

# GSM Dual Channel Booster

ALP Enabled™

Dual Feed / Dual Antenna – Full Bandwidth

Issue :  
MHB DCB 270902



The REMEC GSM family of dual channel boosters offers a cost-effective solution for extending coverage and improving the quality of service from either new or existing BTS sites. Used with a micro BTS, the dual channel booster can provide Macro coverage, achieving a low cost and compact solution, particularly suitable for rural applications.

## Dual Channel Booster – RF function

The dual channel booster incorporates both Downlink and Uplink RF amplifiers. The Downlink amplifier is a high power unit that is guaranteed to supply 20 watts of RF over the entire operating bandwidth. The Uplink amplifier is a low noise design that will reduce the system noise figure, resulting in increased receiver sensitivity. The amplifiers feature user selectable gain to provide optimum operational performance.

## Dual Channel Booster - Control

The dual channel booster functions are controlled and monitored through a built-in microprocessor that provides the dual channel booster with an extensive feature set that includes:

- a) User selectable RF gain – Uplink & Downlink.
- b) Parameter monitoring and fault reporting.
- c) Re-configurable control and alarm interface to suit all types of BTS.
- d) Quick and easy set-up procedure and maintenance via REMEC's DMT software and ALP™.

## FEATURES

- Both Uplink and Downlink RF paths feature
  - a) User selectable RF gain
  - b) Fail safe bypass operation
- Downlink RF power output, 20 watts per channel
- 10kA lightning protection
- Direct feed DC or AC supply and ALP™ control signals
- High MTBF
- Designed to meet ETSI 11.21
- A configurable communications interface provides a direct data link with the BTS or OMC
- Variants for three frequency bands
  - GSM 900
  - GSM1800
  - GSM1900

## PACKAGING

- Compact and lightweight
- IP65 rated
- Simple installation

## BENEFITS / APPLICATIONS

- Extend coverage of existing sites by up to 300%
- Provides two TX per sector in a single masthead mounted unit
- Suitable for both space and polarity diversity antenna systems
- Low cost solution to provide Macro coverage with Micro BTS
- Retrofit solution for network coverage problems
- Suitable for in-building coverage
- Reduced RF feeder costs
- Improved call quality and signal strength

# GSM Dual Channel Booster

ALP Enabled <sup>TM</sup>

Dual Feed / Dual Antenna – Full Bandwidth

<u>Tx Characteristics</u>	<u>Specification</u>
Frequency Range	925 – 960 MHz (GSM 900) 1805 – 1880 MHz (GSM 1800) 1930 – 1990 MHz (GSM 1900)
Bandwidth	Full band
Tx Gain	2 dB to 15 dB in 1 dB steps
Rated RF Power Output	20 watts (+43 dBm)
P1dB	> 45.5 dBm
Maximum RF Input	
Operational	+41 dBm
Survival	+43 dBm
Bypass Insertion Loss	<3.5 dB

<u>Rx Characteristics</u>	<u>Specification</u>
Frequency Range	880 – 915 MHz 1710 – 1785 MHz 1850 – 1910 MHz
Bandwidth	Full band
Rx Gain	2 dB to 10 dB in 1 dB steps (2 dB to 12 dB for GSM 900)
Noise Figure ( max gain )	< 2.1 dB
Input IP3	> +10 dBm
Bypass Insertion loss	< 3 dB

<u>System Characteristics</u>	<u>Specification</u>
Tx – Rx Isolation	> 80 dB
Return Loss All Ports	
Active Mode	> 18 dB
Bypass Mode	> 16 dB
Supply Voltage Options	AC or DC
DC Supply Voltage	-48 V nominal
AC Supply Voltage	220 V +/- 15%
Frequency	50 Hz – 60 Hz +/- 5%
Power Consumption	< 350 watts

<u>Environmental Characteristics</u>	<u>Specification</u>
Operating Temp. Range	-40 to +55 deg C
Relative Humidity	5 to 95%
Enclosure Protection	IP65
Lightning Protection	8/20 micro sec pulse at 10 kA
EMC	ETS 300 342-3 compliant

<u>Mechanical Characteristics</u>	<u>Specification</u>
Dimensions	425 x 375 x 210 mm
Weight	< 23 kg
RF Connectors	
BTS	N type female
ANT	7/16 DIN female
Supply Connector	Amphenol C16

<u>Control/Alarm Characteristics</u>	<u>Specification</u>
Direct Connection Option	9 way male D type
Configuration signaling	baseband ALP (RS232)
Summary Alarm	1 set of relay contacts
Integrated Connection Option	Via BTS RF ports
Configuration signalling	modulated ALP
Summary Alarm	via ALP controller/PDU

