VPX Cable Assemblies

ELMA
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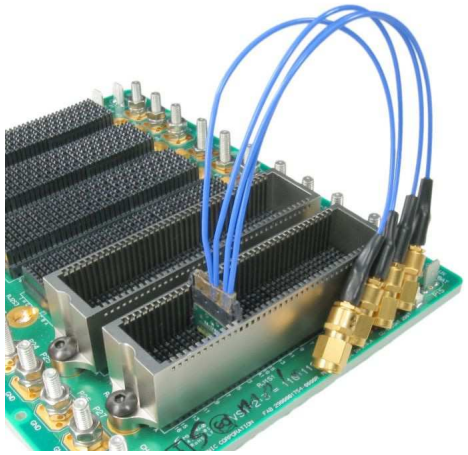
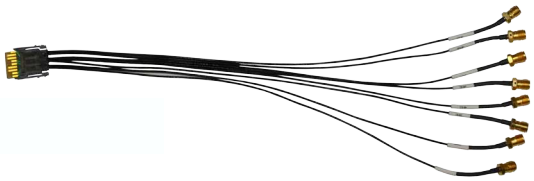




Description

The VPX cabling system is the industry's first direct cabling system for the VPX architecture. Compliant to the latest VITA 46 specifications, the cabling system can be used for IO to bulkhead connectors, slot-to-slot connections, and out-of-band communication. The cabling solution can also be used for system development. The direct cabling system also has front-plug versions, which allow testing across the backplane or full interconnect path.

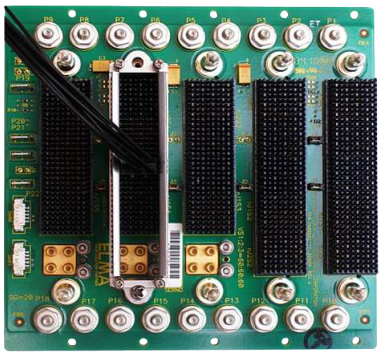
Many applications such as ATRs, do not have RTM options. In some cases, the signal speeds through the RTM are not enough. In other designs, the system cannot afford to lose of slot of space to an IO slot. The solution provides a rugged and robust alternative with a high-speed connection that is plugged directly into the MultiGig connector in single or multi-wafer formats.

OpenVPX

VPX

Features

- Direct connection alternative to RTM solutions for VPX
- Compatible with the latest VITA 46.0 specifications
- For use in deployed or development/test applications
- Pulls signals from slot to slot and/or chassis to chassis with virtually zero signal degradation
- Fully scalable & stackable to meet application needs
- Versions for either front or rear backplane plugging.
- Plug directly into backplane to SMA or other contacts for signal test setups
- Resistant to shock and vibration
- Can be used for out-of-band communication



Cables with shroud

Wafer to wafer

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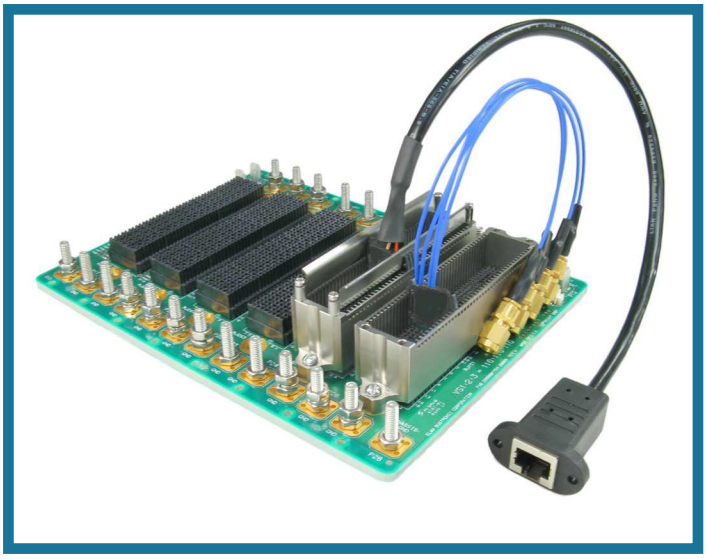
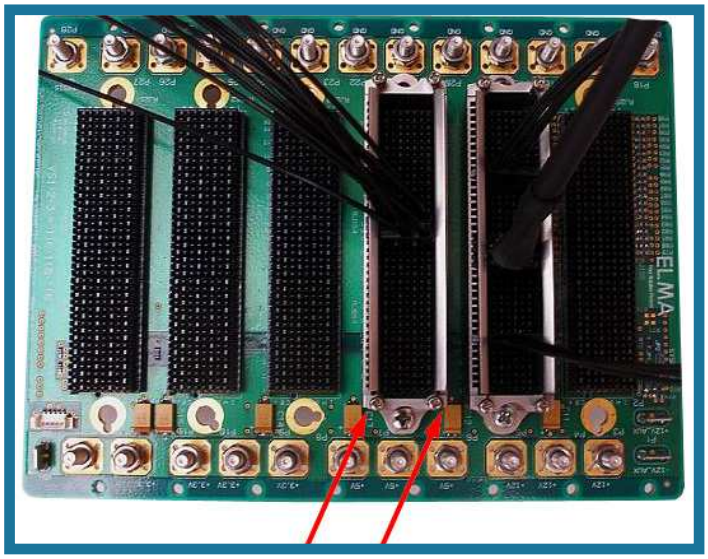
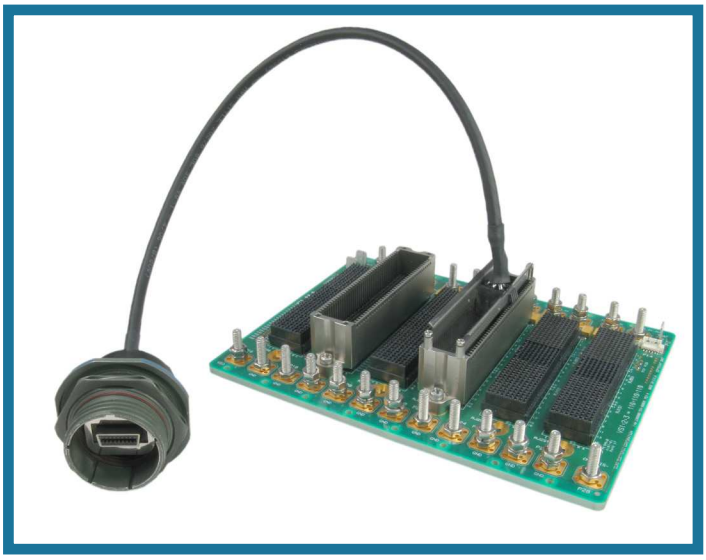


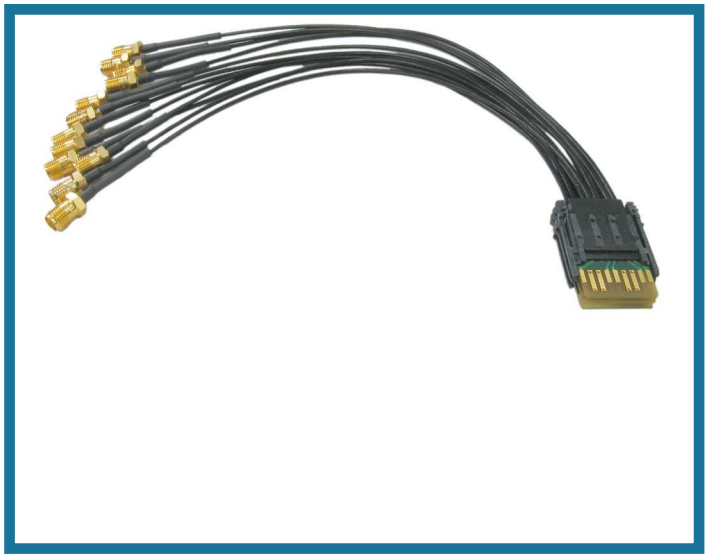
Wafers to RJ45



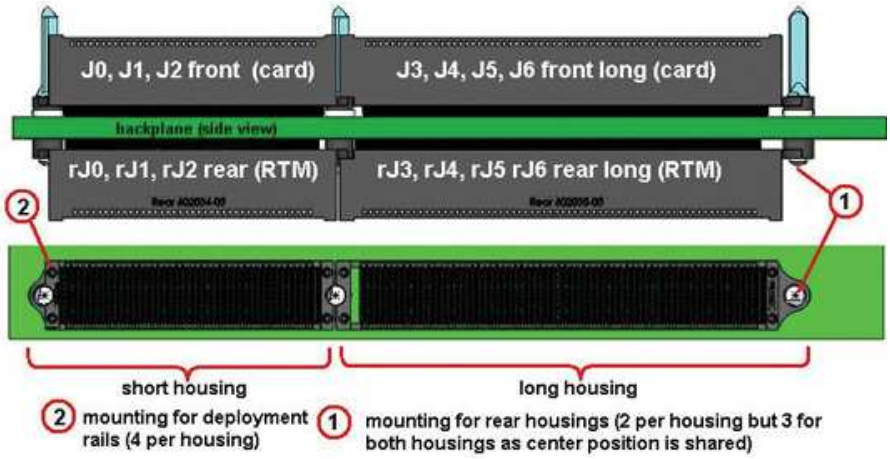
Locking Rails

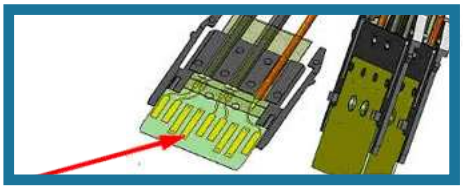


Wafers to 38999 Circular Connector



Wafers to SMA

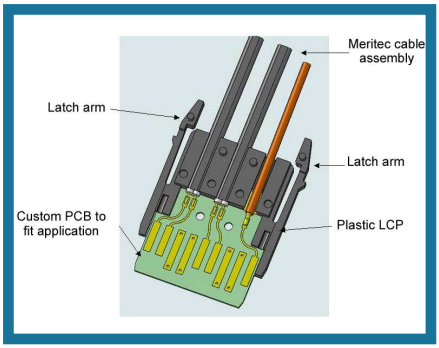




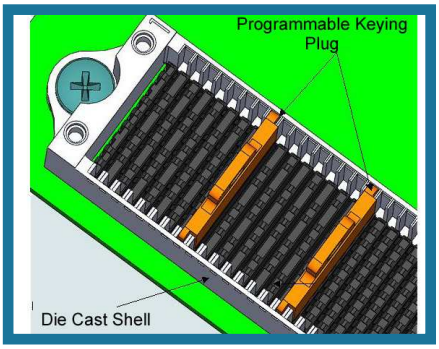
Stackable Wafers - one wafer has 4 coax lines (thin pipe). Four wafers can be stacked to make a fat pipe.

Note: When installing rear cable shrouds over the existing MultiGig RTM connectors, you must replace the front guide pins because the cable shrouds require larger diameter screws to attach them firmly enough to support the weight of cables.
Also: The locking rails which are attached at the four mounting points on each shroud (number 2 above) secure the cable assemblies and provide a smooth surface with slots for ty-wraps. The ty-wraps serve as a strain relief.

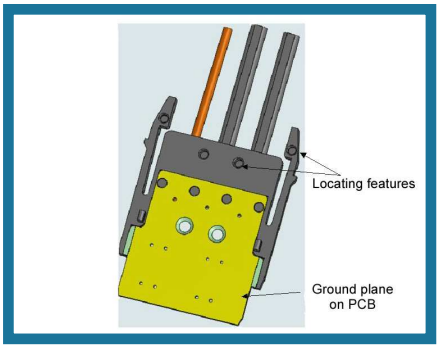
VPX Cable Assemblies



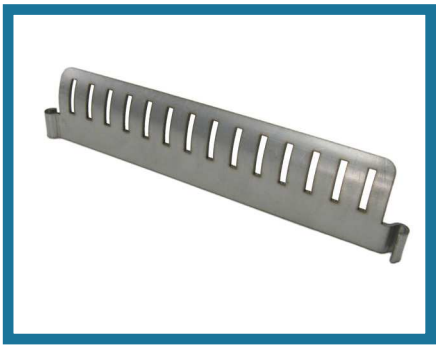
Front Wafer View



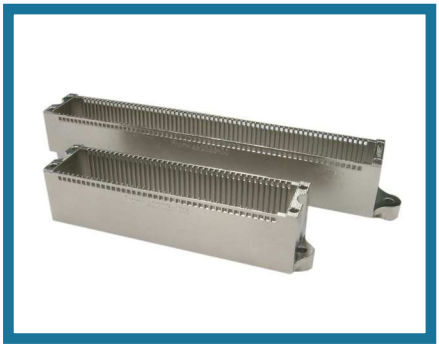
Positioning Plug Illustration



Rear Wafer View

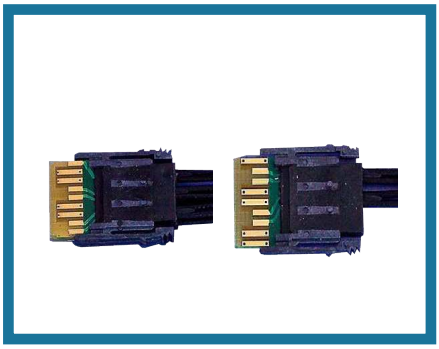


Locking Rail



Shrouds

Guide Posts



Odd row on left, Even row on right

Positioning Plugs & Stiffener

VPX Cable Assemblies

VPX Cable Assemblies

Elma p/n	Description	Length	Termination
MG06X1EE04SS01	Wafer-to-wafer connection, Even row to Even row ultra thin pipe (1 wafer/side)	6”	wafers
MG06X1OE04SS01	Wafer-to-wafer connection, Odd row to Even row ultra thin pipe (1 wafer/side)	6”	wafers
MG06X1OO04SS01	Wafer-to-wafer connection, Odd row to Odd row ultra thin pipe (1 wafer/side)	6”	wafers
MG12X1EX04SC02	Wafer-to-SMA connection, Even row ultra thin pipe (1 wafer) to 4 SMAs	12”	SMA
MG12X1OX04SC02	Wafer-to-SMA connection, Odd row ultra thin pipe (1 wafer) to 4 SMAs	12”	SMA
MG72X1OO04SS01	Wafer-to-wafer connection, Odd row to Odd row ultra thin pipe (1 wafer/side)	72”	wafers
MG72X1EE04SS01	Wafer-to-wafer connection, Even row to Even row ultra thin pipe (1 wafer/side)	72”	wafers
MG72X10E04SS01	Wafer-to-wafer connection, Odd row to Even row ultra thin pipe (1 wafer/side)	72”	wafers

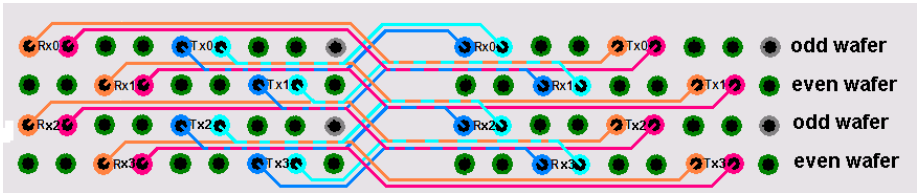
One wafer comprises of 4 coax wire lines, so both differential pairs are terminated. Each wafer therefore consists of an ultra-thin pipe.
To create a thin pipe, simply snap together two wafers. For a fat pipe*, snap together four wafers.
*Fat pipes always start with an Odd row.

VPX Backplane Cable Hardware

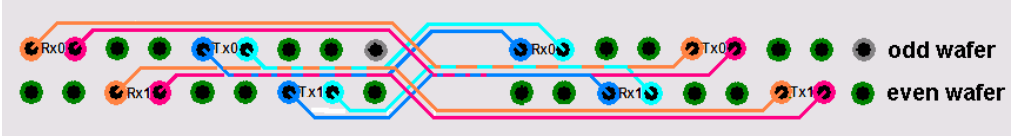
Elma p/n	Description
Shroud Kit	
SK-SMG-23UR	Short Rear: 1 x Shroud, 2 x Guide Posts, 2 x Mtg Screw(10mm), 2 x Mtg Screw(12mm), 2 x Positioning Plug
SK-LMG-26UR	Long Rear: 1 x Shroud, 2 x Guide Posts, 2 x Mtg Screw(10mm), 2 x Mtg Screw(12mm), 2 x Positioning Plug, 1 x Stiffener, 1 x Spacer
SK-SMG-23UF	Short Front: 1 x Shroud, 2 x Guide Posts, 2 x Mtg Screw(10mm), 2 x Mtg Screw(12mm), 2 x Positioning Plug
SK-LMG-26UF	Long Front: 1 x Shroud, 2 x Guide Posts, 2 x Mtg Screw(10mm), 2 x Mtg Screw(12mm), 2 x Positioning Plug, 1 x Stiffener, 1 x Spacer
Locking Rail Kit	
RK-SMG-23DR	Short Locking Kit: 2 x short rails, 4 x Mtg Screws
RK-LMG-26DR	Long Locking Kit: 2 x long rails, 4 x Mtg Screws
Guide Post Kit	
GP-XMG-24GP	Guide Post Kit: 4 x Guide Pins, 4 x Mtg Screws (12mm), 4 x Mtg Screws (10mm)
Accessories	
PP-XMG-38PP	Positioning Plug: 4 x Blue, 4 x Putty
SK-XMG-36US	Stiffener Kit: 4 x Stiffeners

Channels: Fat, Thin, and Ultra-thin

Fat Pipe: A channel that is comprised of four links (4 Tx pairs + 4 Rx pairs) is now being referred to as a *fat pipe* or by use of the x4 nomenclature.
10Gbps capable 10GBase-KX4, 10GBase-BX4, 10GBase-T, PCIe-x4, sRIO-x4, Infiniband-x4



Thin Pipe: A channel that is comprised of two links (2 Tx pairs + 2 Rx pairs) is now being referred to as a *thin pipe* or by use of the x2 nomenclature.
5Gbps capable 10/100/1000Base-T, PCIe-x2, sRIO-x2, Infiniband-x2



Ultra-thin Pipe: A channel that is comprised of one link (1 Tx pair + 1 Rx pair) is now being referred to as an *ultra-thin pipe* or by use of the x1 nomenclature. 10GBase-KR, 1GBase-KX, 1000Base-KX, PCIe-x1, sRIO-x1, Infiniband-x1a

VPX Cable Assemblies

Cabling - Keying

MG ____ ____ ____ ____ ____ ____ ____ ____ ____ ____ ____ ____ * (Open)
1 2 3 4 5 6 7 8 9 10 11 12

1,2) Length
- 06 = 6“ *
- 12 = 12“
- 18 = 18“
- 24 = 24“
- 36 = 36“ *
- 72 = 72“ *
- XX = Specify

3, 4) Pipes
- X1 = Ultra Thin (4 wire)
- X2 = Thin (8 wire)
- X4 = Fat (16 wire)
- X6 = Double Fat (32 wire)
- ZZ = Other

5, 6) Wafer Config**
- OX = Odd to connector
- EX = Even to connector
- OE = Odd to Even
- EO = Even to Odd
- OO= Odd to Odd
- EE = Even to Even
- ZZ = Other

7, 8) Wires
- 01 = 1
- 02 = 2
- 04 = 4
- 08 = 8
- 16 = 16
- ZZ = etc.

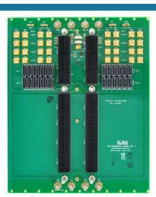
9, 10) Application
- SS = Slot to slot
- SC = Slot to Commercial
- SM = MIL

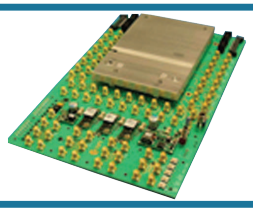
11, 12) Terminating Connector Type
- 01 = Wafer (Multi Gig)
- 02 = SMA
- 03 = Coax
- 04 = MIL 38999
- 05 = RJ45 (Ethernet)
- 06 = Infiniband
- 07 = Fibre Channel
- 08 = USB
- 09 = DVI
- 10 = SATA
- 11 = DB9
- 12 = DB25
- ZZ = Custom

*Standard length for wafer terminated configurations
** For Thin and Fat Pipes the code indicates the stating wafer stack sequence
Note: The above is ONLY to be used for individual cable assembles from one postion on a BP (slot #, JX, wafer XX-YY)

Related Products from Elma Electronic:

- 2-slot VPX Test Backplane
- SerDes Test Device





Did you know we also offer:

- VPX backplanes, extender boards, RTMs, test modules
- Thermal or backplane simulation/test, customization, integration