



## **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/y18/y18 MRx18/y18 Dual Band

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, crossband coupler and common antenna ports for all segments and frequency bands

The MRx18 dual band amplifies up to three variable band segments allocated in two frequency bands. One variable bandwidth filter is dedicated for one frequency band and up to two variable bandwidth filters dedicated for the other 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 band 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 MRx18 are basically identical to the ones of the MRx18 single band. Deviations are stated in this document. Existing combinations beyond carry one variable segment in the basic cabinet and up to two variable segments in the extension cabinet.

Basic Cab \ Ext. Cab	MR8018	MR8518	MR918	MR1718	MR1818	MR1918	MR2118
MR8018						X	
MR8518						X	
MR918							
MR1718						X*	
MR1818			X				
MR1918							
MR2118			X				

\* Please see values listed below.  
Further dual bands available upon request

Bandwidth, MHz up to three segments, each variable in steps of 10 kHz  
1 to 25 MHz

	Combinations	Combinations marked with *
Noise figure UL & DL	MRx18 single Noise Figure + 1dB	MRx18 single Noise Figure + 3.5dB
Gain UL & DL	MRx18 single Gain	MRx18 single Gain - 7dB
Pout UL & DL	MRx18 single Pout	MRx18 single Pout - 3.5dB
ICP3 UL & DL	MRx18 single ICP3	MRx18 single ICP3 - 3.5dB
P-1dBc UL & DL	MRx18 single P-1dBc	MRx18 single P-1dBc - 3.5dB

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

Power consumption, watts\*\*  
Two segments ..... 40  
Three segments ..... 50

Antenna port  
Connector ..... SMA Female  
Return loss, dB ..... 10

Indoor Multiband Antenna ..... Optional  
Antenna Gain, dBi ..... 2.0

System Supervision and Control

Alarms (per band and segment) ..... Temperature, Current, ALC

Options ..... Remote control via SMS, heartbeat

Environmental

Operating temperature range, °C ..... +5 to +40

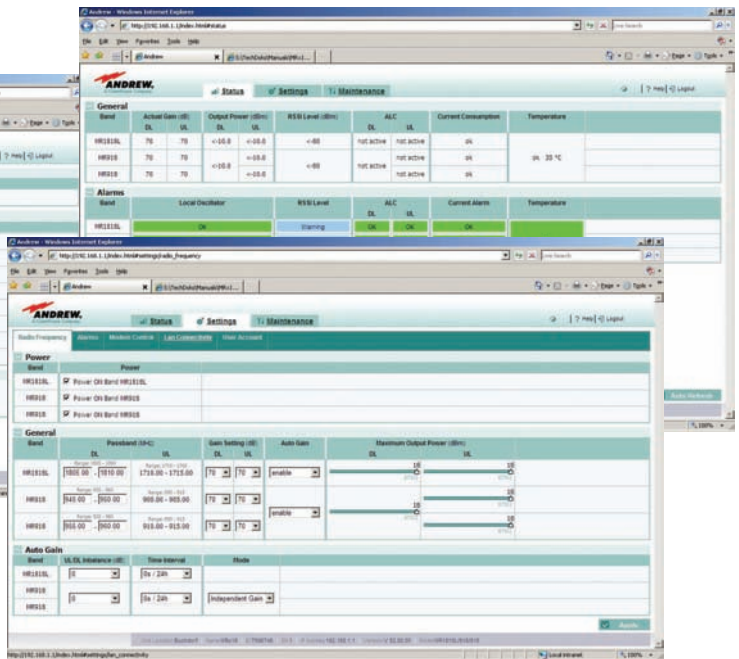
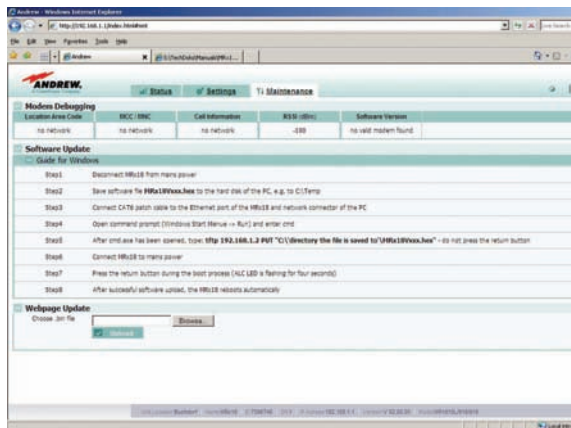
Ingress protection ..... IP30

Mechanical

Height, width, depth, mm (in) ..... 240 x 240 x 70  
(9.5 x 9.5 x 2.8)

Weight, kg (lb) ..... 3.0 (6.6)

\*\* without PSU  
All figures are typical values.



Status, Setting, and Maintenance interfaces make for easy configuration



www.commscope.com/andrew

Visit our Web site or contact your local Andrew Solutions representative for more information.

© 2009 CommScope, Inc. All rights reserved.

Andrew Solutions is a trademark of CommScope. All trademarks identified by ® or ™ are registered trademarks or trademarks, respectively, of CommScope. This document is for planning purposes only and is not intended to modify or supplement any specifications or warranties relating to Andrew Solutions products or services.