CM950

Radiation Tolerant 3U PMC Carrier

- **Accommodate a Single-Wide Conduction-Cooled PMC**
- **Design in Single-Slot 3U CompactPCI (cPCI) Form Factor**
- **Radiation Tolerant Design for use in Rugged Space Application**
- **Less than 2W Power Consumption**
- **Design for Multiple S950 SBCs and Conduction-Cooled PMCs in an Enclosure**
- **Support PCI Bus Specification 2.3 and PCI Bridge Specification 1.1**
- **Support for Full Arbitration of PMC Master Operations**
- **PMC I/O routed to cPCI J2 Connector for Backplane Routing**
- **Both Engineering Model and Flight Model are available in Conduction-Cooled format per VITA 30.1-2002 Specification**
- **Optional Radiation Hardened Version is Available Upon Request**

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CM950 Transition Module

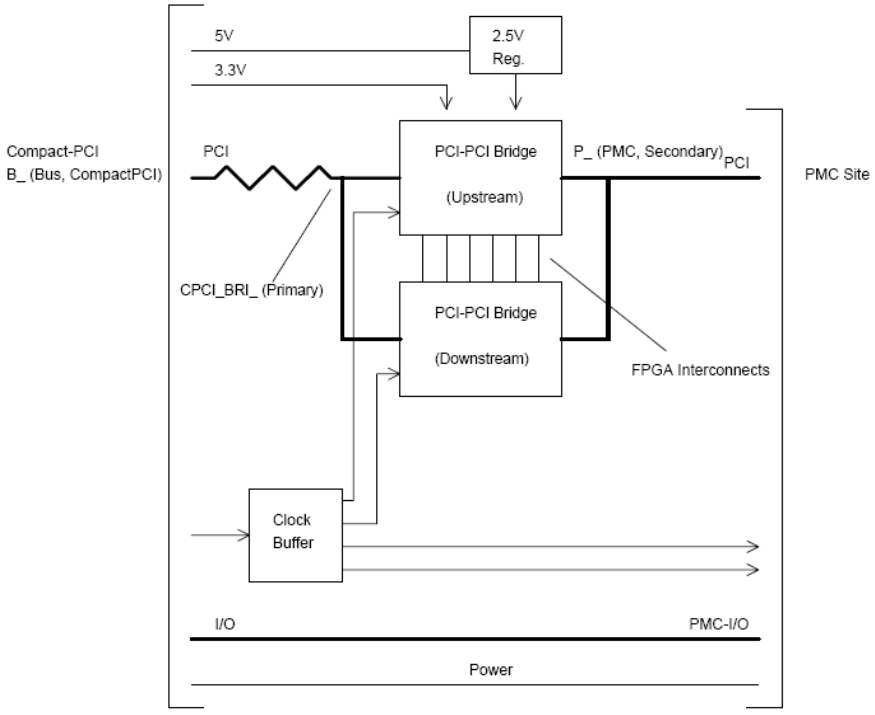
As the processing power of 3U cPCI SBCs continues to increase, expanding system functionality by means of PCI Mezzanine Cards (PMCs) is frequently the method of choice for maximizing performance while minimizing system size, power consumption, and cost.

In order to facilitate expandability beyond the PMC sites on the S950 SBC, Aitech has developed the CM950 PMC Carrier. When used in conjunction with our PowerPC® SBCs that provide cPCI backplane interface, such as Aitech's S950, the CM950 adds an additional PMC site per backplane slot. Depending on the SBC, up to seven CM950s can be used in an eight-slot 3U cPCI Enclosure with a S950 SBC configures as a system controller.

CM950 architecture is based on a PCI-PCI bridge implemented in a pair of anti-fuse FPGAs. The bridge connects the primary 32-bit 33.333 MHz PCI expansion bus to a secondary 32-bit 33.333 MHz PCI bus on which the PMC site reside. All cPCI interrupts are routed from the PMC site directly to the cPCI backplane bus interface. Both engineering model and flight model are designed in conduction-cooled form factor to host a conduction-cooled PMC such as the Aitech S703 MIL-STD-1553 PMC or the S710 Communication and 1394a PMC. All I/Os are routed to the cPCI backplane per “PMC on CompactPCI” PIGMG 2.3, R1.0 specifications (dated August 7, 1998).

Designed for harsh space environment applications, the CM950 flight model has an unshielded total dose capability of 45 krad (Si) and an optional 100 krad version can be available upon request.

With it's extremely low power consumption (2W maximum – 1.5W on 5Vdc and 0.5W on 3.3Vdc), the CM950 provides maximum expansion capabilities while consuming minimum resources. In addition to +5Vdc and +3.3Vdc, +12Vdc and -12Vdc are routed from cPCI P1 connector Pin D1 and Pin B1 to the PMC connectors J12-Pin1 and J11-Pin2 respectively.

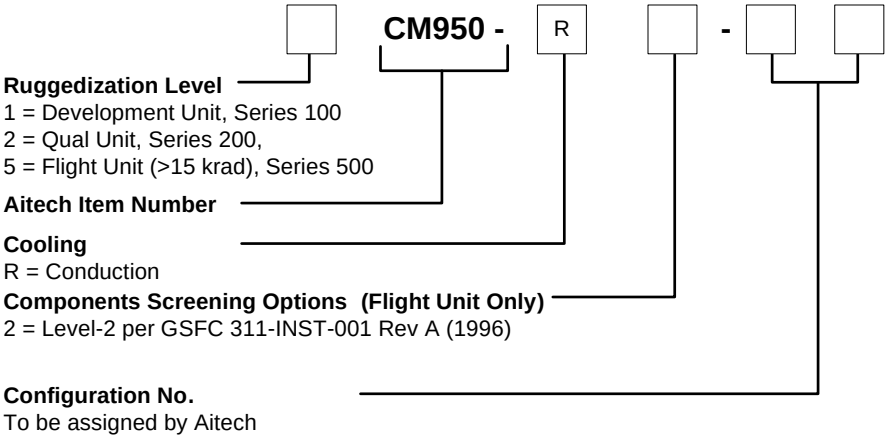


CM950 Pinout

CompactPCI Bus	Local PMC Bus
J2-E13	PMC IO_1
J2-D13	PMC IO_2
J2-C13	PMC IO_3
J2-B13	PMC IO_4
J2-A13	PMC IO_5
J2-E12	PMC IO_6
J2-D12	PMC IO_7
J2-C12	PMC IO_8
J2-B12	PMC IO_9
J2-A12	PMC IO_10
J2-E11	PMC IO_11
J2-D11	PMC IO_12
J2-C11	PMC IO_13
J2-B11	PMC IO_14
J2-A11	PMC IO_15
J2-E10	PMC IO_16
J2-D10	PMC IO_17
J2-C10	PMC IO_18
J2-B10	PMC IO_19
J2-A10	PMC IO_20
J2-E9	PMC IO_21
J2-D9	PMC IO_22
J2-C9	PMC IO_23
J2-B9	PMC IO_24
J2-A9	PMC IO_25
J2-E8	PMC IO_26
J2-D8	PMC IO_27
J2-C8	PMC IO_28
J2-B8	PMC IO_29
J2-A8	PMC IO_30
J2-E7	PMC IO_31
J2-D7	PMC IO_32

CompactPCI Bus	Local PMC Bus
J2-C7	PMC IO_33
J2-B7	PMC IO_34
J2-A7	PMC IO_35
J2-E6	PMC IO_36
J2-D6	PMC IO_37
J2-C6	PMC IO_38
J2-B6	PMC IO_39
J2-A6	PMC IO_40
J2-E5	PMC IO_41
J2-D5	PMC IO_42
J2-C5	PMC IO_43
J2-B5	PMC IO_44
J2-A5	PMC IO_45
J2-E4	PMC IO_46
J2-D4	PMC IO_47
J2-C4	PMC IO_48
J2-B4	PMC IO_49
J2-A4	PMC IO_50
J2-E3	PMC IO_51
J2-D3	PMC IO_52
J2-C3	PMC IO_53
J2-B3	PMC IO_54
J2-A3	PMC IO_55
J2-E2	PMC IO_56
J2-D2	PMC IO_57
J2-C2	PMC IO_58
J2-B2	PMC IO_59
J2-A2	PMC IO_60
J2-E1	PMC IO_61
J2-D1	PMC IO_62
J2-C1	PMC IO_63
J2-B1	PMC IO_64

Ordering Information



Available Configurations are: 1CM950-R, 2CM950-R, 5CM950-R2

For more information about the CM950 or any Aitech product, please contact Aitech Defense Systems sales department at (888) AITECH-8 (888-248-3248).

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