



OPTIMIZING COMMUNICATIONS FOR **DISASTER RECOVERY & BUSINESS CONTINUITY**

Natural and man-made disasters are an unfortunate reality in our world. As recent examples around the globe have proven, communications systems can be severely affected when disaster strikes. Traditional terrestrial-based transmission facilities may be unavailable or congested. Yet, establishing first response connectivity of voice, data and video is a necessity. And, maintaining continuity of business communications is critical for sustained operations.

Satellite communication systems are an essential component of emergency preparedness plans and can enable communications restoral more rapidly than terrestrial systems. Proactively deploying satellite communications systems (fixed or mobile) as the backbone to your emergency communications network allows enterprises and government agencies to respond quickly if a disaster occurs. Connectivity can instantaneously be re-established, facilitating communications between hospitals, headquarters, supply centers and remote locations. With a satellite-based redundant network infrastructure, downtime can be minimized, back-office operations can continue, and first responders can react to virtually any situation.

FIRST RESPONSE COMMUNICATIONS

MAINTAIN BUSINESS OPERATIONS

IMMEDIATE ACCESS

LINK EFFICIENCY

CIRCUIT RESTORAL

FLEXIBILITY



COMTECH EF DATA SOLUTIONS

Comtech EF Data offers flexible and cost-effective solutions for your satellite-based network infrastructure. With products installed in more than 160 countries, our satellite modems, RF products, and bandwidth & capacity management systems facilitate communications for government agencies and a variety of enterprises. We are compliant with networking standards, interoperate with major satellite service providers and provide technologies that maximize bandwidth.

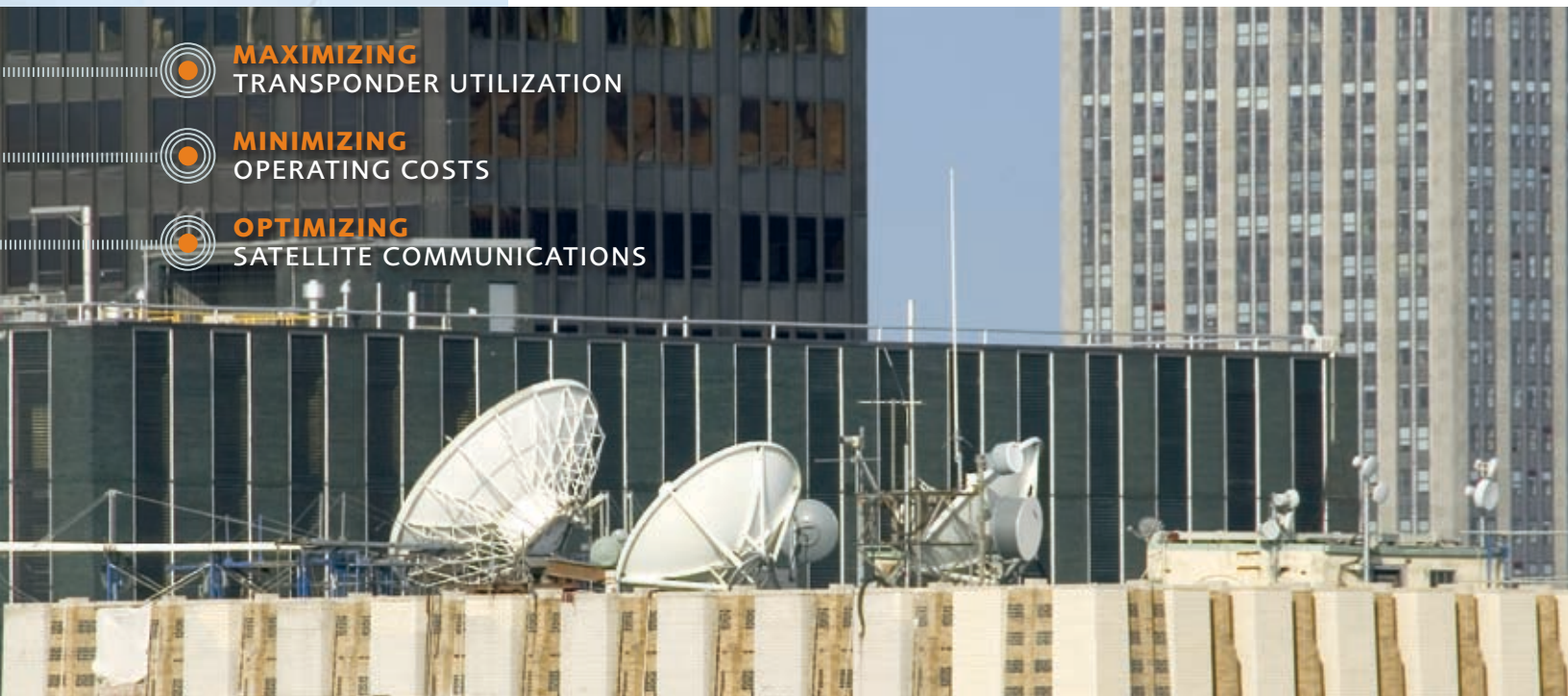
SATELLITE MODEMS

We offer the widest range of bandwidth efficient modems available in the satellite industry. Based on technologically advanced components and innovative design, our modems include application software to provide superior performance and features.

Ideal for optimizing satellite communications, the design of our modems is centered around highly advanced FPGA-based architectures and powerful 32-bit processors, allowing an unprecedented feature set and flexibility. Most systems are available in a 1RU chassis, providing the rack adaptability you need.

Available with numerous configurations and options, our family of bandwidth efficient modems offers the functionality required for satellite-based circuit restoration, fixed or mobile network communications.

- L-Band or 70/140 MHz Support
- Range of Interfaces & Data Rates
- Variety of Forward Error Correction
- Selection of Modulation Techniques
- IESS-308/309/310/314/315 Compliance
- External Switch and On-Board Redundancy
- Optional IP Module for IP-Based Networking
- Network-Based Management & Control



MAXIMIZING
TRANSPONDER UTILIZATION

MINIMIZING
OPERATING COSTS

OPTIMIZING
SATELLITE COMMUNICATIONS

The CDM-700 High Speed Satellite Modem provides transport for broadband data over satellite links – ideally suited for circuit restoration, point-to-point and point-to-multipoint applications. It is intended for operation with a range of multi-port data interfaces, and provides exceptional power and bandwidth efficiency. The modem offers data rates of 1.5 to 155 Mbps, QPSK, 8-PSK, 16-QAM and 64-QAM modulation and a range of data interfaces – Dual G.703, OC-3, HSSI and Gigabit Ethernet. The CDM-700 High Speed Satellite Modem is powerful and flexible, and provides a variety of optional features.



Our CDM-570/L Satellite Modems, CDD-564/L Quad Demodulators and CDD-562L Dual Demodulator are IP-enabled and take bandwidth optimization to a higher level. Available features such as Payload Compression, Header Compression and Quality of Service (QoS) enable significant bandwidth savings, improve transmission quality and increase control of bandwidth provisioning. Interoperable with our bandwidth and capacity management system, the IP-enabled modems can facilitate critical communications for disaster recovery and business continuity, including:

- Internet connectivity for e-mail, web browsing
- Video conferencing services for command and control
- Voice over IP (VoIP) connectivity to the public switched telephone network
- Large file transfers for system backup or telemedicine applications

MODEM ACCESSORIES

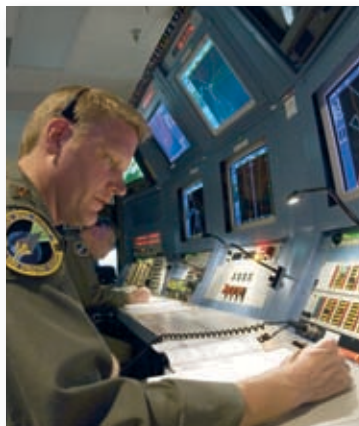
A line-up of accessories is available to enhance the functionality of our satellite modems, including 1:1 and 1:N Redundancy Switches and Performance Enhancement Proxies.

RF PRODUCTS

Comtech EF Data offers an extensive selection of RF products:

- **Amplifiers – Indoor, Outdoor & Low Noise Amplifiers**
- **Converters – C-, X-, Ku-Band Converters & L-Band Converter Systems**
- **Transceivers – Ku-Band, Multi-Band, C- & X-Band Transceivers**
- **Complete VSAT Terminals**

Deployed globally in commercial and government applications, our cost-effective RF products provide the performance and reliability required to support your satellite communications needs.



COMTECH EF DATA SOLUTIONS

BANDWIDTH & CAPACITY MANAGEMENT

Our feature-rich and cost-effective bandwidth and capacity management solution, Vipersat Management System (VMS), integrates with our IP-enabled satellite modems. It is based on dynamically managed Single Carrier per Channel (dSCPC) and automatic application switching technologies.

Restoration of vital communication services is effortless. A complete suite of IP-based transmission services including Internet/intranet, e-mail, facsimile, file transfer and VoIP are provided using our unique approach to satellite bandwidth management. Mobile communications vehicles and flyaways can be placed in multiple, strategic locations. Powered by Comtech EF Data's networking solutions, real-time, interactive connectivity to enable emergency services and to provide continuity of business communications are possible.

Network Entry

Once a flyaway or mobile communications unit equipped with a Comtech EF Data IP-enabled modem is on location and the antenna is coarsely pointed, it automatically joins the network. The VMS detects the new network device and sends tuning commands to the modem, switching it from its home state and into a dedicated SCPC connection. This low-latency, limited bandwidth "Entry Channel" SCPC connection can then be used to fine tune the antenna.

Internet Connectivity

Basic connectivity is supplied through the return "Entry Channel". E-mail and Internet services can be shared with a number of on-site users. And, once the satellite connection is established with the hub, 802.11 technologies can be used to blanket an area for Wi-Fi services to aid communication recovery efforts.

High Speed Connections

Bandwidth-intensive applications, such as video conferencing to support command and control, logistics coordination and large file transfers of telemedicine data, require a specialized connectivity via VMS. As these applications require additional bandwidth over the capacity provided by the "Entry Channel", the dSCPC technology automatically resizes these carriers based on application detection, modem buffer size, QoS rules, or via a schedule using our Vipersat Circuit Scheduler (VCS). These SCPC connections present dedicated, confirmed bandwidth, with low-latency and jitter, providing the required quality of service.

Deploying satellite-based networking solutions by Comtech EF Data provides the flexibility you need to enable first response connectivity and to sustain business operations should a disaster occur. Contact us to learn more about how our infrastructure products can be integrated into your emergency preparedness.



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