



Amplifiers

DATA SHEET

PCS Twin Tower Mounted Amplifier

DTMA1718FG12



- Small, lightweight, twin unit
- Dual duplexed
- High Linearity
- Lightning protected
- High reliability
- Full 1800 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 powered with DC PDUs, and supports GSM 1800 BTS 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.

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 or a Power Distribution Unit (PDU). An optional indoor power distribution unit (PDU) is available to power up to 3 TMAs and to provide all the monitoring and alarm functions for the system. The PDU 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.



Amplifiers

SPECIFICATIONS

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Electrical

RF Parameters	Ports	Frequency(MHz)	Specification
Return Loss	ANT	1710-1785	20 dB min. (18 dB bypass mode)
		1805-1880	20 dB min.
	BTS	1710-1785	20 dB min. (18 dB bypass mode)
		1805-1880	20 dB min.
Gain	ANT - BTS	1710-1785	12 dB nominal ± 0.75 dB
Insertion Loss	ANT - BTS (RX Bypass mode, midband)	1710-1785	1.9 dB typ, 2.8 dB max. @ 25°C, 2.2 dB typ, 3.2 dB max. @ 65°C ± 0.75 dB passband ripple
		1805-1880	0.5 dB typ. ± 0.2 dB passband ripple
Noise Figure	ANT - BTS	1710-1785	1.6 dB typ, 2.0 dB max. @ 25°C, 1.9 dB, 2.4 dB max. @ 65°C
		1805-1880	
Input Third Order Intercept Point	ANT - BTS	1710-1785	+23 dBm min.

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 +15V DC provided via coax
Operating Current	120 mA

Environmental

Operating Temperature	-40 °C to +65 °C
Enclosure	IP65 (Unit Body), IP68 (Connector)
MTBF	>500,000 hours
Lightning Protection	8/20us, ± 2 KA max, 10 strikes each per IEC61000-4-5



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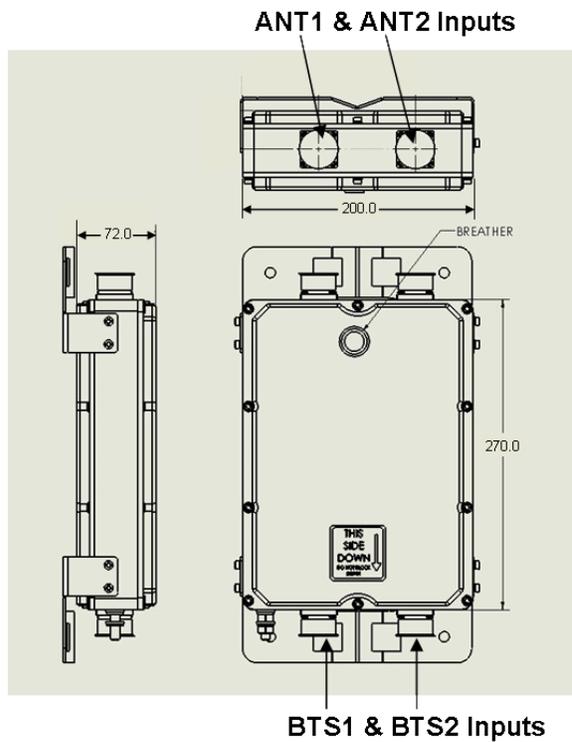
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Mechanical

Connectors	4 x 7-16 DIN female
Dimensions (w/o connectors or brackets)(HxWxD)	10.6 x 7.9 x 2.8 in. (270 x 200 x 72 mm)
Dimensions (with brackets)(HxWxD)	14.3 x 8.4 x 3.2 in. (364 x 214 x 82 mm)
Weight	13.7 lbs (6.2 kg)-without bracket
Mounting	Pole/Wall mounting bracket



DTMA1718FG12 Outline Drawing



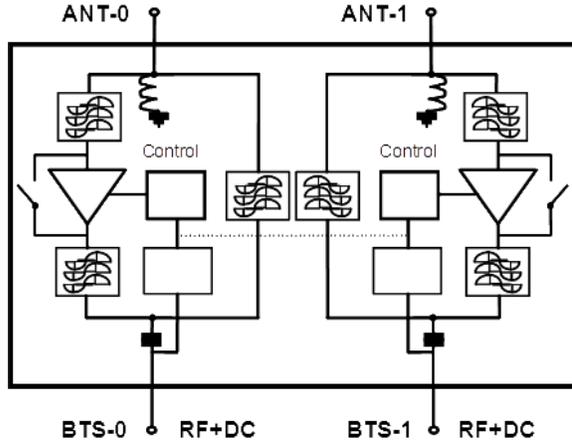
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Block Diagram



DTMA1718FG12 Block Diagram



Amplifiers

ORDERING

PCS Twin Tower Mounted Amplifier

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Parts & Accessories

DTMA1718FG12 1800 Full band Fixed Gain Twin TMA



Amplifiers

STANDARDS &
CERTIFICATIONS

PCS Twin Tower Mounted Amplifier

DTMA1718FG12

Certifications

Federal Communication Commission (FCC) Part 15 Class B, CE, CSA US