



Amplifiers

DATA SHEET

900 Twin Tower Mounted Amplifier

DTMA900VG16A



- Adjustable Gain via AISG
- Small, lightweight, twin unit
- AISG 2.0 compliant
- Dual duplexed
- High Linearity
- Lightning protected
- High reliability
- Full 900 band

Overview

CCI's Twin TMA contains two TMAs in a single housing. Each TMA is full band and fully duplexed. High linearity improves the uplink sensitivity and the receive performance of base stations.

The TMA is fully compliant with the latest AISG 2.0 specification, backward compatible with DC PDUs, and supports GSM 900 BTS and UMTS 900 Node B equipment. It provides a convenient package for sites using dual polarization antennas. The twin TMA package reduces tower loading, leasing, and installation costs. An excellent match for two branch receive diversity applications using dual polarization antennas. The input and output connectors are located inline for ease of installation in space constrained areas such as uni-pole structures and stealth antennas. Gain is remotely adjustable via the AISG protocol and can be set to suit existing BTS powers and link budgets as well as benefit the new UMTS900 system.

Technical Description:

The TMA system consists of a twin outdoor tower mount unit with two antenna inputs. The tower mount unit is dual duplexed to separate the low-power uplink signal from the high-power downlink signal at the antenna port, amplifies the low-level uplink signal using an ultra-low noise amplifier (LNA), and recombines the two paths at the BTS port. The tower mount units consist of six band-pass filters, four redundant low-noise amplifiers, bypass failure circuitry, and bias tee's which are all housed in an IP65 moisture proof enclosure, with IP68 Immersion proof connectors suited to long-life masthead mounting. The unit provides protection against lightning strikes via a multi-stage surge protection circuit. DC power and control is provided via the feeder cable from the BTS using the AISG 2.0 and 3GPP standard. A separate AISG connector is also provided to allow direct AISG connection or "Daisy Chaining" multiple AISG products at the top of the tower.

An optional indoor site control unit (SCU) is available to power up to 32 AISG modules per sector and to provide all the monitoring and alarm functions for the system. The SCU is housed in a single (1U) 1.75" x 19" rack and contains dual redundant power supplies capable of being "hot swapped" that provide a regulated DC supply voltage on the RF coax for the tower mount amplifiers.



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SPECIFICATIONS

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Electrical

RF Parameters	Ports	Frequency(MHz)	Specification
Return Loss	ANT	890-915	18 dB min. (16 dB bypass mode)
		935-960	18 dB min.
	BTS	890-915	18 dB min. (16 dB bypass mode)
		935-960	18 dB min.
Gain	ANT - BTS	890-915	8 to 16 dB adjustable in 0.25 dB steps via AISG (± 0.2 dB in any 3.84 MHz segment)
Insertion Loss	ANT - BTS (RX Bypass mode)	890-915	1.8 dB typ., 2.0 dB max. (midband) (± 0.2 dB in any 3.84 MHz segment)
	ANT - BTS (TX)	935-960	0.3 dB typ., 0.5 dB max. (± 0.1 dB in any 3.84 MHz segment)
Noise Figure	ANT - BTS	890-915	1.65 dB @ 25°C (@ 16 dB Gain)
Input Third Order Intercept Point	ANT - BTS	890-915	+9 dBm min. at max. gain
Group Delay	ANT - BTS (TX)	935-960	± 4 nS in any 3.84 MHz segment
General Characteristics			
Impedance	50 ohms		
Continuous Average Power	200 W max.		
Peak Envelope Power	2 kW max.		
Intermodulation Performance(all ports)	<-110 dBm (-153 dBc) typical (2 x +43 dBm tones) all bands		
Operating Voltage	+10V to +30V DC provided via coax or AISG		
Power Consumption	4 W		

Environmental

Operating Temperature	-40°C to +55°C
Enclosure	IP65 (Unit Body), IP68 (Connector)
MTBF	>500,000 hours
Lightning Protection	8/20us, ± 20 KA max, 10 strikes each, per IEC61000-4-5



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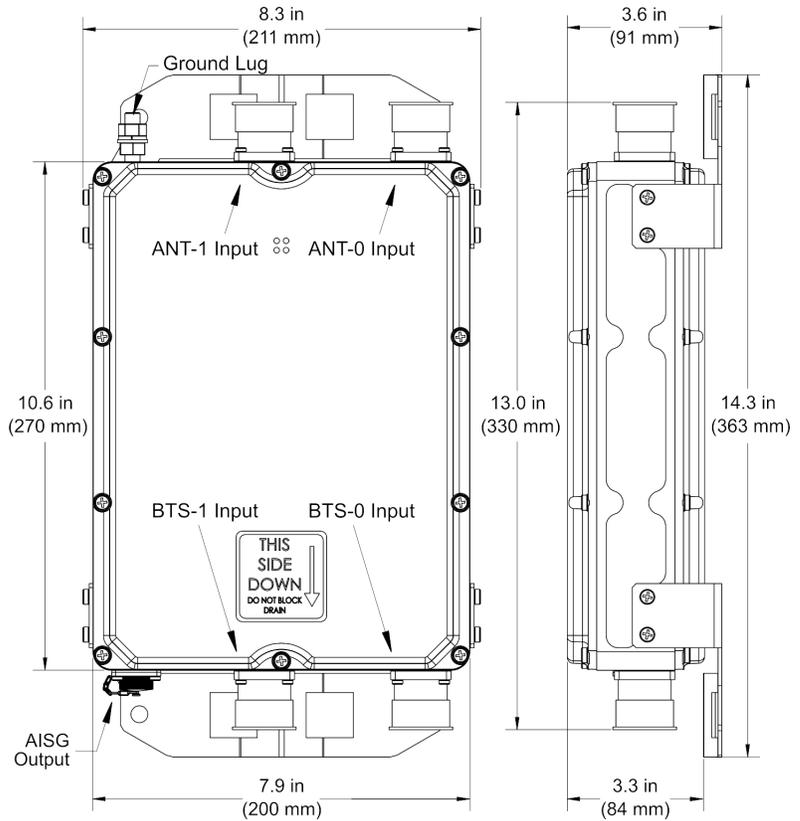
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Mechanical

Connectors	4 x 7-16 DIN female 1 x AISG
Dimensions (w/o connectors or brackets)(HxWxD)	10.63 x 7.87 x 3.3 in. (270 x 200 x 84 mm)
Dimensions (with brackets)(HxWxD)	14.3 x 8.3 x 3.6 in. (363 x 211 x 91.5 mm)
Weight	15.4 lbs (7.0 kg)
Mounting	Pole/Wall mounting bracket



DTMA900VG16A Outline Drawing



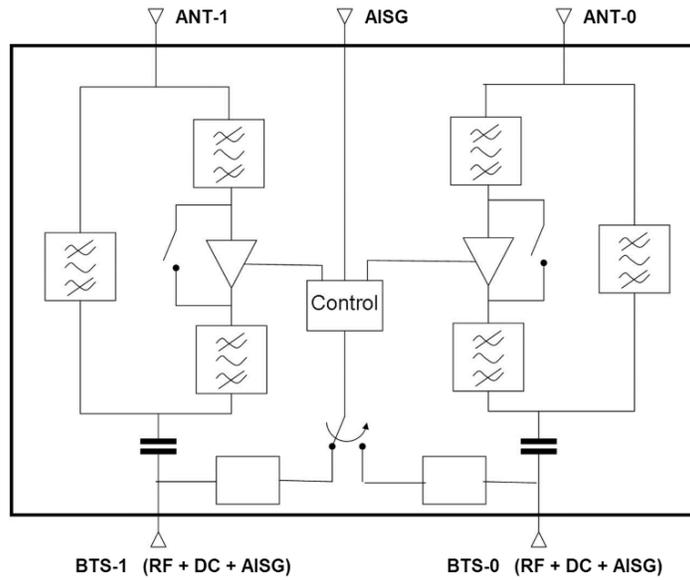
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Block Diagram



DTMA900VG16A Block Diagram



Amplifiers

ORDERING

900 Twin Tower Mounted Amplifier

DTMA900VG16A

Parts & Accessories

DTMA900VG16A 900 Full band AISG Twin TMA



Amplifiers

STANDARDS &
CERTIFICATIONS

900 Twin Tower Mounted Amplifier

DTMA900VG16A

Certifications

Antenna Interface Standards Group (AISG), Federal Communication
Commission (FCC) Part 15 Class B, CE, CSA US

