## WaveRider NCL1170 Wireless Bridge/Router

WaveRider's new NCL1170 Bridge/Router sets the standard for performance, robustness, and dependability in wireless broadband communication. The NCL1170 enables reliable broadband connections between two or more corporate computer networks, outlying offices, and the Internet. Employing several key technical innovations, this newest offering in the WaveRider NCL family is the feature and performance leader in license-exempt wireless connectivity for LAN-to-Internet and LAN-to-LAN applications.

Using Direct Sequence Spread Spectrum modulation in the license-exempt 2.4 GHz ISM band, the NCL1170 can be deployed quickly and easily without applying for regulatory approvals, and without incurring any licensing or service charges. Compared to traditional leased lines, NCL1170 wireless links typically deliver ROI payback in less than twelve months.

#### **Best-in-Class Radio Performance**

The NCL1170 uses WaveRider's proprietary new radio which has a maximum transmit power of +25 dBm (where regulations permit), as much as 10 times higher than competitive products. Combined with a receive sensitivity of -84 dBm, the NCL1170 can connect sites as far away as 7 miles (11 km) with an omnidirectional antenna, or up to 10 miles (16 km) with a 120° sector antenna. The NCL1170 also offers exceptional performance in environments with heavy EM interference, and in near-line-of-sight applications.

#### Best-in-Class Data Throughput

The NCL1170 features WaveRider's proprietary polling algorithm, which drastically improves performance in point-to-multipoint applications by eliminating the frequent packet collisions inherent with CSMA/CA. The NCL1170 provides peak data rates of up to **8 Mbps** for up to 30 users per base station, while eliminating the potential for individual users to consume disproportionate bandwidth. In point-to-point mode, the NCL1170 is capable of data throughput rates in excess of **8 Mbps**. The overthe-air data rate of the NCL1170 is 11 Mbps.

### NCL1170 at a glance

- High transmit power (25 dBm where regulations permit) and excellent receive sensitivity eliminate the need for expensive external amplifiers
- Maintains optimal links up to 10 miles (16 km) with 120° sector antennas, or 7 miles (11 km) with omnidirectional antennas
- Delivers over-the-air data rates of 11 Mbps, and up to **8 Mbps** of data throughput
- Supports both point-to-point and point-to-multipoint applications maintaining maximum throughput
- Operates in the 2.4 GHz ISM band, license-exempt in the U.S., Canada, and many other countries

- Direct Sequence Spread Spectrum delivers high-speed throughput and ensures secure, reliable communication
- Forwarding Modes: Bridging (default Learning Bridge) and IP Routing (RIP v2 and default Static Routing)

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NCL1170

- Front-mounted RSSI (Receive Signal Strength Indicator) LED
- PC-based GUI (Graphical User Interface), Command Line Interface, and Web Browser-based for programming and monitoring RF and IP network conditions
- Built-in SNMP functionality ensures trouble-free integration and management with existing networks
- Built-in RF Network Management and Diagnostic tools, and RSL (Receive Signal Level) monitor

For more information on the NCL family of products, please visit our website.





# **NCL1170 TECHNICAL SPECIFICATIONS**

Radio Specifications     2.4000 to 2.4335 GHz       Operating Frequency:     2.4000 to 2.4335 GHz       Radio Type:     Direct Sequence Spread Spectrum (DSSS)       Radio Modulation:     CDK (Complementary Code Keying) @ 1.Mbps       GPT X Output Power:     Direct Sequence Spread Spectrum (DSSS)       RF TX Output Power:     Low setting - 450 dBm       Mainmum Center Channel Frequency:     2.4402 CHz       Cannel Bandwidt     2.4002 to 2.4335 GHz       Maximum Center Channel Frequency:     2.442 CHz       Cannel Bandwidt     SMHz       Controg Frequency Spice     2.442 CHz       Cannel Bandwidt     SMHz       Orthogonal Channel Sequence:     5 MHz       Orthogonal Channel Sequence:     5 MHz       Orthogonal Channel Sequence:     5 MHz       Adjacent Channel Sequence:     5 MHz       Orthogonal Channel Sequence:     5 MHz       Adjacent Channel Sequence:     5 MHz       Adjacent Channel Sequence:     64 dB       Adjacent Channel Sequence:     11 Mbps (5.5 Mbps, 2 Mbps, 1 Mbps)       User Data Rate:     11 Mbps (5.5 Mbps, 2 Mbps, 1 Mbps)       User Data Rate:     11 Mbps (5.5 Mbps, 2 Mbps, 1 Mbps)       User Data Rate:     11 Mbps (5.5 Mbps, 2 Mbps, 1 Mbps)       User Data Rate:     11 Mbps (5.5 Mbps, 2 Mbps, 1 Mbps)       Operating Functiones     24 dB <th>Model Number: Order Number (SKU):</th> <th>NCL1170 100-1170</th>	Model Number: Order Number (SKU):	NCL1170 100-1170
Operating Frequency: 2,400 to 2,433 GHz Relation 1,553 Shapes (CCK (Complementary Code Keying) @ 1,425 Shapes (CCK (Complementary Code Keying) @ 1,425 Shapes (CCK (Complementary Code Keying) @ 1,445 Shapes (CCK (CCK (CCK (CCK (CCK (CCK (CCK (CC	Radio Specifications	
Radio Modulation: CCK (Complementary Code Keying) @ 11, 55 Mbps DPSK (Guardruer Phase Shirt Keying) @ 2 Mbps BPSK (Binary Phase Shirt Keying) @ 1 Mbps RF Tx Output Power: DPSK (Binary Phase Shirt Keying) @ 1 Mbps RF Tx Threshold (<8% PER)		
Artenna Sorte Frequencies RF Tx Output Power: RF Tx Output Power: High setting: +25 dBm Low setting: +25 dBm Low setting: +20 dBm Add bm Minimum Center Channel Frequency: 2.412 GHz Channel Bandwich: Canter Brandwich: Canter Brandw		Direct Sequence Spread Spectrum (DSSS)
RF Tx Output Power:     High setting: 425 dBm       RF ex Threshold (49% PER)     -94 dBm       Minimum Center Channel Frequency:     2.442 GHz       Maximum Center Channel Frequency:     2.442 GHz       Cannel Bandwidth:     22 MHz       Center Frequency Spacing Increment:     5 MHz       Orthogonal Channel Set:     0 Hannel Set:       Orthogonal Channel Set:     2.442 GHz       Orthogonal Channel Set:     2.442 GHz       Orthogonal Channel Set:     2.443 GHz       Orthogonal Channel Set:     2.443 GHz       Orthogonal Channel Set:     2.443 GHz       Adjacent Channel Set:     0 Hannel Set:       Orthogonal Channel Set:     2.443 GHz       Adjacent Channel Set:     11 Mbps (5.5 Mbps, 2 Mbps, 1 Mbps)       User Data Rate:     Up to 3 Mbps       User Data Rate:     Up to 4 Mbps       Maximum Link Path Distance:     Up to 4 Mbps       Valer Data Rate:     Up to 4 Mbps       Ondrightson Set Upt:     Rs.232C DB9 DCE       Power Suppoly Output:     7.5 VDC, 4 max       Power Suppoly Output:     7.5 VDC, 4 max       Power Suppoly Output:     2.4 max       Power Suppoly Output:     2.4 max       Power Suppoly Output:     7.5 VDC, 4 max       Power Suppoly Output:     2.4 max       Power Suppoly Output:	Radio Modulation:	CCK (Complementary Code Keying) @ 11, 5.5 Mbps QPSK (Quadrature Phase Shift Keying) @ 2 Mbps
RF Fx Threshold (     -94 dBm       Minimum Center Channel Frequency:     2.412 GHz       Maximum Center Channel Frequency:     2.482 GHz       Cannel Bandwidth:     2.2 MHz       Center Frequency Spacing Increment:     5 MHz       Orthogonal Channel Set:     2.5 Mhz       Orthogonal Channel Set:     Channels 1, 6, and 11       Orthogonal Channel Solation Requirement     64 dB       Adjacent Channel Isolation Requirement (with optional cavity filters):     2.4 dB       Antenna Connector:     WaveRider Proprietary       Ratio Performance     Up to 10 miles (16 km)       Over the Air Raw Data Rate:     Up to 10 miles (16 km)       System Capacity:     30 Stations per Master       Network Infraces:     Ethernet 10BaseT RJ.45       Configuration/Setup Port:     Rs.232C DB9 DCE       Power Supply Input:     Auto-sensing 90 - 260 VAC, 50/60 Hz       Power Supply Input:     7.5 VDC, 4 A max       Power Supply Output:     7.5 VDC, 4 A max       Power Supply Output:     10% to 80% eQuipy Network Netw	RF Tx Output Power:	High setting: +25 dBm
Maximum Center Channel Frequency: Channel Bandwidth: 2 442 CHz Center Frequency Spacing Increment: 5 MHz 3 Orthogonal Channel Set 0 Channel Set 0 Channel Set 0 Channel Solation Requirement (with optional cavity filters): 2 4 dB Adjacent Channel Isolation Requirement (with optional cavity filters): 2 4 dB Adjacent Channel Isolation Requirement (with optional cavity filters): 2 4 dB Adjacent Channel Isolation Requirement (with optional cavity filters): 2 4 dB Adjacent Channel Isolation Requirement (with optional cavity filters): 2 4 dB Adjacent Channel Isolation Requirement (with optional cavity filters): 2 4 dB Adjacent Channel Isolation Requirement (with optional cavity filters): 2 4 dB Autona Channel Set 0 wer-the-Air Raw Data Rate: User Data Rate: User Data Rate: User Data Rate: User Data Rate: Up to 8 Mbps, 2 Mbps, 1 Mbps) User Data Rate: Channels Rotain Distance: WaveRider Proprietary Retwork Interface: Configuration/Setup Port: Rever Supply Input: Power Supply Input: Power Supply Input: Power Supply Input: Power Consumption (protai):	RF Rx Threshold (<8% PER)	
Channel Bandwidh: 22 MHz Conter Frequency Spacing Increment: 5 MHz Orthogonal Channel Seat: 25 Mhz Orthogonal Channel Seat: 25 Mhz Orthogonal Channel Seat: 25 Mhz Orthogonal Channel Seat: 25 Mhz Orthogonal Channel Seat: 24 CHz 2.427 GHz, 2.462 GHz Adjacent Channel Solation Requirement: 64 dB Adjacent Channel Solation Requirement: 64 dB Adjacent Channel Solation Requirement: 94 dB Adjacent Channel Solation Requirement: 94 dB Adjacent Channel Solation Requirement: 94 dB Antenna Connector: 94 dB Maximu Link Path Distance: 95 dB Mps Maximu Link Path Distance: 95 dB Mps Maximu Link Path Distance: 94 dB Mps Maximu Link Path Distance: 95 dB Mps Network Interface: Ethernet 10BaseT RJ-45 Configuration/Setup Port: RS-232C DB 90 CE Power Specifications Power Specifications Power Specifications Power Specifications Operating Temperature: 92° F to 131° F (0° C to 55° C) Operating Humidity: 10% ta 80% Relative Humidity (non-condensing) Product Weight: 31 bS (1.4 kg) Physical Dimensions: 7.5° L × 2° H × 15 m/s 15 cm) Regulatory Approvals Radio Transmitter: Industry Canada RSS-102 and RSS-103 Safety: CSA (perding) Warranty Narranty Narranty 1 Year limited parts and labor		
Center Frequency Spacing Increment: 5 MHz Orthogonal Channels Orth		
Orthogonal Channels       3         Orthogonal Channel Set:       25 Mhz         Orthogonal Channel Set:       Channels 1, 6, and 11         Orthogonal Channel Set:       24 J2 GHz, 2437 GHz, 2462 GHz         Adjacent Channel Isolation Requirement:       24 dB         Adjacent Channel Isolation Requirement (with optional cavity filters):       24 dB         Antenna Connector:       WaveRider Proprietary         Ratio Performance       Up to 8 Mbps         Over-the-Air Raw Data Rate:       Up to 8 Mbps         User Data Rate:       Up to 8 Mbps         WaveRider Proprietary       30 Stations per Master         Interfaces       Ethernet 10BaseT RJ-45         Rediver Minetrace:       Up to 10 miles (16 km)         System Capacity:       30 Stations per Master         Interfaces       Ethernet 10BaseT RJ-45         Configuration/Setup Port:       RS-232C DB9 DCE         Power Supply Input:       Auto-sensing 90 - 260 VAC, 50/60 Hz         Power Supply Uput:       7.5 VDC, 4 A max         Power Supply Uput:       7.5 VDC, 4 M ax         Power Consumption (typical):       15		
Orthogonal Channel Separation:     25 Mbz       Orthogonal Channel Stot Conter Frequencies:     2.412 GHz, 2.437 GHz, 2.462 GHz       Adjacent Channel Isolation Requirement     64 dB       Adjacent Channel Isolation Requirement (with optional cavity filters):     24 dB       Matematic Connector:     WaveRider Proprietary       Ratio Performance     Over-the-Air Raw Data Rate:       User Data Rate:     Up to 8 Mbps       Maximum Link Path Distance:     Up to 10 miles (16 km)       System Capacity:     30 Stations per Master       Interfaces     Ethernet 10Base T RJ-45       Configuration/Setup Port:     R-2322C DB9 DCE       Power Specifications     Yes 10 miles (16 km)       Power Supply Input:     Auto-sensing 90 - 260 VAC, 50/60 Hz       Power Supply Unput:     7.5 VDC, 4 max       Power Supply Input:     2.5 Ibs (1 2 kg) excluding power supply       Power Supply Unput:     2.5 Ibs (1 2 kg) excluding power supply       Power Supply Output:     2.5 Ibs (1 2 kg) excluding power supply       Shipping Weight:     2.5 Ibs (1 2 kg) excluding power supply       Proteoresing:     7.5 L 2 7 H x 2.9 W (19 cm x 5 cm x 15 cm)       Regulatory Approvals     FCC Class A, CFR 47 Part 15       Radio Transmitter:     Industry Canada RSS-102 and RSS-139       Safety:     CSA (pending)       UL (pending)     UL (pending)		
Orthogonal Channel Set: Channels 1, 6, and 11 Orthogonal Channel Set: 2412 GHz, 2.437 GHz, 2.432 GHz Adjacent Channel Isolation Requirement: 46 d dB Adjacent Channel Isolation Requirement (with optional cavity filters): 24 dB Antenna Connector: WaveRider Proprietary <b>Radio Performance</b> Over-the-Air Raw Data Rate: Up to 8 Mops Maximum Link Path Distance: Up to 8 Mops Maximum Link Path Distance: Up to 10 miles (16 km) System Capacity: 30 Stations per Master Interfaces Network Interface: Ethernet 10BaseT RJ-45 Configuration/Setup Port: RS-232C DB9 DCE <b>Power Specifications</b> Power Supply liput: 7,5 VDC, 4 A max Power Supply Updut: 7,5 VDC, 4 A max Power Consumption (typical): 15 W <b>Environmental Specifications</b> Operating Temperature: 32° F to 131° F (0° C to 55° C) Operating Temperature: 32° F to 131° F (0° C to 55° C) Operating Temperature: 35° to 30% Relative Humidity (non-condensing) Product Weight: 31 bis (14 kg) Physical Dimensions: 7,5° Lx 2° H x 5.9° W (19 cm x 5 cm x 15 cm) <b>Regulatory Approvals</b> Radio Transmitter: Industry Canada RSS-139 Safety: Ut year limited parts and labor	Orthogonal Channels:	
Orthogonal Channel Stockon Requirement:       2.412 GHz, 2.437 GHz, 2.482 GHz         Adjacent Channel Isolation Requirement (with optional cavity filters):       2.4 dB         Adjacent Channel Isolation Requirement (with optional cavity filters):       2.4 dB         WaveRider Proprietary       WaveRider Proprietary         Radio Performance:       Up to 8 Mbps, 1 Mbps)         Over-the-Alf Raw Data Rate:       Up to 8 Mbps         User Data Rate:       Up to 8 Mbps         System Capacity:       30 Stations per Master         Interfaces       Ethernet 10BaseT RJ-45         Network Interface:       Ethernet 10BaseT RJ-45         Configuration/Setup Port:       RS-232C DB9 DCE         Power Specifications       Power Supply Input:         Power Consumption (typical):       15 W         Environmental Specifications       32° F to 131° F (0° C to 55° C)         Operating Temperature:       2.5 bs (1.2 kg) excluding power supply         Operating Temperature:       2.5 bs (1.2 kg) excluding power supply         Shipping Weight:       3.0% C Las A, CFR 47 Part 15         Shipping Weight:       FCC Class A, CFR 47 Part 15         Industry Canada RSS-129 and RSS-129       SA (Fer 47 Part 15         Safety:       CSA (pending)         UL (pending)       UL (pending)	Orthogonal Channel Separation:	
Adjacent Channel Isolation Requirement: (with optional cavity filters): 24 dB Adjacent Channel Isolation Requirement (with optional cavity filters): 24 dB WaveRider Proprietary Radio Performance Over-the-Air Raw Data Rate: 111 Mbps (5.5 Mbps, 2 Mbps, 1 Mbps) User Data Rate: Up to 8 Mbps Maximum Link Path Distance: Up to 10 miles (16 km) System Capacity: 30 Stations per Master Interfaces Network Interface: Ethernet 10BaseT RJ-45 Configuration/Setup Port: RS-232C DB9 DCE Power Specifications Power Supply Input: Auto-sensing 90 - 260 VAC, 50/60 Hz Power Supply Input: 7.5 VDC, 4 A max Power Consumption (typical): 15 W Environmental Specifications Operating Temperature: 32° F to 131° F (0° C to 55° C) Operating Temperature: 32° F to 131° F (0° C to 55° C) Operating Temperature: 32° F to 131° F (0° C to 55° C) Operating Temperature: 35° F to 131° F (0° C to 55° C) Operating Temperature: 35° F to 131° F (0° C to 55° C) Operating Temperature: 35° F to 131° F (0° C to 55° C) Operating Temperature: 35° F to 131° F (0° C to 55° C) Operating Temperature: 35° F to 131° F (0° C to 55° C) Operating Temperature: 35° F to 121° g excluding power supply Shipping Weight: 31 bis (14 kg) Physical Dimensions: 7.5° L x 2° H x 5.9° W (19 cm x 5 cm x 15 cm) Regulatory Approvals Radio Transmitter: Industry Canada RSS-102 and RSS-139 Safety: UL (pending) Warranty Narranty	Orthogonal Channel Set Center Frequencies:	
Adjacent Channel Isolation Requirement (with optional cavity filters): 24 dB WaveRider Proprietary Ration Performance Over-the-Air Raw Data Rate: Up to 8 Mops Maximum Link Path Distance: Up to 10 miles (16 km) System Capacity: 30 Stations per Master Interfaces Network Interface: Ethernet 10BaseT RJ-45 Configuration/Setup Port: RS-23C DB9 DCE Power Supelfications Power Supelfications Power Supply Joutu: 7.5 VDC, 4 A max Power Consumption (typical): 15 W Environmental Specifications Operating Temperature: 22 <sup>o</sup> F to 131° F (0° C to 55° C) Operating Temperature: 32° F to 1		
Antenna Connector:     WaveRider Proprietary       Radio Performance     11 Mbps (5.5 Mbps, 2 Mbps, 1 Mbps)       Over-the-Air Raw Data Rate:     Up to 8 Mbps       Up to 8 Mbps     Up to 8 (5.5 Mbps, 2 Mbps, 1 Mbps)       Maximum Link Path Distance:     Up to 10 miles (16 km)       System Capacity:     30 Stations per Master       Interfaces     Ethernet 10BaseT RJ-45       Configuration/Setup Port:     RS-232C DB9 DCE       Power Specifications     Rs-232C DB9 DCE       Power Supply Input:     Auto-sensing 90 - 260 VAC, 50/60 Hz       Power Supply Input:     7.5 VDC, 4 A max       Power Consumption (typical):     15 W       Environmental Specifications     32° F to 131° F (0° C to 55° C)       Operating Temperature:     32° Is to 131° F (0° C to 55° C)       Operating Temperature:     3 Is (1 4 kg)       Physical Dimensions:     7.5° L x 2 'H x 5.9" W (19 cm x 5 cm x 15 cm)       Redio Transmitter:     FCC Class A, CFR 47 Part 15       Industry Canada RSS-102 and RSS-139     CSA (pending)       Safety:     CSA (pending)       Warranty     1 Year limited parts and labor		
Over-the-Air Raw Data Rate:     11 Mbps (5.5 Mbps, 2 Mbps, 1 Mbps)       User Data Rate:     Up to 8 Mbps       Maximum Link Path Distance:     Up to 10 miles (16 km)       System Capacity:     30 Stations per Master   Interfaces  Network Interface: Ethernet 10BaseT RJ-45 Configuration/Setup Port: RS-232C DB9 DCE  Power Specifications Power Supply Input: Power Supply Input: Power Supply Unput: Power Supply Supply: Power Supply Unput: Power Supply Unput: Power Supply Supply: Poudut Weight: Power Supply: Poudut Weight: Physical Dimensions: Power Power Supply: Poudut Supply: Power Supply: Poudut Supply: Poudut Supply: Power Supply: Poudut Supply: Power Supply:		
User Data Rate: Maximum Link Path Distance: System Capacity: Up to 8 Mbps System Capacity: Up to 10 miles (16 km) 30 Stations per Master Interfaces Network Interface: Configuration/Setup Port: Power Specifications Power Specifications Power Supply Input: Power Supply Output: Power Supply Output: Power Consumption (typical): Environmental Specifications Operating Humidity: Operating Humidity: Product Weight: Supply Guight: Physical Dimensions: Regulatory Approvals Radio Transmitter: Radio Transmitter: Pathone State S	Radio Performance	
User Data Rate: Maximum Link Path Distance: System Capacity: Up to 8 Mbps System Capacity: Up to 10 miles (16 km) 30 Stations per Master Interfaces Network Interface: Configuration/Setup Port: Power Specifications Power Specifications Power Supply Input: Power Supply Output: Power Supply Output: Power Consumption (typical): Environmental Specifications Operating Humidity: Operating Humidity: Product Weight: Supply Guight: Physical Dimensions: Regulatory Approvals Radio Transmitter: Radio Transmitter: Pathone State S	Over-the-Air Raw Data Rate:	11 Mbps (5.5 Mbps, 2 Mbps, 1 Mbps)
Maximum Link Path Distance: System Capacity: 30 Stations per Master Interfaces Network Interface: Configuration/Setup Port: Power Supply Input: Power Supply Input: Power Supply Unput: Power Supply Output: Power Supply Output: Support Supply		
Interfaces       Ethernet 10BaseT RJ-45         Network Interface:       RS-232C DB9 DCE         Configuration/Setup Port:       RS-232C DB9 DCE         Power Specifications       Auto-sensing 90 - 260 VAC, 50/60 Hz         Power Supply Output:       7.5 VDC, 4 A max         Power Consumption (typical):       15 W         Environmental Specifications       32° F to 131° F (0° C to 55° C)         Operating Temperature:       32° F to 131° F (0° C to 55° C)         Operating Humidity:       10% to 80% Relative Humidity (non-condensing)         Product Weight:       2.5 lbs (1.2 kg) excluding power supply         Shipping Weight:       3 lbs (1.4 kg)         Physical Dimensions:       7.5° L x 2° H x 5.9° W (19 cm x 5 cm x 15 cm)         Regulatory Approvals       Radio Transmitter:         Safety:       CSA (pending)         UL (pending)       UL (pending)         Warranty       1 Year limited parts and labor	Maximum Link Path Distance:	
Network Interface:       Ethernet 10BaseT RJ-45         Configuration/Setup Port:       RS-232C DB9 DCE         Power Specifications       Auto-sensing 90 - 260 VAC, 50/60 Hz         Power Supply Output:       7.5 VDC, 4 A max         Power Consumption (typical):       15 W         Environmental Specifications       32° F to 131° F (0° C to 55° C)         Operating Temperature:       32° F to 131° F (0° C to 55° C)         Operating Humidity:       10% to 80% Relative Humidity (non-condensing)         Product Weight:       2.5 lbs (1.2 kg) excluding power supply         Shipping Weight:       3 lbs (1.4 kg)         Physical Dimensions:       7.5° L x 2″ H x 5.9″ W (19 cm x 5 cm x 15 cm)         Regulatory Approvals       FCC Class A, CFR 47 Part 15         Radio Transmitter:       Industry Canada RSS-102 and RSS-139         Safety:       CSA (pending)         UL (pending)       UL (pending)	System Capacity:	30 Stations per Master
Configuration/Setup Port:       RS-232C DB9 DCE         Power Specifications       Auto-sensing 90 - 260 VAC, 50/60 Hz         Power Supply Output:       7.5 VDC, 4 A max         Power Consumption (typical):       15 W         Environmental Specifications       32° F to 131° F (0° C to 55° C)         Operating Temperature:       32° F to 131° F (0° C to 55° C)         Operating Temperature:       10% to 80% Relative Humidity (non-condensing)         Product Weight:       2.5 lbs (1.2 kg) excluding power supply         Shipping Weight:       3 lbs (1.4 kg)         Physical Dimensions:       7.5° L x 2° H x 5.9° W (19 cm x 5 cm x 15 cm)         Regulatory Approvals       FCC Class A, CFR 47 Part 15         Radio Transmitter:       Industry Canada RSS-102 and RSS-139         Safety:       CSA (pending)         UL (pending)       UL (pending)	Interfaces	
Power Supply Input:       Auto-sensing 90 - 260 VAC, 50/60 Hz         Power Supply Output:       7.5 VDC, 4 A max         Power Supply Output:       7.5 VDC, 4 A max         Power Consumption (typical):       15 W         Environmental Specifications       32° F to 131° F (0° C to 55° C)         Operating Humidity:       10% to 80% Relative Humidity (non-condensing)         Product Weight:       2.5 lbs (1.2 kg) excluding power supply         Shipping Weight:       3 lbs (1.4 kg)         Physical Dimensions:       7.5° L x 2° H x 5.9° W (19 cm x 5 cm x 15 cm)         Regulatory Approvals       FCC Class A, CFR 47 Part 15         Radio Transmitter:       FCC Class A, CFR 47 Part 15         Safety:       CSA (pending)         UL (pending)       UL (pending)	Network Interface:	Ethernet 10BaseT RJ-45
Power Supply Input:     Auto-sensing 90 - 260 VAC, 50/60 Hz       Power Supply Output:     7.5 VDC, 4 A max       Power Consumption (typical):     15 W         Environmental Specifications       Operating Temperature:     32° F to 131° F (0° C to 55° C)       Operating Humidity:     10% to 80% Relative Humidity (non-condensing)       Product Weight:     3 lbs (1.2 kg) excluding power supply       Shipping Weight:     3 lbs (1.4 kg)       Physical Dimensions:     7.5" L x 2" H x 5.9" W (19 cm x 5 cm x 15 cm)         Regulatory Approvals     FCC Class A, CFR 47 Part 15       Radio Transmitter:     Industry Canada RSS-102 and RSS-139       Safety:     CSA (pending)       UL (pending)     UL (pending)	Configuration/Setup Port:	RS-232C DB9 DCE
Power Supply Output:       7.5 VDC, 4 Å max         Power Consumption (typical):       15 W         Environmental Specifications       32° F to 131° F (0° C to 55° C)         Operating Temperature:       0% to 80% Relative Humidity (non-condensing)         Product Weight:       2.5 lbs (1.2 kg) excluding power supply         Shipping Weight:       3 lbs (1.4 kg)         Physical Dimensions:       7.5" L x 2" H x 5.9" W (19 cm x 5 cm x 15 cm)         Regulatory Approvals       FCC Class A, CFR 47 Part 15         Radio Transmitter:       FCC Class A, CFR 47 Part 15         Safety:       CSA (pending)         UL (pending)       UL (pending)         Warranty       1 Year limited parts and labor	Power Specifications	
Power Supply Output:       7.5 VDC, 4 Å max         Power Consumption (typical):       15 W         Environmental Specifications       32° F to 131° F (0° C to 55° C)         Operating Temperature:       0% to 80% Relative Humidity (non-condensing)         Product Weight:       2.5 lbs (1.2 kg) excluding power supply         Shipping Weight:       3 lbs (1.4 kg)         Physical Dimensions:       7.5" L x 2" H x 5.9" W (19 cm x 5 cm x 15 cm)         Regulatory Approvals       FCC Class A, CFR 47 Part 15         Radio Transmitter:       FCC Class A, CFR 47 Part 15         Safety:       CSA (pending)         UL (pending)       UL (pending)         Warranty       1 Year limited parts and labor		Auto-sensing 90 - 260 VAC, 50/60 Hz
Environmental Specifications         Operating Temperature:       32° F to 131° F (0° C to 55° C)         Operating Humidity:       10% to 80% Relative Humidity (non-condensing)         Product Weight:       2.5 lbs (1.2 kg) excluding power supply         Shipping Weight:       3 lbs (1.4 kg)         Physical Dimensions:       7.5" L x 2" H x 5.9" W (19 cm x 5 cm x 15 cm)         Regulatory Approvals       FCC Class A, CFR 47 Part 15         Radio Transmitter:       FCC Class A, CFR 47 Part 15         Safety:       CSA (pending)         UL (pending)       UL (pending)         Warranty       1 Year limited parts and labor	Power Supply Output:	
Operating Temperature:       32° F to 131° F (0° C to 55° C)         Operating Humidity:       10% to 80% Relative Humidity (non-condensing)         Product Weight:       2.5 lbs (1.2 kg) excluding power supply         Shipping Weight:       3 lbs (1.4 kg)         Physical Dimensions:       7.5" L x 2" H x 5.9" W (19 cm x 5 cm x 15 cm)         Radio Transmitter:       FCC Class A, CFR 47 Part 15         Industry Canada RSS-102 and RSS-139       CSA (pending)         UL (pending)       UL (pending)         Warranty       1 Year limited parts and labor	Power Consumption (typical):	15 W
Operating Humidity:       10% to 80% Relative Humidity (non-condensing)         Product Weight:       2.5 lbs (1.2 kg) excluding power supply         Shipping Weight:       3 lbs (1.4 kg)         Physical Dimensions:       7.5" L x 2" H x 5.9" W (19 cm x 5 cm x 15 cm)         Regulatory Approvals         Radio Transmitter:       FCC Class A, CFR 47 Part 15 Industry Canada RSS-102 and RSS-139         Safety:       CSA (pending) UL (pending)         Warranty       1 Year limited parts and labor	Environmental Specifications	
Product Weight:       2.5 lbs (1.2 kg) excluding power supply         Shipping Weight:       3 lbs (1.4 kg)         Physical Dimensions:       7.5" L x 2" H x 5.9" W (19 cm x 5 cm x 15 cm)         Regulatory Approvals       FCC Class A, CFR 47 Part 15         Radio Transmitter:       FCC Class A, CFR 47 Part 15         Safety:       CSA (pending)         UL (pending)       UL (pending)         Warranty       1 Year limited parts and labor		
Shipping Weight:       3 lbs (1.4 kg)         Physical Dimensions:       7.5" L x 2" H x 5.9" W (19 cm x 5 cm x 15 cm)         Regulatory Approvals       FCC Class A, CFR 47 Part 15         Radio Transmitter:       FCC Class A, CFR 47 Part 15         Safety:       CSA (pending)         UL (pending)         Warranty       1 Year limited parts and labor		
Physical Dimensions:       7.5" L x 2" H x 5.9" W (19 cm x 5 cm x 15 cm)         Regulatory Approvals       Radio Transmitter:         FCC Class A, CFR 47 Part 15       Industry Canada RSS-102 and RSS-139         Safety:       CSA (pending)         UL (pending)       UL (pending)         Warranty       1 Year limited parts and labor		
Radio Transmitter:       FCC Class A, CFR 47 Part 15 Industry Canada RSS-102 and RSS-139 CSA (pending) UL (pending)         Warranty       1 Year limited parts and labor		
Radio Transmitter:       FCC Class A, CFR 47 Part 15 Industry Canada RSS-102 and RSS-139 CSA (pending) UL (pending)         Warranty       1 Year limited parts and labor	Regulatory Approvals	
Safety: Industry Canada RSS-102 and RSS-139 CSA (pending) UL (pending) Warranty 1 Year limited parts and labor		ECC Class A CER 47 Part 15
Safety: CSA (pending) UL (pending) Warranty 1 Year limited parts and labor	וזמטוט ודמווטוווונכו.	
UL (pending) Warranty 1 Year limited parts and labor	Safety:	CSA (pending)
1 Year limited parts and labor		
1 Year limited parts and labor	Warranty	
	-	1 Year limited parts and labor

Note: WaveRider's Continuous Improvement Policy means that specifications are subject to change without notice.

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