



miniRepeater Functional Description

The MRx18 miniRepeater is a bi-directional amplifier used to enhance signals between a mobile and a base station in a mobile network. It has been designed to increase signal strength in small and medium sized areas such as offices, shops, and basements. By boosting the signal level the MRx18 increases indoor coverage and allows high data rate connectivity.

If weak signal transmissions occur within the coverage area due to indoor applications, topological conditions or distance from the transmitter, a repeater is used to extend transmission range. In the downlink path, the repeater picks up the signals from a donor antenna of a BTS/ Node B, amplifies and re-transmits it into the required dark spot. In the uplink path the signal picks up the signals from a mobile/ User Equipment (UE) and re-transmits it to the BTS/ Node B.

Andrew MRx18 miniRepeater gives designers a simple tool to solve their small area coverage and performance issues.

The MRx18 is easy to install. Also a web-based GUI simplifies commissioning and configuring the equipment. The RF link (donor) towards the base station is typically fed from an outdoor antenna while the coverage area is fed by an indoor antenna. The opportunity to adjust the passband of repeater helps to cover any specific segment or frequency band.

Due to modular design, the single-varia version MRx18 may be available as a dual-/ triple-varia segment or a dual-band-varia version in one cabinet. The dual-/ triple-segment MRx18/x18(/x18) is able to transmit two or three variable segments within one frequency band. The dual-band MRx18/y18(/y18) supports two frequency bands, while one variable segment is amplified in one frequency band and up to two variable segments are dedicated for the other frequency band.

Auto Gain functionality enables automatic gain adjustment in order to maximize the performance, however gain may be set manually if desired.

An alarm interface with a display and LEDs indicates the status of the equipment locally. Moreover, the status and alarms of the MRx18 can be queried via the web-based GUI.

MRx18 miniRepeater



MRx18/x18 Dual Segment MRx18/x18/x18 Triple Segment

**INDOOR COVERAGE FOR ALMOST ALL
MOBILE NETWORK COMBINATIONS**

Key Features

- Multi-functional capabilities and modular design
- Continuously monitors and adapts to the RF environment via Autogain feature
- Lightweight and compact footprint for easy installation
- Easy commissioning and setup via web-based browser
- LEDs for local alarm indicators
- LCD display for RSSI, Gain, Output Power, and Status Indication
- Optional remote control via SMS
- Remote alarming through SNMP alarm traps
- Connection to LAN
- Compliant with all regulatory agencies
- Up to 3 variable band segments
- Independent autogain adjustment per segment
- Integrated combiner and common antenna ports for all segments

The MRx18 dual/triple segment amplifies up to three band segments within one frequency band. The variable bandwidth of all segments makes the MRx18 miniRepeater a highly flexible, tailored tool satisfying wireless operator's demands.

Regardless of the frequency band to be supported, the dual/triple segment MRx18 miniRepeater is basically available for the same frequency/standards as MRx18 single band model. Due to modular design, the MRx18 is able to carry up to three variable frequency segments in one cabinet.

Electrical

The electrical specifications of the dual/ triple segment MRx18 are basically identical to the ones of the MRx18 single band.

Deviations are stated in this document.

Existing dual / triple segment versions*:

MR918/918/918	three segments in 890-915 / 935-960 MHz
MR918E/918E/918E	three segments in 880-905 / 925-950 MHz
MR918/918	two segments in 890-915 / 935-960 MHz
MR918E/918E	two segments in 880-905 / 925-950 MHz
MR1818/1818	two segments in 1710-1765 / 1805-1860 MHz or 1730 - 1785 / 1825 - 1880 MHz
MR1818/1818/1818	three segments in 1710-1765 / 1805-1860 MHz or 1730 - 1785 / 1825 - 1880 MHz
MR1718/1718/1718	three segments in 1710-1755 / 2110-2155 MHz
MR1918/1918/1918	three segments in 1850-1910 / 1930-1990 MHz
MR2118/2118	two segments in 1920-1980 / 2110-2170 MHz
Bandwidth, MHz	up to three segment, each variable in steps of 10 kHz 1 to 25 MHz

Power Supply

Mains Power, Vac	100 to 240
Local Power, Vdc	6

Power consumption, watts**

Dual segment	30
Triple segment	36

Antenna port

Connector	SMA Female
Return loss, dB	10

System Supervision and Control

Alarms (per segment)	Temperature, Current, ALC
Options	Alarming, configuration via SMS, heartbeat

Environmental

Operating temperature range, °C	+5 to +40
Ingress protection	IP30

Mechanical

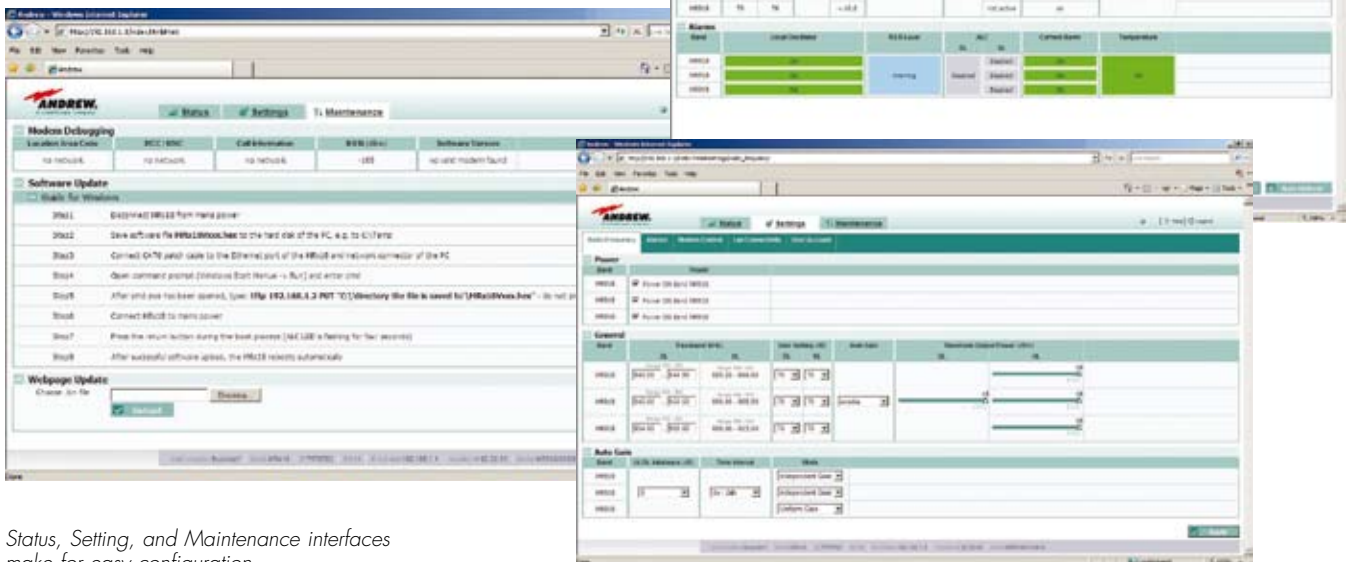
Height, width, depth, mm (in)	240 x 240 x 70 (9.5 x 9.5 x 2.8)
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Weight, kg (lb)	3.0 (6.6)
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* further dual / triple segments available upon request

** without power supply

All figures are typical values.



Status, Setting, and Maintenance interfaces make for easy configuration



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