

Ruggedized communications router

MODIFIED COMMERCIAL ROUTER FOR HARSH ENVIRONMENTS

RUGGED ROUTER



This rugged packaged solution provides a path for the end user to choose a commercial Cisco router for use in demanding battlefield environments. Elma provided after-market ruggedization modifications and conducted extensive qualification testing to provide a cost-effective solution.

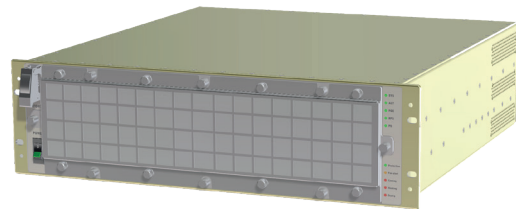
- Cisco routers in rugged packaging
- Environmental monitoring system
- Low to high unit volume support
- Conformal coating
- Software compatible with infrastructure
- Test and manufacturing documentation
- Configuration control and EOL support
- Supplied under oe order number

Requirements

Re-use of an existing commercial router in this rugged environment was the key requirement. Necessary backwards compatibility requirements demanded that modifications to the system should be operating system agnostic and transparent to users. The project utilized commercial Cisco routers, chosen for their capability, high speed and reliability, which needed to be housed in packaging tested and qualified for extreme environments.

Solution

Elma performed a characterization study of the environmental limits of the Cisco router, including thermal analysis and resistance to high levels of shock and vibration. Elma's



packaging design team implemented board modifications such as conformal coating and component hold down methods. They enhanced an existing rugged COTS 19" chassis, suited to shock isolation, increased cooling and system temperature monitoring. The system successfully passed all testing.

Benefits

Elma's extensive experience in ruggedization ensures continued use of this commercial Cisco router which had been in service for several years. The solution provides rugged network routing capability to communications installations located on mobile and fixed battlefield assets.

The system not only achieves functional compatibility, but also meets the customer's requirements for form and fit. Managing air flow in order to meet subcomponent operating temperature specifications was critical in this application. With the addition of a chassis management system, the customer is able to monitor key thermal parameters while the system regulates fan speeds, to ensure temperature and humidity control for optimal performance.