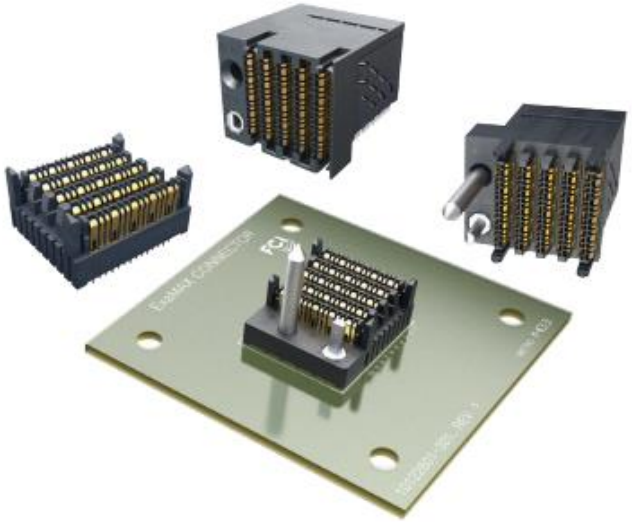
Centaur ExaMAX for Military

85Ω High Speed Backplane Connector System



SUPPORTS MANY INDUSTRY STANDARD SPECIFICATIONS

ExaMAX® 85Ω backplane connector system meets industry specifications requiring higher bandwidth applications from 25Gb/s to 56Gb/s. The optimized connector design delivers superior signal integrity performance resulting in low crosstalk noise and low insertion loss while minimizing channel performance variation for every differential pair. Each signal wafer incorporates an innovative one-piece, embossed ground structure to improve crosstalk performance through 56Gb/s. The simple, functional design contributes to a very cost-effective solution.

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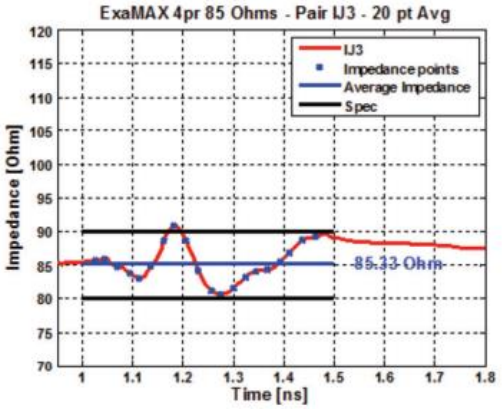
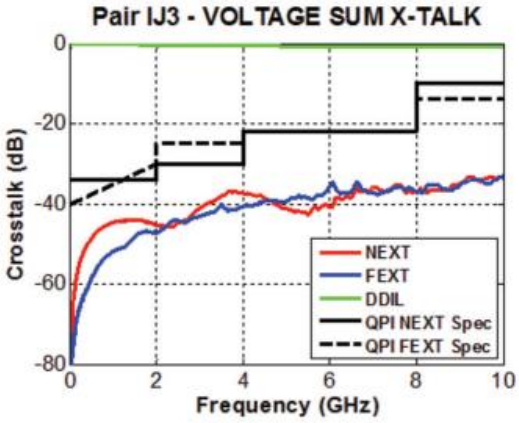
FEATURES	BENEFITS
• 85Ω impedance performance	• Meets Industry specifications such as Intel QPI, Intel UPI, and PCI Express
• Scalable performance from 25Gb/s to 56Gb/s	• Minimizes impedance discontinuities
• Unique beam-on-beam interface and skew equalized lead frames	• Supports system upgrade without costly redesigns
• Hermaphroditic mating interface protects mating beams	• Reduces mating force up to 65% compared to traditional blade and beam designs
• Modular, hard metric connector block design	• 2mm pitch for high density application • 3mm pitch enables quad routing and lower PCB cost
• Zero skew	• Optimizes PCB routing
• Additional signal pin per column	• Integrates high and low speed signals in the same connector
• High speed signal PCB hole: 0.36mm (finished hole) • Ground pin PCB hole: 0.5mm (finished hole)	• Optimizes electrical performance and aspect ratio
• 12 to 72 differential pair node connector	• Wide product range for various packaging options
• Integrated guide design	• Improves mating performance using minimal board space

TECHNICAL INFORMATION

SIGNAL INTEGRITY PERFORMANCE





ELECTRICAL PERFORMANCE

- Contact Resistance: 20mV max., 100mA current
- Insulation Resistance: 1000MΩ at 500VDC
- Dielectric Withstanding Voltage: 500VDC
- Current Rating (with 30° C T-rise above ambient)
- Signal Contact: 0.5A/Contact (both signal and ground contacts can carry current)

APPROVALS AND CERTIFICATIONS

- Telcordia GR-1217-CORE Central Office qualification passed
- UL E66906

ENVIRONMENTAL

- Operating Temperature Range: -55° C to +85° C

SPECIFICATION

- Amphenol Product Specification: GS-12-1096
- Amphenol Packaging Specification: GS-20-0361

Industry Specifications	Speed Performance
PCI Express (PCIe®) Gen 1/2/3/4/5	2.5Gb/s to 32Gb/s
CEI-56G-MR-PAM4 Long Reach Interface	56Gb/s PAM4
Serial Attached SCSI (SAS) 1.1/2.1/3.0/4.0	3Gb/s to 24Gb/s
SATA Revision 1.x/2.x/3.x	1.5Gb/s to 6Gb/s
Fiber Channel (FC) Gen 1/Gen 2/Gen 3/ Gen 4/Gen 5	1.0625Gb/s to 14.025Gb/s
InfiniBand (IB) SDR/DDR/QDR/FDR/EDR	2.5Gb/s to 25Gb/s
Ethernet 1Gbe/10Gbe/40Gbe/ 100Gbe/25Gbe	1.25Gb/s to 25.78125Gb/s

MATERIAL

- Contacts: High performance copper alloy
- Plating(s): Performance-based plating at separable interface (Telcordia GR-1217-CORE) tin over nickel on press-fit tails
- Housings: High performance thermoplastic, UL94-V0

MECHANICAL PERFORMANCE

- Long mating wipe of > 2mm
- X and Y capture a generous 1.1mm
- Mating Force: 0.38N max. per contact
- Unmating Force: 0.10N min. per contact
- Average Press-fit Insertion Force: 12N max. per contact

CENTAUR EXAMAX FOR MILITARY 85Ω

MOTHER-DAUGHTER BOARD

PART NUMBERS

NO GUIDE

Product Variation			Mating Connector System	
Pairs	Columns	Differential Pairs	No Guide Pin	
			Vertical Header (VH)	Right Angle Receptacle (RAR)
4	6	24	CF-E41612-101LF	CF-E33891-101LF
	8	32	CF-E35222-101LF	CF-E35216-101LF
	10	40	CF-E41614-101LF	CF-E35218-101LF
	12	48	CF-E33901-101LF	CF-E33895-101LF
6	6	36	CF-E35233-101LF	CF-E35221-101LF
	8	48	CF-E35234-101LF	CF-E35224-101LF
	10	60	CF-E35235-101LF	CF-E35237-101LF
	12	72	CF-E35236-101LF	CF-E35238-101LF

Vertical Header (No Guide)

Right Angle Receptacle (No Guide)

LEFT GUIDE

Product Variation			Mating Connector System	
Pairs	Columns	Differential Pairs	No Guide Pin	
			Vertical Header (VH)	Right Angle Receptacle (RAR)
4	6	24	CF-E41612-12JLF	CF-E33891-12JLF
	8	32	CF-E35222-12JLF	CF-E35216-12JLF
	10	40	CF-E41614-12JLF	CF-E35218-12JLF
	12	48	CF-E33901-12JLF	CF-E33895-12JLF
6	6	36	CF-E35233-12JLF	CF-E35221-12JLF
	8	48	CF-E35234-12JLF	CF-E35224-12JLF
	10	60	CF-E35235-12JLF	CF-E35237-12JLF
	12	72	CF-E35236-12JLF	CF-E35238-12JLF

Vertical Header (Left Guide)

Right Angle Receptacle (Left Guide)

RIGHT GUIDE

Product Variation			Mating Connector System	
Pairs	Columns	Differential Pairs	No Guide Pin	
			Vertical Header (VH)	Right Angle Receptacle (RAR)
4	6	24	CF-E41612-11JLF	CF-E33891-101LF
	8	32	CF-E35222-11JLF	CF-E35216-11JLF
	10	40	CF-E41614-11JLF	CF-E35218-11JLF
	12	48	CF-E33901-11JLF	CF-E33895-11JLF
6	6	36	CF-E35233-11JLF	CF-E35221-11JLF
	8	48	CF-E35234-11JLF	CF-E35224-11JLF
	10	60	CF-E35235-11JLF	CF-E35237-11JLF
	12	72	CF-E35236-11JLF	CF-E35238-11JLF

Vertical Header (Right Guide)

Right Angle Receptacle (Right Guide)

CENTAUR EXAMAX 85Ω COPLANAR

Standard Coplanar

Inverse Coplanar

PART NUMBERS

NO GUIDE

Product Variation			Mating Connector System	
Pairs	Columns	Differential Pairs	No Guide Pin	
			Vertical Header (VH)	Right Angle Receptacle (RAR)
4	6	24	CF-E35662-101LF	CF-E33891-101LF
	8	32	CF-E36159-101LF	CF-E35216-101LF
	10	40	CF-E36160-101LF	CF-E35218-101LF
	12	48	CF-E35664-101LF	CF-E33895-101LF
6	6	36	CF-E36161-101LF	CF-E35221-101LF
	8	48	CF-E36162-101LF	CF-E35224-101LF
	10	60	CF-E36163-101LF	CF-E35237-101LF
	12	72	CF-E36164-101LF	CF-E35238-101LF

Right Angle Header (No Guide)

Right Angle Receptacle (No Guide)

LEFT GUIDE

Product Variation			Mating Connector System	
Pairs	Columns	Differential Pairs	No Guide Pin	
			Vertical Header (VH)	Right Angle Receptacle (RAR)
4	6	24	CF-E35662-12JLF	CF-E33891-12JLF
	8	32	CF-E36159-12JLF	CF-E35216-12JLF
	10	40	CF-E36160-12JLF	CF-E35218-12JLF
	12	48	CF-E35664-12JLF	CF-E33895-12JLF
6	6	36	CF-E36161-12JLF	CF-E35221-12JLF
	8	48	CF-E36162-12JLF	CF-E35224-12JLF
	10	60	CF-E36163-12JLF	CF-E35237-12JLF
	12	72	CF-E36164-12JLF	CF-E35238-12JLF

Right Angle Header (Left Guide)

Right Angle Receptacle (Left Guide)

RIGHT GUIDE

Product Variation			Mating Connector System	
Pairs	Columns	Differential Pairs	No Guide Pin	
			Vertical Header (VH)	Right Angle Receptacle (RAR)
4	6	24	CF-E35662-11JLF	CF-E33891-11JLF
	8	32	CF-E36159-11JLF	CF-E35216-11JLF
	10	40	CF-E36160-11JLF	CF-E35218-11JLF
	12	48	CF-E35664-11JLF	CF-E33895-11JLF
6	6	36	CF-E36161-11JLF	CF-E35221-11JLF
	8	48	CF-E36162-11JLF	CF-E35224-11JLF
	10	60	CF-E36163-11JLF	CF-E35237-11JLF
	12	72	CF-E36164-11JLF	CF-E35238-11JLF

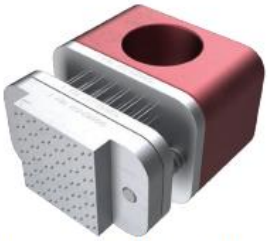
Right Angle Header (Right Guide)

Right Angle Receptacle (Right Guide)

TOOLING INFORMATION

PART NUMBERS

Insertion Tool



Vertical and Right Angle Header Removal Tool

Right Angle Receptacle Removal Tool

APPLICATION TOOLS FOR RIGHT ANGLE RECEPTACLE WITH 2mm COLUMN PITCH

Pairs	Columns	Differential Pairs	Insertion Tool	Removal Tool
4	6	24	Flat Rock, No Tool	CF-E26151-006
	8	32		CF-E26151-008
	10	40		CF-E26151-010
	12	48		CF-E26151-012
6	6	36	Flat Rock, No Tool	CF-E26156-006
	8	48		CF-E26156-008
	10	60		CF-E26156-010
	12	72		CF-E26156-012

APPLICATION TOOLS FOR VERTICAL HEADER WITH 2mm COLUMN PITCH

Pairs	Columns	Differential Pairs	Insertion Tool	Removal Tool
4	6	24	CF-E25491-006	CF-E26131-006
	8	32	CF-E25491-008	CF-E26131-008
	10	40	CF-E25491-010	CF-E26131-010
	12	48	CF-E25491-012	CF-E26131-012
6	6	36	CF-E25493-006	CF-E26136-006
	8	48	CF-E25493-008	CF-E26136-008
	10	60	CF-E25493-010	CF-E26136-010
	12	72	CF-E25493-012	CF-E26136-012

APPLICATION TOOLS FOR RIGHT ANGLE HEADER WITH 2mm COLUMN PITCH

Pairs	Columns	Differential Pairs	Insertion Tool	Removal Tool
4	6	24	Flat Rock, No Tool	CF-E26131-006
	8	32		CF-E26131-008
	10	40		CF-E26131-010
	12	48		CF-E26131-012
6	6	36	Flat Rock, No Tool	CF-E26136-006
	8	48		CF-E26136-008
	10	60		CF-E26136-010
	12	72		CF-E26136-012

Centaur ExaMAX PROTECTIVE CAPS

PART NUMBERS

Header Protective Cap

Receptacle Protective Cap

Product Variation			Mating Connector System	
Pairs	Columns	Differential Pairs	No Guide Pin	
			Vertical Header (VH)	Right Angle Receptacle (RAR)
4	6	24	CF-E38303-006	CF-E38300-006
	8	32	CF-E38303-008	CF-E38300-008
	10	40	CF-E38303-010	CF-E38300-010
	12	48	CF-E38303-012	CF-E38300-012
6	6	36	CF-E38304-006	CF-E37670-006
	8	48	CF-E38304-008	CF-E37670-008
	10	60	CF-E38304-010	CF-E37670-010
	12	72	CF-E38304-012	CF-E37670-012

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