



The Orion 900 Series from Wireless Interactive 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.
- Enterprises or Institutional LAN and PBX extension.

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.

WEIGHT

2.25 kg (4.95 lbs)

ORION-900

PHYSICAL DIMENSIONS (W x L x H)

10.75 x 9.25 x 2.50 in
273 x 234 x 63.5 mm

RADIO	
Frequency	902 -928 MHz
Channel Bandwidth	5, 10 or 20MHz
Output Power	up to 1W (30dBm) based on modulation
Receive Sensitivity (BER 10 ⁻⁴) / Output Power	See second page for Output Power Chart
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	
Power Source	24V Power Over Ethernet (POE)
ENVIRONMENT	
Operating Temperature	-20 C ~ 55 C
Storage Temperature	-30 C ~ 70 C
Humidity	95% non-condensing
WARRANTY	
	1 year



OUTPUT POWER CHART

20 MHz CHANNEL BANDWIDTH				OUTPUT POWER				
Modulation	Sensitivity (BER 1E10-6)	Data Rate	Effective Data Rate	Full	Half	Quarter	Eighth	Minimum
64QAM	-73 dBm	54 Mbps	22 Mbps	26 dBm	23 dBm	20 dBm	17 dBm	8 dBm
64QAM	-75 dBm	48 Mbps	20 Mbps	26 dBm	23 dBm	20 dBm	17 dBm	8 dBm
16QAM	-79 dBm	36 Mbps	18 Mbps	27 dBm	24 dBm	21 dBm	18 dBm	8 dBm
16QAM	-83 dBm	24 Mbps	12 Mbps	27 dBm	24 dBm	21 dBm	18 dBm	8 dBm
BPSK	-89 dBm	18 Mbps	9 Mbps	29 dBm	26 dBm	23 dBm	20 dBm	8 dBm
BPSK	-92 dBm	12 Mbps	6 Mbps	29 dBm	26 dBm	23 dBm	20 dBm	8 dBm
QPSK	-95 dBm	9 Mbps	4.5 Mbps	29 dBm	26 dBm	23 dBm	20 dBm	8 dBm
QPSK	-98 dBm	6 Mbps	3 Mbps	29 dBm	26 dBm	23 dBm	20 dBm	8 dBm

10 MHz CHANNEL BANDWIDTH				OUTPUT POWER				
Modulation	Sensitivity (BER 1E10-6)	Data Rate	Effective Data Rate	Full	Half	Quarter	Eighth	Minimum
64QAM	-73 dBm	54 Mbps	11 Mbps	26 dBm	23 dBm	20 dBm	17 dBm	8 dBm
64QAM	-75 dBm	48 Mbps	10 Mbps	26 dBm	23 dBm	20 dBm	17 dBm	8 dBm
16QAM	-79 dBm	36 Mbps	9 Mbps	27 dBm	24 dBm	21 dBm	18 dBm	8 dBm
16QAM	-83 dBm	24 Mbps	6 Mbps	27 dBm	24 dBm	21 dBm	18 dBm	8 dBm
BPSK	-89 dBm	18 Mbps	4.5 Mbps	29 dBm	26 dBm	23 dBm	20 dBm	8 dBm
BPSK	-92 dBm	12 Mbps	3 Mbps	29 dBm	26 dBm	23 dBm	20 dBm	8 dBm
QPSK	-95 dBm	9 Mbps	2.3 Mbps	29 dBm	26 dBm	23 dBm	20 dBm	8 dBm
QPSK	-98 dBm	6 Mbps	1.5 Mbps	29 dBm	26 dBm	23 dBm	20 dBm	8 dBm

5 MHz CHANNEL BANDWIDTH				OUTPUT POWER				
Modulation	Sensitivity (BER 1E10-6)	Data Rate	Effective Data Rate	Full	Half	Quarter	Eighth	Minimum
64QAM	-73 dBm	54 Mbps	5.5 Mbps	26 dBm	23 dBm	20 dBm	17 dBm	8 dBm
64QAM	-75 dBm	48 Mbps	5.0 Mbps	26 dBm	23 dBm	20 dBm	17 dBm	8 dBm
16QAM	-79 dBm	36 Mbps	4.5 Mbps	27 dBm	24 dBm	21 dBm	18 dBm	8 dBm
16QAM	-83 dBm	24 Mbps	3.0 Mbps	27 dBm	24 dBm	21 dBm	18 dBm	8 dBm
BPSK	-89 dBm	18 Mbps	2.3 Mbps	29 dBm	26 dBm	23 dBm	20 dBm	8 dBm
BPSK	-92 dBm	12 Mbps	1.5 Mbps	29 dBm	26 dBm	23 dBm	20 dBm	8 dBm
QPSK	-95 dBm	9 Mbps	1.2 Mbps	29 dBm	26 dBm	23 dBm	20 dBm	8 dBm
QPSK	-98 dBm	6 Mbps	0.8 Mbps	29 dBm	26 dBm	23 dBm	20 dBm	8 dBm