

GSM850 Bandwidth Adjustable Repeater

RD-8120

Comba

Features

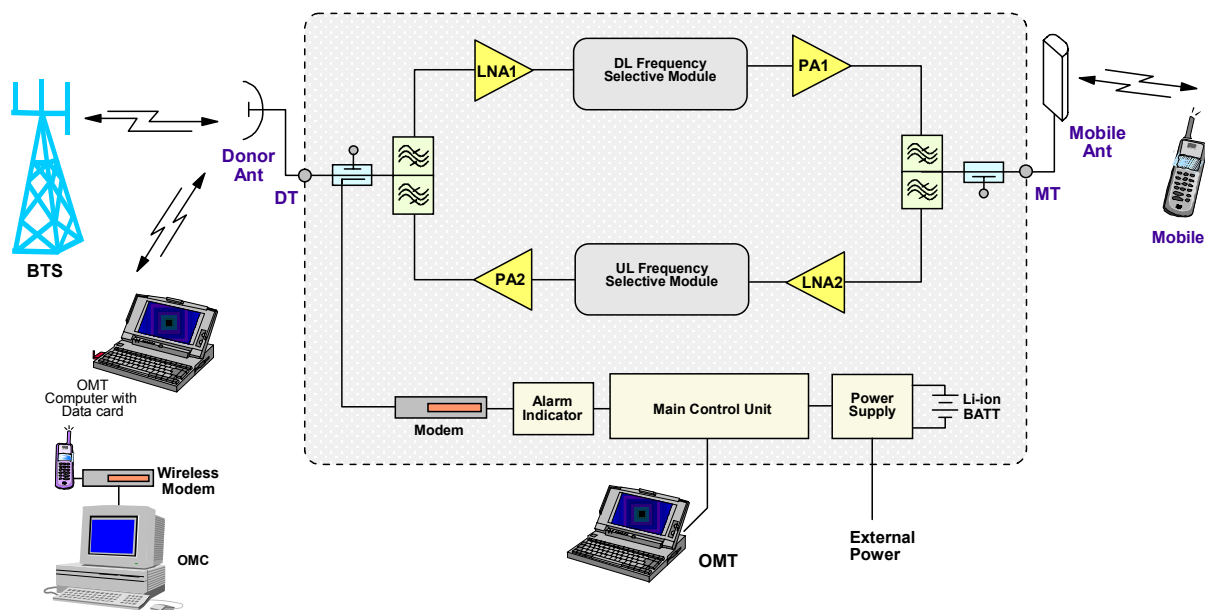
- Adjustable bandwidth from 2 to 25MHz.
- Integrated wireless modem for remote configuration, monitoring and control.
- Internal backup battery keeps the alarm unit running for up to three hours after power failure.
- Optional OMC is available for remote operation and maintenance of a group of repeaters.
- Designed for all outdoor application – waterproof, damp-proof and omni-sealed (IP65).



Product Description

The RD-8120 bandwidth adjustable repeater is designed for GSM850. Band-specific linear amplifier and filtering effectively amplifies the desired BTS carriers and provides superior out-of-band rejection. Typical units incorporate programmable bandwidth up to 25MHz to meet specific requirements of the network. 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 RD-8120 comes in an omni-sealed, cast aluminum enclosure, suitable for all weather conditions.

Functional Block Diagram



Technical Specifications

Electrical			5W	10W
Frequency Range, Uplink		MHz	824 – 849	
Frequency Range, Downlink		MHz	869 – 894	
Operating Bandwidth		MHz	2 – 25	
Total Output Power, Uplink		dBm	33 ± 1	
Total Output Power, Downlink		dBm	37 ± 1	40 ± 1
Maximum System Gain		dB	90 ± 2	
Gain Adjustment Range (1dB step)		dB	0 – 30	
Pass Band Ripple, p-p		dB	≤ 5	
System Noise Figure at Maximum Gain		dB	≤ 6	
System Group Delay		μsec	≤ 6	
Bandwidth Selectivity	± 400KHz	dB	≥ 30	
	± 600KHz	dB	≥ 45	
	± 1MHz	dB	≥ 60	
Spurious (Out of Band)	9 kHz – 1GHz	dBm	≤ -36	
	1GHz – 12.75 GHz	dBm	≤ -30	
Intermodulation		dBm	≤ -13	
Output 3rd Order Intercept (OIP3), Downlink		dBm		≥ 57
Input VSWR			≤ 1.5	
Absolute Maximum RF Input Power		dBm	+10	
Impedance		Ω	50	
Power, Mechanical & Environmental				
Dimensions, H x W x D		mm	600 x 450 x 195	
Weight (approx.)		kg	37	
Power Supply		VAC	176 – 264 / 47 – 63Hz 85 – 135 / 47 – 63Hz	
Power Consumption (approx.)		W	200	250
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 specification at room temperature.

Operation and Maintenance

Using a direct serial connection to a PC, installation and commissioning of the RD-8120 is accomplished by the OMT. Equipment parameters can be monitored and controlled remotely through the integrated wireless modem (data or SMS mode).

Controlled equipment parameters include: Channel No. Range, ATT, RF Switch, Over-Temp Threshold, DL Input Power Threshold, DL Output Power Threshold, VSWR 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-8120 has been developed to take advantage of advanced network operation, where the OMC (optional) provides an effective solution for central monitoring over a group of Comba products.

Outline Drawing

