

GSM1800 Bandwidth Adjustable Repeater RD-1820 II2



Features

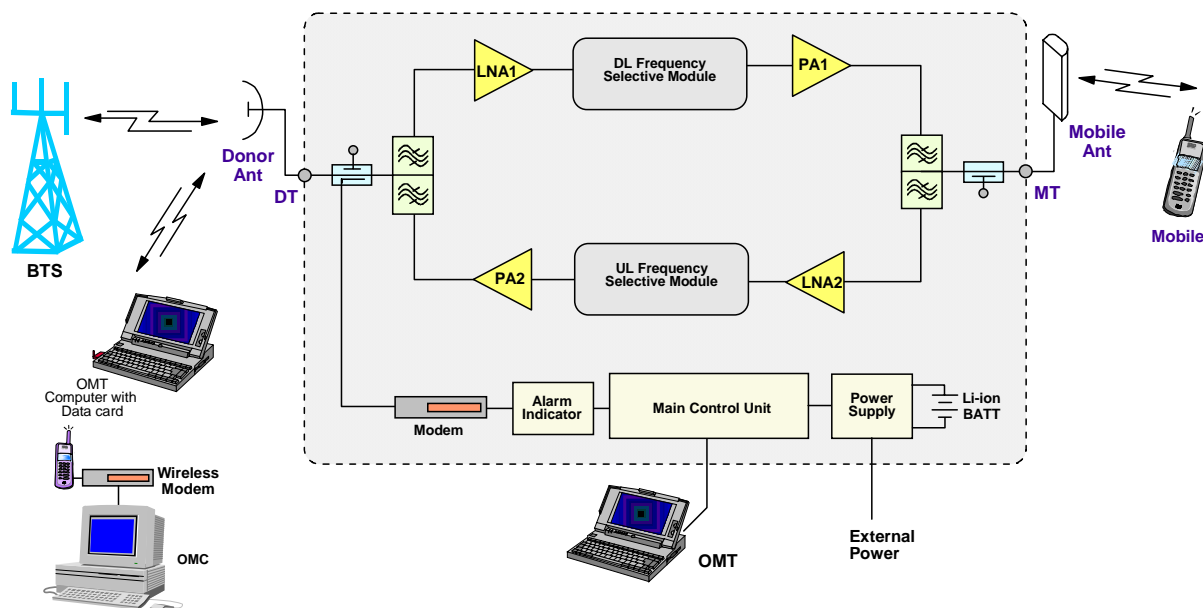
- Bandwidth adjustable from 2 to 25MHz.
- Integrated wireless modem for remote configuration, monitoring and control.
- Internal backup battery keeps the alarm unit running for up to three hours after power failure.
- Optional OMC available for remote operation and maintenance of a group of repeaters.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



Product Description

The RD-1820 bandwidth adjustable repeater is designed for GSM1800. Band-specific linear amplifier and filter effectively amplifies the desired BTS carriers and provides superior out-of-band rejection. Typical units incorporate programmable bandwidth up to 25MHz to suit 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-1820 comes in a completely sealed, cast aluminum enclosure, suitable for operation in all weather conditions.

Functional Block Diagram



Technical Specifications

Model		2W	5W	10W	
Electrical					
Frequency Range, Uplink		MHz	1710 – 1785		
Frequency Range, Downlink		MHz	1805 –1880		
Operating Bandwidth		MHz	2 – 25		
Total Output Power, Uplink		dBm	33 ± 1		
Total Output Power, Downlink		dBm	33 ± 1	37 ± 1	40 ± 1
Maximum System Gain		dB	90 ± 2		
Gain Adjustment Range (1dB step)		dB	0 – 30		
Downlink 3rd Order Intercept (OIP3)		dBm	≥ 52	≥ 56	≥ 56
Pass Band Ripple, p-p		dB	≤ 5		
System Noise Figure at Maximum Gain		dB	≤ 5		
System Group Delay		μsec	≤ 6		
Out-of-band Gain	Offset ≥ 600KHz	dB	< 40		
	Offset ≥ 1MHz	dB	< 35		
	Offset ≥ 5MHz	dB	< 25		
Spurious	9kHz to 1GHz	dBm	≤ -36		
	1GHz to 12.75GHz	dBm	≤ -30		
Input VSWR			≤ 1.5		
Absolute Maximum RF Input Power		dBm	+10		
Impedance		Ω	50		
Power, Mechanical & Environmental					
Dimensions, H x W x D		mm	606x390x208.6		
Weight (approx.)		kg	32		
Power Supply		VAC	85 – 264 / 47 – 63Hz		
Power Consumption (approx.)		W	150	160	175
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.

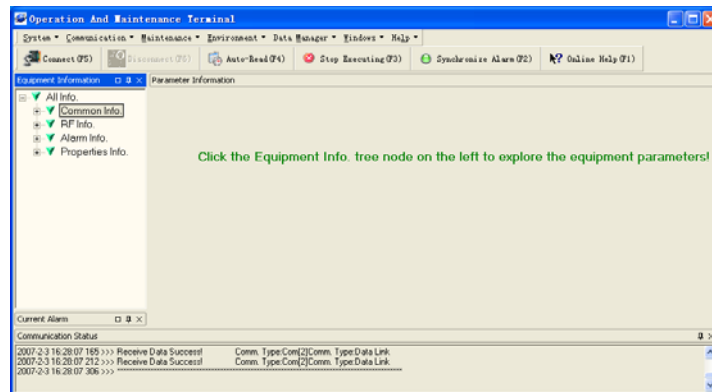
Operation and Maintenance

Using a direct serial connection to a PC, installation and commissioning of the RD-1820 is accomplished by the OMT. Using the integrated wireless modem (data or SMS mode), equipment parameters can be monitored and controlled remotely.

Controlled equipment parameters include: 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-1820 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

