

CDMA1900 Band Selective Repeater

RD-1900

Comba

Features

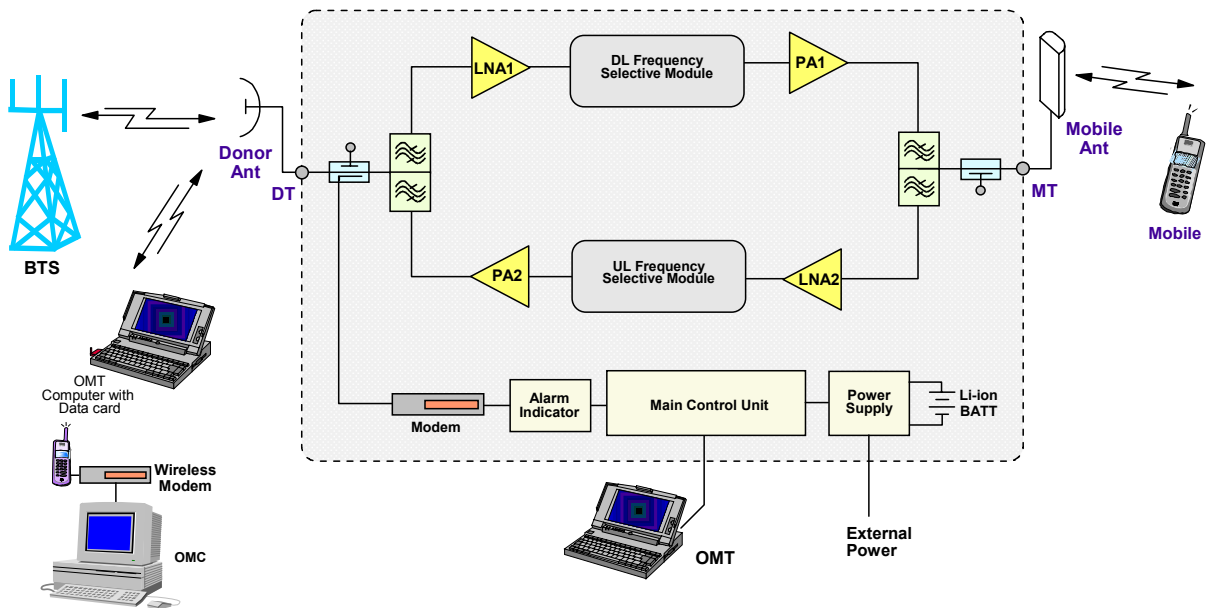
- Operating at fixed 10MHz bandwidth
- Integrated wireless modem for remote configuration, monitoring and control.
- Internal backup battery keeps the alarm unit running for up to three hours after power failure.
- Optional OMC is available for remote operation and maintenance of a group of repeaters.
- Designed for all weather outdoor installation – waterproof, damp-proof and omni-sealed (IP65).



Product Description

The RD-1900 band-selective repeater is designed for outdoor and indoor operation in the CDMA1900 system. Band-specific linear amplifier and filter effectively amplifies the desired BTS carrier and provides superior out-of-band rejection. Typical units incorporate up to 10MHz bandwidth with frequencies programmed to specific requirements of the network. Remote configuration and surveillance is possible through Comba's remote control and monitoring system, via laptop or wireless modem to the OMC. Internal Li-ion backup battery built in enclosure ensures alarm signals are sent out while power is down. The RD-1900 comes in a completely sealed, well-ventilated cast aluminum enclosure, suitable for all weather conditions.

Functional Block Diagram



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Technical Specifications

Electrical			2W	10W
Frequency Range, Uplink		MHz	1900 – 1910	
Frequency Range, Downlink		MHz	1980 – 1990	
Maximum System Gain		dB	90 ± 2	
Gain Adjustment Range (1dB step)		dB	0 – 30	
Operating Band		MHz	10	
Total Output Power, RMS, Uplink		dBm	23 ± 1	
Total Output Power, RMS, Downlink		dBm	33 ± 1	40 ± 1
Pass Band Ripple, p-p in Operating Band		dB	≤ 5	
System Noise Figure at Maximum Gain		dB	≤ 5	
System Group Delay		μs	≤ 5	
Out-of-Carrier Spurious, Uplink	Δf ≥ 900KHz	dBc	≤ -45 / 30KHz	
	Δf ≥ 1.98MHz	dBc	≤ -55 / 30KHz	
Out-of-Carrier Spurious, Downlink	Δf ≥ 750KHz	dBc	≤ -45 / 30KHz	
	Δf ≥ 1.98MHz	dBc	≤ -60 / 30KHz	
Out-of-Band Spurious, Δf ≥ 2.5MHz	9KHz - 1GHz	dBm	≤ -36 / 100KHz	
	1 - 12.75GHz	dBm	≤ -30 / 1MHz	
Input VSWR			< 1.5	
Frequency Error		ppm	≤ ± 0.05	
Quality of Waveform			> 0.970	
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	85 - 135 / 47 - 63Hz	
			176 - 264 / 47 - 63Hz	
Power Consumption (approx.)		W	160	190
MCU Battery Backup Time (approx.)		hr	3	
Power Up Waiting Time (approx.)		sec	60	
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

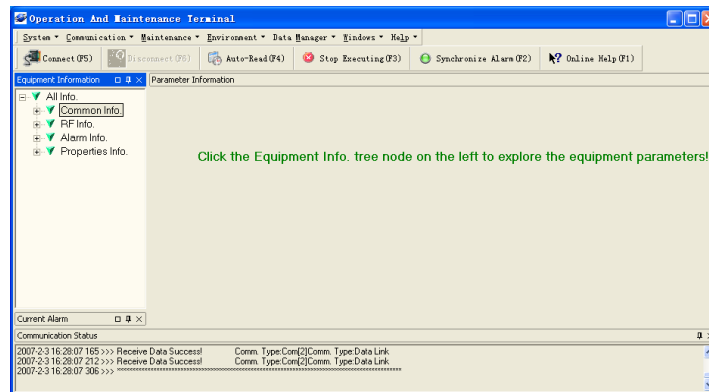
Operation and Maintenance

Using a direct serial connection to a PC, installation and commissioning of the RD-1900 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, ATT, Over-Temp Threshold, DL Output Power Low Threshold, DL Input Power Overload Threshold and Alarm Report Enable.

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

The RD-1900 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

