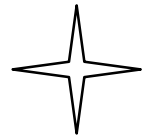


# Direct Attach 4X and 12X

- Greater Bandwidth with <1% Crosstalk -

## High Speed, Serial I/O, Cable Assemblies



Product Bulletin No. 10-25-03



12X Straight



4X Straight

All Shown with  
Optional  
"Pull-to-Release"  
Latch Actuator



4X Angled

Meritec is now offering a new line of cable assemblies to support InfiniBand™ (IB) architecture specifications and other industry standards for high-speed data transfer applications to include 10G Fibre Channel, Serial ATA (SATA), and Serial Attached SCSI (SAS), 10G Ethernet, and CX4.

Meritec's new offering is designed to support channel-based switched fabric I/O technology and industry standards for continuous flow "serial" link computing. The assembly provides for the continuous uninterrupted flow of serial data.

Meritec's **Direct Attach 4X\*\*** cable assembly meets IB™ standards by allowing for high-speed data rate transfers of >2.5Gbps per each link/channel at lengths up to 8.5 meters 24 AWG not equalized and meets CX4 standards up to 16 meters. Direct attach methodology offers cross-talk performance of <1.0%\* which has been difficult to achieve in 4X designs utilizing internal printed circuit boards for wire termination. Greater bandwidth and exceptional overall electrical performance are also favorable byproducts of the design.

Meritec's **Direct Attach 12X\*\*\*** cable assembly meets IB™ standards by allowing for high-speed data rate transfers of >2.5Gbps per each link/channel at lengths up to 8.5 meters 24 AWG not equalized and meets CX4 standards up to 16 meters. Direct attach methodology offers cross-talk performance of <1.0%\* which has been difficult to achieve in 12X designs utilizing internal printed circuit boards for wire termination. Greater bandwidth and exceptional overall electrical performance are also favorable byproducts of the design. The use of three lengths of 4X cable provides greater flexibility than does one bundled 12X cable.

**Passive Equalization** - Both Meritec's Direct Attach 4X and Direct Attach 12X are offered with passive equalization circuits built into the connectors back-shells to achieve higher data rate transfers (>2.5Gbps) and/or longer cable assembly lengths (equalized IB™ 12.5 meters, 24 AWG).

The connector interface utilized in the Direct Attach series of cable assemblies has been selected by the various standards organizations responsible for InfiniBand™, 10G Fiber Channel, SATA, Serial Attached SCSI (SAS) and 10G Ethernet.

\* <1% nearest neighbor and <2% multiple aggressors

\*\* 4X is 10Gbps bi-directional typically usable data rate transfer.

\*\*\* 12X is 30Gbps bi-directional typically usable data rate transfer.

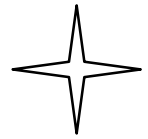
**For more information on Meritec's products, please contact Customer Service at 1-888-MERITEC (637-4832).**

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# Direct Attach 4X and 12X

- Greater Bandwidth with <1% Crosstalk -



## High Speed, Serial I/O, Cable Assemblies

### Features and Benefits

- 4X assemblies standard offering is with 24-26-28 AWG cable. Other cable offerings are available.
- 12X assemblies standard offering is with 24-26-28 AWG cable. Other cable offerings are available.
- Direct Attach terminations provide optimized performance by removing unnecessary transitions in the signal path.
- >2.5Gbps per channel-based Link.
- Passive equalization circuits available built into the termination; per pair option.
- Die-Cast back-shells for mechanical integrity and enhanced EMI shielding performance.
- Innovative "Pull-to-Release" latch mechanism that is friendly, reliable, and compact.
- Thumbscrew version soon to be available.

### Markets Served

- Communications
  - 10G Ethernet, CX4...3.125G/Lane
  - 10G ATM, Sonet
- Computer and Storage
  - 10G Fiber Channel.....3.187G/Lane
  - InfiniBand™.....2.5, 5.0G/Lane
  - PCI Express.....2.5, 5.0G/Lane
  - Serial ATA.....3.0G/Lane
  - Serial Attached SCSI....3.0G/Lane
  - XAUI Applications.....3.2G/Lane
  - Parallel Rapid I/O.....3.2G/Lane
  - Proprietary I/O Interfaces, i.e. Rocket I/O, etc.

### Applications

- Chipset Design
- Computers
- Failover Jumpers
- High-End Single User Links
- Internet Equipment
- Routers
- Serial Aggregation Links
- Serial Trunk Links
- Servers
- Storage Equipment
- Switches
- Switch Up Link
- Systems Backbones

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# Direct Attach 4X and 12X

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### Technical Features

#### Materials

- Contact Mating Area - Cu Alloy w/Au
- Contact Bonding Area - Cu Alloy
- Connector Housing - High Temp Thermoplastic UL94V-0
- Backshell - Zinc Die Cast
- Strain Relief - Thermoplastic Collar
- Latch Mechanism - Thermoplastic & Cu Alloy
- Cable - Fully Shielded 8 Differential Pairs, Twinax

#### Environmental

- Temperature Range: Between -10° to 60° C
- Thermal Shock: 10 Cycles -55° to 85° C
- Temperature Life: 456 hours @ 90° C

#### Specifications

- Industry
  - InfiniBand™ Architecture
  - Small Form Factor (SFF) 8470
  - 10G FibreChannel
  - IEEE 802.3ak
  - 10G SAS, NCITS-376

#### Mechanical Performance

- Insertion Force = 30N (6.6 lbs.) max
- Withdrawal Force = 15N (3.3 lbs.) max
- Retention Force = 75N (16.9 lbs.) min
- Durability = 250 cycles
- Min Bend Radius = 2 inch @ 90 degree bend

#### Electrical Performance

- Differential Impedance -  $100 \pm 10 \Omega$  @ 100psec
- Near End Crosstalk = <2% @ 100psec (multiple aggressors)
- Cable Assy Insertion Loss = <5dB @ 1.25GHz (5 meters 26AWG)
- Connector Bandwidth = 3dB @ 8GHz
- Jitter < 0.125 unit intervals (50psec) @ 2.5Gbps (5 meters 26AWG)
- Eye Pattern Opening = 350psec width min and 500 mV height min @ 2.5Gbps (5 meters 26AWG)

#### Approvals & Certifications

- UL and CSA approval pending

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