

# Twin DCS1800 Tower Mounted Amplifier

TA-D12FD



## 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



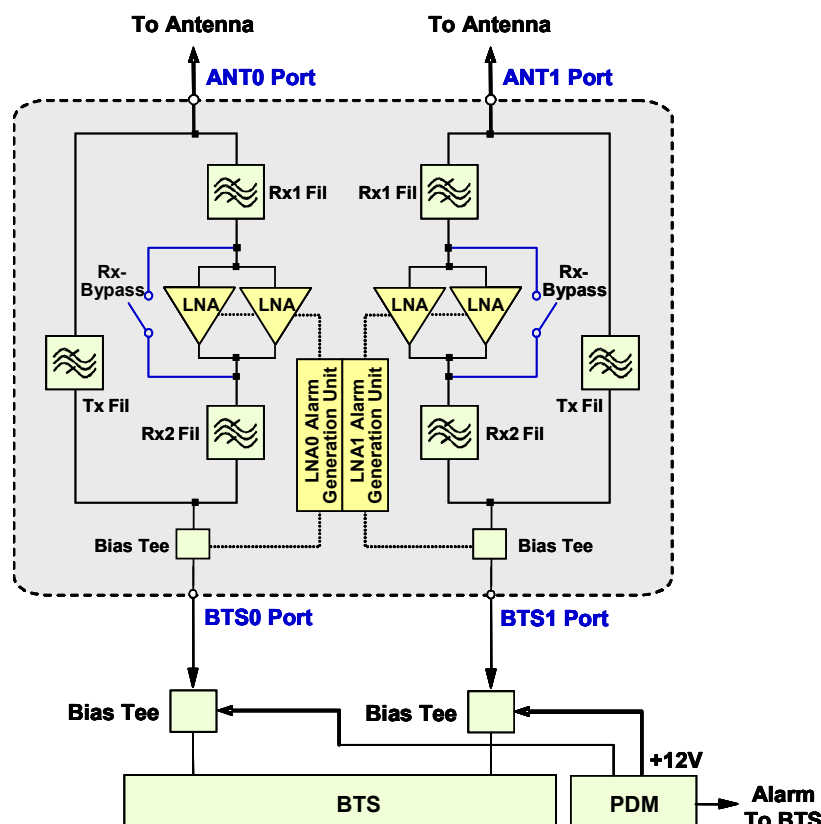
## Product Description

The TA-D12FD is a full band DCS1800 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 receiver sensitivity of the base station. The usage of TA-D12FD will result in an 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 amplifiers (LNA), bias tee, lightning protection and by-pass 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-D12FD and the PDM. Each PDM is constructed into a 19" 1U form factor, and can provide power for up to three units of TA-D12FD.

## Typical Application Block Diagram



### Technical Specifications

#### Electrical - Uplink

Frequency Range	MHz	1710-1785
Bandwidth	MHz	75
System Gain	dB	12 ± 1
Noise Figure	dB	≤ 1.9 (typ. 1.5)
Pass Band Ripple	dB	≤ 1.2
Insertion Loss in By-pass Mode	dB	≤ 2.2
Output 3rd Order Intercept Point (OIP3)	dBm	≥ 25
Return Loss	Normal Operation	≥ 18
	By-pass Mode	≥ 14
Group Delay	ns	≤ 100
Alarm Management	Operation	≥ 230 (Minor Alarm)
	By-pass Mode	≥ 330 (Major Alarm)

#### Electrical - Downlink

Frequency Range	MHz	1805-1880
Bandwidth	MHz	75
Insertion Loss	dB	≤ 0.6
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	≤ 50

#### 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)	250x224x59 (9.8x8.8x2.3)
Weight	kg(lb)	≤ 6 (13.2)
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 (per Unit)	hr	> 500,000

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