EGSM900 Split Bandwidth Adjustable Repeater

RD-9132 II2

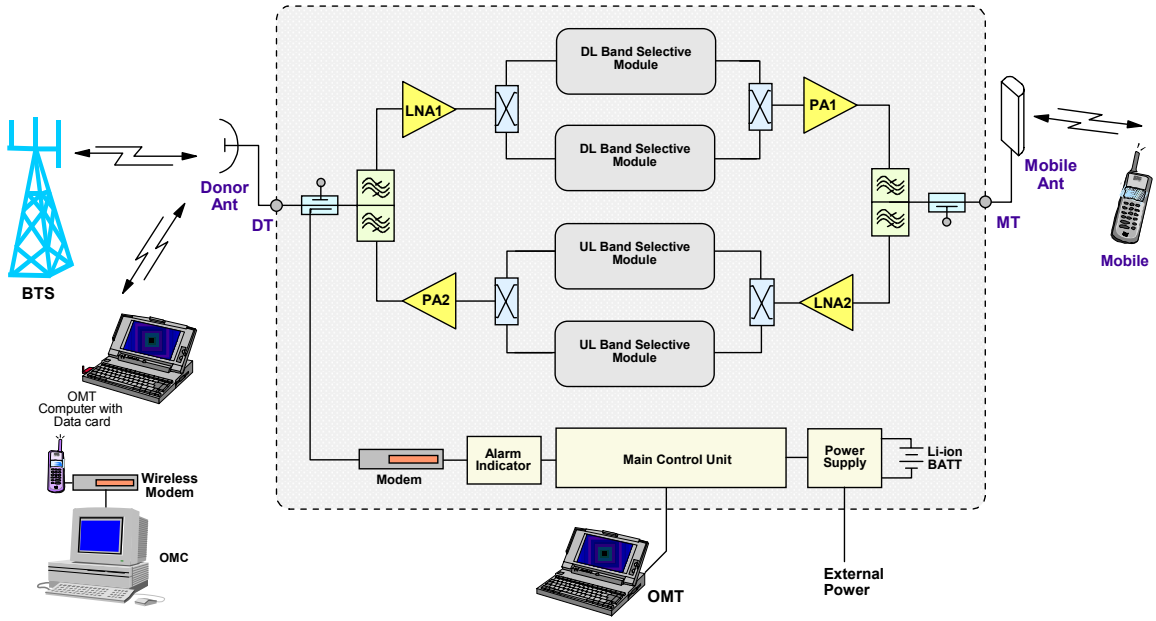
Features

- Two sub band-selective modules with adjustable bandwidth.
- Output power can be adjusted via OMT software.
- Software adjustable single/multi carrier mode allows flexible configuration.
- Integrated wireless modem for remote configuration, monitoring and control.
- Internal backup battery keeps the alarm unit running for up to three hours after power failure.
- Optional OMC is available for remote operation and maintenance of a group of repeaters.
- Designed for all weather outdoor installation – waterproof, damp-proof and omni-sealed (IP65).

Product Description

The RD-9132 split bandwidth-adjustable repeater is designed for EGSM900 networks. Band-specific linear amplifier and filtering effectively amplifies the desired BTS carriers and provides superior out-of-band rejection. The unit can incorporate two adjustable 15MHz bandwidth segments. Remote configuration and surveillance is possible through Comba's remote control and monitoring system via PC or wireless modem to the OMT/OMC. Internal Li-ion backup battery ensures alarm signals are sent out during power failure. The unit comes in a sealed, cast aluminum enclosure, suitable for operation in all weather conditions.

Functional Block Diagram



Technical Specifications

Electrical			
Frequency Range, Uplink		MHz	880 – 915
Frequency Range, Downlink		MHz	925 – 960
Number of Band Selective Segment			2
Total Output Power	With ALC Multi Carrier Mode	dBm	27 ± 1
	With ALC Single Carrier Mode	dBm	33 ± 1
Maximum System Gain		dB	83 ± 2
Gain Adjustment Range (1dB step)		dB	0 – 30
Operating Bandwidth per band selective segment		MHz	1.8 – 15
Pass Band Ripple at FBW, p-p		dB	≤ 5 ± 2
System Noise Figure at Max. System Gain		dB	≤ 7
System Group Delay		μsec	≤ 6
Out-of-Band Gain*	Offset ≥ 400KHz	dB	≤ 50
	Offset ≥ 600KHz	dB	≤ 40
	Offset ≥ 1MHz	dB	≤ 35
	Offset ≥ 5MHz	dB	≤ 25
Spurious	9KHz to 1GHz	dBm	≤ -36
	1GHz to 12.75GHz	dBm	≤ -30
Intermodulation (Multi Carrier Mode)		dBm	≤ -36
Absolute Maximum RF Input Power		dBm	+10
Input VSWR			≤ 1.5
Impedance		Ω	50
Power, Mechanical & Environmental			
Dimensions, H x W x D		mm	600 x 450 x 195
Weight (approx.)		kg	37
Power Consumption (approx.)		W	220
Power Supply		VAC	176 – 264 / 47 – 63Hz
			85 – 135 / 47 – 63Hz
Power Up Waiting Time (approx.)		sec	60
MCU Battery Backup Time (approx.)		hr	3
Enclosure Cooling			Convection
RF Connectors			N-Female
Operating Temperature		°C	-33 to +55
Operating Humidity		%	≤ 95
Environmental Class			IP65
MTBF		hr	> 50,000

Note: Typical specifications at room temperature
*: For Each Band Selective Module.

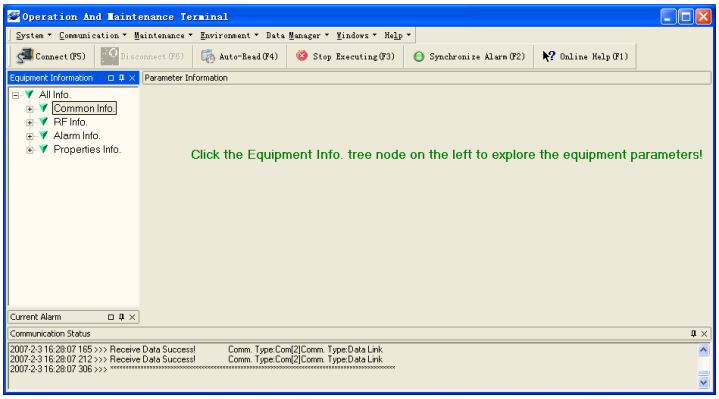
Operation and Maintenance

Using a direct serial connection to a PC, installation and commissioning of the RD-9132 is accomplished by the OMT. Using the integrated wireless modem (data or SMS), the equipment parameters can be monitored and controlled remotely.

Controlled equipment parameters include: RF Switch, Carrier Switch, Channel No. Range, ATT, RF Switch, Over-Temp Threshold, DL Input Power Threshold, DL Output Power Threshold and Alarm Report Enable.

Monitored equipment parameters include: Alarms (LNA, PA, PLL unlock, Power Down, PSU Fault, Chassis Lock, Self-Oscillation, DL Output Power Low, DL Input power Overload, Over Temp, VSWR), DL Output Power and DL Input Power.

The RD-9132 has been developed to take advantage of advanced network operation, where the OMC (optional) provides an effective solution for central monitoring of a group of Comba products.



Outline Drawing