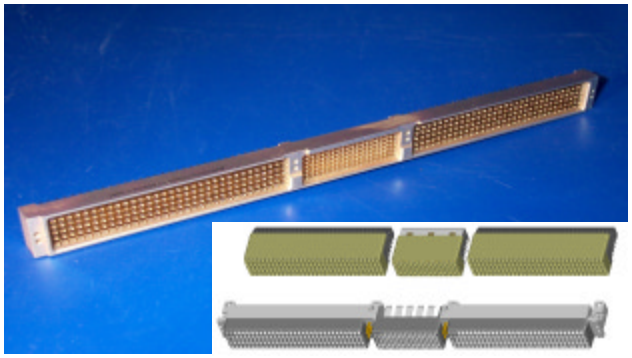
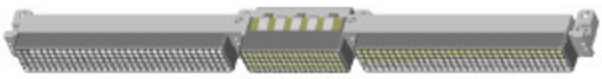
Amphenol Aerospace

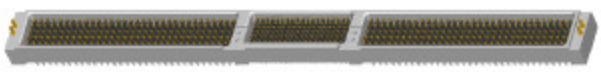
Ruggedized VME 64-X

Amphenol Aerospace has developed the "Ruggedized VME64-X" in response to the military trend towards VME64X and the utilization of COTS Boards and Chassis. The connector has a more rugged interface than standard connectors for improved vibration durability. Many different companies manufacture "Ruggedized VME cards" for military applications, but they still use the standard VME COTS (Commercial Off The Shelf) connector interface. In a harsh military environment, the COTS VME connector interface can fail, negating all of the ruggedization on the cards. Amphenol Aerospace, with the sponsorship of a key customer, has developed the Ruggedized VME64X connector family as a new alternative for military applications.

The Ruggedized VME64X connectors mount to standard VME64X cards and backplanes, but have been designed to perform in a harsh military environment. Features include metal shells, ESD (electrostatic discharge) protection, a robust hyperboloid contact system, high-data rate compatible electrical and optical P0 connector options, and more!







A Ruggedized, Single Piece, ESD protected connector which is capable of mounting to standard, VME64X printed circuit boards

Features and Benefits

One connector replaces three

Rather than dealing with three independent connectors, Amphenol has created a single, unified connector assembly. Through the use of modular insert assemblies, metallic connector shells have been designed to accommodate different interconnect combinations. These include P1, P2 and 2mm electrical P0 combination, the P1 and P2 combination, and the P1 and P2 with a 12 fiber MT optical connector in the P0 position.

The metal shell mounts directly to the standard VME card mounting holes, and provides support and protection to the P1, P2 and P0 connector inserts. The same is true for the backplane connector, with the added benefit that the backplane connector shell provides additional stiffness to the backplane.

Features and Benefits Cont.

ESD Protection for the Ruggedized VME cards

The metal shell that unifies the dielectric inserts also creates a faraday cage around the contacts, preventing ESD (ElectroStatic Discharge) into the contacts. It is a known fact that ESD is capable of damaging sensitive electronic components on cards as they are being handled. Amphenol has successfully used the same faraday cage ESD protection on its LRM connector lines for the past ten years.

ESD protection is key during field maintenance, where measures such as personnel ground straps and ESD protective bags and caps are impractical.

Mounts to standard VME64X cards and backplanes.

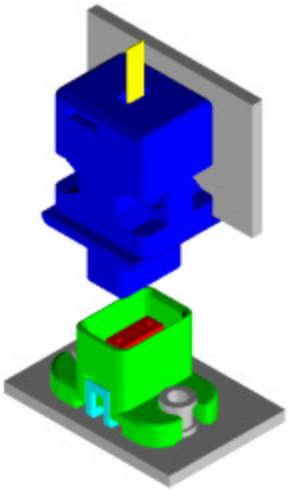
Amphenol's Ruggedized VME64X connectors are a drop in replacement for the commercial VME64X connectors, including the optional 2 mm P0/J0 connector. No modifications of standard VME64X cards are required for these connectors.

However, the Ruggedized VME64X connector cannot be mated with the standard VME commercial connectors.

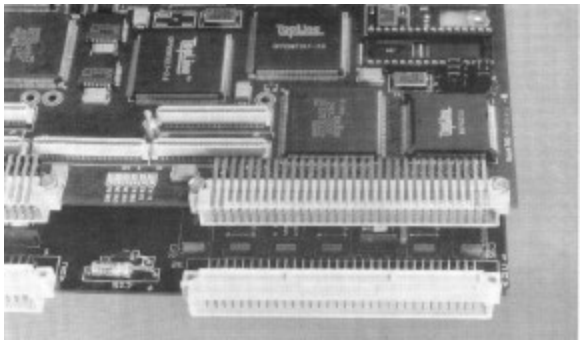
Optional twelve fiber optical connector for the P0 position.

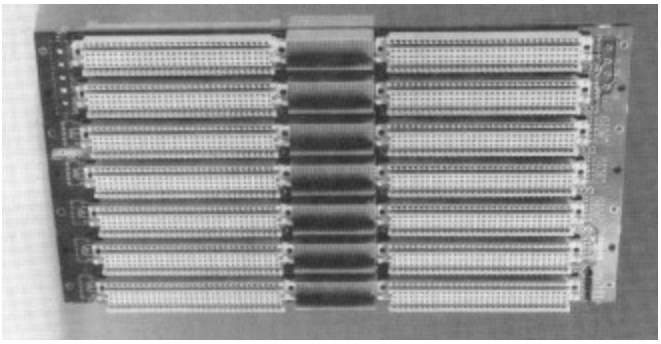
Amphenol has also developed a robust optical connector that fits in the P0 bay of a standard VME card, which can be used both with and without the Amphenol Ruggedized VME64X connector. This optical connector utilizes the MT ferrule as a terminus, which provides up to 12 multimode or singlemode optical lines.

These optical P0 connectors can be used to create an optical backplane in a VME system, expanding connectivity bandwidth far beyond that of the VMEbus.



Solid model of the Ruggedized P0 optical connector, which contains a MT ferrule capable of housing 12 optical fibers





Views of commercial, non-Ruggedized VME Cards and Backplanes