MULTIGIG RT 2-R Connectors

DESCRIPTION
TE’s MULTIGIG RT 2-R ruggedized, light weight, 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

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)
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 (0.2G2/Hz) per VITA 72

Introducing MULTIGIG RT 2-R Ruggedized Connectors for VPX Applications

FOR MORE INFORMATION
Technical Support
Internet: www.te.com/ADM

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MULTIGIG RT 2-R Connectors

PART CONFIGURATIONS

ASSOCIATED VPX SOLUTIONS

MEZALOK Mezzanine Connectors (Compliant to VITA 63)
- 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
- T1 (6 x 19) positions and SO (6 x 18) positions
- Protected "stub-proof" socket contacts with superior signal integrity
- Exceptional solder joint reliability (1000+ cycles thermal shock)

MULTI-BEAM XLE Power Connectors (Compliant to VITA 62)
- 2DA and SSA 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
- Sim 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:
  - 661 has two HT ribbon ferrules up to 24 fibers each
  - 662 four ARINC 801 termini
  - 663 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 isolation and superior channel-to-channel isolation
- Exceeds specified requirements to 65 GHz
- Exceptional solder joint reliability (1000+ cycles thermal shock)

Copper Cables
- High conductivity-copper contact design allows for a greater angular misalignment between mating connectors and offers a lower mating force
- Excellent channel-to-channel isolation and RF performance to 65 GHz
- Modular design permits application specific configuration with high RF isolation and superior channel-to-channel isolation
- Exceptional solder joint reliability (1000+ cycles thermal shock)
### PART CONFIGURATIONS

**MULTIGIG RT 2-R Connectors**

<table>
<thead>
<tr>
<th>Module Position</th>
<th>Part No.</th>
<th>MULTIGIG RT 2-R Connectors</th>
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</thead>
<tbody>
<tr>
<td>IJ</td>
<td>1410189-3</td>
<td>2102772-1</td>
</tr>
<tr>
<td>JK, KL, PL, QL, RL</td>
<td>1410187-3</td>
<td>2102771-1</td>
</tr>
<tr>
<td>Keying Guide Modules</td>
<td>2102785-1</td>
<td>Stainless Steel Guide Pins</td>
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</tbody>
</table>

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<tr>
<td>IJ</td>
<td>1410968-3</td>
<td>2102773-1</td>
</tr>
<tr>
<td>JK, KL, PL, QL, RL</td>
<td>1410964-1</td>
<td>1410966-1</td>
</tr>
<tr>
<td>Keying Guide Modules</td>
<td>2102787-1</td>
<td>Stainless Steel Guide Pins</td>
</tr>
</tbody>
</table>

### ASSOCIATED VXI SOLUTIONS

**NEZALOK Mezzanine Connectors (Compliant to VITA 61)**
- Utilizes the proven, reliable MIL-55332 Mini-box contact interface, with four points of contact.
- Backward-compatible with XPC board footprint.
- Accommodates 10mm, 12mm, 15mm and 18mm stack heights.
- Solder ball SMT attach in Sn63Pb37 and RoHS options.
- 14 (6 x 18) positions and 50 (6 x 10) positions.
- Protected "stub-proof" socket contacts with 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.
- E-beam high-conductivity-copper contact design allows for a greater angular misalignment between mating connectors and offers a lower mating force.
- Smaller 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 bandwidth.
- 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.
- Exceptional channel-to-channel isolation and RF performance to 65 GHz.
- High reliability.
- High bandwidth.
- EMI immunity.
- 4 and 8 position modules are designed to meet the requirements of VITA 675 and VITA 673.
### Keying Guide Modules

- **Module Position**
  - Module 1
  - Module 2
- **Part No.**
  - 1410189-3
  - 2102772-1
  - 1410190-3
  - 2102847-1
- **Notes**
  - See TE drawings for guide module and pin options.

### MULTIGIG RT 2-R Connectors

- **Part No.**
  - 1-1469492-X
  - 1-1469491-X
  - 2102850-1
  - 2102768-1
  - 2102736-1
  - 2102851-1
- **Notes**
  - See TE drawings for guide module and pin options.

### Optic Connectors (Compliant to VITA 66)

- **Features**
  - Light weight
  - High bandwidth
  - EMI immunity
  - Excellent channel-to-channel isolation and RF performance to 65 GHz
  - Exceptional solder joint reliability (1000+ cycles thermal shock)

### Optic Connectors (Compliant to VITA 67)

- **Features**
  - Excellent channel-to-channel isolation and RF performance to 65 GHz
  - Modular design permits application specific configuration with high RF access 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)

- **Features**
  - Excellent channel-to-channel isolation and RF performance to 65 GHz
  - Modular design permits application specific configuration with high RF access types available:
    - 66.1 has two MT ribbon ferrules up to 24 fibers each
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### MEZALOK Mezzanine Connectors (Compliant to VITA 63)

- **Features**
  - Utilizes the proven, reliable MIL-55332 Mini-Bus contact interface, with four points of contact
  - Backwards compatible with XPC board footprint
  - Accommodates 10mm, 12mm, 15mm and 18mm stack heights
  - Solid ball SMT attach in SnPb and RoHS options
  - 14 (6 x 14) positions and 80 (6 x 14) positions
  - Protected "stub-proof" socket contacts w/superior signal integrity
  - Exceptional solder joint reliability (1000+ cycles thermal shock)
TE’s MULTIGIG RT 2-R ruggedized, light weight, 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.

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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
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PHYSICAL OR OTHER PROPERTIES
Tested to HALT (Highly accelerated life test) vibration levels (0.2G2/Hz) per VITA 72
Connector modules available for 3U and 6U VPX slot profiles, including rear transition modules
Reliable press-fit termination, featuring unity, flat rock tooling
Lightest weight VPX connector system available on the market, which provides the ideal level of mechanical strength to ensure the system meet or exceed any vibration or shock requirements
Highest weight VPX connector system available on the market, which provides the most reliable and robust mechanical strength to ensure the system meet or exceed any vibration or shock requirements

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Connector modules available for 3U and 6U VPX slot profiles, including rear transition modules.

Reliable press-fit termination, featuring unit load, rock bottom.

Lightweight, high pivot moment connector system reduces size and weight of connectors and guide hardware for typical module and backplane slots:
- 3U - 62.66g (2.21 oz)
- 6U - 140.26g (4.95 oz)

**TECHNICAL SUPPORT**
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