



# ORION

## 900MHz Wireless



### Description

The Orion 900 Series from GDI Communications LLC is a cost-effective point-to-point / point-to-multipoint solution for wireless backhaul and "last mile" applications. It is especially effective when circumstances call for a lower frequency to reach hard to get places where higher frequency products can not.

In addition to lower frequency advantages, the Orion 900 Series has the ability to provide high data throughput in the smallest amount of channel bandwidth, while implementing OFDM technology. OFDM technology, high throughput, up to 1W (30dBm) of output power, and channel selectivity at the 900 MHz frequency is unprecedented.

### Applications

Long distance PTP or PTMP bridging.  
Low frequency applications  
Sensor data capture in embedded systems.  
Home automation and building control.  
Telecom, Police and Military.  
Dedicated ISP connections for high-reliability subscribers.

### Features

#### Lower Frequency

The Orion 900 Series avoids interference inherent in the ISM bands. The lower frequency allows for twice the distance when compared to the 2.4 and 5.8 GHz band radios.

#### Effective Spectrum Utility

Orion 900 Series uses advanced technology to allow for the narrowing of RF channels. Up to 13 non-overlapping channels can be created using the radio's narrowest channel setting.

#### Flexibility

The Orion 900 Series allows for the connection of an external antenna, whenever necessary, for a given application or environment.

#### Manageability

The Orion 900 Series is easily manageable from a web browser or the included Windows-based utility, allowing for administration either locally or remotely. In addition, built-in SNMP support lets the operator expand the network with ease.

#### Cost Effective

Best performance and lowest cost product on the PTP / PTMP 900MHz frequency market.

#### Reliability

Building on a history of designing reliability into a product with its successful unlicensed radios, Wireless Interactive continues the tradition of robust design and stability with the Orion family, creating one of the most reliable products on the market.

#### Security

WEP encryption and MAC filtering provide the highest security mechanisms to prevent intrusion and malicious attacks.

**GDI Communications LLC**  
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### Specifications

Frequency 902 -928 MHz  
Channel Bandwidth 5, 10 or 20MHz  
Output Power up to 1W (30dBm) based on modulation  
Receive Sensitivity (BER 10-6) / Output Power  
-81dBm @ 14Mbps / 26dBm (+/-1dB) @ QAM-64  
-83dBm @ 12Mbps / 26dBm (+/-1dB) @ QAM-64  
-85dBm @ 9Mbps / 27dBm (+/-1dB) @ QAM-16  
-87dBm @ 6Mbps / 27dBm (+/-1dB) @ QAM-16  
-89dBm @ 4.5Mbps / 30dBm (+/-1dB) @ QPSK  
-91dBm @ 3Mbps / 30dBm (+/-1dB) @ QPSK  
-93dBm @ 2.5Mbps / 30dBm (+/-1dB) @ BPSK  
-95dBm @ 1.6Mbps / 30dBm (+/-1dB) @ BPSK

Data Bandwidth  
Up to 5.5 Mbps throughput using a 5 MHz channel  
Up to 11 Mbps throughput using a 10 MHz channel  
Up to 22 Mbps throughput using a 20 MHz channel

Frequency Stability +/- 10 ppm  
Modulation OFDM, BPSK, or QPSK  
Range Up to 70 Km. Varies based on channel bandwidth.

#### INTERFACES

RF (antenna) connector N-type (Jack)  
Ethernet IEEE 802.3(10Base-T) / IEEE 802.3u(100Base-Tx)

#### MANAGEABILITY

Setup Web-based  
SNMP agents MIB II  
Protocol TCP/IP, IPX/SPX, NetBEUI  
Operating System Windows 98, 2000, NT, XP  
Network Architecture PTP / PTMP

#### SECURITY

Data Encryption 64/128 bits WEP encryption  
Authorization MAC Address Access Filter

#### POWER INDICATORS ENVIRONMENT

Power Source 15V Power Over Ethernet (POE)  
Operating Temperature -20 C ~ 55 C  
Storage Temperature -30 C ~ 70 C  
Humidity 95% non-condensing

**WEIGHT** 2.25 kg (4.95 lbs)

**PHYSICAL DIMENSIONS ( W x L x H )** 10.75 x 9.25 x 2.50 in 273 x 234 x 63.5 mm

Specifications subject to change without notice

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