Innovative Concepts

Product Highlights

- Ruggedized Pentium Processor with a DSP Co-Processor
- Six Channel Data Interface

Improved Data Modem V304™ (IDM V304™)

What is IDM V304™?

The IDM V304™ is an extremely-rugged data communications terminal created for use in harsh environments. It is by design a multi-purpose, multi-channel router/processor in SEM-E-form. The IDM V304™ supports mobile Internet-Protocol (IP) based networks over both voice radios and wired and wireless data communication busses.

The fundamental system components contained in the IDM V304™ are the same as those found in any Pentium-based Ruggedized Computer. The IDM V304™ incorporates a 500 MHz Pentium III Processor, 256 MB RAM as well as a scaleable, nonvolatile IDE disk drive (256MB-30GB) in a ruggedized, flight certified machine.

This solution has proven to not only withstand the most rigorous environmental conditions but also to be extremely reliable and robust in providing required real-time data in a consistent and efficient manner.

IDM V304™ Applications

- Ruggedized computer and IP data router in harsh industrial environments
- Sending data to and from fast moving vehicles (i.e. aircraft, emergency response teams, trains, and ships)
- Efforts where timely data communications are critical such as responding to time sensitive disaster efforts
- In aircraft to provide internet connectivity to passengers
- Sensor data collection, for maintenance purposes, in civilian aircraft and telemetry of the data to the ground
- Oil rigging and exploration data distribution
- Security and safety related interoperability routers/gateways
- Routing between commercial satellite links and Ethernet in harsh environments
- Mobile IP routers and mission processors.

Components of the IDM V304™

The IDM V304™ is a multi-purpose modem, processor, and router.

Modem

The IDM V304™ modem capabilities provide the ability to convert digital data to a form capable of transmission over analog or digital radios. It provides all radio management functions and manages the information transfer. The IDM V304™ provides configurable radio interfaces and modem algorithms to interface with legacy and future radios without hardware modification. The IDM V304™ can directly share a radio with an operator to process both voice and data simultaneously. Since the IDM V304™ supports up to six channels, the operator can also communicate over multiple radios to different networks simultaneously.

Processor

The IDM V304™ processor, based on an Intel Pentium III chipset, contains a commercially designed Digital Signal Processor (DSP) co-processor. The internal data bus is PCI-compliant as is virtually any PC on the market today. The IDM V304™ contains non-spin type flash memory comparable to that found on SD (Secure Digital) and CF (Compact Flash) cards used in consumer digital electronics products.

Router

The IDM V304™ was designed to route data traffic on a wired LAN connected via Ethernet interface or USB interface, on a wireless LAN, or between analog or digital radios.

Please see reverse for technical information.

IDM TECHNOLOGY®

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IDM V304™ Specifications

Attributes

Channels
Six Channels

IDM V304™ Interfaces
- 10Base-T Ethernet
- USB
- RS 232
- RS 422

Software Intefaces

Unix Based

LynxOS Application Environment

Operating Parameters

Operating Temperature
-40 degrees C to +55 degrees C

Non-Operating Temperature
-55 degrees C to +71 degrees C

Operating Altitude
From sea level to 15,000 ft

Sand
Up to .177 x 10^{-3} kg/m^3

Dust
Up to 10.6 x 10^{-3} kg/m^3

Acceleration
Up to +9g to -3g

Humidity
Up to 100%

Rain
During and after exposure to a rainfall of 2in/hr for an exposure duration of 30 min

Key Features

Weight
≤ 16 lbs.

Part Number
81995-DM-001-304

Nomenclature
Modem, Communications MD-1359/A

NSN
5895-01-493-4396

Dimensions
5.35”W x 7.42”H x 9.03”D

Expansion
3 Spare Slots, Memory Expansion Capability

Reliability
Demonstrated 5,000+ Hours

Supportable
3-Level Maintenance Compatible

Service Life
20 Years

Hardware

Input/Output Module (IOM)
- Uses latest Digital Signal Processor technology for use in data acquisition and processing
- Includes all discrete signals allowing control and monitoring of external devices
- PCI based backplane

Communications Processor Module (CPM)
- Uses a 500 MHz embedded Intel Pentium microprocessor
- 256 MB of card memory

Expansibility
- Hardware is designed to support a graphics card
- Hardware supports interfaces to internal radios such as wireless LAN

Mass Storage Module (MSM)
- Supports a 256 MB IDM flash fault tolerant disk drive system

Software Loads
- Application software loaded via Ethernet Port

Power Converter Module
- Accepts and filters 28 Vdc
- Provides power to the modules within the IDM V304™

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