

Features

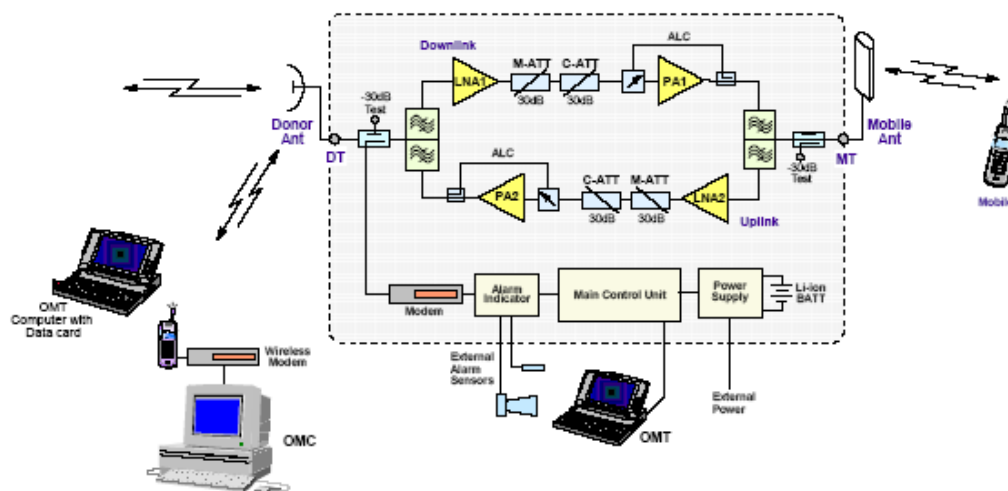
- Cost effective solution offering high 40dBm output power.
- Full band-specific filtering with excellent out-of-band rejection.
- Output ALC maintains low IMD and prevents oscillation.
- Integrated CDMA radio modem for remote configuration, monitor, control and alarm.
- Low operating cost – fast set-up, high MTBF and no maintenance.
- Modular components - can be replaced in minutes for easy field repair.
- Internal backup battery keeps the alarm unit running for up to 6 hours after power loss.
- Optional OMC is available for remote operation and maintenance of repeaters.
- Designed for all weather IP65 outdoor – waterproof, damp-proof and omni-sealed.



Product Description

The PCR-1900 wideband repeater is designed for outdoor operation in the CDMA1900 band. Off-air repeaters receive and amplify donor base station signals for weak coverage areas, and amplify mobile signals back to the base station. These repeaters provide cost effective solution to maximise the coverage area of base stations. Full band operation simplifies set-up and reduces maintenance while minimizing interference. Remote configuration and surveillance is possible through Comba's remote control and monitoring system, via laptop or wireless modem to the OMC. Li-ion battery backup ensures alarm signals are sent out in the event of power failure, and optional full battery backup ensures operation in unstable mains supply. The PCR-1900 comes in a completely sealed, well-ventilated cast aluminum chassis, suitable for all weather conditions.

System Block Diagram



Technical Specifications

Electrical

Frequency Range, UL – [MHz]	1895 – 1910
Frequency Range, DL – [MHz]	1975 – 1990
Max. System Gain – [dB]	90
Gain Adjustable Range – [dB]	0 – 30, 1 dB step
Output Power, DL – [dBm]	40
Output Power, UL – [dBm]	23
Pass Band Ripple, p-p – [dB]	≤ 3
Frequency Error – [Hz]	≤ ±5 × 10 ⁴
System Noise Figure – [dB] (@ max gain)	≤ 4
Group Delay – [μsec]	≤ 5
In-band Spurious – [dBm]	≤ -22 / 30kHz
Out-of-band Spurious, UL – [dBc]	
- Δf ≥ 900kHz	≤ -42 / 30kHz
- Δf ≥ 1.98MHz	≤ -54 / 30kHz
Out-of-band Spurious, DL – [dBc]	
- Δf ≥ 750kHz	≤ -45 / 30kHz
- Δf ≥ 1.98MHz	≤ -60 / 30kHz
Out-of-band Spurious – [dBm]	
- Δf ≥ 2.5MHz (9 – 150 kHz)	≤ -36 / 1kHz
- Δf ≥ 2.5MHz (150kHz – 30 MHz)	≤ -36 / 10kHz
- Δf ≥ 2.5MHz (30 MHz – 1 GHz)*	≤ -36 / 100kHz
- Δf ≥ 2.5MHz (1 – 12.75 GHz)**	≤ -30 / 1MHz
- Δf ≥ 2.5MHz (824 – 849 MHz)	≤ -47 / 100kHz
- Δf ≥ 2.5MHz (869 – 915 MHz)	≤ -47 / 100kHz
- Δf ≥ 2.5MHz (930 – 960 MHz)	≤ -47 / 100kHz
- Δf ≥ 2.5MHz (3.4 – 3.53 GHz)	≤ -47 / 100kHz
In-band Intermodulation – [dBm]	-15 / 30kHz
Out-of-band Intermodulation – [dBm]	
- Δf ≥ 2.5MHz (9 kHz – 1 GHz)	≤ -36 / 100kHz
- Δf ≥ 2.5MHz (1 – 12.75 GHz)	≤ -30 / 1MHz
Out-of-band Suppression – [dBc]	
- Δfc ≥ 2.5MHz	≤ -40
- Δfc ≥ 10MHz	≤ -60
Max. RF Input Power, DL – [dBm]	10
VSWR	≤ 1.4
Impedance – [Ω]	50

Note : Δf – deviation from CDMA allocated channel
 Δfc – deviation from working band edge
 * exclude 824-849, 869-915, 930-960MHz
 ** exclude 3.4-3.53GHz

Power, Mechanical & Environmental

Power Supply – [VAC]	155–285 / 45–55Hz
Power Consumption – [W]	180 (approx)
MCU Battery Backup Time – [hr]	6 (approx)
Power Up Waiting Time – [sec]	60 (approx)
Dimensions, L x W x H – [mm]	600x450x195
Housing Material	Aluminum
Housing Colour	Grey Anodised, RAL877U
Weight – [kg]	35 (approx)
Connector Type	2x N-Female or 7/16 DIN Female
Operation Temperature – [°C]	-25 to +55
Operating Humidity – [%]	≤ 95
Cooling	Convection
MTBF – [hrs]	50,000
Environmental Class	IP65

Operation & Maintenance

Local Monitoring Feature	PC via RS232
Remote Data Transfer	via Line modem, or build-in wireless CDMA modem (data or SMS), OMC (option)
Local and Remote Controlled Parameters	PA ON/OFF, Gain, UL/DL Output Power Threshold, UL/DL VSWR Threshold, Over-Temp Thresholds, Alarm Report Enable.
Local and Remote Monitored Parameters	Alarms (LNA, PA, PLL unlock, Power Down, PSU Fault, PA Overload, PA Over-Temp, Door Open, Self oscillation, PA VSWR, System Over-Temp), UL/DL Output Power, UL/DL Gain, DL Input Power,

Mechanical Outline Drawing

