

## 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 V304™ Specifications

## Attributes

### Channels

Six Channels

### IDM V304™ Interfaces

- 10Base-T Ethernet
- USB
- RS 232
- RS 422

## Software Interfaces

### Unix Based

### LynxOS Application Environment

## Operating Parameters

### Operating Temperature

-40 degrees C to +55 degrees C

### Dust

Up to  $10.6 \times 10^{-3}$  kg/m<sup>3</sup>

### Non-Operating Temperature

-55 degrees C to +71 degrees C

### Acceleration

Up to +9g to -3g

### Operating Altitude

From sea level to 15,000 ft

### Humidity

Up to 100%

### Sand

Up to  $.177 \times 10^{-3}$  kg/m<sup>3</sup>

### 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™