

CV-MCU2+ Multiplexing Modules

Cost-effective solutions for fixed configurations

Features

- Voice & Data Circuit Extension with Drive Distances of:
 - 16 km over Multimode Fiber
 - 30 km over Single Mode Fiber
 - 3 km over Copper CDI
- Mode selection support for the following functions:
 - CDI to NRZ multiplexer
 - CDI to NRZ Port Relay (pass-through)
- Data Rates to 20 Mbps Software-controlled Analog CDI Orderwire filter
- Crypto Support
- Seamless operation over single mode and multimode fiber

Military field communications have been tasked with providing greater access to data, voice, and video. In order to accomplish this task, higher speed radios and modems are being integrated into field systems. Legacy group multiplexers, used in existing vans and shelters, are bandwidth restricted, limiting full use of next generation transmission equipment. In addition, the size and weight of legacy group multiplexers often limit mobility for rapid deployment.

Today's communication vans need to consolidate data traffic and integrate COTS equipment in the most efficient and portable manner possible. To that end, Ultra Electronics - DNE Technologies has designed cost effective multiplexing modules for the CV-MCU2+ to create a four-port multiplexer in a 1-RU chassis.

This population allows users to multiplex four ports onto a single aggregate for transport, consolidating field traffic at a van or shelter for efficient transport to a remote site. This traffic consolidation results in fewer cable runs, improving set up time and mobility for deployments.

The wide range of supported data rates results in superior control of bandwidth allocation, as well as better throughput and response times from network traffic.

Combo Fiber-CDI Mux Module:

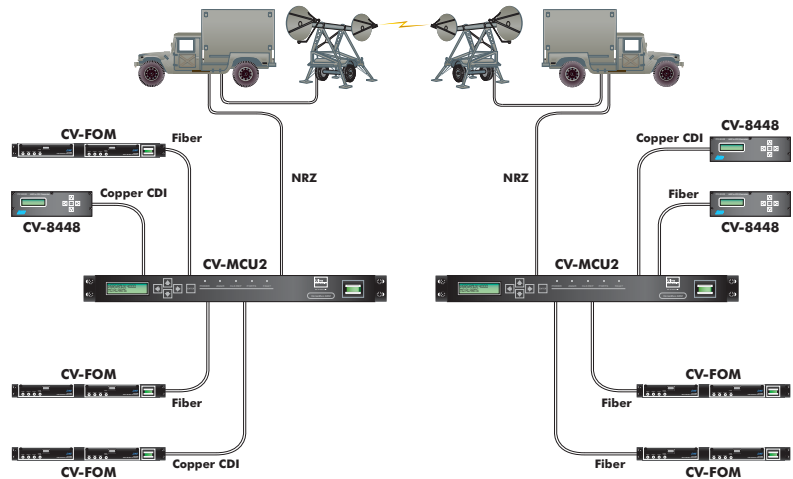
This module functions as a lower-cost alternative to the CV-MCU2+ Universal Converter Module for multiplexing and pass-through applications, providing both a fiber and unbalanced copper CDI interface that can be utilized as a converter port. This module supports both copper and fiber CDI by offering both SMA connectors and ST connectors. NRZ is not supported on this card. Users of DNE's VersaMux 4000 can use this card in the CV-MCU2+ for ease in sparing.

NRZ Module:

This module functions as a lower-cost alternative to the CV-MCU2+ Universal Converter Module for those users who require an NRZ interface for basic multiplexing and

pass-through applications. This interface can be utilized either as an NRZ port or as an NRZ aggregate. CDI is not supported on this card. The NRZ Mux module supports selected rates ranging from 1856 to 16384 kbps through a DB-25F connector. Users of DNE's VersaMux 4000 can use this module in the CV-MCU2+ for ease in sparing.

This diagram shows the multiplexing capabilities of the CV-MCU2 using the Multiplexing Modules. Here, CDI sources can be either fiber-optic or copper and circuits multiplexed for economical circuit extension. The output is NRZ for simple interface with encryption devices and transmission equipment.



SPECIFICATIONS	NRZ Module	Fiber-CDI Mux Module
Available Modes of Operation	NRZ interface for CDI to NRZ Port Relay Mux Port Mux Aggregate	CDI to fiber Port Relay (repeater mode) CDI to NRZ Port Relay Mux Port
Interfaces	EIA-530 pinout, RS-422 (Balanced) signaling using a DB-25F connector	CDI - 2 Unbalanced SMA connectors per module Optical - Two ST connectors per module (Tx and Rx) Supports 9µm/125µm single mode, 50µm/125µm multimode, and 62.5/125µm multimode fiber 1310nm +/-10nm
Drive Distances	20.0 ft (6.1m) at 16,384 kbps	CDI Unbalanced - 3.2km (2.0 mi) at 576kbps, 2.4km (1.5 mi) at 768kbps, 1.6km (1.0 mi) at 1544kbps, 1.2km (0.75 mi) at 2304kbps, 0.8km (0.5 mi) at 4096kbps, 0.4km (0.25 mi) at 4608kbps Optical - 30 km (18.6 mi) using 9µm singlemode fiber, 16km (10 mi) using 62.5/50 µm multimode fiber* *Based on TFOCA cable with 0.75dB/km attenuation
Rates (kbps)	Mux port or port relay - N x 8 kbps; increments from 16 to 20,000 Mux aggregate - 1856, 2048, 3776, 4096, 7808, 8192, 9824, 10240, 11840, 12288, 15616, 16384 kbps	Unbalanced - 72, 96, 112, 128, 144, 192, 224, 256, 288, 320, 384, 448, 512, 576, 640, 768, 960, 1024, 1152, 1344, 1536, 1544, 1920, 1952, 2048, 2304, 2560, 2816, 3072, 3088, 3200, 3584, 3968, 4096, 4608 kbps Optical (CV mode) - 72, 96, 112, 128, 144, 192, 224, 256, 288, 320, 384, 448, 512, 576, 640, 768, 960, 1024, 1152, 1344, 1536, 1544, 1920, 1952, 2048, 2304, 2560, 2816, 3072, 3088, 3904, 3200, 3584, 3968, 4096, 4608, 4800, 4824, 5120, 5632, 5856, 6144, 6312, 6656, 7168, 7680, 7808, 8064, 8192, 8448 kbps Optical (FOM mode) - N x 8 kbps from 16 to 18,840 kbps
Compatibility	Moog (Northrop Grumman) MD-1272/G FOM, Codem CTM-100, DNE CV-2048, CV-8448, CV-FOM, CV-MCU, CV-HTU-16M	ITT AN/GSC-54, Moog (Northrop Grumman) MD-1272/G FOM, Codem CTM-100, DNE CV-2048, CV-8448, CV-FOM, CV-MCU, CV-HTU-16M
Additional modes	KG Resync signaling available	Software selectable filter to remove Analog CDI Orderwire signaling
Data Mark Sense	Data Mark Sense is user-selectable to be either positive or negative upon configuration	
Environmental		
Temperature	-10° C to 50° C Operating, -30° C to 70° C storage temperature	



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