customizable pin field with dedicated DP, SE and Power from 6-10mm
- Capable up to 25G for 100Ω differential applications

ARDENT CONCEPTS
An Amphenol Company

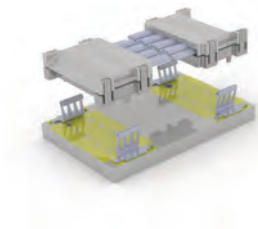
www.ardentconcepts.com

TR Equal Trace

- Delivers superior signal integrity from multiple high speed channels in an arc footprint making it ideal for applications where equal and short trace lengths are imperative for performance tuning

TR Multicoax Series | TR Auto

- Delivers superior signal integrity from multiple high speed channels in the narrow E-Band (71-86+ GHz)
- Ideal for automotive radar applications
- Highest density high speed multicoax connector on the market while delivering extremely low VSWR and Insertion Loss



LinkOVER™

- Bypass lossy board traces when transmittng signals in next generation board-to-board, system-to-system, or chip-to-chip applications requiring high bandwidths
- Supports data rates up to 112Gb/s+ with low resonance & VSWR

Commercial IO

www.amphenol-icc.com/commercial-io

RJ/RJMG

- Modular Jacks, widest variety of standard, high performance and integrated magnetics

High Speed Automotive

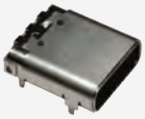
- Connectors for Automotive Electronics: HSD, HSC, HSBridge, NETBridge, Floating BTB

Fan Connectors

- Unique modular fan interconnect solutions for Servers, Storage and Data Center applications

Mini/Micro Power STD/PLUS/SUPER

- Power connectors in multiple standard configurations, with enhanced current handling versions



USB

- Wide variety of USB 2.0, USB 3.0, USB 3.1 Gen1 & Gen2 in Type A, micro/mini, Type C, single port and stacked, multiple configurations and combos

Harsh Environment

- Ruggedized, IP67 sealed standard interfaces including RJ, USB, USBC, D-Subs, HDMI, and new/custom interfaces

Storage & Server IO

www.amphenol-icc.com/storage-server-io

Mini Cool Edge 0.60mm

- Designed to meet SFF TA-1002, Gen Z, EDSFF, OCP 3.0 and JEDEC spec

PCIe Gen 4 and Gen 5

- Meets industry standard PCIe 4.0 and 5.0 with high speed up to 32GT/s per differential signal pair

DDR4 and DDR5

- Designed to meet JEDEC SO-023 and JEDEC MO-329 spec

Slim Cool Edge 0.60mm

- Designed for high speed up to 32GT/s (or 56GT/s PAM4) capability

SAS PCIe (U.2 & U.3) 4.0 and 5.0

- Designed to meet SFF8639 and SFF8680 spec with high speed up to 24Gb/s or 32GT/s

Double Density Cool Edge 0.80mm

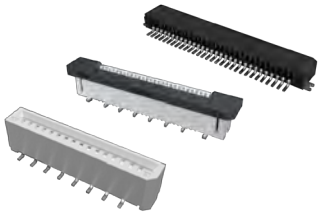
- Designed to accommodate both high speed and low speed signal and power in a space-saving format

Amphenol AORORA

www.amphenol-icc.com/aorora

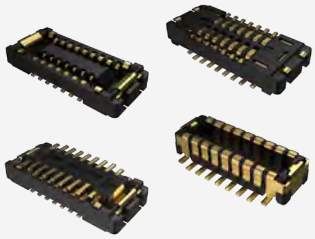
0.50mm FFC/FPC

- Easy to operate and vibration-proof
- Wide height range from 1.25mm to 5.80mm with 4 to 80 contact positions in both vertical and right angle orientations
- Front/back/vertical flip and slider mechanisms with ZIF or Non-ZIF cable terminations



1.00mm FFC/FPC

- Easy to operate and prevents against solder and flux wicking
- Wide height range from 2.00mm to 5.04mm with 3 to 34 contact positions in both vertical and right angle orientations
- Front flip and slider mechanisms with ZIF or Non-ZIF cable terminations



Micro Board-to-Board

- Low profile and fine pitch for high density applications
- High current rating (Up to 3A)
- Chamfer connector design prevents mismatching

Floating Board-to-Board

- Floating range of ±0.50mm in the X, Y and Z directions
- High speed performance (Up to 2.5Gb/s)
- Double contact points for enhanced contact reliability

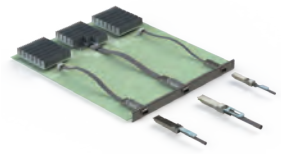
OverPass™ Solutions

Cable system offering a broad range of capabilities that efficiently take high speed signal from near the ASIC to anywhere in the system.

High Speed Bulk Cables

High frequency SkewClear EXD cable technology

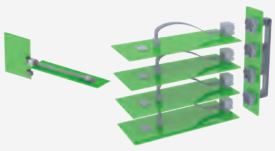
- Offerings include multi-pair cables: 2, 4 and 8 pair constructions in wire gages from 32 AWG to 26 AWG
- Supports transmission speeds of 10G, 28G and 56G PAM 4 per lane bandwidths (112G versions in development)
- Impedance tuned designs support: Paladin ®, ExaMAX®, ExaMAX+®, LinkOVER™, Swift, Flash, GenZ, OverPass™ HSIO
- FEP insulated wiring for higher temperature environments



External High Speed IO

Near ASIC to external IO receptacles

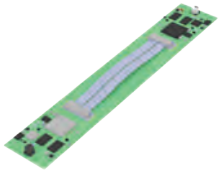
- Direct high speed interconnect link from the chip site directly to the external IO port
- HSIO OverPass portfolio products are fully compliant to established industry standard interfaces: SFP, QSFP, QSFP DD, OSFP and others
- Supports signal transmission speeds of 10G, 28G and 56G PAM4 per lane bandwidths (112G versions in development)
- Press fit or cabled sideband signal management
- Stacked, ganged, and belly-to-belly HSIO connector and cage configurations



Cabled Backplane

Near ASIC to system backplane or coplanar cards

- Cable Backplane System portfolio products extend the reach of passive copper for next generation system designs
- 56G and 112G PAM4 performance
- Optimization with our high speed, low loss twinax cable with Paladin® and ExaMAX® backplane connector families
- Flexible connector architecture supports cable mating with a backplane cable, press fit headers, right angle and orthogonal configurations



Internal

Near ASIC to cards or board location in system

- Delivering a simple, low-loss, direct link to pluggable modules or anywhere in your system
- Optimization with our high speed, low loss twinax cable with high speed connectors such as: Mini-SAS HD, OCulink, SlimSAS™, Mini Cool Edge IO, ExtremePort™ Z-Link, Flash & Swift, and LinkOVER™
- Solutions are available in 10G, 25G, 56G & 112G PAM4 per lane signaling speeds
- Multiple cable exit options like straight, right angle, and coplanar
- Construction options including double ended, Y, and breakout cables.
- Single, ganged and stacked cage configurations

Amphenol

www.amphenol-icc.com