

RUGGED MODULAR MULTIPLEXER

Model 924-RMM



Moog Focal is the leading manufacturer of reliable, high-performance, and high-quality multiplexers and media converters since 1983, specializing in standard and custom products for harsh environment applications. Our experience positions us perfectly to help you choose the best solution for your application.

The 924-RMM platform consists of a MUX module (video input) and a DEMUX module (video output) connected by a fiber optic cable. Most applications also have a Fiber Optic Rotary Joint (FORJ) to allow for continuous communications over a rotating interface which can be integrated into many of Moog's electrical slip rings.

Each MUX and DEMUX module is further divided into a single motherboard card and multiple expansion cards. The motherboard has two (2) slots (more slots possible in the future) for stacking up to four (4) expansion cards each. The motherboard card has two SFP slots supporting 10 Gbps each, for a total 20 Gbps of data. Expansion cards are available for common signals, such as 3G/HD-SDI, Gigabit Ethernet, isolated serial and more in the future. The MUX and DEMUX modules are configured with expansion cards, SFPs and add-ons to meet your specific signal requirements.

Features:

- Qualified to MIL-STD-810G, and MIL-STD-461G
- On-board Built-in-Test (BIT)
- Small size:
 - Motherboard card 125 mm x 80 mm
 - Expansion cards 62 mm X 80 mm
- Modular architecture
- Up to 20 Gbps over a single fiber
- Optional enclosures available
- Custom solutions available on request

ADVANTAGES

- Low power, conductive cooling only
- Low latency, < 100 μ s
- Uncompressed video
- Reduced size and fiber count
- High performance, low cost compared to media converter card solutions
- Commercial off-the-shelf

OPTIONAL EXPANSION DATA

- Analog video (NTSC, PAL, RS-170)
- CameraLink (base and medium)
- MIL-STD-1553
- CoaXPress
- TTL/LVTTL

APPLICATIONS

- Camera pedestals
- Electro-optic pods
- Remote weapon stations
- Vehicle turrets
- ROV

SPECIFICATIONS

TECHNICAL DATA



Quad HD Video Motherboard Card					
Video		Environment		Qualification	
No. of Channels	4	Operating Temp.	-40 C to +71 C (conductive cooling)	MIL-STD-810G	Method 501.6 Procedures I & II Method 502.6 Procedures I & II Method 503.5 Method 511.5 Procedure I Method 507.5 Procedure III Method 514.7 CAT 4 & 20 Method 516 Procedures I & V
Format	3G-SDI: SMPTE 424M HD-SDI: SMPTE 292M SD-SDI: SMPTE 259M-C	Storage Temp.	-40 C to +85 C		
Impedance	75 Ohm	Humidity	85% RH, non-condensing		
Latency	< 40* us	Options			
Connector	HD-BNC	Enclosures	Standard and custom enclosures, MIL-STD-38999 connectors	MIL-STD-461G	CE-102 CS-101 CS-114 CS-115 CS-116 RE-102 RS-103 with optional PSU and enclosure
Mechanical		Optics	CWDM wavelengths, optical splitter, optical switch, CWDM modules, redundant SFP		
Weight	120 g + 20 g per optical SFP transceiver	Power Supply Unit	24VDC EMI/EMC DC-DC converter		
Dimensions	125 x 80 mm				
Electrical					
Voltage	12 VDC, option for other values with external power module				
Power	10 to 30 W depending on expansion options				
Diagnostics					
LEDs	Power, Optical Status, Video presence, BIT results				
LED Header	Power, Optical Status, BIT results				
Diagnostics and BIT Format	Serial (RS-232/485/422) to PC, isolated				
Optical					
Fiber Type	Singlemode (single fiber) Multimode (dual fiber, short links only)				
Link Distance	Up to 40 km				
Optical Budget	Up to 23 dB				
Connector	LC ST with optical card				
Speed	1 or 2 bi-directional 10.3125 Gb/s links				



Quad Ethernet Expansion Card	
Ethernet	
No. of Ports	4
Format	10/100/1000BASE-T(X)
Latency	Frame time + 10* us (1000BASE-T)
Connector	Harwin Datamate, 20-pin 2 ports per connector
Mechanical	
Weight	40 g
Dimensions	62.5 x 80 mm



Quad Serial Expansion Card	
Serial	
No. of Channels	4
Format	RS-232, RS-485, RS-422, TTL
Data rate	RS-232 (< 460 kBaud) Others (< 2.5 MBaud)
Latency	< 100* us
Connector	Harwin Datamate, 10-pin 2 channels per connector
Isolation	Per channel, 500 VDC
Mechanical	
Weight	40 g

* Plus fiber delay of 5 μs/km



Quad Ethernet Expansion Card		Quad Serial Expansion Card	
Ethernet		Serial	
No. of Ports	4	No. of Channels	4
Format	10/100/1000BASE-T(X)	Format	RS-232, RS-485, RS-422, TTL
Latency	Frame time + 10* us (1000BASE-T)	Data rate	RS-232 (< 460 kBaud) Others (< 2.5 MBaud)
Connector	Harwin Datamate, 20-pin 2 ports per connector	Latency	< 100* us
Mechanical		Connector	Harwin Datamate, 10-pin 2 channels per connector
Weight	40 g	Isolation	Per channel, 500 VDC
Dimensions	62.5 x 80 mm	Mechanical	
		Weight	40 g
		Dimensions	62.5 x 80 mm

* Plus fiber delay of 5 µs/km

For product information, visit www.moog.com

For more information or the office nearest you, contact us online, focal@moog.com

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