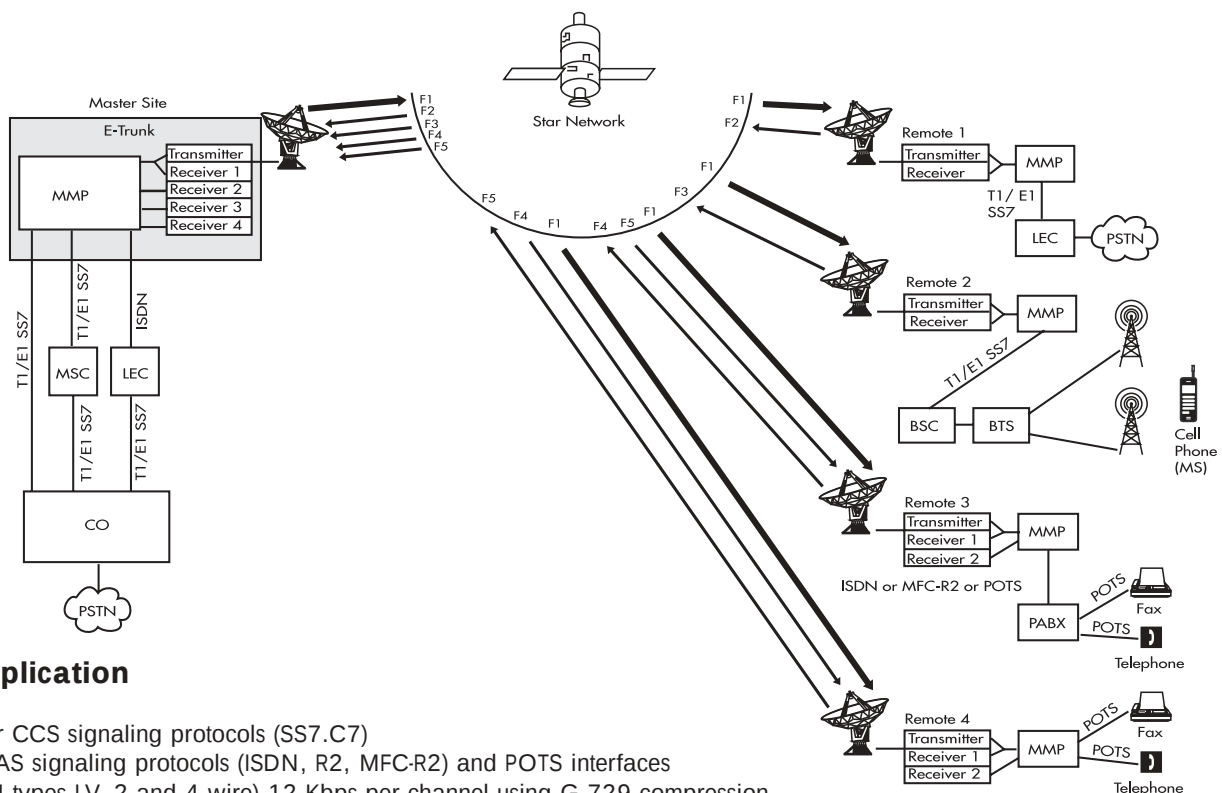




## E-Trunk Application

Point to Point for CCS signaling protocols (SS7.C7)  
Switching for CAS signaling protocols (ISDN, R2, MFC-R2) and POTS interfaces  
(FXO, FXS, E&M types I-V, 2 and 4 wire) 12 Kbps per channel using G.729 compression.

|          |                                                             |
|----------|-------------------------------------------------------------|
| BSC      | - Base Station Controller                                   |
| BTS      | - Base Station Transceiver Subsystem                        |
| CO       | - Central Exchange Office                                   |
| LEC      | - Local Exchange Carrier                                    |
| MS       | - Mobile Subscriber                                         |
| MSC      | - Mobile Switching Center                                   |
| PBX/PABX | - Private Branch Exchange/Private Automatic Branch Exchange |
| POTS     | - Plain Old Telephone Service                               |
| PSTN     | - Public Switched Telephone Network                         |

The drawing depicts three subnetworks:

- Network 1 - A CO at the hub connected with an LEC at remote 1 using SS7 point to point
- Network 2 - An MSC at the hub connected with a BSC at remote 2 using SS7 point to point
- Network 3 - An LEC at the hub connected with a PABX at remote 3 and remote 4 where the MMP acts as a local PABX. Remote 3 and remote 4 are in mesh communications so voice double hop is not an issue.

E-Trunk is a specific configuration of L-3 Satellite Networks' ISAT® Frame Relay product targeted to meet the needs of heavy voice traffic “trunking” applications. Typical E-Trunk sites service from 1 to 20 E1's (30 to 600 lines) of voice traffic per site. Users are public telephony providers, cellular/GSM, and Wireless Local Loop (WLL) carriers needing high-density extensions to remote locations, as well as service providers addressing these markets.

With its ability to combine high coding rates, scalability and native signaling support with high speed IP and Frame Relay support, E-Trunk is a strong competitor against traditional trunking methods.

### Key Benefits and Features:

- Scalable, multi-destinational, multi-E1 platform requiring less hardware than traditional solutions.
- Line-by-line routing, locally and over satellite, including call detail records.
- High compression (8:1) using G.729 coding and silence suppression for reduced satellite access costs.
- Support for signaling protocols, including C7/SS7/DTMF/R2/MFC-R2 with cross-connections.
- Automatic bandwidth sharing between voice and data traffic.
- Up to 11 E1's (330 lines) on a single carrier.
- Support for toll quality voice, with additional features for IP and FR service, for extra revenue generation at little additional hardware cost.

# Technical Specifications

Satellite Frequencies  
Antenna

C- or Ku- and other commercial bands  
1.2 meter and above, depending on satellite and earth station requirements

RF Transceiver

*Transmit Power Ratings*

*Redundant Configuration*

C-band or Ku-band  
2 to 200W (Ku-band)  
5 to 400W (C-band)

Optional

Provides complete frequency conversions and application for uplink and downlink signals

Baseband Unit

PSK modulator, single or multiple PSK demodulators as required.  
Provides interface between modulated carriers and digital baseband

Aggregate Information  
per Site

9.6 to 4096 Kbps

Modem Parameters

*Modulations*

*Scrambling/Descrambling*

*BER (1/2 rate coding)*

Convolutional FEC coding, R=1/2 or R=3/4, Viterbi decoding, K=7, soft decision

BPSK, QPSK

V.35

$1 \times 10^{-6}$  at Eb/No=5.6 dB (typ.)

$1 \times 10^{-7}$  at Eb/No=6.3 dB (typ.)

Multimedia Processor

Incorporates Frame Relay Switch and optional voice codecs and protocol encapsulation  
Expandable to virtually any required number of ports

Optional Data Interface

*Direct Access*

*Electrical*

*Clear Data Channels*

Frame Relay, X.25, X.25 PAD, SDLC, HDLC, BSC  
Bridge/Routers, ISDN

RS-232, RS-422/449, V. 35, V.11, V.24

From 64 Kbps to 2048 Kbps

Data Interface

*Protocol*

Ethernet 10BaseT, 10Base2, Token Ring

100 MHz Ethernet

Full RFC 1490 support, IP and IPX with routing/filtering

No external bridge or router required

Telephony Interfaces

T1/E1 interface (full or fractional)

2/4 wire E&M types I-V

FXS and FXO

Voice Performance

*Voice Encoding*

*Corresponding Link Rate*

*Average Link Rates*

*Other Voice Encoding*

*Voice/Fax*

*Echo Cancelling*

*Fax Bypass Group*

*Processing Delay (End-to-End)*

*Interface*

*Signaling*

Analog input or digital T1/E1 interface

Configurable voice compression rates

5.8 Kbps (near toll-quality) or

8 Kbps (full toll-quality)

9.8 or 12 Kbps

ADPCM 16, 24, 32 or 40 Kbps

Priority over data (selectable)

Integral adaptive

3 up to 9.6 Kbps

Approx. 120 ms.

E&M type I to V, 4-wire or 2-wire, FXS, FXO

Tone or pulse, flash hook, wink start, AC15, R2, DID

North American or International ringing



**communications**  
Satellite Networks

125 Kennedy Drive • Hauppauge, NY 11788  
Ph: +1-631/272.5600 • +1-800/666.7060  
Fx: +1-631/272.5517  
[www.L-3com.com/satellitenetworks](http://www.L-3com.com/satellitenetworks)  
Em: SN.mktg@L-3com.com