

**PRODUCT
SPECIFICATION**

Low cost solution for
enhancing indoor coverage
800 & 900 MHz LMR
and 850 MHz Cellular
applications

Andrew's band selective mini repeaters give coverage system designers a simple and effective tool to solve their small area coverage and performance issues.

The band selective mini repeaters are bi-directional amplifiers used to enhance signals between a mobile and a base station in a wireless network. Typical applications are coverage improvement in small and medium sized environments such as offices, store fronts, underground

floors, and small manufacturing facilities. By increasing the signal strength the mini repeater family improve indoor coverage and allows higher data rate connectivity.

The band selective mini repeaters are very simple to commission and install. These repeaters have auto-setup functionality which eliminates the requirement for additional equipment to commission the system.

The band selective mini repeater family will automatically set its gain to maximize performance. However, an external switch allows the user to manually set the gain if desired. ALC, Automatic Level Control, is incorporated to prevent overdriving the amplifier.

Additionally, the band selective mini repeaters will monitor the long-term evolution of the RF environment and dynamically adapt to changing conditions. An alarm interface with LEDs and dry-contact outputs enables local and remote supervision. Typically, an antenna is placed

outside to provide a connection to the base station. If a sufficient signal is present indoors, the donor antenna may be mounted inside of the building. In all cases, the one or more coverage antennas are placed indoors nearest to the mobile user area.

Multiple alarm interfaces, consisting of LEDs and dry-contact outputs, enables local and remote supervision of the band selective mini repeater family. Optional wireless remote monitoring equipment may be integrated with these repeaters to provide alarming via SMS messages. Alarm messages can be sent to the Andrew OMC, standard SMS receiver or mobile phone.

- Automatic set-up, test equipment not required
- High rejection SAW filters to prevent interference
- External alarm LED's and dry-contact relays
- Provides coverage for up to 50,000 sq. feet
- Interface for optional SMS alarming

MR803D, MR853D, MR903D Band Selective Mini Repeaters

Indoor Coverage for 800 & 900 MHz LMR
and 850 MHz Cellular Applications

One Company. A World of Solutions.

MR803D, MR853D, MR903D – Product Specifications

Electrical

Frequency range, MHz

MR803D	Uplink	806 to 824
	Downlink	851 to 869
MR853D	Uplink	824 to 849
	Downlink	869 to 894
MR903D	Uplink	896 to 902
	Downlink	935 to 941

Center Frequency Step Size, kHz

MR803D	200
MR853D	200
MR903D	200

Passband options, MHz

Type	Bandwidth	Frequency Range
MR803D	18 MHz	806 to 824 MHz
MR853D	1.5 MHz	824 to 849 MHz
	10 MHz	824 to 849 MHz
	25 MHz	824 to 849 MHz
MR903D	6 MHz	896 to 902 MHz

P-1dB, dBm

Uplink	+26.5
Downlink	+26.5

OICP3, dBm

Uplink	+34.5
Downlink	+34.5

Noise figure @ maximum gain, dB

Uplink	6.5
Downlink	6.5

Delay, μ s

4

Gain, dB

60

Gain flatness, dB

± 2

Gain adjust range, dB

20 in steps of 2

Power Supply

Mains power, Vac

100 to 240

Local power, Vdc

7.5

Power consumption, watts

12

Antenna Port

Connectors

SMA-Female*

Return loss, dB

10 minimum

RF Output Power (Uplink and Downlink)

Technology	Output power per carrier, dBm			
	1	2	4	8
Analog	18	15	12	9
CDMA	16	13	10	7
EDGE	18	15	12	9
GMS	18	15	12	9
iDEN	16	13	10	7
TDMA	18	15	12	9
W-CDMA	11	8	5	2
TETRA 800	14	11	8	5

System supervision and control

Alarms	Temperature
	Current
	ALC
	Heartbeat
Optional	SMS Alarming Box
Features	Automatic gain adaption
	Automatic gain setting for automatic set-up
	LEDs for alarm displays
	Automatic Level Control (ALC)

Mechanical

Height, depth, width, mm (in)

114 x 154 x 51.5
(4.5 x 6.0 x 2.0)

Weight, kg (lb)

0.7 (1.54)

Environmental

Operating temperature range

+5° C to +40° C

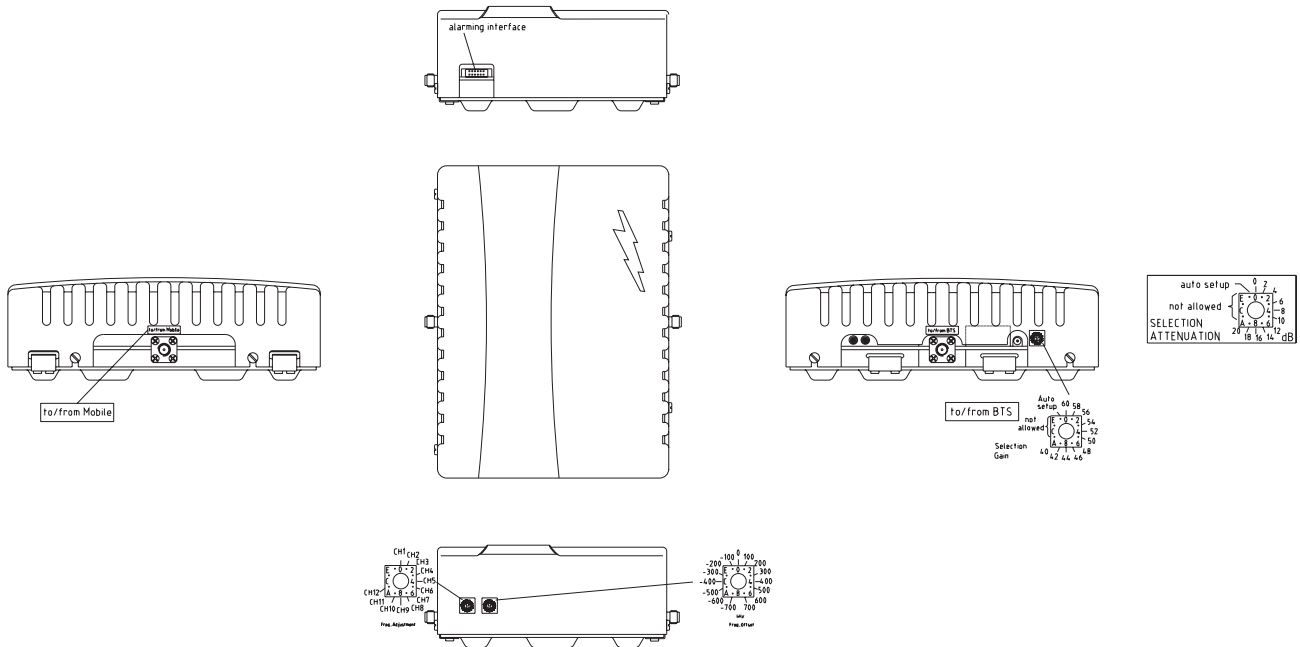
Ingress protection

IP20

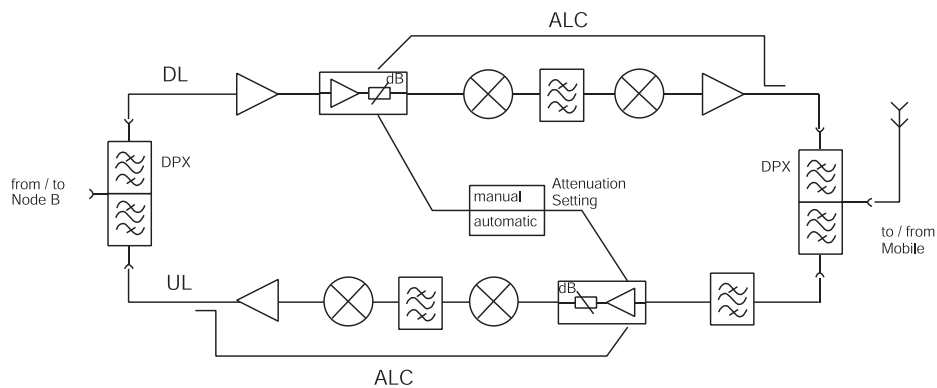
* Includes two 500mm SMA-Male to N-Female coaxial jumper cables

All figures are typical values

MR803D, MR853D, MR903D – Product Specifications



MR803D/MR853D/MR903D Cabinet Drawing



MR803D/MR853D/MR903D Block Diagram

MR803D, MR853D, MR903D – Product Specifications



Indoor Coverage Enhancement



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