

microwave photonic systems

IDAS-900/CEL

IDAS-900/CEL: 900 MHz Cellular Repeater System



Coverage Enhancement Solution for 900 MHz Cellular Traffic within Hardened Shelters and SCIF Areas.

The IDAS-900/CEL, is a 900 MHz Fiber Optic "In-Building" Transmission System, which provides a novel RF design approach to achieve the operational requirement of providing expanded continuity of critical communications network traffic. The IDAS-900/CEL consists of a suite of hardware elements including a Bi-Directional Amplifier (IDAS-900/BDA), a Central Fiber Donor Unit (IDAS-900/CFDU) and a Remote Fiber Unit(s) (IDAS-900/RFU).

The IDAS-900/CEL utilizes proprietary and field proven Radio Frequency and Fiber Optic technology to transmit and receive the full spectrum of 900 MHz cellular signal traffic over a Hybrid Fiber Coax structured Distributed Antenna System (DAS). This approach, provides the ability to securely route and distribute 900 MHz signal traffic to mounted antenna locations throughout the communications network infrastructure beyond the limitations of conventional coaxial based deployment schemes.

The IDAS-900/CEL can be integrated into architectures requiring Point-To-Point or Point-To-Multi-Point topologies supporting both single and multiple user augmentations found within Embassays, Contingency Centers, Command Posts, and other Secure Facilities. Commercially, the IDAS-900/CEL is suitable for use within Hospitals, Schools, Parking Garages, and Public Transit Facilities.

The IDAS-900/CEL can be packaged to support a wide range of market segments to include: Outdoor Harsh Environments (Rooftop / Pole Mount) and Commercial Telecom grade. A portable version is available which is packaged in transit cases and allows for temporary emergency response scenarios.

MPS is a full service design, integration, and test certification contractor offering full spectrum in-building distributed antenna solutions.

Market Applications

- Network Operation Centers
- Emergency Response Centers
- Schools & Libraries
- Courthouses & Prisons
- Airports, Rail Road Stations, Bus Terminals
- Hospitals & Police Stations

Features & Options

- Pre & Post Band Switched Filtering
- All Passive Hardware Supports AWS, LTE, iDEN & WiMAX Technologies
- Battery Back Up Options Available
- Front Panel Display of System Status
- Remote Status Monitor and Control
- 1 Year Warranty

Deployment Schemes

- Distributed Antenna Systems
 - Point to Point : Single or Multi-User
 - Point to Multi-Point: Single or Multi-User

Packaging Options

- Wall Mount
- Rack Mount
- Indoor or Outdoor Roof Top
- Portable Transit Case for Emergency Response Scenarios

Expand Your RF Horizon ©



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900 MHz Cellular Repeater System

System Specifications

Optical Parameters :

Optical Wavelength	1310 nm , 1550 nm or CWDM available
Optical Output Power	4 mW (typical)
Optical Connector	FC/APC , SC/APC, or E2000 APC
Max Optical Reflections	< - 55 dBm
Fiber Optic Cable Type	Single Mode, 9/125 um
Optical Link Budget	up to 10 dBo

RF Parameters:

Downlink Frequency Range	800-900 MHz ; [In-Band Specified Channelization]
Uplink Frequency Range	800-900 MHz ; [In-Band Specified Channelization]
Transmit/Receive Isolation	80 dB
Gain	45 dB (min); [Optional 60, 70 or 80 dB]
Gain Flatness	+/- 1.5 dB (max)
Noise Figure	5.0 dB (max) ; 4.5 dB (typical)
Attenuation Range	0 - 30 dB in 2dB increments
Power Output @ 1dB Compression	Uplink: +34 dBm (typical) Downlink: +44 dBm (typical)
Output Power ALC Set	Uplink: +27 dBm (typical) Downlink: +37 dBm (typical)
Output Composite Power	Uplink: +27 dBm (typical) Downlink: +37 dBm (typical)
Output 3rd Order Intercept	Uplink: +47 dBm (typical) , 2 tones @ +24 dBm Downlink: +55 dBm (typical) , 2 tones @ +31 dBm
Impedance (Input / Output)	50 Ohms
VSWR (Input / Output)	1.5:1
RF Connector (Input / Output)	N-Female

Additional Specifications:

AC PWR Input	Auto Ranging, 120 VAC, 60 Hz, Single Phase
DC Input Voltage	+24 to +27 VDC, -48 VDC Optional
Unit Power Consumption (AC/DV)	< 100 VA
AC Receptacle	IEC 320
Storage Temperature	-20°C to +80°C
Operating Temperature	-10°C to +50°C
Status & Control	RS-232, RS-485 or Ethernet Options
Battery Backup	2 , 4 and 8 Hour Options Available
Dimensions & Weight: Wall Mount	14" x 18" x 6" & 25 lbs (US)



IDAS-900/CFDU
Central Fiber Donor Unit



IDAS-900/RFU
Remote Fiber Unit



IDAS-900/BDA
Bi-Directional Amplifier

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