

Features

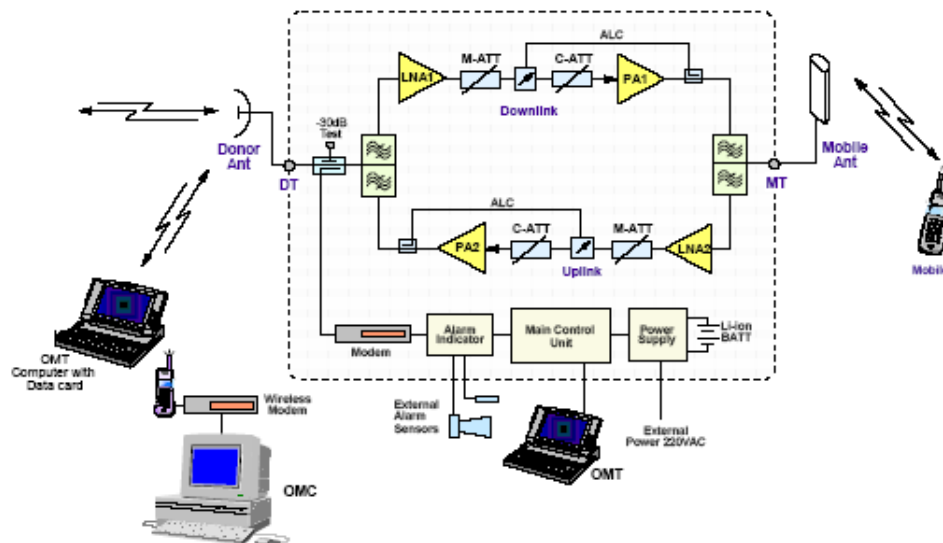
- Cost effective solution offering sharp roll off to avoid amplification of adjacent frequency bands.
- Optional 2W, 5W, 10W, 20W output power classes make it suitable for different coverage requirement.
- Integrated GSM/CDMA radio modem for remote configuration, monitor and control.
- Wireless remote alarm with optional BTS relay contacts.
- 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 outdoor – waterproof, damp-proof and omni-sealed (IP65)



Product Description

The R-8110AW broadband repeater is designed for outdoor operation in the CDMA800 band where there is no need to adopt a fully channelised solution. 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 R-8110AW comes in a completely sealed, well-ventilated cast aluminum chassis, suitable for all weather conditions.

System Block Diagram



Technical Specifications

Electrical

Frequency Range, Uplink - [MHz]	825 - 835
Frequency Range, Downlink - [MHz]	870 - 880
Max. System Gain - [dB]	92 ± 2
Gain Adjustable Range (1dB step) - [dB]	0-30 ± 1.5
Max. Output Power (with ALC) - [dBm]	
- Downlink (Option)	33, 37, 40, 43 ± 1
- Uplink	25 ± 1
Pass Band Ripple, p-p - [dB]	≤ 3
System Noise Figure - [dB]	≤ 5 (typ. 4)
Group Delay - [µsec]	≤ 5
In-band Spurious - [dBm]	≤ -25/30kHz
Out-of-carrier Spurious, UL - [dBc]	
- Δf ≥ 900kHz	-42/30kHz
- Δf ≥ 1.98MHz	-54/30kHz
Out-of-carrier Spurious, DL - [dBc]	
- Δf ≥ 750kHz	-45/30kHz
- Δf ≥ 1.98MHz	-60/30kHz
Out-of-band Spurious - [dBm]	
- Δf ≥ 1MHz (806 - 821 MHz)	≤ -67/100kHz
- Δf ≥ 1MHz (885 - 960 MHz)	≤ -67/100kHz
- Δf ≥ 1MHz (1 - 12.75 GHz)	≤ -47/100kHz
In-band Intermodulation - [dBm]	-15/30kHz
Out-of-band Intermodulation - [dBm]	
- Δf ≥ 1MHz (9 kHz - 1 GHz)	-36/100kHz
- Δf ≥ 1MHz (1 - 12.75 GHz)	-30/1MHz
Out-of-band Suppression - [dBc]	
- Δf ≥ 1.98MHz	≤ -44
Out-of-band Suppression - [dBc]	
- Δf ≥ 2.5MHz	≤ -60
- Δf ≥ 10MHz	≤ -70
Max. RF Input Power - [dBm]	13
Input VSWR	≤ 1.4
Frequency Error - [Hz]	≤ ±5 × 10 ⁴
Quality of Waveform	> 0.960
Impedance - [Ω]	50

Power, Mechanical & Environmental

Power Supply - [VAC]	155-285 / 45-55Hz
Power Consumption - [W]	
- 43dBm (20W) Model	320 (approx.)
- 40dBm (10W) Model	180 (approx.)
- 37dBm (5W) Model	120 (approx.)
- 33dBm (2W) Model	80 (approx.)
MCU Battery Backup Time - [hr]	6 (approx.)
Power Up Waiting Time - [sec]	60 (approx.)
Dimensions, L x W x H - [mm]	600 x 450 x 195
Housing Material	Aluminum
Housing Colour	Grey Anodised, RAL877U
Weight - [kg]	35 (approx.)
Connector Type	N-Female or 7/16 DIN Female
Operation Temperature - [°C]	-40 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/GSM modem (data or SMS), OMC (option)
Local and Remote Controlled Parameters	ATT, Over-Temp Thresholds (System, PA), UL/DL Output Power Threshold, UL/DL VSWR Threshold, Alarm Report Enable.
Local and Remote Monitored Parameters	Alarms (LNA, PA, PLL unlock, Power Down, PSU Fault, Door Open, Self oscillation, PA Over-Temp, PA Overload, PA VSWR, System Over-Temp), UL/DL Output Power, DL Input Power, UL/DL Gain

Mechanical Outline Drawing

