

Features

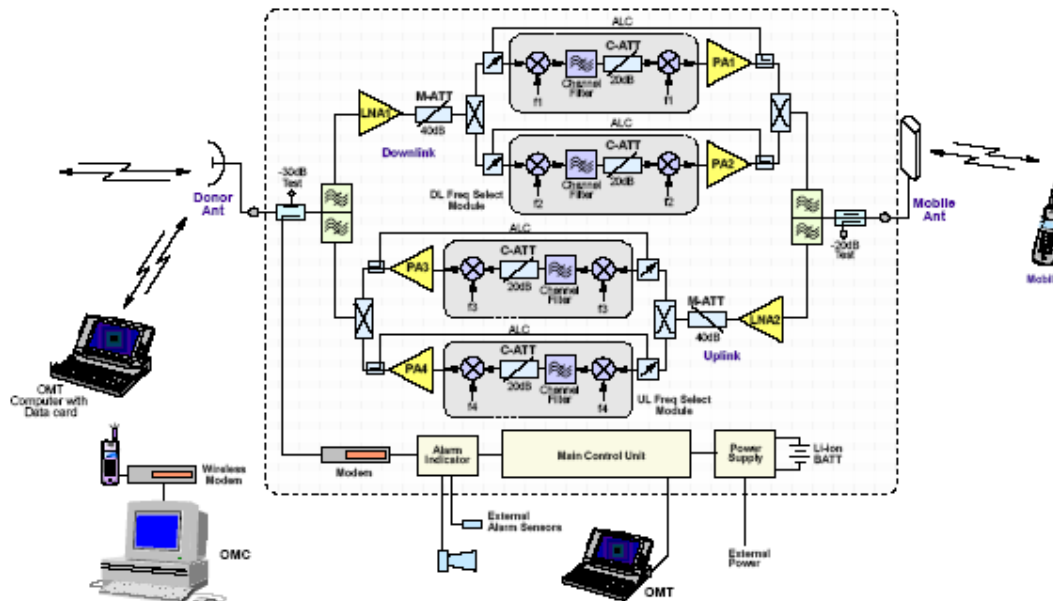
- Permits rapid selection of frequency when operating in a tightly spaced channel environment.
- Up to 4 channels using high selectivity channel modules with a common linear power amplifier.
- Integrated GSM/CDMA radio modem for remote configuration, monitor and control.
- Wireless remote alarm with 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.
- Optional solar-powered unit (R-8122AS) conserves energy and operates independent of power supply conditions.



Product Description

The R-8122AC is a CDMA800 channel-selective repeater designed for outdoor operation. Channel-specific filtering and linear amplification effectively amplify the desired BTS carrier and provide superior out-of-band rejection. It can incorporate up to 4 pairs (uplink and downlink) of channel modules with frequencies programmed to specific requirements of the network. Complete local and remote control and monitoring function is possible via laptop or wireless modem to the OMT or OMC. Li-ion standby battery for MC board ensures alarm signals are sent out in the event of power failure, and optional full battery backup ensures repeater operation in unstable mains supply. The unit comes in a completely sealed, well-ventilated cast aluminum chassis, suitable for all weather conditions (IP65). The R-8122AS comes with solar-powered accessories for operation in remote places.

System Block Diagram (2-Ch)



Technical Specifications

Electrical

Frequency Range, Uplink - [MHz]	825 - 835
Frequency Range, Downlink - [MHz]	870 - 880
No. of Channels	1 - 4
Max. System Gain - [dB]	95 ± 2 (1-2 ch) 92 ± 2 (3-4 ch)
Gain Adjustable Range (1dB step) - [dB]	0-30 ± 1.5
Output Power / CH, Downlink - [dBm]	36 ± 1 (1 ch) 33 ± 1 (2 ch) 30 ± 1 (3-4 ch)
Output Power / CH, Uplink - [dBm]	26 ± 1 (1 ch) 23 ± 1 (2 ch) 20 ± 1 (3-4 ch)
Pass Band Ripple, p-p - [dB]	≤ 3
System Noise Figure - [dB]	≤ 5
Group Delay - [μsec]	≤ 5
In-band Spurious - [dBm]	≤ -22/30kHz
Out-of-carrier Spurious, Uplink - [dBc]	
- Δf ≥ 900kHz	-42/30kHz
- Δf ≥ 1.98MHz	-54/30kHz
Out-of-carrier Spurious, Downlink - [dBc]	
- Δf ≥ 750kHz	-45/30kHz
- Δf ≥ 1.98MHz	-60/30kHz
Out-of-band Spurious - [dBm]	
- Δf ≥ 1MHz (806 - 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)	≤ -36/1MHz
Out-of-band Suppression - [dBc]	
- Δf ≥ 1.98MHz	≤ -44
Out-of-band Suppression - [dBc]	
- Δfc ≥ 2.5MHz	≤ -60
- Δfc ≥ 10MHz	≤ -70
Max. RF Input Power - [dBm]	13
Input VSWR	≤ 1.4
Frequency Error - [Hz]	≤ ±5 × 10 ⁶
Quality of Waveform	> 0.960
Impedance - [Ω]	50

Note : Δf - deviation from CDMA allocated channel
Δfc - deviation from working band edge

Power, Mechanical & Environmental

Power Supply Options	
- R-8122AC	155-285VAC / 45-55Hz
- R-8122AS	+24VDC to +28VDC
Power Consumption (approx.) - [W]	110 (1 ch), 150 (2 ch) 250 (3 ch), 300 (4 ch)
MCU Battery Backup Time - [hr]	6 (approx.)
Power Up Waiting Time - [sec]	60 (approx.)
Dimensions, L x W x H - [mm]	
- 1 to 2 ch	600 x 450 x 195
- 3 to 4 ch	600 x 450 x 295
Housing Material	Aluminum
Housing Colour	Grey Anodised, RAL877U
Weight - [kg]	37 (1-2 ch) 51 (3-4 ch)
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	Channel No., 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

