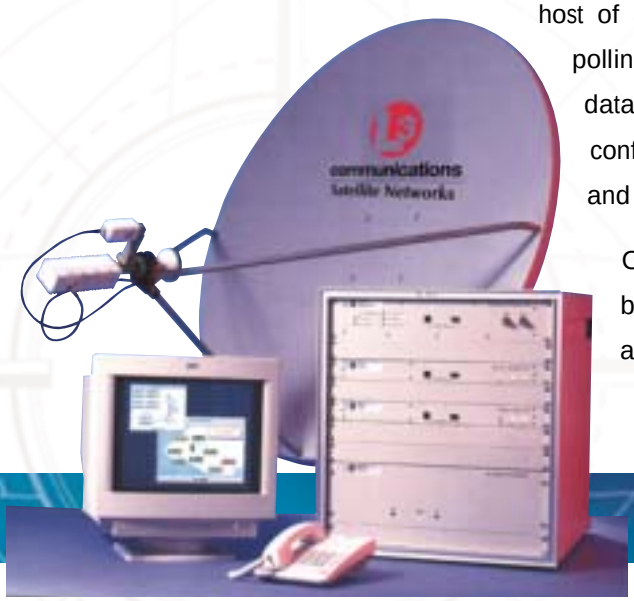
Integrated Service Access Terminals (ISAT®)

If you require a full-service communication network that will handle low to heavy levels of traffic, and is easily upgradeable, then look to Satellite Networks' state-of-the-art ISAT® product line. Using Frame Relay as a means of transport over the satellite, ISAT can be used in almost any form of communications. It is especially suited for Telephony (E–Trunking, E1, T1, Analog, & Digital), Internet, LAN and extension of existing terrestrial networks whether it be analog or digital voice, data or video applications.

At the heart of our ISAT product line is a Multimedia Processor (MMP) that features a host of LAN / WAN, data, voice, video, Frame Relay, IP and ISDN protocols and services. Features include: a high-speed packet switch, a data protocol converter for use with legacy systems, a high-quality voice codec, standard Ethernet interface with a built-in router for interconnecting local area networks via satellite, and a bandwidth-sharing multiplexer for extremely high efficiency in data transfer.

One of the major advantages of ISAT is that each station in the network transmits only one carrier. The remote stations receive a single carrier from the hub and the hub simultaneously receives the remote station carriers. ISAT can be configured in a star, mesh, hubless mesh, or complex network. Data and voice packets are multiplexed into a single carrier increasing the network's bandwidth efficiency. Use of a single carrier allows each station to lower the transmission power amplifier requirements and reduces equipment costs.

Network management is performed by a personal computer. Supplying a host of advanced features, the network management system allows for polling of remote stations, password control, network event logging, database-generated reports, and more. Optional features include video conferencing link scheduling and setup, call statistics output for billing, and network management redundancy.



Our ISAT product line works with C-Band, Ku-Band and commercial bands. Complete frequency conversions and amplification of uplink and downlink signals are just a few of its standard features.

ISO 9001 Registered

CE

L3 communications
Satellite Networks

Specifications

Multimedia processor
Incorporates chassis/motherboard, firmware and RAM for options listed

Compression interface
Hardware compression for non-compressed data (0 to full compression)

Data/voice interface
V.24, V.35 (RS-530 or Winchester), X.21
56k/64k CSU/DSU
ISDN data (BRI-U, BRI-S/T), ISDN voice (BRI-S/T I/O)
E1/T1 data non-channelized (T1/FT1 CSU/DSU)
E1/T1/ISDN PRI channelized data and/or voice
ATM E1
V.34 MODEM
10baseT/AUI
10/100baseT
Video Codec – RS-449/X.21/V.35
Dual port analog voice I/O (FXO, FXS, E&M 2 & 4 wire types I – V with A and B side signalling).

User application and protocol support via Frame Relay WAN
Frame Relay
Voice (non-compressed – PCM/G.711 64k @ 69.6k per chnl)
Voice (compressed – G.729b 8k @ 12.4k per chnl, G.729b 8k (with silence insert descriptors) @ 7.2k per chnl, ADPCM/G.726 16k @ 21.6k per chnl, 24k @ 29.6k per chnl, 32k @ 37.6k per chnl, 40k @ 45.6k per chnl)
Voice includes class III FAX, V.32/V.32bis MODEM, V.110 support (FAX @ 2.4, 4.8, 7.2 or 9.6k, MODEM V.32/V.32bis up to 14.4k, V.110 @ 8 or 16k)
IP/IPX WAN or bridging
Transparent HDLC
ATM handoff of IP
Asynchronous
Asynch/X.25 (PAD)
X.25
QLLC (SNA/SDLC via X.25 to Frame)
LLC2 RFC 1490 FRF3 BNN & BAN
SNA/SDLC
Clear bit stream (via Video CODEC)

Other voice features
CAS (MFC-R2) switched, CCS (SS7) point to point, DTMF, Pulse, Tone, DID

Analog Telephone Interface

The standard voice interface (electrical and physical) is:
1. FXO: 600 and 900 ohms, -48V, loop and ground start
2. FXS: 600 and 900 ohms, -48V
3. E&M 4 wires: 600 ohms, type 1 to 5, -48V

General Modem Specs

Modulation
Nyquist-filtered BPSK or QPSK

Bit Rates
9.6 kbps to 4.096 Mbps

Error Correction
Viterbi, Rate 1/2, 3/4, 7/8

Scrambling
V.35

Modulator Output Frequency/Receiver Input Frequency
950-1530 MHz in 100 Hz steps

Chassis (Separate Modulator/Demod Units)
One (1) rack unit each

Satellite Interface

Satellite Frequencies: C or Ku band, all commercial bands
Antenna: 1.2 meters and above, depending on satellite and earth station requirements
RF Transceiver: Ku-Band and C-band. Redundant configuration optional. Provides complete frequency conversions and amplification for uplink and downlink signals.
Baseband Unit: Includes QPSK modulator and single or multiple QPSK demodulators as required.
Aggregate Information Rate per Site: 9.6 to 4096 kbps.

NMS

Available for control and monitoring functions. UNIX based, high-end PC, 17 inch monitor, large disk memory, printer.

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