



Reflective Memory



VME-5565 Reflective Memory Node Card

ULTRA HIGH SPEED FIBER-OPTIC
REFLECTIVE MEMORY WITH
INTERRUPTS

Reflective Memory is an optical ring-based, ultra high-speed shared memory network solution. It allows a distributed network to share real-time data at a deterministic rate, regardless of bus structures and operating systems. With more than 15 years of experience in this field, J-Squared is an original pioneer of this technology and our 5565 Reflective Memory family extends our market leadership position.

How do we do it? We keep it simple. Our Reflective Memory technology is centered on an innovative and efficiently designed hardware platform that is easy to use, provides for greater distance between nodes, high noise immunity, optional node bypass, and no software overhead. Just read and write to the onboard memory and the Reflective Memory node controller does the rest.

The 5565 Reflective Memory family is available in multiple form factors, including PCI Express (PCIE-5565RC), low profile PCI Express (PCIE-5565PIORC), PMC (PMC-5565PIORC), PCI (PCI-5565PIORC), and VME (VME-5565). The family allows computers, workstations, PLCs, and other embedded controllers to all share data in real-time. The transfer of data between nodes is software transparent so no processor overhead is required. Data written into the Reflective Memory is broadcast to all nodes on the network without further involvement of the sending or receiving nodes.

FEATURES

- High speed, easy to use fiber-optic network (2.12 Gbaud serially)
- Data written to memory in one node is also written to memory in all nodes on the network
- Up to 256 nodes
- Connection with multimode fiber up to 300m, single mode fiber up to 10km
- Dynamic packet size, 4 to 64 bytes of data
- Network transfer rate 43 Mbyte/s (4 byte packets) to 174 Mbyte/s (64 byte packets)
- VMEbus transfer rate 40 Mbyte/s
- 64 Mbyte or 128 Mbyte SDRAM Reflective Memory
- Two independent DMA channels
- Any node on the network can generate an interrupt in any other node on the network or in all network nodes with a single command
- Error detection
- Redundant transfer mode for extra error suppression
- No processor overhead
- No processor involvement in the operation of the network
- VMISFT-RFM2G network and shared memory driver included
- Operating system support for Windows NT®, Windows® 2000, VxWorks®, and Linux

J-Squared's Reflective Memory products are proven, highly reliable, and have been implemented worldwide in applications such as data acquisition, simulation and training, industrial automation, and telecommunications.

Best of all, it comes with the global support and services from a company with the experience, stability, innovation, and commitment you can rely on – J-Squared.

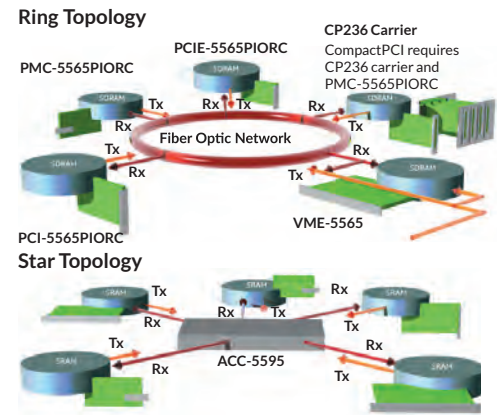
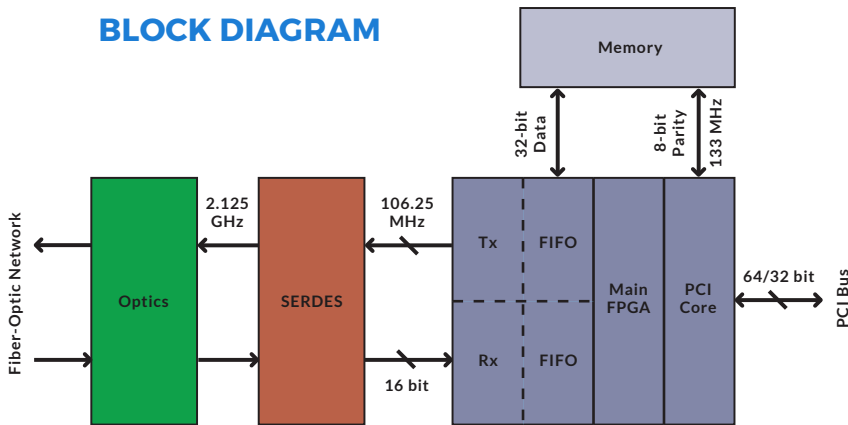


Reflective
Memory

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BLOCK DIAGRAM



APPLICATION DIAGRAM

SPECIFICATIONS

Memory Size 64 or 128 Mbyte

Network Nonredundant Transfer Rate 43 Mbyte/s (single longword accesses) to 174 Mbyte/s (64 byte bursts)

Network Redundant Transfer Rate 20 Mbyte/s (single longword accesses) to 87 Mbyte/s (64 byte bursts)

Compatibility VMEbus: This product complies with the VMEbus specification (ANSI/IEEE STD 1014-1987, IEC 821 and 297), with the following mnemonics: A32:A24:D32/D16/D08 (EO): Slave: 39/3D:09/0D Form factor: 6U

Cables Multimode Fiber Cable: Small form factor (SFF) 850nm, 970 ft, multimode LC connector
Single Mode: Small form factor (SFF) 1,300nm, single mode, 10km or 6.21 miles

Power Requirements +5VDC (5 percent), 5.0A maximum

Temperature Operating: 0 to +65 °C with forced air cooling Storage: -40 to +85
Relative Humidity: 20% to 80%, noncondensing

MTBF 163,995 hours (Bellcore)



ORDERING INFORMATION

VME-5565 - A B C D E F

A = Memory Options
0 = Reserved
1 = 128 Mbyte

B = 1 (4k FIFO)

C = Transmission Mode
0 = Multimode
1 = Single mode

DEF = 000 (reserved for future use)