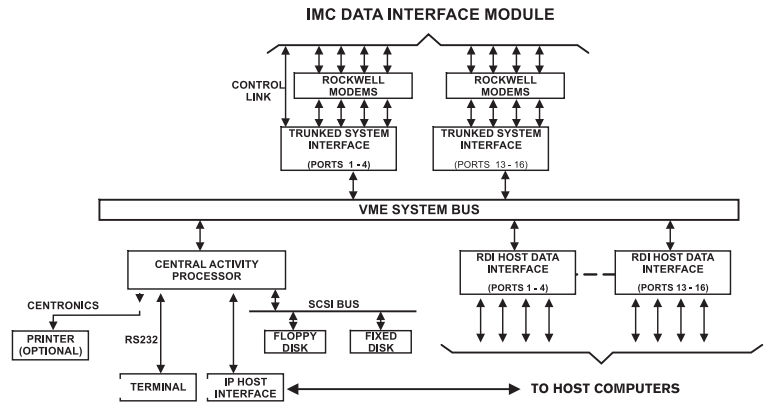


The EDACS Data Gateway (EDG) serves as a high-speed router between the M/A-COM trunked radio system and a wire-based data network. Connecting an EDG to a M/A-COM switch enables fast, reliable bi-directional data communications between one or more fixed host computers and remote data devices. The EDG is easily added to an existing M/A-COM trunked network because channel partitions and dedicated circuits are not required. A single EDG can be sized to support more than 30 simultaneous data calls.



Product Overview

Reliable Operation

The EDG provides access to the built-in reliability of EDACS data handling. Built-in queuing, retries, acknowledgments, error detection and correction, and M/A-COM's Bias Reduction Encoding (BREN) antibiasing algorithm all combine to aid accurate transmission of data over M/A-COM's trunked systems. Distributed processing throughout M/A-COM's trunked system architecture provides great reliability; the EDG continues to process data calls for systems even in trunked Failsoft™.

Maximum Throughput

The 9.6 kbps over-the-air data rate is optimized to provide fast signaling rates without degrading coverage. With every channel in a M/A-COM network supporting this data rate, the maximum total throughput exceeds that of other dedicated data systems. Additionally,

the EDG manages flow control and call queuing to ensure delivery of data messages without unnecessary retries.

Integrated Voice and Data Network

The EDG allows data calls to be sent between a mainframe or other type of host computer network and any radio, on any site, in a multisite network. These data calls are processed over a common voice and data infrastructure; one network supports both call types.

The EDG supports both individual and group calls. M/A-COM trunked networks support more than 16,000 IDs. If the EDG has an IP host interface, an individual call can take place between two trunked radios. Host-originated group calls are also supported.

Network Mobility

Intra-multisite transparent roaming, automatic login, and tracking are standard features that can be extended inter-

multisite over a StarGate™ or MultiLink network when several EDGs are equipped with the optional Internodal Data software and networked together.

Companion Software Products

Choose from two Application Programmer Interfaces (APIs) which provide pre-written subroutines for port initialization, radio call setup, and protocol handling. The M/A-COM Network Driver is used in conjunction with an EDG and IP host interface.

For More Information

For more information about this or any other M/A-COM Wireless Systems product, call 1-800-368-3277. From outside the U.S. call 1-434-455-9223 (Asia Pacific), 1-434-455-9229 (Latin America and Middle East), and 1-434-455-9219 (Europe).

Customer Requirements	Feature/Advantage
Fully Integrated Multisite Voice and Data Network	The EDACS Data Gateway allows data calls to be sent between a mainframe or other type of host computer network and any radio, on any site, in a multisite network. These data calls are processed over a common voice and data infrastructure. Instead of having parallel voice and data systems to install and maintain, one network supports both call types.
Network Mobility	The EDG provides data users true network mobility. Intra-multisite transparent roaming, automatic login, and tracking are standard features. These same features can be extended inter-multisite over a StarGate or MultiLink network when several EDGs are equipped with the optional Internodal Data software and networked together.
Reliable Operation	The EDG provides access to the built-in reliability of M/A-COM data handling. Built-in queuing, retries, acknowledgments, error detection and correction, and M/A-COM's BREN antibiasing algorithm all combine to ensure the accurate transmission of data over M/A-COM trunked systems. Additionally, the use of distributed processing throughout the M/A-COM trunked system architecture provides unparalleled reliability. In fact, the EDG continues to process data calls for systems in trunked Failsoft.
Seamless Upgradability	The EDACS Data Gateway is easily added to an existing M/A-COM trunked network. Channel partitions and dedicated circuits are not required.
Flexible Configuration	The EDACS Data Gateway provides simple ASCII files to configure: <ul style="list-style-type: none"> Number of host and trunked system ports Port direction capability (in, out, bi-directional) Queue size IP address information Tuning parameters
Maximum Throughput	The 9.6 kbps over-the-air data rate is optimized to provide the fastest signaling rate without degrading coverage. With every channel in a M/A-COM trunked network supporting this data rate, the maximum total throughput exceeds that of 1- or 2-channel dedicated data systems with higher over-the-air data rates. To further optimize throughput, the EDG manages flow control and call queuing to ensure delivery of data messages without unnecessary retries.
Time-Saving Companion Software Products	Choose from two Application Programmer Interfaces (APIs) which provide pre-written subroutines for port initialization, radio call setup, and protocol handling, effectively removing these items from the application developer's task list. The M/A-COM Network Driver is used in conjunction with an EDG with an IP host interface.
Capacity	An EDG can be sized to support up to 16 simultaneous data calls.
Error Logging	The EDG provides the flexibility to log detected errors to a disk file, diagnostic terminal, remote terminal, and/or a printer, as desired.

Architecture

The EDACS Data Gateway is based on industry standard VME technology. Several independent microprocessor boards combine to provide a gateway between the M/A-COM trunked radio network and a customer's computer network.

Trunked System Interface (TSI)

The TSI communicates with the radio system through a Data Interface Module (DIM) in an Integrated Multisite and Console Controller (IMC) or Console Electronics Controller (CEC). System control messages are sent between the TSI and DIM at 19.2 or 9.6 kbps. Each TSI board has

four 9.6-kbps serial data ports for exchanging data messages with the DIM. Data from these ports is modulated by modems before being sent to the DIM. Up to four TSI boards are allowed per EDG. One control link and a DIM are required per two TSI boards.

Host Data Interface (HDI)

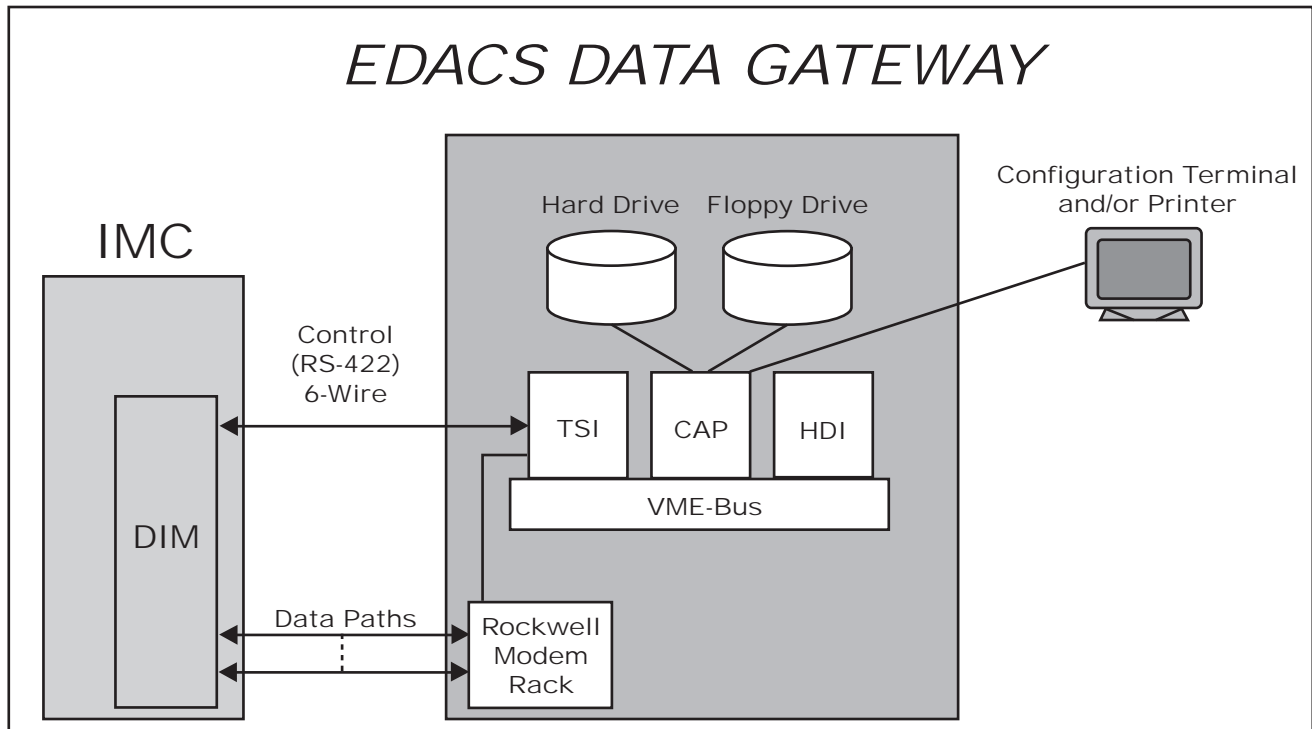
The Host Data Interface provides up to four HDI boards that can be used to communicate with a message switch or host computer network using the asynchronous Radio Data Interface Protocol. Each HDI provides four 9.6-kbps serial data ports.

Central Activity Processor (CAP)

The CAP is the central point for message transfers and routing, error and activity logging, as well as disk and printer service. The CAP can also be used to provide an Internet Protocol (IP) interface to a host computer network.

Data Interface Module (DIM)

The DIM is located in the IMC or CEC. It exchanges data and control signaling with the EDG TSI. One DIM controller board can support up to two audio boards, for a total of eight data ports. Two DIM controller boards can be combined to support a total of 16 ports.



General Specifications

Host Interface Protocols
 Radio Data Interface
 Internet Protocol
 RDI Host Interface
 Physical Layer:
 RS-232, DB-25 connectors, 9.6 kbps
 Data Link Layer:
 RDI versions 1.8A, 1.91, and 1.92
 IP Host Interface
 Physical Layer:
 DB-15 AUI Ethernet Connector
 Data Link Layer:
 Ethernet II (IEEE 802.3 DIX)
 Network Layer:
 Internet Protocol Version 4
 Diagnostic Terminal
 RS-232 serial interface supporting VT100
 type terminal or remote access via Telnet
 Printer
 Centronics parallel printer interface
 Drives
 Fixed Disk Drive:
 245 MB with SCSI
 Removable Diskette Drive:
 1.44 MB, 3.5-inch MS-DOS
 format Diskettes, SCSI

Physical (M/A-COM Standard Cabinet)

Cabinet Colors
 Housing: Light Gray
 Trim: Black
 Cabinet Dimensions
 Height: 69-1/6 in. (175.5 cm)
 Width: 24 in. (61 cm)
 Depth: 24 in. (61 cm)
 Material
 16-gauge cold rolled steel

Status Inputs and Outputs

Board LEDs
 General Purpose CPU:
 FAIL, STATUS, RUN, and SCON
 Intelligent Serial I/O Controller:
 RUN, HALT, and SYSFAIL
 Drive LEDs
 Disk activity lamps on both drives
 Fan LED
 12 VDC power indicator lamp
 Remote Reset Input Connector
 Shorting the two remote reset pins on the
 CAP board forces a system RESET

Power

Input Voltage (Auto Sensing): 110 VAC \pm 10%, 60 Hz (Auto Sensing)
 220 VAC \pm 10%, 50 Hz
 Output Voltage: \pm 12 VDC at 10A each
 \pm 5 VDC at 100A
 Remote Sense: For all three channels
 Over Voltage Protection: 120 to 130% of nominal output on all
 channels
 Over Current Protection: On all channels
 Line Regulation: 0.2% of rated output
 Load Regulation: 0.8% of rated output
 Ripple: 1% peak to peak at 50 MHz
 Dynamic Response: 3% maximum deviation to 25 to 75%
 step change
 Filtering: Power line filter and internal filter for
 conducted emissions
 Status Indicators: AC "POWER ON" indicator
 Redundancy: None
 Average Power Consumption: EDG with no ports: 280W
 Each group of 4 TSI ports: 70W
 Each group of 4 HDI ports: 40W

Fan

Power Requirements: 12 VDC
 Air Flow Rate: 250 CFM
 Filter: Removable aluminum filter

Environmental Specifications

Temperature: Operating: 32 to 104°F (0 to +40°C)
 Non-operating: -4 to 185°F
 (-20 to +85°C)
 Humidity: to 95% noncondensating (except for
 removable diskette drive)

Regulatory Data

EMI: Conforms to FCC Rule Part 15,
 Class A
 Safety: ANSI/UL 60950-1, CAN/CSA C22.2
 No.60950-1-03

M/A-COM Wireless Systems

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