

IMACS

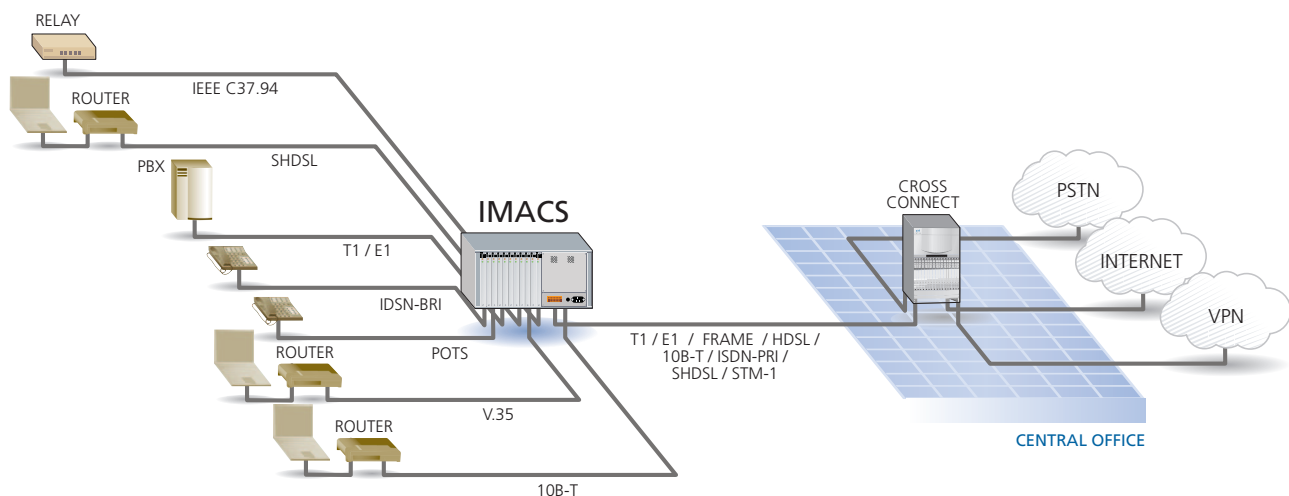
Integrated Multiple Access Communications Server

- ✓ **Over 50 Plug-In Solutions for Voice, Data and IP**
- ✓ **Integrated Processing Features**
 - Digital cross-connect
 - T1/E1 conversion
 - Voice compression
- ✓ **Optical HSU Interface to Protection Relays**
 - IEEE C37.94
- ✓ **Complete System Management**
 - Local and remote
 - Manage up to 500 nodes
 - External alarm monitoring
- ✓ **Powerful Diagnostic and Fault Isolation**
- ✓ **Proven. Approved. Deployed.**
 - Over 80,000 systems worldwide

Integrated One-Box Solution for Advanced Voice and Data Applications



The concept of Integrated Access began with the introduction of the IMACS. Initially, the IMACS was a vision that brought bandwidth savings for voice and data access. IMACS has not strayed from its vision and has remained the most flexible, robust, and scalable integrated access solution in the telecommunications market today. In fact, we have continued to build on our promise to provide the most robust set of voice and data access services and applications on one manageable platform – IMACS.



IMACS is unrivaled in network versatility, supporting circuit, packet and cell-switching on a single platform.





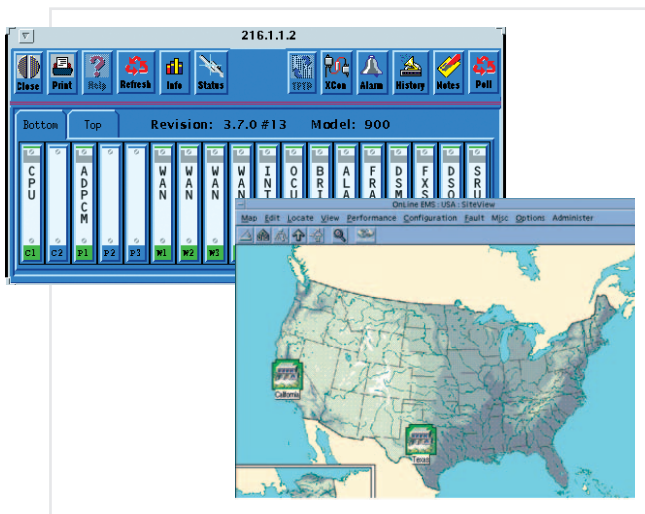
IMACS provides toll-quality voice compression using industry-standard ADPCM.

High Flexibility, Minimal Cost

The IMACS - with over 50 optional service application modules, three flexible, scalable chassis options, and two firmware platforms - provides an almost limitless combination of services, applications and network interfaces.

The IMACS is unrivaled in its network versatility. The IMACS supports V.35, V.11/X.21, up to 8 HDSL, T1, E1, fractional T1, and fractional E1 interfaces. An integrated digital cross-connect is available to consolidate multiple voice, data, and T1/E1 services. Three chassis models, IMACS 600, 800, and 900, differ in their card capacity and card install options (front, or front and rear). All models support the same range of modular cards, power supplies, and system redundancy options. All IMACS systems can be fully managed either with local craft interface through a VT100, PC, or through the OnLine Element Management System using standard SNMP interfaces.

In addition, IMACS offers a powerful array of integrated network diagnostic and fault isolation capabilities. These include Bit Error Rate Testers, test tone and signaling state generation, digital and analog loopback support, and remote configuration and control. IMACS meets stringent standards criteria, such as NEBS and CE, which means you can deploy the IMACS almost anywhere in your network.



Easy-to-use OnLine Element Management System provides full remote management capabilities

Integrated Applications

The IMACS is designed to continuously meet the needs of a changing telecommunications landscape. With its advanced patented modular architecture, voice and data services can be deployed quickly and cost effectively. Applications include: POTS (FXS, FXO, E&M), ISDN (BRI and PRI), voice compression (ADPCM and ACELP), VPN access, Internet access, integrated routing capabilities, voice over Frame Relay, Digital Data Networks (DDN), analog private lines, and numerous others. And the IMACS is being used in both public and private, as well as traditional facilities-based and wireless networks.

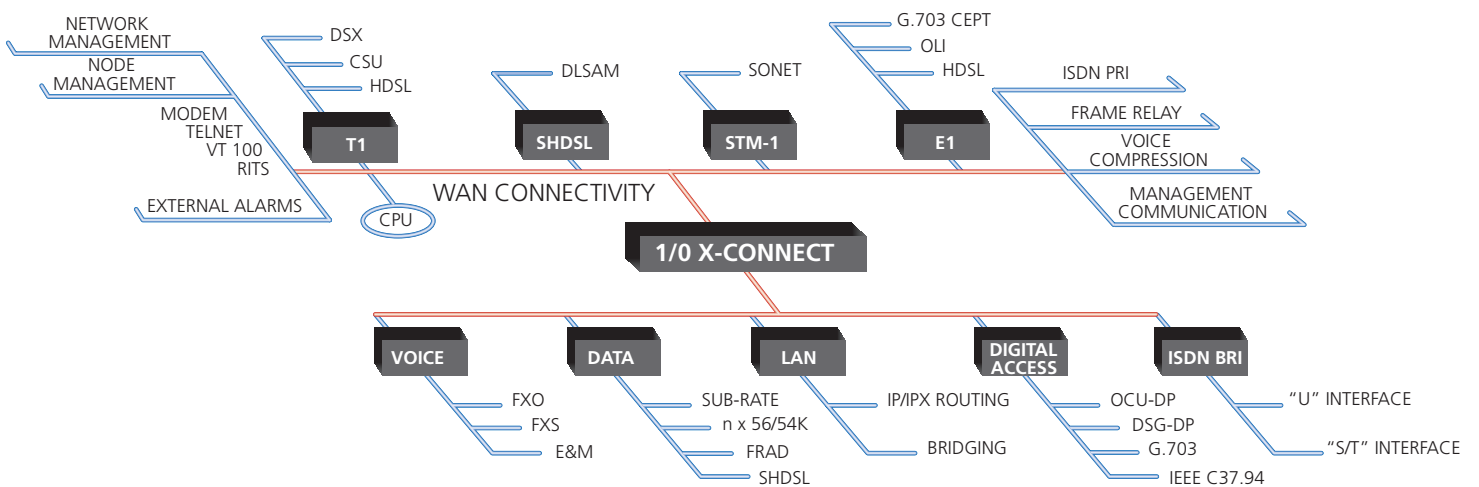
IMACS Subscriber Interfaces

Subscriber	Ports/Card	Ports/Chassis ¹
□ Analog Voice (FXS, FSO, E&M)	8	62
□ ISDN (BRI-U, BRI-S/T)	8	64
□ V.35, RS-530, RS-449	2, 4	32
□ RS-232, V.24 (SRU)	10	80
□ RS-422 (SRU)	4	32
□ DDS (OCU-DP)	2, 5, 10	80
□ DSO-DP, G.703	4	32
□ Ethernet, 10B-T or 10B-2	1	8
□ Frame Relay	1	3
□ IEEE C37.94 Optical	2	16
□ SHDSL	4	32

1. IMACS 800 or IMACS 900 chassis.

IMACS WAN Interfaces

Interfaces
□ 8 T1/E1
□ ISDN Primary Rate
□ Ethernet 2.0 Mbps
□ Frame Relay 2.0 Mbps
□ SHDSL
□ STM-1 Optical



IMACS patented bus architecture simultaneously supports circuit, packet, and cell-switching on a single platform.

Technical Specifications

System Highlights

- Up to 8 T1/E1/HDSL interfaces
- Complete system redundancy
- NEBS Level 3 Certified
- Fully manageable via OnLine element Management system
- Interchangeable set of WAN, subscriber and server cards to match specific applications

Chassis

Model 600

- 9.12 in. x 17 in. x 9.12 in. / 23.16 cm x 43.2 cm x 23.16 cm (HWD)

Model 800

- 9.12 in. x 17 in. x 15.3 in. / 23.16 cm x 43.2 cm x 38.86 cm (HWD)

Model 900

- 15.4 in. x 17 in. x 9.12 in. / 39.12 cm x 43.2 cm x 23.16 cm (HWD)

Power

- 120 / 240 VAC
- -48 VDC
- -24 VDC
- Power consumption: 125 W (max)
- Output Power: 55 W continuous
- AC-to-DC power converter (-48 VDC)
- Dual feed & redundancy
- Ring generation

Applications

- Analog voice (FXS, FXO, E&M)
- ISDN PRI services
- ISDN BRI services (Lease Line, BRITE)
- ISDN video conference & broadcast
- Voice compression
- Automatic call center distribution connectivity
- Digital data service
- Fractional T1/E1
- Frame relay
- LAN services / ethernet
- Internet access
- T1/E1 conversion

Interfaces

- T1 (Up to 8)
- E1 (Up to 8)
- T1 or E1 HDSL (Up to 8)
- V.35, RS-530, RS-232, RS-449, RS-422, V.24, DDS, BRI-U, BRI S / T, SLC96, 10BaseT, 10Base2
- SHDSL
- STM-1
- IEEE C37.94

Standards Compliance

- ANSI 310-D
- UL 459, 1459, EN60950
- Bellcore GR-63-core (NEBS 3), GR-1089-core
- Bellcore TR-TSY-000008
- CE EN 500 81-1, 500 82-1, 55022, FCC part 15
- FCC part 68, CTR 12, CTR 13, ACA T5016
- IEC 297-1
- ITU-G703, G.704, G.732, G.735, G.736, G.823, G.824

Management Interfaces

- Connectivity: modem, SLIP, PPP, FDL time slot 24 (T1) or SAA time slot 31 (E1), ISDN D-channel, frame relay PVC
- Interface: SNMP
- RS-232, VT-100 craft interface

OnLine Element Management System

- Manages networks of IMACS
- Centralized management
- Operates on SUN Solaris/HP OpenView
- Point & click graphical user interface
- Management of configurations, alarms, connectivity, diagnostics
- Multi-user environment
- SNMP-based
- Supports TELNET for emulation of craft interface
- IP addressing for node addresses

Physical

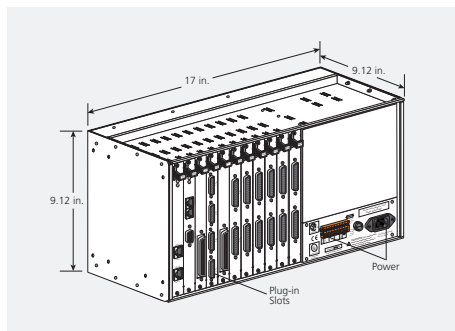
Clocking

- Stratum 4
- Sources: internal, T1, E1, digital interface, external clocking

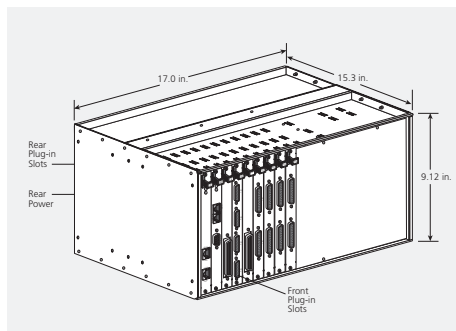
Redundancy

- Power supply
- CPU
- WAN interfaces
- ADPCM

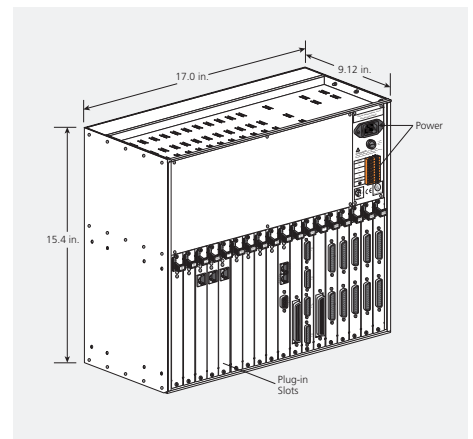
IMACS 600



IMACS 800



IMACS 900



IMACS Chassis Options

Model	Height (Inches)	Width (Inches)	Depth (Inches)	Plug-In Slots
IMACS 600	9.12	17.0	9.12	11
IMACS 800	9.12	17.0	15.3	18
IMACS 900	15.4	17.0	9.12	18



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About Zhone Technologies, Inc. (Zhone)

Zhone Technologies, Inc. (Nasdaq: ZHNE) is the first company dedicated solely to delivering the full spectrum of next-generation wireline infrastructure equipment. Zhone's Single-Line Multi-Service architecture (SLMS™), allows carriers to concurrently deliver voice, new premium data and video services over copper or fiber access lines. Zhone provides carriers with an elegant migration from legacy circuit-based technology to packet based networks while substantially reducing operating costs. With deployments at over 300 carriers including among some of the world's largest networks, Zhone has enabled carriers to reinvent their businesses. For more information, please visit <http://www.zhone.com>

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