

2-mm Advantage Concept to Connection

# 2mm HPM

**High-Performance Metric**



2mm HPM Brochure.pdf

Members  
**VITA**  
VITA  
Open Markets, Open Markets

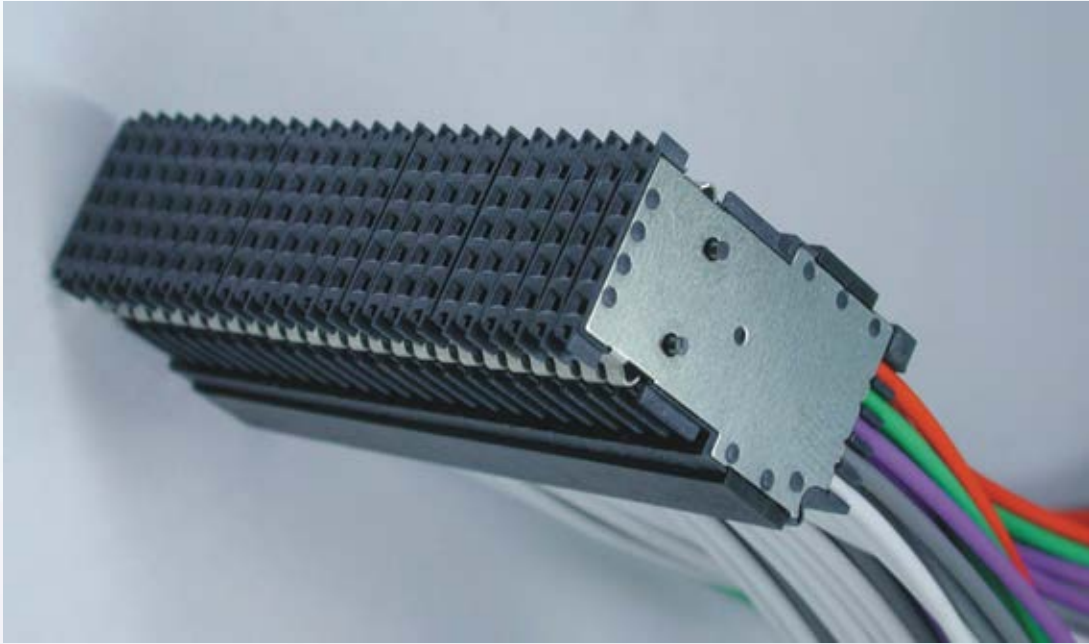
**SOSA**  
Sensor Open Systems Architecture

**PCI SIG**



**the Xtreme  
High-Speed  
Xperts**

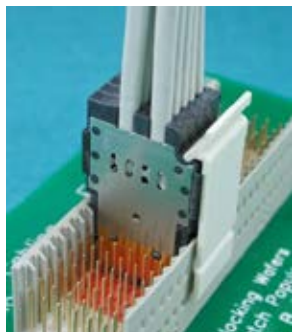
Solving Interconnect Problems Quickly Since 1966



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## Meritec 2-mm HPM Cable Systems

### Applications



Meritec cable assemblies are a modular solution for high-performance backplane interconnect requirements. They are designed to mate and work reliably with standard 2mm connector shrouds. The interlocking stackable wafers match the popular IEC-61076-4-101 types A, B, and C housings, as well as the popular B22 shroud utilized for rP2/rP5 Compact PCI I/O applications.

The shroud system is well suited for rugged applications due to its unique retention system. By affixing a spring-loaded thumb latch to the shroud and seating the unit, the cable assembly will lock tightly in place. This finished system securely retains the cable connector against the strain of a cable bundle. The self-latching action of the spring-loaded design is particularly convenient for hard-to-reach locations.

### Cable Choices



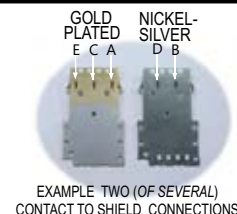
Meritec will supply the finished cable assembly to your exact specifications. We offer a wide choice of in-stock, affordable cables to meet Customer requirements. These include high performance twinax, shielded parallel conductors, and conventional coax in a variety of conductor gauges and wire construction. Color coded 24 and 26 AWG hookup cable is also available in multiple colors for ease of traceability of second end termination. (See page 10 for additional cable information.)

### Stacking Features



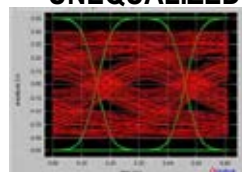
Stackable housings, featuring molded alignment pins, can be joined together to form all standard stack configurations up to 25 wafers. Custom stacking beyond 25 wafers and optional "Keying spacers" are available. Assemblies are locked together using Meritec's unique double row Polymer Locking Rails. Optional metal rails are available for multiple-shield connections.

### Shield Options

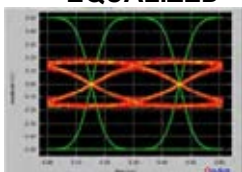


Meritec's Shield Design offers a vast choice of connection configurations. Shields may be connected to any or all of the contact positions (A,B,C,D,E). The drain wires may be connected mechanically to the shield or through a lanced contact position, as shown in picture. Choose between gold plated or nickel-silver shields.

### UNEQUALIZED



### EQUALIZED



### Meritec's Optional Passive Equalization Circuits (PEC)

Meritec's capabilities include development of Passive Equalization Circuits (PEC) for Customer specific applications for the HPM- 5, HPM-8, and Right Angle HPM-5. PEC can enhance the performance of 2mm cables to allow high data rates over longer distances. Additionally, it can compensate for losses in the printed circuit board to provide complete signal path equalization. Eye pattern charts (left) show the effectiveness of chip-to-chip equalization at 3.250 Gb/s including 3 meters of cable, 4 connectors, and 32 inches of Fr4 traces. PEC are developed for specific Customer specifications with associated NRE costs.

(Green trace is the stimulus)



## Three Unique 2-mm Designs

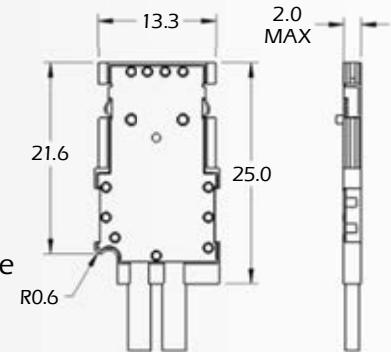
Meritec's interlocking-stackable wafers are compatible with industry standard 2-mm shrouds including IEC-61076-4-101 A, B, & C Compact PCI I/O and VME 64, and will mate with all popular latch systems. The welded terminations provide a molecular bond between wire and contact. Our inter-modular shields feature programmable-ground positions.

**Now available with Passive Equalization Circuits (PEC) as an option.**

### HPM 1x5+2



Meritec's 1x5 Stackable-Axial Wafers feature the flexibility to terminate with a variety of cable types including Parallel Pairs, Hook-Up Wire, Coax, and Twisted Pair ranging from 22 through 36 AWG. Programmable Shield Lancing allows a connection between the shield and any or all of the contact positions. The housing-retention point is compatible with ERNI's spring-loaded latch arm and other popular 2-mm latching shrouds. Choose between gold plated or nickel-silver shields.

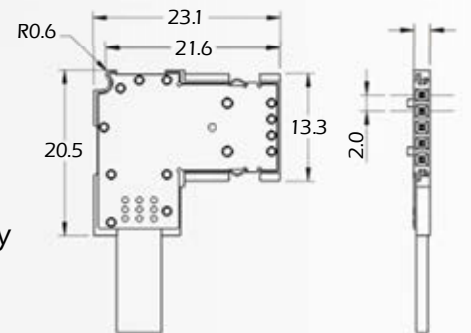


Dimensions in mm

### HPM 1x5+2 Right Angle



Meritec's Right Angle 1x5+2 offers the same high quality as the Axial HPM 1x5+2 with the advantage of an overall height of 1" for applications with restricted spacing. Assembly will insert and latch into all popular 2mm shrouds. Right-Angle wafer accepts cables from 24 AWG to 36 AWG.

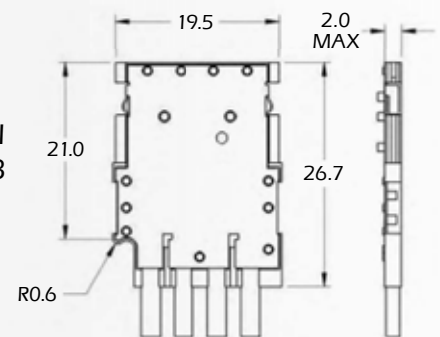


Dimensions in mm

### HPM 1x8+2



Meritec's HPM-8 Eight-Row System increases signal density per-linear inch and mates with all IEC61076-4-101 compatible shrouds. The HPM-8 features a variety of cables for single-ended or balanced-line circuitry ranging from 24 AWG to 36 AWG.



Dimensions in mm

## Off-the-Shelf 2-mm Standard Offerings

2mm Cable Assemblies in popular lengths, pinouts, cable styles, and related accessories. Limited quantities can be shipped within 72 hours of order placement. Visit our website at [www.meritec.com](http://www.meritec.com) to place your order or contact our Customer Service Representatives at **888-MERITEC (888-637-4832)**. For pricing information visit [www.meritec.com/product-category/cable-assemblies/2mm-hpm/](http://www.meritec.com/product-category/cable-assemblies/2mm-hpm/)



### HPM 1x5+2 Hook Up Cable 980290-024, 980290-48, 980290-072

- 1x5 DOUBLE END ASSEMBLY
- 5 LINES OF COLOR CODED 24 AWG TFE HOOK-UP (700290-xx)
- AVAILABLE IN 24,48 & 72 INCH LENGTHS
- STACKABLE
- PINOUT "SSSSS"
- RoHS COMPLIANT

**980290-024**
**980290-048**
**980290-072**


### HPM 1x5+2 Parallel Pair 980319-024R1, 980319-048R1

- 1x5 DOUBLE END ASSEMBLY
- 2 LINES 100 OHM SHIELDED 28/30 AWG PARALLEL PAIR (700319-01)
- AVAILABLE IN 24 & 48 INCH LENGTHS
- STACKABLE
- PINOUT "+SSGSS+"
- RoHS COMPLIANT

**RoHS  
COMPLIANT (R1)**
**980319-024R1**
**980319-048R1**


### HPM 1x5+2 Coax 980129-024R1, 980129-048R1

- 1x5 DOUBLE END ASSEMBLY
- 4 LINES (700129) 50 OHM SHIELDED 26 AWG COAX
- AVAILABLE IN 24 & 48 INCH LENGTHS
- STACKABLE
- PINOUT "+SSGSS+"
- RoHS COMPLIANT

**RoHS  
COMPLIANT (R1)**
**980129-024R1**
**980129-048R1**


### [2]HPM 1x5+2 CAT 5e TO RJ45 980132-040R1

- STACKABLE WAFERS FOR APPLICATIONS REQUIRING MULTIPLE RJ 45 CONNECTORS
- 1 LINE CAT 5e CABLE W/ RJ 45 CONNECTOR
- 40" LENGTH
- STANDARD PATCH CABLE PIN-OUT
- RJ 45 OVERMOLDED STRAIN RELIEF
- SNAGLESS BOOT
- CHANGEABLE PIN-OUT AND LENGTH BY SIMPLE REPLACEMENT OF RJ45 CONNECTOR
- RoHS COMPLIANT

WIRE COLOR	RJ 45 POSITION	2MM WAFER & POSITION
ORANGE/WHITE	PIN 1	WAFER 1 "A"
ORANGE	PIN 2	WAFER 1 "B"
GREEN/WHITE	PIN 3	WAFER 2 "A"
BLUE	PIN 4	WAFER 1 "D"
BLUE/WHITE	PIN 5	WAFER 1 "E"
GREEN	PIN 6	WAFER 2 "B"
BROWN/WHITE	PIN 7	WAFER 2 "D"
BROWN	PIN 8	WAFER 2 "E"

**RoHS  
COMPLIANT (R1)**

See page 6 for additional Off-the-Shelf 2-mm products available in stock.

Standard-product offerings are non-returnable / Prices available at [www.meritec.com](http://www.meritec.com) or 888-Meritec (637-4832)

## Off-the-Shelf 2-mm Standard Offerings

**STOCK - TWO WEEKS. TO PLACE YOUR ORDER VISIT US AT [www.meritec.com](http://www.meritec.com)  
OR CONTACT CUSTOMER SERVICE AT 1-888-MERITEC (1-888-637-4832)**

For Pricing visit [www.meritec.com/product-category/cable-assemblies/2mm-hpm/](http://www.meritec.com/product-category/cable-assemblies/2mm-hpm/)



### **HPM 1x5+2 Blank Wafer 980937-4**

- 1x5 Blank wafer assembly
- Stackable
- Packaged in sets of 4
- RoHS compliant

Package of 4

Note: Blank wafers are not intended for wire termination. To be used as fill wafers for blank positions in stacking customizes assemblies where populated wafers are not required.



### **HPM 1x5+2 Key Plugs 980295-04R1**

- HPM Cable assembly Key Plug
- Common Application - Compact PCI architecture P1 & P4
- Packaged in sets of 4
- RoHS compliant
- Stacks with all Meritec HPM 1X5+2 cable assemblies

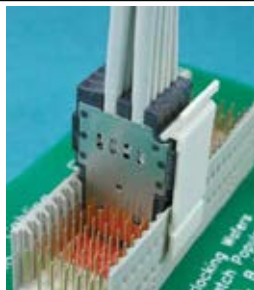
Package of 4



### **25 Position Locking Rails 980303-25-10**

- 2 through 25 Position locking rail
- Packaged / sold in sets of 10
- Customer cut to size
- RoHS compliant

Package of 10



### **ERNI Latch Arm 980548-4**

- ERNI P/N 064219
- Packaged / sold in quantities of 4
- RoHS compliant

Package of 4

See page 5 for additional Off-the-Shelf 2-mm products available in stock.  
All 2-mm Standard product offerings are non cancel-able and non-returnable.  
Prices available at [www.meritec.com/product-category/cable-assemblies/2mm-hpm/](http://www.meritec.com/product-category/cable-assemblies/2mm-hpm/)  
or 888-Meritec (637-4832)



## Request for Proposal

Thank you for your interest in Meritec and our 2-mm HPM Cable assemblies. To better understand your application requirements, please provide as much information as possible. This information will assist in verification of product compliance. After review by engineering, a quote will be generated. Please provide complete contact information with the request. Pages 7–10 will provide additional information to assist in the assembly definition. Please FAX (440)354-5692 or email to Meritec at [info@meritec.com](mailto:info@meritec.com).

		Date:	<input type="text"/>
Company Name:	<input type="text"/>	Phone:	<input type="text"/>
Address:	<input type="text"/> <small>Street</small>	Program Name:	<input type="text"/>
	<input type="text"/> <small>City, State Zip Code</small>		
Purchasing Contact:	<input type="text"/>	E-mail:	<input type="text"/> <small>Purchasing E-mail</small>
Engineering Contact:	<input type="text"/>	E-mail:	<input type="text"/> <small>Engineering E-mail</small>
Product Description:	<input type="text"/>	Initial Quantity:	<input type="text"/>
Product Objective:	<input type="text"/>		
Build Type:	<input type="text"/>		

**Explain Needs:** (eg. size, configuration, markings/identification, material, reliability, etc.)

<input type="text"/>	<small>Requirements of Product</small>
----------------------	--

If exists,	<input type="text"/>	Revision Level(s):	<input type="text"/> <small>P/N Revision</small>
Customer P/N(s):			

If exists,	<input type="text"/>	Revision Level(s):	<input type="text"/> <small>Drawing Number Revision</small>
Drawing Number(s):			

Start Production Date(s):	<input type="text"/>
---------------------------	----------------------

Intended Use:	<input type="text"/>
---------------	----------------------

Specific Workmanship Standards:	<input type="text"/>
---------------------------------	----------------------

**Specific Material Requirements:** REACH • RoHS • Conflict Minerals: • Raw Material Declaration: • Counterfeit Parts •

Other (List):	<input type="text"/>
---------------	----------------------

First Piece Approval Required?	<input type="text"/>	Date:	<input type="text"/>	First Article Report Required?	<input type="text"/>	Date:	<input type="text"/>
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Regulatory/ Statutory Requirements:



### Latch Point

( Note relationship to "E" position )

### Table 1: Connector Styles

STYLE	DESCRIPTION	
01	1x 5+2 Axial Wafer	Select connector for 1st end <input type="text"/>
02	1x 5+2 Right Angle Connector	
03	1x 8+2 Axial Connector	Select connector for 2nd end <input type="text"/>
04	No Connector	
05	Special (per Customer specifications)	Number of Wafers (1-25) <input type="text"/> <input type="text"/>

## Table 2: Wafer Configuration

## Select pinout for Wafer number

## Connector #1

[illegible]

## Connector #2

**Connector #2**  
If assembly is single ended leave blank

[illegible]

S = Signal  
G = Ground  
n/c = No Connection

### Table 3: Standard Cable Styles

## Select cable types

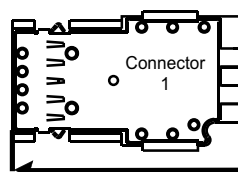
Style	Description
01	100Ω Parallel Pair 26/28AWG
02	100Ω Parallel Pair 28/30AWG
03	75Ω Coax 30
04	50Ω Coax 30
05	Hook-up Wire 24
06	Hook-up Wire 26
07	Specified Cable

(See page **10** for additional cable specifications.)

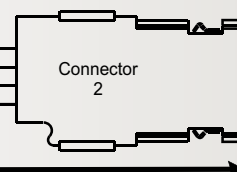
Style 07 requires specifications to be supplied by Customer.

[illegible]

## Cable Length



List desired length in inches





## Quote Request Form

### Example of Custom Point-to-Point Pinouts

Pinout Code	Contact position
	Z A B C D E F
01	+ S S G S S +
02	+ S S G N/C N/C +
03	+ N/C N/C G S S +
04	+ S G N/C S G +
05	+ G S N/C G S +
06	+ S G N/C N/C N/C +
07	N/C N/C N/C S S
08	+ G S N/C N/C N/C +
09	+ G S N/C S S +
10	+ N/C N/C N/C G S +
11	S S N/C S S
12	+ S S N/C S G +
13	S S S S S S
14	Custom Pinout

	Z	A	B	C	D	E	F
1		1A	1B	1C	1D	1E	
2		2A	2B	2C	2D	2E	
3		3A	3B	3C	3D	3E	
4		4A	4B	4C	4D	4E	
5		5A	5B	5C	5D	5E	
6		6A	6B	6C	6D	6E	

#### Standard Connector Positions

Chart on left shows pin assignment for a six stack assembly. When completing chart in lower section, connector 1 must follow this pin assignment

Cable Style	Pinout Code		Z	A	B	C	D	E	F
05	13	1		1A	1B	1C	1D	1E	
03	06	2	+	2A	2B				+
02	02	3	+	3A	3B	3C			+
01	01	4	+	4A	4B	4C	4D	4E	+
		5							
06	14	6		6A		6C		6E	

	Z	A	B	C	D	E	F
1	+	3C	3B	3A			+
2	+				2A	2B	+
3	+	4D	4E	4C	4A	4B	+
4							
5		1A	1B	1C	1D	1E	
6		6A		6C		6E	

+ = with the optional inter-module shield, the Z and F rows will be committed to the ground through one or more additional wafer positions.

#### Connector 1 mating face

#### Connector 2 mating face

Wafers, such as # 5 in the example above, with no pin assignment will be quoted as a Blank wafer consisting of a housing, header, spacer and shield.

### Custom Point to Point Pinout Worksheet

#### Complete Matrix for Custom Signal/Ground Configurations

Cable Style	Pinout Code		Z	A	B	C	D	E	F
		1							
		2							
		3							
		4							
		5							
		6							
		7							
		8							
		9							
		10							
		11							
		12							
		13							
		14							
		15							
		16							
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		20							
		21							
		22							
		23							
		24							
		25							

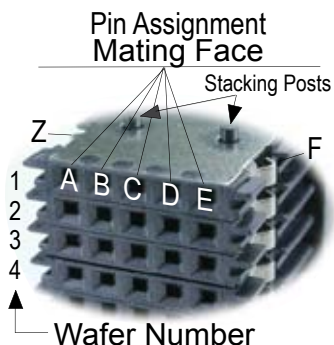
	Z	A	B	C	D	E	F
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							

CONNECTOR 1  
MATING FACE

CONNECTOR 2  
MATING FACE

Place mark in appropriate box



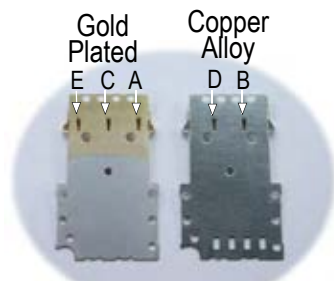
## Label Requirements

List specific information in space provided.

[illegible]

YES NO

Are stacking posts removed on wafer #1? ☐ ☐



## Shield Options

Meritec's design of shielded wafers, standard on all 2mm connectors, offers the choice of connection configurations between contacts and/or drain wires. Shields may be connected to any or all of the contact positions (A,B,C,D,E). A drain wire(s) may be connected to the shield through a contact(s) by way of a lanced tab in the shield (as shown in picture) or soldered directly to the shield .Selective Gold plated shields are optional.

Example: two (of several)  
Contact>Shield connections

**Select One**    **Copper Alloy** ☐    **Selective Gold plated** ☐

### Additional Features Available

- Metal sleeving, FR, FRDM, polyester, and Halar® ECTFE (Halar is a registered trademark of Solvay Solexis)
- Standard and custom backshells
- Drawings (there is a Non- Recurring Engineering, NRE, charge per drawing)
- Contact Meritec with any questions or special requirements



MERITEC

**1359 West Jackson Street**

**P.O. Box 110, Painesville, OH 44077 USA**

**Phone: 888-MERITEC (888-637-4832) or 440-354-3148**

**Fax: 440-354-5692**

## First Article Information and Waiver

In a continuing effort to ensure Customer satisfaction, Meritec has a policy of a 1st part build. This permits the Customer to inspect and approve one cable assembly before proceeding with the balance of the order. The option of declining the 1st article process is available if this waiver is authorized by signing below and faxing to a Meritec Customer Service Representative at **440-354-5692**. By signing this waiver, the Customer accepts full responsibility for the product design and agrees to accept and pay for the complete order as built.

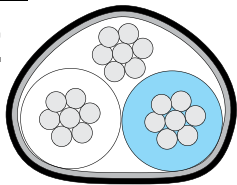
**Authorized Signature** \_\_\_\_\_ **Title** \_\_\_\_\_ **Date** \_\_\_\_\_

**Company**\_\_\_\_\_

## Standard-Cable Specifications

700369-01

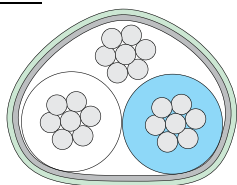
**STYLE  
01**



100 ohm Shielded Parallel Pair  
 26/28 AWG Stranded Copper  
 a) White b) Blue Foam Fluoropolymer Insulation  
 FEP Jacket  
 Aluminum/Polyester Tape Shield  
 Time Delay NS/ft 1.2

700319-01

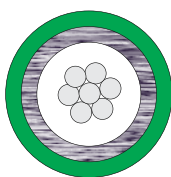
**STYLE  
02**



100 ohm Shielded Parallel Pair  
 28/30 AWG Stranded Copper  
 a) White b) Blue Foam Poly Insulation  
 PVC Jacket  
 Aluminum/Polyester Tape Shield  
 Time Delay ns/ft 1.35

700152

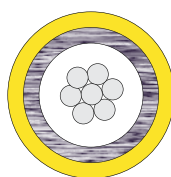
**STYLE  
03**



75 ohm Coax with Braided Shield  
 30 AWG Stranded Copper  
 Foam Fluoropolymer Insulation  
 FEP Jacket  
 TPC Braid 95% Shield  
 Time Delay ns/ft 1.2

700129

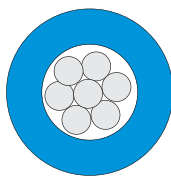
**STYLE  
04**



50 ohm Coax with Braided Shield  
 26 AWG Stranded Copper  
 Foam Fluoropolymer Insulation  
 FEP Jacket  
 TPC Braid 95% Shield  
 Time Delay ns/ft. 1.2

700290-Color

**STYLE  
05**

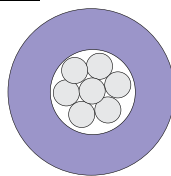


24 AWG HOOK UP / TFE JACKET

<u>700290-00R1</u>	Green	<u>700290-05R1</u>	White
<u>700290-01R1</u>	Gray	<u>700290-06R1</u>	Brown
<u>700290-02R1</u>	Black	<u>700290-07R1</u>	Red
<u>700290-03R1</u>	Orange	<u>700290-08R1</u>	Yellow
<u>700290-04R1</u>	Violet	<u>700290-09R1</u>	Blue

700575-Color

**STYLE  
06**



26 AWG HOOK UP / FEP JACKET

<u>700575</u>	Green	<u>700575-05</u>	White
<u>700575-01</u>	Gray	<u>700575-06</u>	Brown
<u>700575-02</u>	Black	<u>700575-07</u>	Red
<u>700575-03</u>	Orange	<u>700575-08</u>	Yellow
<u>700575-04</u>	Violet	<u>700575-09</u>	Blue



## Custom Applications and Designs

Meritec's technologically advanced Tooling / Machining Division boasts the most skilled and experienced machinists coupled with state-of-the-art equipment. Our extensive engineering capabilities along with the vast resources of our Molding and Stamping Divisions make Meritec a leading force in custom cable manufacturing. Let Meritec design a custom configuration to suit your specific application. Contact our Customer Service Department for further information at **1-888-MERITEC** (1-888-637-4832).



### Custom Terminations

- BNCs
- Circular Connectors
- USB, SATA, D-Subs
- Crimp-on Connectors
- Customer Requests
- HSSDC2s
- RJ45s
- SMAs
- SMBs
- IDC Connectors



### Custom Shielding

- Metal Expando
- Halar<sup>®</sup> ECTFE Sleeving (Halar is a registered trademark of Solvay Solexis)
- Multi-Conductor Jacketed Cable
- EMI/RFI Protection
- EMI Gasket Seals



### Custom Designed Backshells

- In-house Machining
- Die Casts
- Custom Retention Designs/Keying Features
- Multiple Exit
- High Volume Molded Thermoplastic



### Custom Configurations

- Right Angle Exit
- Right Angle Wafers
- Custom Stacking (OVER 25 Wafers)
- Metal Locking Rails
- 1X8+2 Wafers



### Custom Connectors

- VPX Plus<sup>®</sup> Cabling system
- Hercules<sup>®</sup> High Speed Circulars
- D.T.C. (.032 Spacing)
- CX4

# Cable-System Specifications and Performance

## General Connector Specifications

Contact Pitch	2.0mm	
Temperature Range	-55 Degrees C to +125 Degrees C	
Performance	≥250 mating cycles	
<u>Forces associated with Pin-to-Any Contact</u>		
Normal force	0.86 N 88gm	
Mating Force	0.36N 37gm Per Pin	
Withdrawal Force	0.28N 29gm Per Pin	
Housing and Overmold	Plastic Material Flammability	Glass Filled Liquid Crystal Polymer (LCP) UL-94V-0
Locking Combs (Rails)	Plastic Material Flammability	Glass Filled Liquid Crystal Polymer (LCP) UL-94V-0
Shields	Base Metal Material Optional Selective Gold Plating	Copper Alloy 30 micro Inch Gold / 50 micro Inch Nickel
Contact	Base Metal Material Standard Selective Gold Plating	Copper Alloy 30 micro Inch Gold / 75 micro Inch Nickel

## Electrical Specifications and Performance

<b>Insulation Resistance</b>	Contact-to-Contact ≥10 Giga Ohms@ 100VDC Contact-to-Shield ≥10 Giga Ohms@ 100VDC
<b>Dielectric Withstanding Voltage</b>	750 VAC
<b>Voltage Rating</b>	250 VAC
<b>Current Rating per Contact @ 70 Degrees C Ambient and 10 Degrees C Rise Maximum</b>	1AMP

## Application Notes

### Contact Pinout and Numbering Schemes for VME64x and CompactPCI Applications.

The backplane layouts, shown on this and the following page, Figure 1 and Figure 2 depict the nomenclature and numbering conventions used in the CompactPCI specification and the IEEE 1101.10 Standard (VME64x applications). The drawings also illustrate the 2mm HM shroud orientation viewed from the rear of the backplane/midplane. Note the alignment, shroud side, and latch referenced. This application notation clearly identifies pinout differences existing between the standards noted above and should serve to clarify such differences before cable requests are assembled and shipped for installations. VITA 30-199x, 2mm Connector Practices for Euroboard Systems, identifies these differences in applications involving CompactPCI, VME and VITA.

**Meritec will wire the assemblies per the numbering scheme established in accordance with IEEE 1101.1, IEEE 1101.10, IEC 61076-4-101, and VITA 30-199x style V. The VME64x application notation above conforms to these specifications.**

Reference documents:

- ▶ IEEE 1101.11 Standard for Mechanical Rear Plug-in Units for Microcomputers using the IEEE 1101.1 and the IEEE 1101.10
- ▶ IEEE 1101.10 Standard for Mechanical Core Specification for Microcomputers using IEC 603-2 Connectors
- ▶ Equipment Practices
- ▶ IEC 61076-4-101
- ▶ VITA 1.1-1997 VME 64 Extensions
- ▶ PICMG 2.0 Release 3.0 CompactPCI Core Specifications
- ▶ VITA 30-1997 2mm Connector Practices for Euroboard System

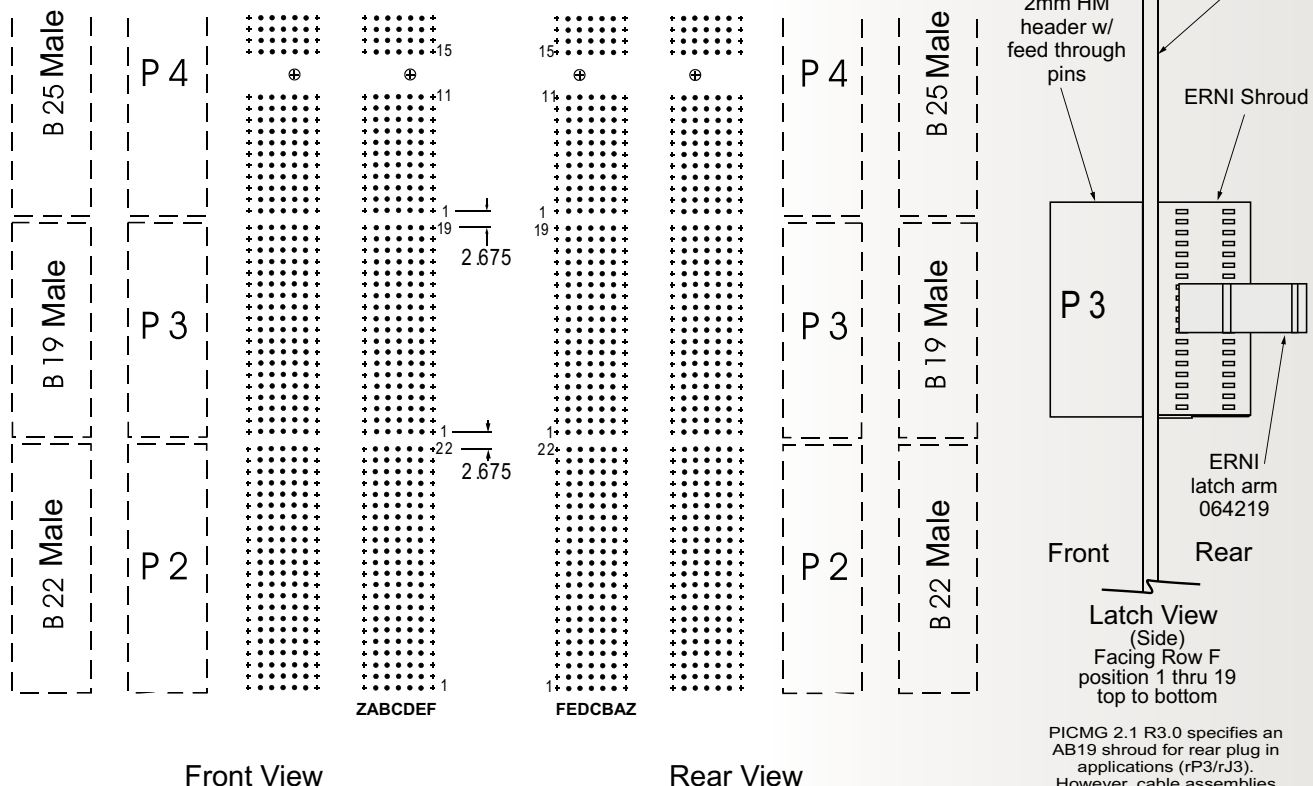
### CompactPCI Applications.

As is typical in some telecommunications, the CompactPCI specification numbers the signals starting from the bottom up. These differences can complicate the I/O portion of the system if not identified as "application specific" in the beginning. (Note both views shown below in Figure 1). These views, front and rear, show the A1 position located at the bottom-slot 1 edge of the pinfield.

The shroud and latch orientations are shown to depict proper alignment when the cable interface is attached.

Figure 1

### Figure 1 - 6U Compact PCI Backplane Layout



PICMG 2.1 R3.0 specifies an AB19 shroud for rear plug in applications (rP3/rJ3). However, cable assemblies used for I/O routing currently require a B19 shroud.



## Application Notes

### Shroud Orientation

When shrouds are used on the rear of the backplane, care must be taken to align the shrouds properly. The correct orientation will depend upon the configuration of the rear plug-in cards. For most applications following the "inline" configuration, the rear shrouds will have the convex and detail facing down as depicted in the circle in Figure 3. The "a" row of the shroud will match the "a" row of the male connector. This preferred orientation of the shroud will enable the cable system to be securely latched on the left side when viewing from the rear of the backplane, as shown in Figures 1 and 2.

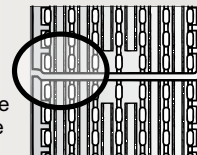


Figure 3

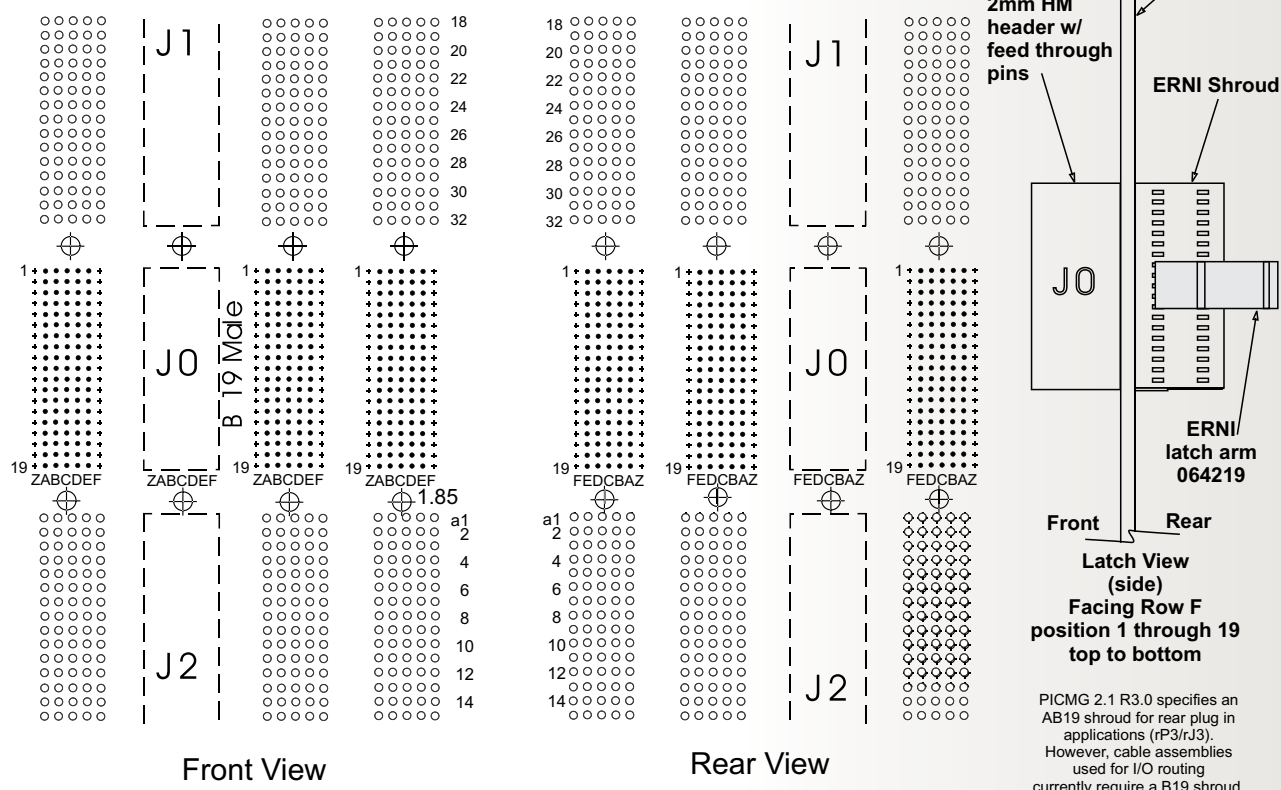
These Application Notes are intended to explain differences in numbering schemes commonly used with the extended 2mm HM series for I/O applications. The importance of these differences is to qualify the wiring issues surrounding single-ended and double-ended assemblies, as well as single-ended applications requiring labels on the unterminated end. The figures 1 and 2 on pages 13 and 14 clearly present the differences existing between the two standards that currently employ the 2mm HM connector system.

### VME64x Applications

The IEEE 1101.10 Standard employs the same 19-position 2mm family of connectors as is used in VME64x applications. This center connector, located in slot J0/PO for VME64x backplane layouts shown below in figure 2 reveals pinout assignments with Row/Position A1 located at the top slot 1 edge of the pinfield. The depictions below describe the front and rear views respectively, and the corresponding A1 Location. This clarification is needed to properly identify where A1 is located with respect to the cable assembly and application being employed. Note that the latches, which ruggedize the interface, are depicted on the left side of the shroud when viewing the slots from the rear.

Figure 2

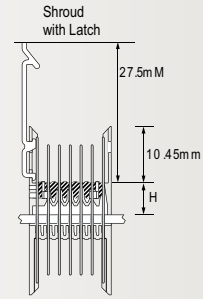
### Figure 2 - VME64x Backplane Layout



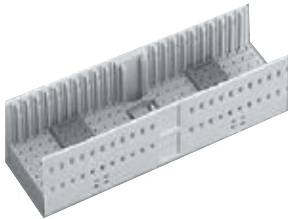
# 2-mm Shrouds and Latch

## End View and Latch

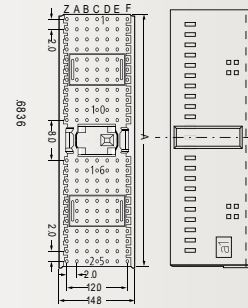
Meritec cable assemblies will mate to all popular 2mm shrouds. This page provides limited information on 2mm shrouds manufactured by ERNI. For further information, contact your ERNI representative. Each shroud is available in four different base heights (3.9mm, 4.5mm, 5.3mm & 6.1mm).



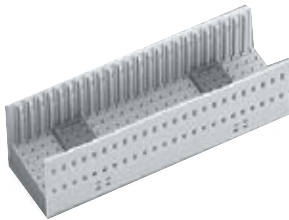
## Type A Shroud



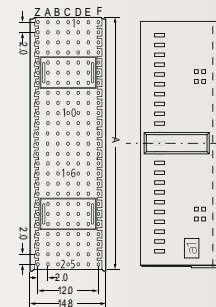
Type A shrouds have a multifunction area for coding keys (as shown at left). Available in 50mm and 38mm lengths.



## Type B Shroud



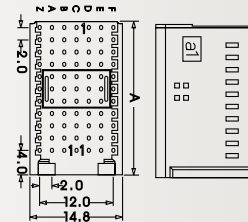
Type B shrouds have an unbroken contact field and no multifunction area. Available in 50mm, 44mm and 38mm lengths.



## Type C Shroud



Type C shrouds are for end positions only. Shrouds are 25mm long.



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