TE’s MULTIGIG RT 2-R ruggedized, lightweight, high speed board-to-board interconnect is compliant to VITA 46 standard. This connector system features the modularity and flexibility of the MULTIGIG RT 2 connector, with a new quad-redundant contact structure designed for high vibration levels.

**APPLICATIONS**
- Rugged embedded computing applications:
  - Ground Defense
  - Missile Defense
  - Electronic Systems / C4ISR
  - Space
  - Commercial and Military Aerospace

**CONTACTS**
- High performance copper alloy, plated 50 µin Au over 50 µin Ni in mating area, tin-lead on compliant pin tails

**HOUSINGS**
- High temperature thermoplastic

**GUIDE HARDWARE**
- Aluminum or passivated stainless steel

**OPERATING TEMPERATURE**
- -55 to +105˚C

**MATING FORCE**
- 0.75 N [2.70 ozf] maximum per contact, same as standard MULTIGIG RT 2 backplane connector

**STANDARDS & SPECIFICATIONS**
- Compliant to VITA 46 (VPX)
- Product Specification: 108-2072
- Application Specification: 114-13056
- Qualification Test Report: 501-544

**PHYSICAL OR OTHER PROPERTIES**
- Tested to HALT (Highly accelerated life test) vibration levels (0.2G^2/Hz) per VITA 72
- Connector modules available for 3U and 6U VPX slot profiles, including rear transition modules
- Reliable press-fit termination, requiring only flat rock tooling
- Lightest weight VPX connector system: mated set of connectors and guide hardware for typical module and backplane slots:
  - 3U - 62.66g (2.21 oz)
  - 6U - 140.26g (4.95 oz)

**DISCLAIMER**
- While TE has made every reasonable effort to ensure the accuracy of the information herein, nothing herein constitutes any guarantee that such information is error-free, or any other representation, warranty or guarantee that the information is accurate, correct, reliable or current. The TE entity issuing this publication reserves the right to make any adjustments to the information contained herein at any time without notice. All implied warranties regarding the information contained herein, including, but not limited to, any implied warranties of merchantability or fitness for a particular purpose are expressly disclaimed. The dimensions herein are for reference purposes only and are subject to change without notice. Consult TE for the latest dimensions and design specifications.
MEZZAOK Mezzanine Connectors (Compliant to VITA 61)
- Utilizes the proven, reliable MIL-55302 Mini-Box contact interface, with four points of contact
- Backwards compatible with XMC board footprint
- Accommodates 10mm, 12mm, 15mm and 18mm stack heights
- Solder ball SMT attach in SnPb and RoHS options
- RJ-45 (6 x 15) positions and 60 (6 x 10) positions
- Protected "stub-proof" socket contacts with superior signal integrity
- Exceptional solder joint reliability (1000+ cycle thermal shock)

MULTI-BEAM XLE Power Connectors (Compliant to VITA 62)
- 20A and 50A power contacts, plus signal contacts
- 3-beam high conductivity-copper contact design allows for a greater angular misalignment between mating connectors and offers a lower mating force
- Slim guide sockets reduce the overall PCB footprint
- Vented housing allows for better heat dissipation
- Hot-plug capable

Optic Connectors (Compliant to VITA 66)
- Lightweight
- High bandwidth
- EMI immunity
- 3 fiber optic interface types available:
  - 66.1 has two MT ribbon ferrules up to 24 fibers each
  - 66.2 has 4 ARINC 801 termini
  - 66.3 has one expanded beam lensed insert with four fibers

RF Modules (Compliant to VITA 67)
- Excellent channel-to-channel isolation and RF performance to 65 GHz
- Modular design permits application specific configuration with high RF contact count
- Float mounted jack maintains positive RF ground
- .240 center-to-center spacing
- 4 and 8 position modules are designed to meet the requirements of VITA 67.1 and VITA 67.2

Notes (Reference VITA 46.10; Observation 3-6):
Note 1: 16 column shell, 15 columns of contacts
Note 2: 16 column shell, 7 columns of contacts present (plus contacts i9-16)
Note 3: 16 column shell, 16 columns of contacts
Note 4: 16 column shell, 8 columns of contacts present (plus contacts i1-8)
**PART CONFIGURATIONS**

### Keying Guide Modules

<table>
<thead>
<tr>
<th>Module Position</th>
<th>Part No.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>PR</td>
<td>1410189-3</td>
<td>Single-Ended</td>
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<tr>
<td>PR, PL, PL, RL, RL, RL</td>
<td>2102847-1</td>
<td>Differential</td>
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### Rear Transition Module

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>J1</td>
<td>1410140-1</td>
<td>Standard</td>
</tr>
<tr>
<td>J2</td>
<td>1410186-1</td>
<td>Cast</td>
</tr>
<tr>
<td>J3</td>
<td>1410142-1</td>
<td>Standard</td>
</tr>
<tr>
<td>J4</td>
<td>1410186-1</td>
<td>Cast</td>
</tr>
<tr>
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<tr>
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**ASSOCIATED VPX SOLUTIONS**

**MEZALKO Mezzanine Connectors (Compliant to VITA 63)**
- • Uses precise, reliable MIL-55302 Mini-Box contact interface, with four points of contact
- • Backwards compatible with XMC board footprint
- • Accommodates 10mm, 12mm, 15mm and 18mm stack heights
- • Solder ball SMT attach in SnPb and RoHS options
- • T4 (6 X 10) positions and 50 (6 X 10) positions
- • Protected “stub-proof” socket contacts w/superior signal integrity
- • Exceptional solder joint reliability (1000+ cycles thermal shock)

**MULTI-BEAM XLE Power Connectors (Compliant to VITA 62)**
- • 20A and 50A power contacts, plus signal contacts
- • 3-beam high-conductivity-copper contact design allows for a greater angular misalignment between mating connectors and offers a lower mating force
- • Slim guide sockets reduce the overall PCB footprint
- • Vented housing allows for better heat dissipation
- • Hot-plug capable

**Optic Connectors (Compliant to VITA 66)**
- • Light weight
- • High bandwith
- • EMI immunity
- • 3 fiber optic interface types available:
  - 66.1 has two MT ribbon ferrules up to 24 fibers each
  - 66.2 four ARINC 801 termini
  - 66.3 one expanded beam lensed insert with four fibers

**RF Modules (Compliant to VITA 67)**
- • Excellent channel-to-channel isolation and RF performance to 65 GHz
- • Modular design permits application specific configuration with high RF performance
- • 20A and 50A power contacts, plus signal contacts
- • Exceptional signal-to-signal isolation and RF performance to 65 GHz
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**MULTIGIG RT 2-R Connectors**

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**$connector-type\_name\_suffix\_config\_name\_suffix**

**High speed Copper Cables**

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- Rugged embedded computing applications:
  - Ground Defense
  - Missile Defense
  - Electronic Systems / C4ISR
  - Space
  - Commercial and Military Aerospace

MATERIALS
- Contacts: High performance copper alloy, plated 50 µin Au over 50 µin Ni in mating area, tin-lead on compliant pin tails
- Housings: High temperature thermoplastic
- Rugged Guide Hardware: Aluminum or passivated stainless steel

MECHANICAL
- Operating Temperature: -55 to +105˚C
- Mating Force: 0.75 N [2.70 ozf] maximum per contact, same as standard MULTIGIG RT 2 backplane connector

STANDARDS & SPECIFICATIONS
- Compliant to VITA 46 (VPX)
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PHYSICAL OR OTHER PROPERTIES
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- Connector modules available for 3U and 6U VPX slot profiles, including rear transition modules
- Reliable press-fit termination, featuring only flat rock tooling
- Lightest weight VPX connector system available on the market

KEF FEATURES
- Quad-redundant contact system supports high levels of shock/vibration
- Compliant to VITA 46 for Open VPX applications
- Supports Ethernet, Fibre Channel, InfiniBand applica-
tions, PCIe and Serial RapidIO high speed protocols
- Modular, lightweight connector system
- Robust “pinless” interface
- Differential, single-ended and power
- Ruggedized guide hardware available
- Supports 0.8 inch card slot pitches

VITA 46 compliance enables upgrade in existing VPX applications
Can be combined with high power modules (VITA 62), RF modules (VITA 67) and Optical modules (VITA 66)

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MULTIGIG RT 2-R Connectors

Introducing MULTIGIG RT 2-R Connectors for VPX (VITA 46) Applications