

New breed of all-indoor
2.4GHz radio

Spectrum efficient

Highest IP and TDM
capacity

Carrier-class

Resilient transmission

Lowest cost per
megabit-mile

- 2400 to 2483.5 MHz (ISM)
- 4xT1/E1 + 10/100BaseT Ethernet
- Over 200 Mbps user capacity
- 8 non-overlapping channels (4xT1/E1)
- 1MHz tuning resolution
- 1RU rack-mount
- >30 miles @ 99.999%*
- 2-year standard warranty**

*Distance based on FCC regulations, average climate & terrain, 6' dish antennas, 3dB transmission system losses at each end with ~50Mbps throughput. Longer or shorter distances will apply for alternative antennas, country regulations, transmission system losses, path topologies and radio configurations.

**Terms and conditions apply. See your Exalt Communications representative for details.

- ✓ **Eliminate** leased line expenses
- ✓ **Connect** locations in days, not weeks
- ✓ **Upgrade** capacity of existing systems
- ✓ **Carry** voice and Ethernet simultaneously
- ✓ **Avoid** interference
- ✓ **Improve** manageability
- ✓ **Reduce** installation and maintenance
- ✓ **Secure** wireless backhaul links
- ✓ **Collocate** systems and re-use spectrum

Telecommunications Carriers

- Extend networks
- Expand capacity
- Add Ethernet connectivity
- Provide management capability
- Improve interference avoidance flexibility

Education, Medical & Business Users

- Connect campus locations securely
- Eliminate leased line costs
- Install connections instantly
- Carry voice and data connections seamlessly
- Provide high IP traffic bandwidth

Government Agencies

- Create secure inter-building networks, rapidly
- Backhaul video monitoring systems
- Implement backbones for private/public access networks

Energy & Utility

- Create high-speed inter-facility connections
- Backhaul high-capacity video monitoring systems along with telemetry data
- Connect oil drilling platforms, power stations, utility centers



The EX-2.4i extends the advantages of the 2.4GHz ISM band for backhaul applications.

Using very efficient proprietary modulation techniques, resulting in a very narrow occupied RF bandwidth, the EX-2.4i provides up to **8 non-overlapping frequency channels**. It also provides **fine-tuning capability across the entire frequency band**, resulting in up to **62 center frequencies** of operation with no hardware changes required for retuning. This provides unprecedented **interference avoidance** capability compared to all other carrier-class systems in this band.

The EX-2.4i was developed specifically to meet the demanding and changing requirements of the carrier-class user. As such, it provides excellent radio system performance and incorporates several unique features that result in the **lowest cost per megabit-mile in its class**. In addition, the unique synchronization capabilities of the EX-2.4i allow for system collocation and frequency re-use, maximizing performance while reducing installation costs and complexity.

For current 2.4GHz users, the EX-2.4i provides a **smooth upgrade path to higher T1/E1 capacity and Ethernet services** without replacing the existing transmission system.

System

Frequency Band	2400 to 2483.5MHz	
Tuning Resolution	1MHz	
Output Power (at full power)	+27dBm, Mode 1 +24dBm, Mode 2	
Output Power (at min power)	+ 7dBm	
Power Control Step Size	0.5dB	
Receiver Threshold (BER=10 ⁻⁶)	Mode 1	Mode 2
8MHz channel	-88dBm	-80dBm
16MHz channel	-85dBm	-77dBm
32MHz channel	-82dBm	-74dBm
64MHz channel ¹	-79dBm	-71dBm
Maximum RSL (Mode 1)	-25dBm error-free 0 dBm no damage	
Non-overlapping channels		
8MHz channel	8	
16MHz channel	4	
32MHz channel	2	
64MHz channel ¹	1	
Aggregate User Capacity ²	Mode 1	Mode 2
8MHz channel	13Mbps	27Mbps
16MHz channel	27Mbps	54Mbps
32MHz channel	55Mbps	110Mbps
64MHz channel ¹	110Mbps	216Mbps
Error Floor	10 ⁻¹²	
Latency (T1/E1)	1ms, typical	
Link Security	96-bit Security Key AES encryption ¹ 802.1Q HTTP GUI Telnet/CLI SNMPv3 ³	
VLAN Management		
Regulatory Compliance	FCC 15.247 IC RSS-210	

Physical

Physical Configuration	Single-piece Indoor Unit (IDU)
Dimensions (H x W x D)	1RU 1.75 x 17 x 14 inches 4.5 x 43.2 x 35.6 cm
Operating Temperature	-40 to +65 degrees C -40 to +149 degrees F
Full Spec Temperature	-25 to +60 degrees C -13 to +140 degrees F
Weight	11.3 pounds; 5.1 kg
Altitude	15,000 feet; 4.6 km
Humidity	95% non-condensing
Environmental	GR-1089-CORE intra-building

¹ Firmware option required

² The figure listed is the actual aggregate user throughput, maximum, as measured at layer 2. T1 or E1 circuits may be enabled one at a time, as needed, and subtract 3.1Mbps (1.544Mbps full-duplex) or 4.1Mbps (2.048Mbps full-duplex), respectively, from the aggregate user throughput. Some combinations of frame size, link distance, T1/E1 enabling, bandwidth, mode and desired latency will result in reduced maximum aggregate throughput. See your Exalt Communications representative for details.

³ Firmware upgrade required.

Specifications subject to change without notice.

Interfaces

RF	N-type (F)
Impedance	50 ohms
T1/E1 (x4)	RJ48C/RJ45 (F)
T1 Impedance	100 ohms, balanced
T1 Line Codes	AMI, B8ZS, selectable per channel
T1 Clocking Speed	1.544Mbps
T1 Compliance	ANSI T1.102-1987 ITU-T; G.823; GR-499-CORE
E1 Impedance	120 ohms, balanced
E1 Line Codes	HDB3
E1 Clocking Speed	2.048Mbps
E1 Compliance	CEPT-1; G.703; ITU-T-G.703
Loopback Modes	Remote Internal Remote External Local Line
Ethernet (x2)	RJ45 (F), auto-MDIX
Interface Speed	10/100BaseT
Duplex	Half, Full, Auto
Compliance	802.3
Console (Serial)	9-pin Sub-D (F)
Interface Speed	9600 bps
Compliance	EIA-574 (RS-232)
Alarm	9-pin Sub-D (F)
Inputs	(2) TTL/Closure
Outputs	(2) Relay (Form C)
Sync (In and Out)	RJ45 (F)
Signaling	1pps (GPS) ³
DC Power	6-pin barrier strip
Input Voltage	±40-60VDC
Consumption	<0.7A @ 48V, <34W
AC Power Adapter	EIC-to-NEMA 5-15
Input	100-240VAC, 1.5A
Output	48VDC, 1.5A, 72W

System Components

Complete link	Two terminals each with AC adapter & accessory kit
Single terminal	One terminal with AC adapter & accessory kit
Accessory kit	DC power connector, rack and grounding hardware (spare)
AC adapter	AC adapter (spare)
GPS sync kit ³	GPS antenna and mounting bracket (option)