



### 300W to 500W AWMT-5000C™ series



### Features

- 70 or 140 MHz Tx and Rx interface
- Easy to install and operate
- Compact light weight design
- Weatherproof package
- Phase-locked LNB
- Low phase noise
- Remote Monitor & Control (RS-232 and RS-485)
- Relay alarm indicators
- LED status indicators
- Automatic high reflected power protection
- Harmonic Filter
- High stability internal 10MHz reference
- Downloadable PC GUI
- Redundant operation ready

### Overview

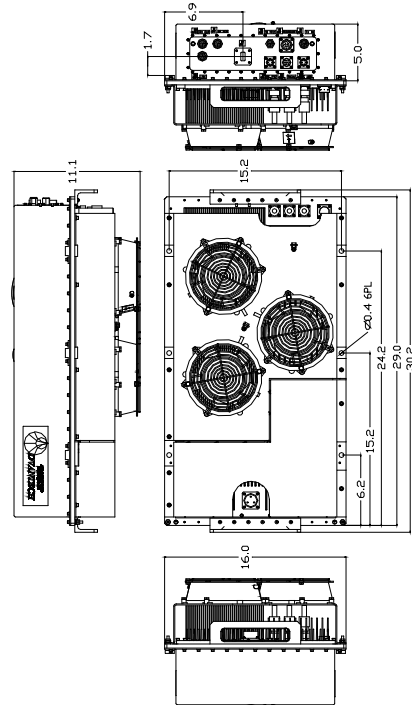
The **Advantech Wireless** range of transceivers uses the latest technology, local and remote control thus providing the ultimate in performance and user friendly operation at a very competitive price.

AWMT-5000C™ is a family of hub-mount transceivers operating in the C-band from 300W to 500W. These transceivers are designed for continuous operation in the harshest outdoor environment. The built-in microprocessor controller provides for external monitoring and control of the operating parameters, and for the redundancy control. The LNB is connected to the transceiver with a single coaxial cable. Apart from the LNB, the complete unit is available in a single integrated package. Higher power transceivers are also available in the AWMT-C™ series for up to 500W.

The flexible and comprehensive monitor and control features on the transceiver ensure that it will fit into any network management system architecture. The user-friendly RS-232 interface will provide full set-up and fault monitoring facilities via a PC terminal mode communication or a hand-held terminal. The RS-485 interface will provide functional remote Monitor & Control, using the Graphic User Interface (GUI) or the Monitor & Control Panel.

### Application

The AWMT-5000C™ is designed to operate in the C-band with 70 MHz or 140 MHz IF interface. The unit is self-contained and is intended for mounting outdoors, close to the OMT of an antenna.



### Options

- Extended C-Band (5.85 – 6.725 GHz)
- Additional L band interface
- LNA operation
- Step Size 125 KHz option
- Remote M&C panel (Ethernet port optional)
- External 10 MHz reference with auto sensing

### Accessories

- Mounting kits for transceiver installation
- Redundancy kits
- Mounting frame for redundancy applications
- Transmit Reject Filter and/or Receive Reject Filter (external)
- Remote Control Panel
- Hand-Held terminal

### Redundancy

The AWMT-5000C™ series of transceivers may be configured to operate in 1:1 redundancy mode. No extra controller is required for redundancy operation, as the built-in controller in each amplifier provides this function. Redundancy kits are required for redundant operation.

# C-Band Transceiver

## Technical Specifications

Transmit Path				
Model	<b>300W</b>	<b>350W</b>	<b>400W</b>	<b>500W</b>
P1dB min. (dBm)	54	54.5	55	56
Gain min @ max. gain set (dB)	75	76	76	77
Power Consumption	1700	2000	2200	2700
Unit Weight	58 kg (128 lbs)			
Dimensions (L x W x H)	30.00" x 16.00" x 11.00" (76.20 x 40.60 x 28.00 cm)			
Transmit Path				
IF Input		RF Output		
Frequency range	70 ± 18 MHz (140 ± 36 MHz optional)	Frequency range (Non-inverting)	5.850 – 6.425 GHz 6.425 – 6.725 GHz 6.725 – 7.025 GHz	
Input Connector	Type N female	Output connector	CPR 137G (N-Type option up to 150 W)	
Input Return Loss	18 dB / 50 Ω	Output Return Loss	20 dB (18 dB for coaxial cable)	
Gain Specification		Third order IMD (2 tones 5 MHz apart)	-26 dBc max at 3dB total back-off from rated P1dB	
Gain control range	20 dB (0.1 dB step size)	Spurious (in band)	-55 dBc max	
Gain flatness	3.0 dB p-p max over 36 MHz	Noise Power Density	-70 dBm/Hz max in TX band -155 dBm/Hz in max 3.4 – 4.2 GHz in RX band	
Gain stability	3.0 dB p-p max over temp range			
Receive Path				
RF Input		Gain Specification		
RF Input Frequency	3.625 – 4.2 GHz 3.400 – 3.700 GHz (CP) 4.5 – 4.8 GHz (CI)	Gain (LNB + Receiver)	80 dB @ max gain set	
RF Input Interface	CPR-229G	Gain control range	20 dB (0.1 dB step size)	
Input VSWR	2.5:1	Gain flatness	±3.0 dB max over full RF band	
		Gain stability	3.0 dB p-p max over temp. range	
		Spurious	-55 dBc	
		Image Rejection	50 dB	
IF Output		LNB Parameters		
Frequency range	70 ± 18 MHz (140 ± 36 MHz optional)	LNB type	Phase lock to 10 MHz ref. (from Transceiver via coax. cable)	
Output Level	+5 dBm	Noise Temperature	35°K	
Output Connector	Type N female / 50 Ω	L-band Output Frequency	950-1750 MHz	
Output Return Loss	18 dB/50 Ω	L-band Output Interface	Type N female 50 Ω	
		Conversion Gain	60 dB	
		DC power	12÷18V DC (via coaxial cable)	
		LNA Parameters (optional)		
		Noise Temperature	35°K (30°K optional)	
		Output Interface	Type N female 50 Ω	
		Gain	60 dB	
		DC power	12÷18V DC (via coaxial cable)	
Common Parameters (Tx & Rx)				
Frequency Stability		Environmental		
± 2 x 10 <sup>-8</sup> over 0°C to +50°C	± 2 x 10 <sup>-10</sup> / day	Cooling	Forced Air	
Aging	± 5 x 10 <sup>-8</sup> / year	Operational	-30°C to +55°C standard (-40°C to +55°C option)	
Phase Noise		Storage	-55°C to +85°C	
<i>(With internal 10MHz reference)</i>		Humidity	Up to 100% condensing	
Offset frequency	Phase noise (max)	Altitude	3,000 m AMSL (derated 2°C/300m)	
100 Hz	-60 dBc/Hz -65 dBc/Hz typical			
1000 Hz	-70 dBc/Hz -73 dBc/Hz typical			
10 KHz	-80 dBc/Hz -85 dBc/Hz typical			
100 KHz	-90 dBc/Hz -95 dBc/Hz typical			
Monitor & Control		Power Requirements		
Serial port (RS-485)	MS3112E10-6P	AC input voltage	220 VAC (47-63 Hz)	
Serial port (RS-232)	MS3112E10-6P	AC Connector	MS3102R20-19P	
Redundancy Port	MS3112E16-26P	Mechanical		
Discrete Port	MS3112E12-10P	Packaging	Weatherproof for outdoor use	

**NORTH AMERICA**  
USA  
Tel: +1 703 659 9796  
Fax: +1 703 635 2212  
info.usa@advantechwireless.com

**CANADA**  
Tel: +1 514 420 0045  
Fax: +1 514 420 0073  
info.canada@advantechwireless.com

**EUROPE**  
UNITED KINGDOM  
Tel: +44 1480 357 600  
Fax: +44 1480 357 601  
info.uk@advantechwireless.com

**RUSSIA & CIS**  
Tel: +7 495 971 59 18  
info.russia@advantechwireless.com

**INDIA**  
Tel: +91 33 2415 5922  
info.india@advantechwireless.com

**SOUTH AMERICA**  
Tel: +1 514 420 0045  
Fax: +1 514 420 0073  
info.latam@advantechwireless.com

**BRAZIL**  
Tel: +55 11 3054 5701  
Fax: +55 11 3054 5701  
info.brazil@advantechwireless.com

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