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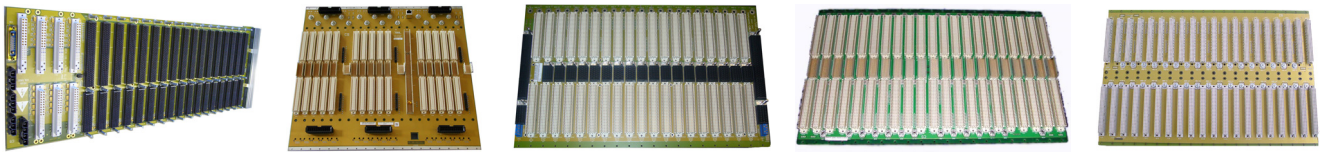
Find the *Comtel Electronics VME64x* at our website: *Click HERE*

COMTEL ELECTRONICS

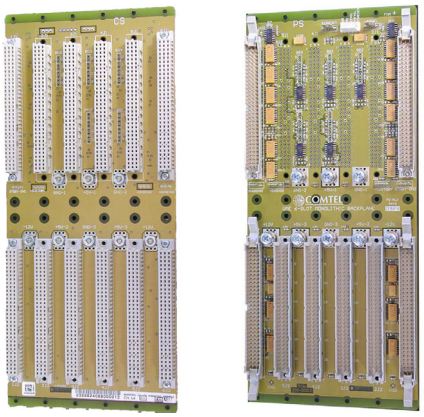


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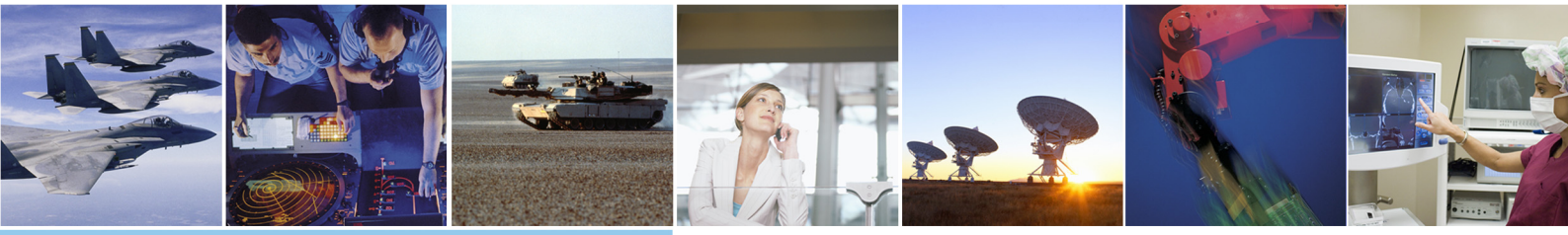
VME Backplane Catalogue



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Comtel VME Backplanes
ANSI/VITA 1-1994
2 & 21 slots Backplanes



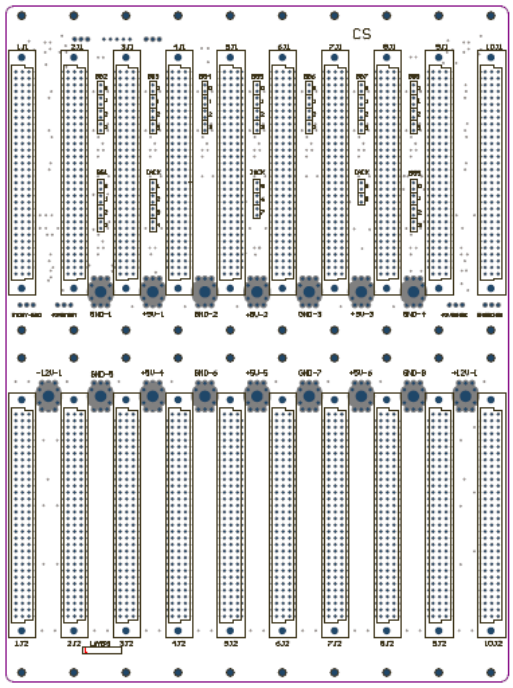
Introduction

Comtel has combined extensive experience in standard architecture backplanes and high frequency design. The result is a line of performance backplanes for **VME** that meet the needs of a wide range of industrial, military, data and communication real-time applications. By utilizing the latest in design and manufacturing technology, **Comtel** provides a unique combination of performance, quality and value to its **VME** customers. Comtel 3U & 6U **VME** backplanes provide ideal signal and power distribution for both 32 and 64 bit applications. An all-stripline 8-layer design uses advanced surface mount technology (SMT) to maximize performance and reliability, while reducing cost to manufacture. Single-point power connections capable of up to 140 amps are user configurable to support a range of wiring requirements. The existing backplane can also be assembled for fully passive applications as an option. The **Comtel** 3U & 6U **VME** backplanes address the needs of high-technology computing applications for today and tomorrow.

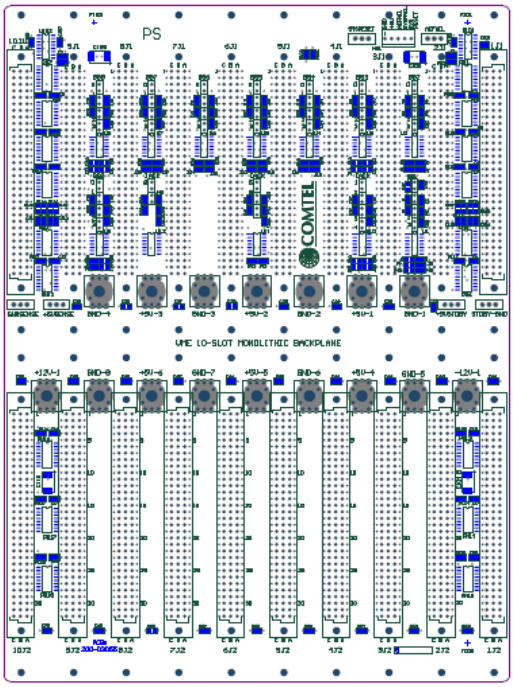
Features

- Fits within standard 3U/6U Eurocard
- Available in 2 to 21 slots
- SMD Technology for excellent signal integrity
- Press-fit assembly adds reliability and performance
- On-board termination without extra width
- Active/passive automatic daisy-chain or jumper pin manual daisy-chain
- 8 layer stripline controlled impedance construction
- Passive 330Ω/470Ω termination or Low-current active onboard termination
- High current power entry taps positioned near corresponding connector pins for minimum current paths
- Extended tails on all J2 slots and first slot J1 for I/O
- Additional user defined bus lines per custom requirements
- Optional decoupling capacitor positions
- +V and -V auxiliary (i.e. 48V) power rails
- Low noise stripline design with outer ground planes
- 96 pin, 3 row DIN 41612 connectors J1/J2
- High frequency decoupling at each slot
- Distributed bulk low frequency decoupling
- Flexible power connections require no bus-bars
- Interleaved grounds for I/O header grounding
- Fully passive assembly (optional)
- ANSI/VITA 1-1994 compliant

Front View

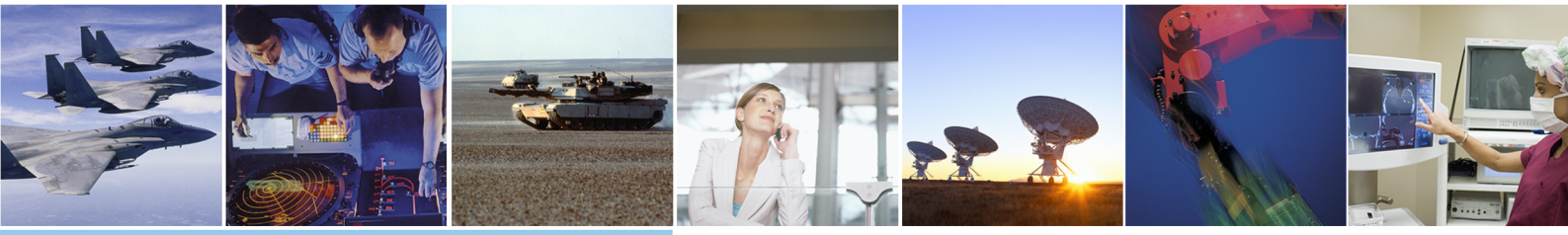


Rear View



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Specifications



Bus Structure:
VME, 32/64 bit, J1/J2 monolithic

Dimensions:
Width (in.) = (# slots x 0.80) - 0.130
Height 10.35" (263mm)
Weight: 3.32 lbs. (1.51 kg; 21slot))

Assembly:
SMT/ press-fit assembly

Control:
System header for SYSRESET, SYSFAIL, ACFAIL, +5V and GND; 5 pin MTA-100

PCB:
8 layers, FR4 epoxy-glass laminate, multilayer, stripline, SMOBC, silkscreen on two sides, 1 oz. on copper signal and power planes minimum, UL 94V-0, 0.125" thickness

Impedance:
50 Ohms, non-loaded PCB

Termination:
Onboard, active (Thevenin equivalent 194 Ohm to 2.94V) or Passive (330 Ohm to +5V, 470 Ohm to GND)

Decoupling:
High-frequency decoupling at each slot; 0.1µF ceramics (SMT) Low-frequency decoupling distributed across backplane; 100µF Tantalum (SMT)

Rear shrouds:
Extended 15mm tails on all J2 slots and J1 slot 1: latching shrouds provided on first and last slots

DC distribution:
140A rated power bridges with M6 screws for +5VDC and return, M6 screws; 70A rated power bolts with M4 screws on 12VDC

Performance:
End-to-end voltage drop and ground shift less than 150mV (12-slot backplane, 5V at 140A)

Compliance:
ANSI/VITA 1-1994

Connectors:
System Connector (5 pin; mates to AMP #640440-5)
1 | GND | +5V | ACFAIL | SYSFAIL | SYSRESET | 5

Environmental:
Temperature ranges: Operation: -20°C to 75°C
Storage: -40°C to 125°C
Flammability rating: UL94-V0

Regulatory: Designed to meet UL, CSA, CE requirements

Warranty: 1 year

Ordering Information

Comtel **VME** Backplanes are available in the following standard configurations.
Please consult your Comtel sales contact for other slot sizes and configurations:

3U VME Backplane
Part number & Description
360 03305 - VME, 3U BP 5 slot
360 03309 - VME, 3U BP 9 slot
360 03321 - VME, 3U BP 21 slot

6U VME Backplane
Part number & Description
360 03602 - VME, 6U BP 2 slot
360 03603 - VME, 6U BP 3 slot
360 03604 - VME, 6U BP 4 slot
360 03605 - VME, 6U BP 5 slot
360 03606 - VME, 6U BP 6 slot
360 03607 - VME, 6U BP 7 slot
360 03608 - VME, 6U BP 8 slot
360 03610 - VME, 6U BP 10 slot
360 03612 - VME, 6U BP 12 slot
360 03615 - VME, 6U BP 15 slot
360 03616 - VME, 6U BP 16 slot
360 03618 - VME, 6U BP 18 slot
360 03620 - VME, 6U BP 20 slot
360 03621 - VME, 6U BP 21 slot

Sample : V6-08-0-0

V6	08	O	0

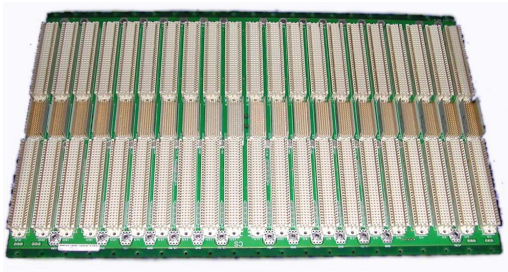
Form Factor
V6 = VME 6U, Backplane
V3 = VME 3U, Backplane

No' of slots
02-21

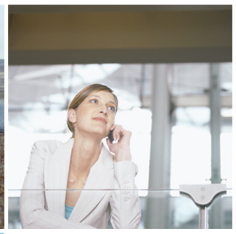
DAISY CHAIN
0 = automatic active daisy-chain
1 = automatic passive daisy-chain (ABG)
2 = jumper daisy-chain rear side only
3 = jumper daisy-chain both

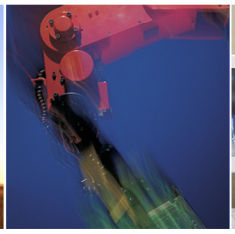
Power Connection
0 = Tap with M4 screw 70A max
1 = Faston bug with M4 screw 12A
2 = Power bug with M4 screw 25A
3 = Power Bridge

Comtel VME64x Backplanes
ANSI/VITA 1.1-1997
2 & 21 slots Backplanes








Introduction

Unique Design - **Comtel's VME64x** Backplane range implements innovative and beneficial features. Building on the success of **Comtel's VME** SMT Backplanes, the **VME64x** implements surface mount technology for termination, automatic daisy-chaining and capacitive decoupling. The design enables on-board termination, allowing 21-slots in a 19"-wide form factor, but with the simplicity of single-sided surface mount assembly.

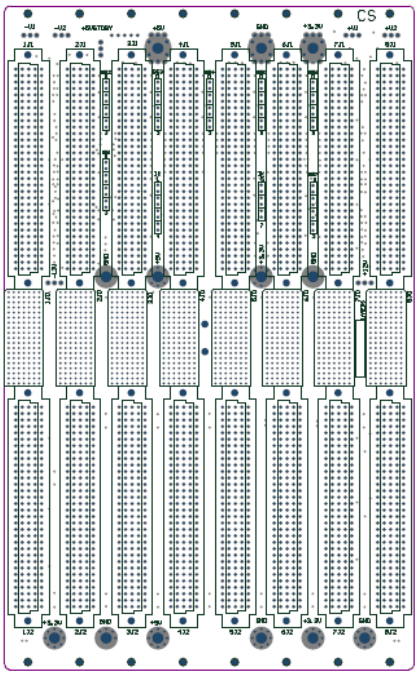
Features

- 10 layer stripline controlled impedance construction
- Available in 2 to 21 slots
- SMD Technology for excellent signal integrity and improved manufacturability
- On-board termination without extra width
- Active/passive automatic daisy-chain or jumper pin manual daisy-chain
- Passive 330Ω/470Ω termination
- High current power entry taps positioned near corresponding connector pins for minimum current paths
- Rear plug-up long-tail connectors and shrouds configurable to customer needs
- Additional user defined bus lines per custom requirements
- Optional decoupling capacitor positions
- +V and -V auxiliary (i.e. 48V) power rails

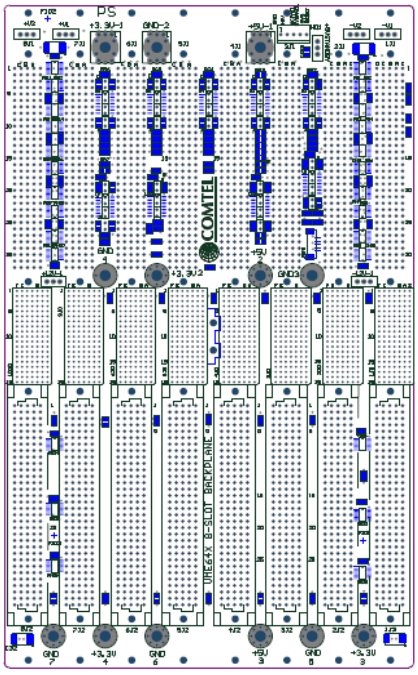
VME64 Extensions Features

- IEC 61076-4-113 160 pin, 5 row DIN connector for J1 & J2
- IEC 61076-4-101 2mm Hard Metric 133pin, 7 row connector for J0
- 35 more ground return pins on J1/J2 for improved signal integrity, 38 ground pins on J0
- 46 additional user defined I/O pins on J2
- 12 spare bus lines for user expandability
- Test & Maintenance bus supported
- Slot geographical addressing
- Supports Hot Swap capability, pre-mating pin connector system
- 80MB/s VME64 MBLT data transfer rate 160MB/s Peak Transfer rate using 2edge VME protocol with ETL
- +3.3V, 48V and additional +5V power

Front View

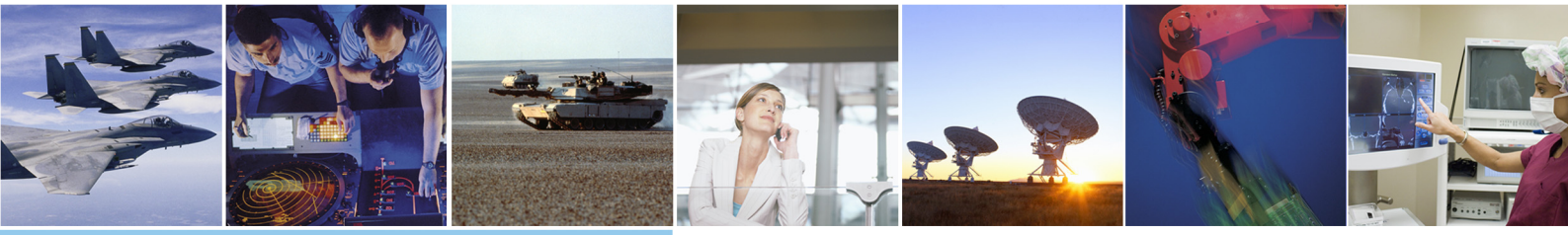


Rear View



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Specifications



Bus Structure:
VME64x, 32/64 bit, J1/J2 monolithic

Connectors:
160 pin, 5 row, J1/J2, IEC 61076-4-113
133 pin, 7 row, J0, IEC 61076-4-101

Dimensions:
Width (in.) = (# slots x 0.80) - 0.13
Height 10.35" (263mm)
Weight: 3.32 lbs. (1.51 kg; 12 slot))

Assembly:
SMT/ press-fit assembly

Control:
System header for SYSRESET, SYSFAIL, ACFAIL, +5V and GND; 5 pin MTA-100

PCB:
10 layers, FR4 epoxy-glass laminate, multilayer, stripline, SMOBC, silkscreen on two sides, 1 oz. on copper signal and power planes minimum, UL 94V-0, 0.154" (3.9 mm) thickness

Impedance:
50 Ohms, non-loaded PCB

Termination:
Passive, onboard; 330 Ohms to 5V, 470 Ohms to GND

Decoupling:
High-frequency decoupling at each slot; 0.1µF ceramics (SMT) Low-frequency decoupling distributed across backplane; 100µF Tantalum (SMT)

Rear shrouds:
Extended rear tails and shrouds on P0 and J2, all slots; short tail connectors on all J1 slots (no shrouds)

DC distribution:
70A rated power bolts for +5, +3.3, +/-12VDC, +/-V1, +/-V2 and return with M4 screws

Performance:
End-to-end voltage drop and ground shift less than 150mV (12-slot backplane, 5V at 140A)

Compliance:
ANSI/VITA 1-1994, ANSI/VITA 1.1-1997

Connectors:
System Connector (5 pin; mates to AMP #640440-5)
1 | GND | +5V | ACFAIL | SYSFAIL | SYSRESET | 5

Environmental:
Temperature ranges: Operation: -20°C to 75°C
Storage: -40°C to 125°C
Flammability rating: UL94-V0

Regulatory: Designed to meet UL, CSA, CE requirements

Warranty: 1 year

Ordering Information

Comtel **VME64x** Backplanes are available in the following standard configurations.
Please consult your Comtel sales contact for other slot sizes and configurations:

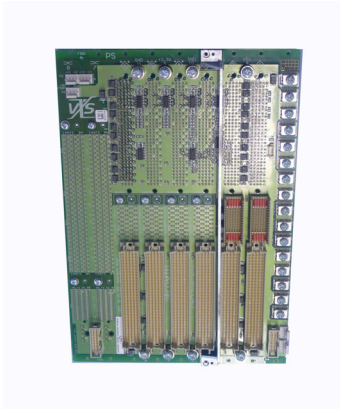
Part number & Description

360 04002 - VME64x, 6U BP 2 slot
360 04003 - VME64x, 6U BP 3 slot
360 04005 - VME64x, 6U BP 5 slot
360 04007 - VME64x, 6U BP 7 slot
360 04008 - VME64x, 6U BP 8 slot
360 04081 - VME64x, 6U BP 8+1 slot
360 04010 - VME64x, 6U BP 10 slot
360 04012 - VME64x, 6U BP 12 slot
360 04015 - VME64x, 6U BP 15 slot
360 04016 - VME64x, 6U BP 16 slot
360 04017 - VME64x, 6U BP 17 slot
360 04018 - VME64x, 6U BP 18 slot
360 04020 - VME64x, 6U BP 20 slot
360 04021 - VME64x, 6U BP 21 slot

Sample : V6X-08-P0-0-0

V6X	08	PO	0	0
Form Factor **V6X =** VME64x 6U, Backplane **V3X =** VME64x 3U, Backplane	**No' of slots** **02-21**	**PO Connector** **PO** = with Connector **None** = without Connector	**DAISY CHAIN** **0** = automatic active daisy-chain **1** = automatic passive daisy-chain (ABG) **2** = jumper daisy-chain rear side only **3** = jumper daisy-chain both sides	**Power Connection** **0** = Tap with M4 screw 70A max **1** = Faston bug with M4 screw 12A **2** = Power bug with M4 screw 25A **3** = Power Bridge 140A **4** = Faston only



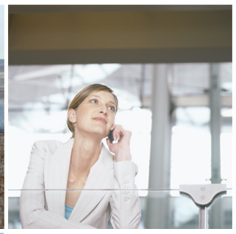


Comtel VXS Backplanes
VITA 41.x
8 & 21 slots Switch Fabric Backplanes

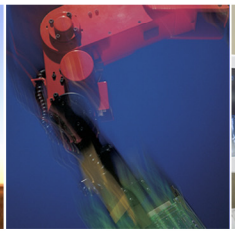














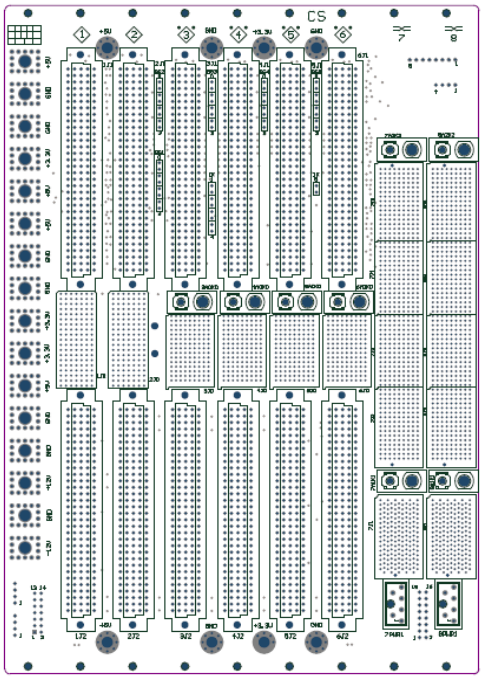
Introduction

Comtel's expertise in Backplane technology and its resources in the latest, sophisticated design tools have been applied to produce a unique **VXS** range of Backplanes. The **Comtel VXS** Backplanes match performance and cost-effectiveness by realising a fully optimised signal and power distribution environment. Design techniques ensure uniform impedance controlled signaling environment and ground guarding minimises line-to-line crosstalk
The **VXS** provides the high-speed switched serial performance of VITA 41 in a versatile 8 & 21 slot, hybrid design includes **VXS** payload slots, **VXS** switch slots and conventional **VME64x** slots, The 8 & 21 slot **VXS** (VITA 41) backplanes supports data rates well beyond 3.125Gb/s per link. As a dual-star design, it can be operated with one or two switch boards, allowing addressing of both link ports on payload cards.

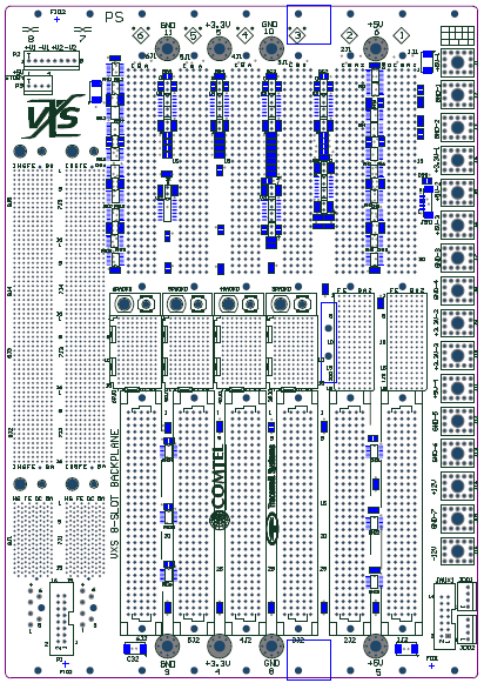
Features

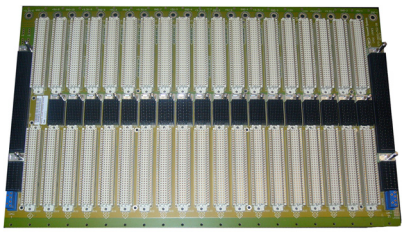
- Hybrid VME64x and VXS Backplane
- Standard versions 8 & 21 slots
- 8-slot version features two VITA 41.x switches slot and up to 6 VITA 41.x payload slots; each payload slot connects both links to the two switch slot
- 21-slot version features two VITA 41.x switch slots and up to 18 VITA 41.x payload slots with 4x links to two switch slots
- High performance, low noise
- Electronic Bus Grant (EBG)
- Compliant to the latest VITA Standards
- **Custom configurations 2-21 slots**

Front View



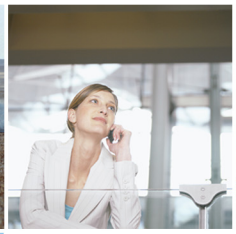
Rear View

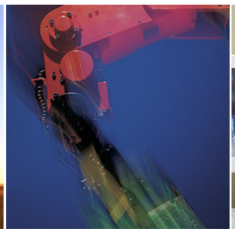




Specifications






Bus Structure:
6U Backplane, hybrid VME64x and VXS,
8 slot version features two VITA 41.x switches, 4 payload and 2 VME64-slots, J1/J2/P0; slots 1-2 VME64x, slots 3-6 VXS payload, slots 7-8 VXS switch (dual switch)
21 slot version features two VITA 41.x switches, 18 payload and 1 VME64-slots, J1/J2/P0; slots 1 VME64x, slots 2-10 & 13-21 VXS payload, slots 11-12 VXS switch (dual switch)

Assembly:
SMT/ press-fit assembly

Connectors:
(B1/B2) 160 pin, 5 row, J1/J2, IEC 61076-4-113 133 pin, 7 row, J0, IEC 61076-4-101
(B2) J0 payload and J1,J3-J4 switch, Tyco Multigig, JPWR1 switch, Positronic PWR-6P-V15

Control:
System header for SYSRESET, SYSFAIL, ACFAIL, +5V, GND

PCB:
14-22 layers, FR4 epoxy-glass laminate, multilayer, strip line, SMOBC, silkscreen on two sides, 1oz copper signal and power planes minimum, UL94V-0

Impedance:
50 Ohms (VME), 100 Ohms (differential, VXS)

Termination:
Passive, on-board, 330/470 Ohm (VME)

Decoupling:
High frequency decoupling at each slot; Distributed low frequency bulk decoupling

Rear I/O:
8 slot version, long tails and shrouds on J2 slots 1-6, P0 slots 1-2
21 slot version, long tails and shrouds on J2 slots 1-10 & 13-21, P0 slot 1

DC Distribution:
Screw terminals for +5V, +3.3V, GND (35Arating per terminal), 0.250 spade terminals for +/-12VDC, V1/V2 (15A rating per terminal), (2) 4-pin auxiliary disk drive connectors (MTA100)

Compliance:
ANSI/VITA 41.0, 1.1-1997

Environmental
Temperature ranges: Operation: -20°C to 75°C
Storage: -40°C to 125°C
Flammability rating: UL94-V0

Regulatory: Designed to meet UL,CSA,CE requirements

Warranty: 1 year

Ordering Information

Comtel **VXS** Backplanes are available in the following standard configurations.
Please consult your Comtel sales contact for other slot sizes and configurations:

Part number & Description

355 03936 - VXS Backplane 6U, 8 slot
355 03921 - VXS Backplane 6U, 21 slot

Custom-specific VXS Backplanes

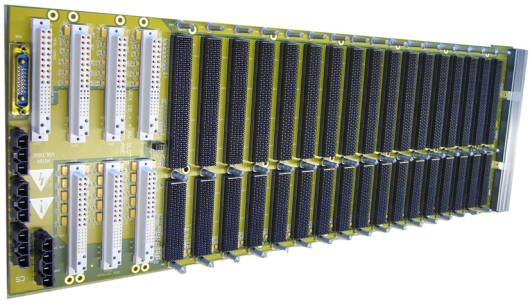
Additional Backplane versions are available from Comtel with different power entry schemes to suit individual applications. Comtel can readily provide custom-specific Backplanes tailored to the individual application according to the requirements of the customer, Please contact Comtel for further details

Accessories

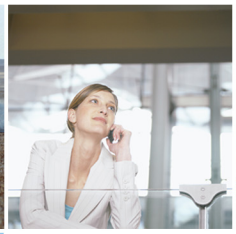
Various board stiffener accessories are available for applications, where additional Backplane support is required (e.g. when rear plug-up modules do not provide support).

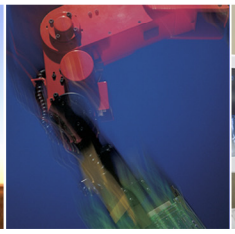
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Comtel VPX Backplanes
VITA 46.x
18 slots + 4 PW Backplanes







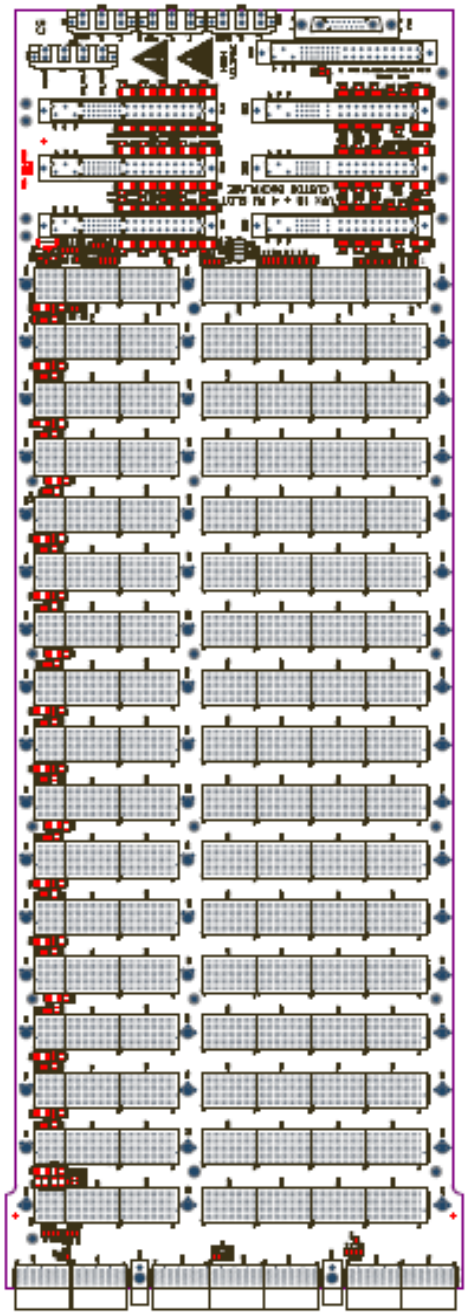

Introduction

The **VPX** (VITA 46) standard establishes a new direction for the next revolution in bus boards. It is a proposed ANSI standard which breaks out from the traditional connector scheme of VMEbus to merge the latest in connector and packaging technology with the latest in bus and serial fabric technology. **VPX** combines best-in-class technologies to assure a very long technology cycle similar to that of the original VMEbus solutions. Traditional parallel VMEbus will continue to be supported by **VPX** through bridging schemes that assure a solid migration pathway. **VPX** has been designed with the defense/aerospace community in mind, computing vendors and major defense/aerospace systems integration companies working together. **Comtel's** expertise in Backplane technology and its resources in the latest, sophisticated design tools have been applied to produce a unique **VPX** Backplanes. The **Comtel VPX** Backplanes match performance and cost-effectiveness by realising a fully optimised signal and power distribution environment. Design techniques ensure uniform impedance controlled signaling environment and ground guarding minimises line-to-line crosstalk

Features

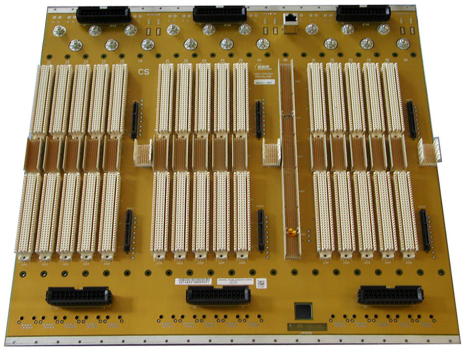
- 18 slot VPX Backplane and 4 PW slots
- Fits within standard 6U Eurocard
- High performance, low noise
- Electronic Bus Grant (EBG)
- Compliant to the latest VITA Standards
- **Custom configurations are welcome**

Front View of Customize VPX Backplane

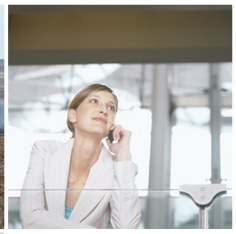


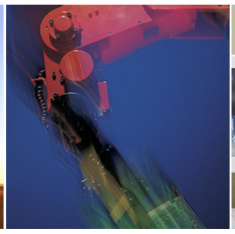
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Comtel Gigabit VME64x Backplanes ANSI/VITA 31.1







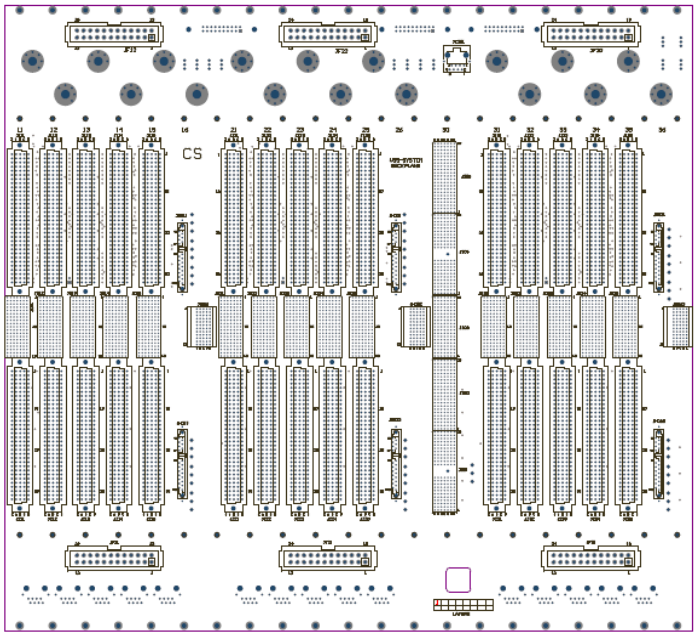

Introduction

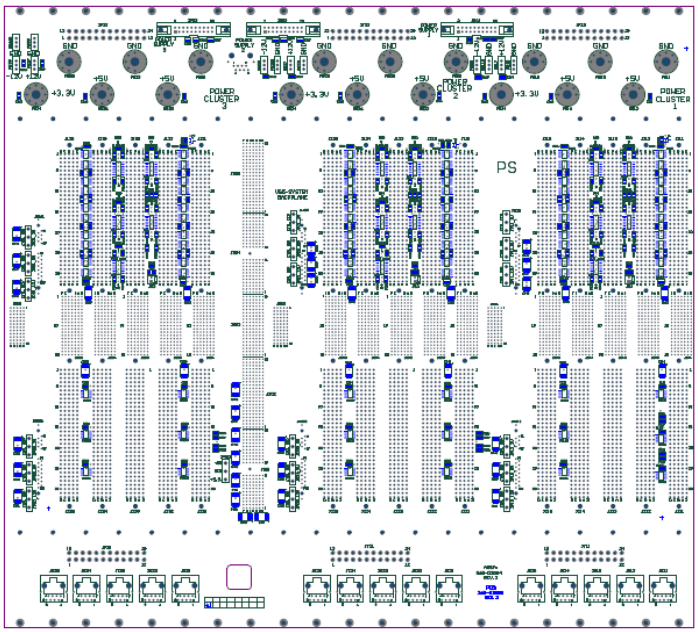
The continuing need for more bandwidth in VMEbus environments drove some teams to think about using networking technology, and Ethernet was a logical choice for a backplane data transport. **ANSI/VITA 31.1**, Gigabit Ethernet on **VME64x**, adds GigE to backplanes via a P0 connector as defined in **VME64x**. This is the first generation of serial switched fabric solutions implemented in VMEbus backplanes. This implementation, as well as several other serial schemes, all works with the VME32, VME64 and VME2eSST configurations. To further enhance compatibility, the specification adopts the **PICMG 2.16** P3 connector pinout for use on **VME64x** boards. The ***CompactPCI*** P3 connector and the **VME64x** P0 connector are identical and have the same placement on the backplane. It also borrows the definition of the fabric card described in **PICMG 2.16**. As a result, **PICMG 2.16** compliant systems and **VITA 31.1** systems can use the same switched fabric boards. **Comtel's** expertise in Backplane technology and its resources in the latest, sophisticated design tools have been applied to produce a unique **VITA 31.1** Backplanes.

Features

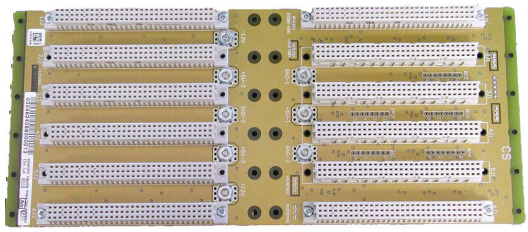
- Fits within standard 6U Eurocard
- Hybrid VME64x and PICMG 2.16 Backplane
- One or Two VITA 31.1 Fabric Slots
- 19 VITA 31.1 Node Slots (21-slot backplane) or 6 VITA 31.1 Node Slots (8-slot backplane)
- Compliant to the latest VITA Standards
- High performance, low noise
- Electronic Bus Grant (EBG)
- Designed to the latest ANSI/VITA 31.1 Gigabit Ethernet on VME64x Backplanes Standard
- Designed to the latest VITA 1.7 Increased Current Level For 96 Pin & 160 Pin DIN/IEC Connector
- ANSI/VITA 1.1-1997 VME64x Standard compliant
- **custom configurations up to 21 slots**

Front & Rear View of Customize Vita 31.1 Backplane





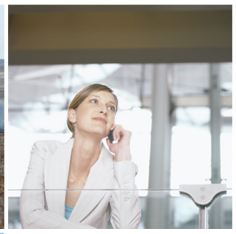
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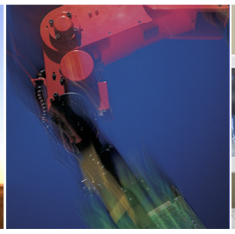


Comtel VXI Backplanes

5-15 slots Backplanes





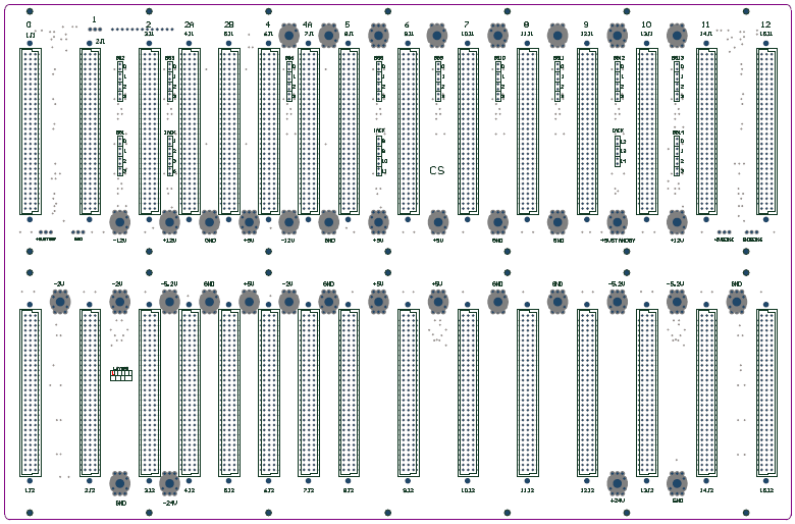

Introduction

Comtel's expertise in Backplane technology and its resources in the latest, sophisticated design tools have been applied to produce a unique **VXI** range of Backplanes. The **Comtel VXI** Backplanes match performance and cost-effectiveness by realising a fully optimised signal and power distribution environment in an 8 layer format. Design techniques ensure uniform impedance controlled signaling environment and ground guarding minimises line-to-line crosstalk. A number of versions are available that cover a wide range of needs. We combined our extensive experience in standard architecture backplanes and high frequency design. The result is a line of performance backplanes for **VXI** that meet the needs of a wide range of industrial, military & instrumentation applications. By utilizing the latest in design and manufacturing technology, **Comtel** provides a unique combination of performance, quality and value to its **VXI** customers. Superior high frequency performance by implementing surface mount technology components due to minimization of the stray capacitance and inductance associated with component leads. Using smaller lead geometries improves high frequency characteristics compared to conventional thru-hole designs.

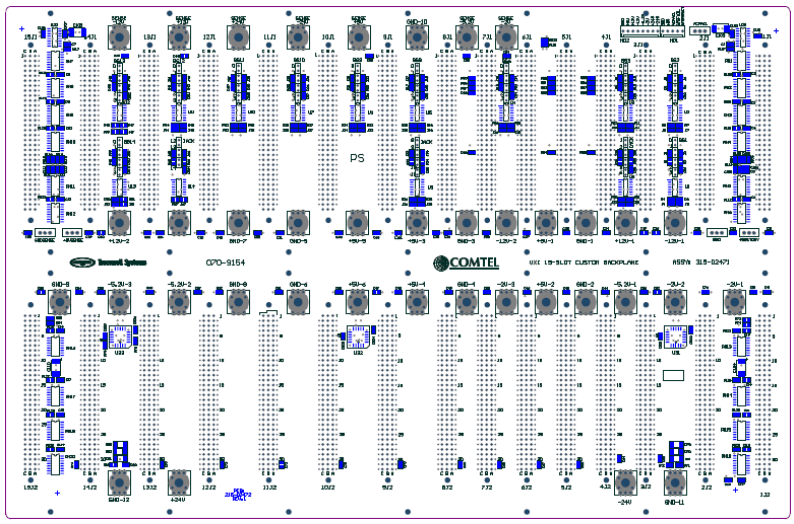
Features

- Available in 2 to 21 slots
- SMD Technology for excellent signal integrity
- Press-fit assembly adds reliability and performance
- On-board termination without extra width
- Active/passive automatic daisy-chain or jumper pin manual daisy-chain
- 8 layer stripline controlled impedance construction
- Passive 330Ω/470Ω termination or Low-current active termination
- High current power entry taps positioned near corresponding connector pins for minimum current paths
- Additional user defined bus lines per custom requirements
- Optional decoupling capacitor positions
- +V and -V auxiliary (i.e. 48V) power rails
- Low noise design is stripline with outer ground planes
- 96 pin, 3 row DIN 41612 connectors J1/J2
- High frequency decoupling at each slot
- Distributed bulk low frequency decoupling
- Flexible power connections require no bus-bars
- Interleaved grounds for I/O header grounding

Front View



Rear View

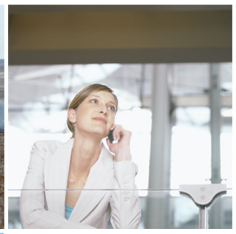


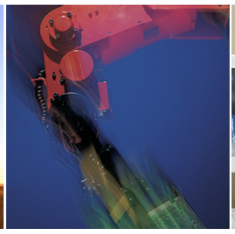
Description: 15 slots Customize VXI Backplane

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Specifications






General:
VXI "B", "C" and "D" size monolithic, 96 pin high current DIN connectors

Bus Structure:
VXI 32/ 64 bit

Assembly:
SMT/ press-fit assembly

Layer count:
8 layers

Control:
Active automatic bus-grant and IACK jumpering, active termination

PCB construction:
FR4 epoxy-glass laminate, multilayer, all-stripline, SMOBC, silkscreen on two sides, 1oz. copper signal and power planes minimum, UL94V-0, .125" (3.18mm) pcb thickness

Impedance:
50 Ohms nominal all signal lines, non-loaded pcb

Termination:
onboard, active (Thevinin equivalent 194 Ohms to 2.94V) or passive (330 /470 Ohm)

Decoupling:
High-frequency decoupling at each slot; 0.1µF ceramics (SMT) Low-frequency decoupling distributed across backplane; 100µF Tantalum (SMT)

DC distribution:
High current power backplane distributes power from plugging power supplies to backplane

Compliance:
VXI

Environmental
Temperature ranges: Operation: -20°C to 75°C
Storage: -40°C to 125°C
Flammability rating: UL94-V0

Regulatory: Designed to meet UL, CSA, CE requirements

Warranty: 1 year

Ordering Information

Comtel **VXI** Backplanes are available in standard configurations.
Please consult your Comtel sales contact for other slot sizes and configurations:

Part number & Description

307 03903 - VXI "C" Backplane	6U, 3 slot
307 03904 - VXI "C" Backplane	6U, 4 slot
307 03905 - VXI "C" Backplane	6U, 5 slot
307 03805 - VXI "D" Backplane	6U, 5 slot
307 03906 - VXI "C" Backplane	6U, 6 slot
307 03911 - VXI "C" Backplane	6U, 11 slot
307 03913 - VXI "C" Backplane	6U, 13 slot
307 03813 - VXI "D" Backplane	6U, 13 slot

Custom-specific VXI Backplanes

Additional Backplane versions are available from Comtel with different power entry schemes to suit individual applications. Comtel can readily provide custom-specific Backplanes tailored to the individual application according to the requirements of the customer, Please contact Comtel for further details

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Please consult your Comtel Electronic sales contact for any special or custom requirements.

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Headquarters Germany Comtel Electronics GmbH, Technopark I, Bretonischer Ring 3, 85630 Grasbrunn, Tel: +49 89 437789 0, Fax: +49 89 437789 77, sales@comtel-online.de **Sales & Marketing Switzerland** Comtel Industries AG, Espace de l'Europe 18, 2000 Neuchâtel, Tel: + 41 32 724 63 00, Fax: + 41 32 724 06 87, sales@comtel-online.ch **United Kingdom** Comtel UK Ltd, 4 Highland Drive, Fleet, Hampshire, GU51 2TH, Tel: +44 1252 657115, Fax: +44 870 7621936, p.bishop@comtel-online.com **Israel** Comtel Israel Ltd, 20 Hataas st., Kefar-Saba 44425, Tel: +972 9 76 77 240, Fax: +972 9 76 77 243, sales@comtel.co.il **USA** Comtel Electronics, 9835 Carroll Centre, Suite 104A, San Diego, CA 92126 Tel: +1 619 925 6482, t.inglese@comtel-online.com **USA** Tracewell Systems, 567 Enterprise Drive, Westerville, Ohio 43081, Tel. +1 614 846 6175, Fax: +1 614 846 2903, mlong@tracewell.com **Italy** Eurolink Systems, Via Piedicavallo 51-2B, 00166 Roma-I, Tel: +39 06 619140 1, Fax: +39 06 619140 20, sales@eurolinksystems.com **France** Atos S.A. 48, Avenue des Freres Lumiere, F-78190 Trappes Cedex, Tel: +33 1 30 16 21 21, Fax: +33 1 30 62 39 87, blatour@atos-racks.com **China** MTCS Systems Engineering Co., Ltd. Chang Chun Qiao Road, Haidian District, Beijing 100089, Tel: +86 10 5881 6565, Fax: +86 10 5881 6566, sales@mtcs.com.cn **South Africa** Eagle Technology, 31 - 35 Hout Street, Cape Town 8000, Tel: +27 21 423 4943, Fax: +27 21 424 4637, alan@eagle.co.za **Slovenia** IR ELECTRONIC, Ziherlova ulica 2, SI-1000 Ljubljana, Tel: + 386 1 420 13 84, Fax: + 386 1 283 56 05, mstrajnar@arrowslovenia.com **Korea** BridgeComm co., Ltd. 2nd fl, Empire BD 127-1, Samsung-Dong, Gangnam-Gu, Seoul 135-090 Tel: +82 2 3452 3230, Fax: +82 2 3452 1139, sales@bridgecomm.co.kr **Russia** Comtel Ru, d.tsitsilin@comtel-online.de

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