

Twin GSM900 Tower Mounted Amplifier

TA-G12FD



Features

- Two TMA units in one enclosure
- Balanced LNA design and power failure bypass for high reliability
- Alarm management: DC current load simulation
- Light weight and compact design
- Salt spray resistance
- IP66 with Gore Tex ventilation membrane
- Built-in lightning protection and vented enclosure design
- EMP protection with excellent MTBF



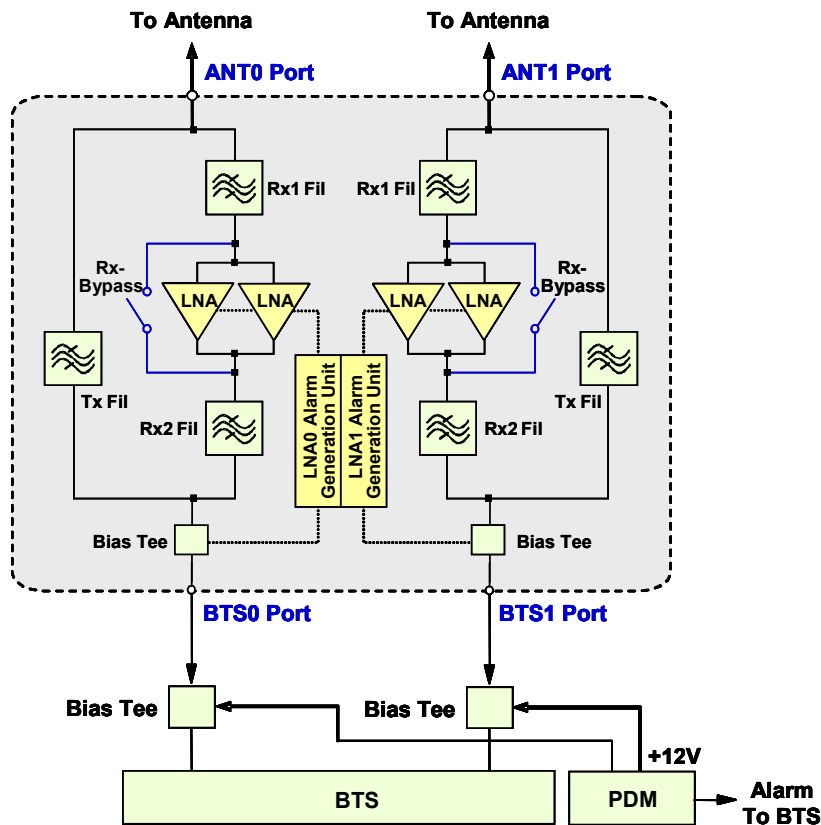
Product Description

The TA-G12FD is GSM900 twin tower mounted amplifier for both main and diversity branch and fits with cross-pole antennas. The unit is installed near the antenna at the tower top to improve the receive sensitivity of the base station. The usage of TA-G12FD will result in increase of successful call attempts, reduction of call drops, maximized data transmission rate, improved call quality and extended handset talk time. Quality improvements will lead to increased traffic volume and user satisfaction, hence increasing network revenue. It is recommended for use in new network roll-outs to minimize base station count, or for upgrading of existing base stations to improve signal quality and drop call performance.

The system comprises high quality band-pass filters, low noise amplifier (LNA), bias tee, and lightning protection and bypass circuitries. The LNA bypass circuitry is activated when the DC supply is switched off or when there is a fault in the system.

Power is supplied via external Bias Tees that connect between the TA-G12FD and PDM. Each PDM is constructed into a 19"1U form factor, and could provide power for up to three units of TA-G12FD.

Typical Application Block Diagram



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Technical Specifications

Electrical - Uplink

Frequency Range	MHz	890-915
Bandwidth	MHz	25
System Gain	dB	12 ± 1
Noise Figure	dB	≤ 1.8 (typ. 1.4)
Pass Band Ripple	dB	≤ 1.0
Insertion Loss in By-pass Mode	dB	≤ 1.9
Output 3 rd Order Intercept Point (OIP3)	dBm	≥ 22
Return Loss	Normal Operation	≥ 18
	Bypass Mode	≥ 14
Group Delay	ns	≤ 200
Alarm Management	Operation	≥ 230 (Minor Alarm)
	By-pass Mode	≥ 330 (Major Alarm)

Electrical - Downlink

Frequency Range	MHz	935-960
Bandwidth	MHz	25
Insertion Loss	dB	≤ 0.5
Return Loss	dB	≥ 18
Absolute Maximum RF Input Power	dBm	52 (CW); 59 (Peak)
Inter-modulation Products in RX Band	dBm	≤ -110 (2 TX carriers at +43dBm)
Group Delay	ns	≤ 70

Power, Mechanical & Environmental

Operating Voltage	V	+10 to +15
Operating Current per Port	mA	120 @+12V
Power Consume per Port	W	≤ 1.5
Dimensions, LxWxH (excluding connectors & mounting brackets)	mm(in)	318x218x59 (12.5x8.6x2.3)
Weight	kg(lb)	6.5 (14.3)
Mounting		Wall mounting: with 4 screws
		Mast mounting: with clamp set
Connector Type		7/16 DIN-Female
Enclosure Color		Light Grey
Enclosure Material		Aluminum
Operating Temperature	°C	-40 to +65
Operating Humidity	%	≤ 95
EMC		ETS 300 342-3
Lightning Protection		Comply with IEC 61000-4-5; 8kA, 8/20µs
Environmental Class		IP66
MTBF	hr	> 500,000

Note: Measurements taken at room temperature, unless otherwise stated.