



CV-MCU2+ Converter

Universal Circuit Extension for Tactical Networks

Features

- Supports up to Eight Functions in a Single Rack-Unit with Option Modules:
 - L-Band RF over Fiber
 - Ethernet over Fiber
 - Serial over Fiber
 - Serial Multiplexing
 - Optical Multiplexing
 - Legacy Protocol Conversion (CDI-NRZ)
 - Legacy Fiber Optic Modem Equipment Emulation (FO)
 - Tactical Repeater (CDI-Fiber)
- Hot-Swappable Modules
- Built-in Diagnostics and Alarms, Local and Remote
- Extended Environmental Performance

Ultra-DNE's modular converter unit, the CV-MCU2+, extends the drive distance of modern and legacy tactical interfaces in the industry's most space efficient design. With expanded compatibility and streamlined designs, users can eliminate overhead on size, weight, and power, and free up rack space consumed by bulky legacy equipment.

Configured Solutions

Today's communication systems are changing almost daily, with requirements for advanced protocols as well as legacy equipment support. The CV-MCU2+ is a flexible platform that houses a variety of interchangeable option modules, allowing the user to configure each circuit as needed. As an example of the range of functionality, a single 1RU chassis can host two Ethernet copper to fiber conversions, convert bi-directional satellite L-band signal to fiber, and support 2-port to 1-port multiplexing

which accepts two fiber inputs and converts to a single NRZ transmission link. A unified platform instantly recognizes each module type, and presents only the parameters for your unique population. With hot-swappable module functionality, the CV-MCU2+ chassis is installed only once, allowing cabling to remain permanent. This enables the user to replace or upgrade a single circuit without a complete unit replacement.

Expanded Compatibility

Be prepared for whatever protocol might be on the remote end – without extra equipment. Legacy emulation modes support full interoperability with existing equipment across a fiber run. By setting the operation mode and protocol, the CV-MCU2+ can operate as a functional replacement for the MD-1272, CP-2270, GSC-54, and CTM-100, as well as older CV devices.

Streamlined Designs

The chassis can be populated with up to five separate modules in a single rack unit. Slim compact designs were integrated into a form factor hearty enough for its environment. The chassis is equipped with a rapid field-replaceable power supply, so failed supplies can be replaced with the ease of changing a module. As with all modules, a Phillips screwdriver is the only maintenance tool required. A Power-On Self-Test (POST) examines the availability of all circuits at power-up, immediately alerting the operator of any issues that might affect operation.

User Interface

Each chassis comes with a front panel interface with an LCD display and keypad, as well as a console port for maximum flexibility. Configuration files can be imported or exported easily, allowing for fast, repeatable installations.

Diagnostics

The CV-MCU2+ offers several features to aid in system set-up, monitoring, and troubleshooting. In addition to the self-test performed at power-up, the user can initiate a Built-In Self Test (BIST) to verify the full functionality of all internal data paths for whatever configuration the user has installed. With an internal Bit Error Rate Tester (BERT), the CV-MCU2+ can establish the link quality on any converter data path, multiplexer port, or multiplexer aggregate. Internal loopbacks are also provided for serial interfaces on near end and far end terminals. For Ethernet interfaces, virtual loopbacks enable quick diagnosis of fiber trouble, and impedance testers can pinpoint exactly where breaks are

located on the cable. For L-band satellite fiber modules, fiber loss-of-sync provides an instant alert for transmission difficulties. Local and remote unit alarm monitoring is also available to the user.

Multiplexing

The multiplexing software option creates a trunk group multiplexer, with the ability to mux two, three or four ports onto a single aggregate, allowing the user to consolidate field traffic for efficient transport to a remote site, via fiber or high-speed radio. Multiplexing is done via DNE's proprietary high-efficiency framing aggregate format at rates to 23.552 Mbps. Fiber, NRZ and CDI input ports and aggregates are supported.

Environment

The CV-MCU2+ chassis and option modules are designed for a tactical environment. As part of design process, each component has been rigorously tested to perform in extended altitude, temperature, and humidity ranges as well as to withstand the exposure, shock and vibration seen in military applications.

Option Modules & Accessories

DNE offers the following modules for the CV-MCU2+: Universal Converter Module, Satellite Fiber Link Transmitter and Receiver modules, Ethernet module, NRZ module, Fiber-Copper CDI module. Please see separate datasheets for details on each. DNE also offers a wide variety of accessory cables and tactical interface panels to simplify integration into new and existing applications.

SPECIFICATIONS	<i>See separate datasheet for module specifications</i>
Details	Each chassis houses 5 option modules
System Timing	One Female BNC Connector per Chassis 1 / 5 / 10 MHz or Bit Rate Station Clock input. Additional support for recovered timing off NRZ, CDI, or Fiber ports, as well as an Internal clock reference. Internal timing at the selected rate with + 50ppm phase is referenced from the selected input clock
User Interface	Front panel interface and customer option of terminal emulation using serial console (DB-9M) or telnet protocol (RJ-45)
Environmental	
Temperature	-20° C to 60° C Operating -40° C to 80° C Storage
Vibration	MIL-STD 810F Loose Cargo and Composite Wheeled Vehicle Vibration Exposure
Shock	MIL-STD 810F
Humidity	Up to 95% Humidity (non-condensing) for operation and storage
Altitude	Operating altitudes of up to 15,000 ft. Storage altitudes from -100 ft to 40,000 ft
Regulatory	Conducted and radiated emissions per FCC Part 15 Class A
Power	90-264 VAC, 47-63 Hz Chassis 6W modules will vary, see appropriate datasheet
Dimensions & Weight	CV-MCU2+ Chassis: 19.0" W x 1.75" H (1RU) x 17" D. Weight with five modules approx 7.2 pounds

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