WCDMA Channel Selective Repeater
RD-2122 20W

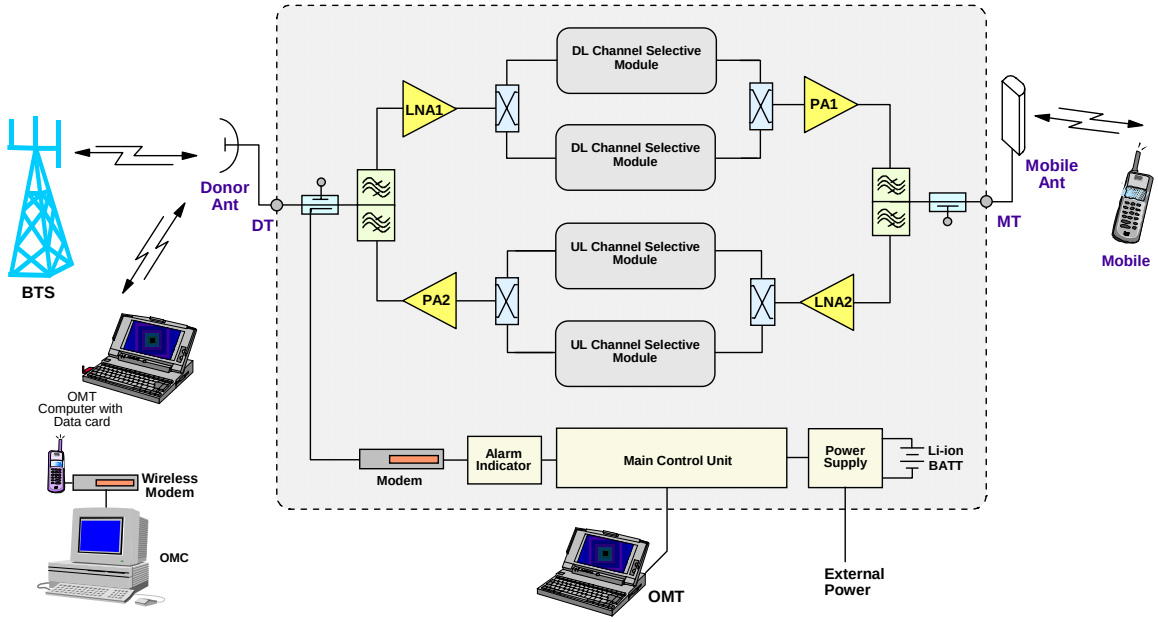
Features

- High total output power of 20W.
- Permits frequency selection when operating in a tightly spaced channel environment.
- Automatic elimination for self-oscillation caused by a low isolation between DT and MT antennas.
- Integrated optional wireless modem for remote configuration, monitor 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.
- Designed for all outdoor application - waterproof, damp-proof and omni-sealed (IP65).
- 3GPP compliant.

Product Description

The RD-2122 channel selective repeater is designed for operation in the WCDMA band. Channel-specific linear amplifier and filtering effectively amplifies the desired BTS carrier and provides superior out-of-band rejection. Typical units incorporate up to two pairs (uplink and downlink) of channel selective modules with frequencies programmed to specific 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 OMC. Internal Li-ion battery backup ensures alarm signals are sent out in the event of power failure. The RD-2122 comes in a sealed, well-ventilated cast aluminum enclosure, suitable for all weather conditions.

Functional Block Diagram



Technical Specifications

Model (Total Output Power)			20W(MCPA)
Electrical			
Frequency Range, Uplink		MHz	1920 – 1980
Frequency Range, Downlink		MHz	2110 – 2170
Number of Channels			2
Output Power per Channel, Uplink	1 Channel	dBm	23 ± 1
	2 Channels	dBm	19 ± 1
Output Power per Channel, Downlink	1 Channel	dBm	43 ± 1
	2 Channels	dBm	39 ± 1
Maximum System Gain		dB	95 ± 2
Gain Adjustment Range (1dB Step)		dB	0 – 30
Pass Band Ripple within 3.84MHz, p-p		dB	≤ 2
System Noise Figure at Maximum Gain		dB	≤ 5
System Group Delay		μsec	≤ 5
Out-of-Band Emission			3GPP TS 25.106 and 3GPP TS 25.143 compliant
Out-of-Band Gain			
Spurious and Intermodulation			
Modulation Accuracy			
Input VSWR			≤ 1.5
Absolute Maximum RF Input Power		dBm	+13
Impedance		Ω	50
Power, Mechanical & Environmental			
Dimensions, H x W x D		mm	670 x 370 x 215
Weight (approx.)		kg	31
Power Supply (Default AC, DC optional)		VAC	100 – 240 / 47 – 63Hz
		VDC	-48
Power Consumption (approx.)		W	300
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 specifications at room temperature

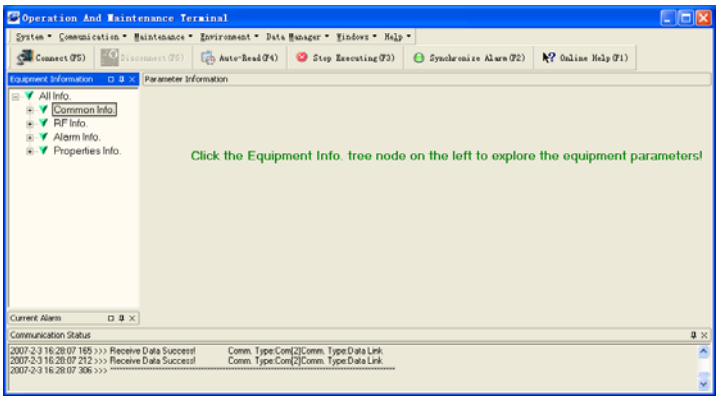
Operation and Maintenance

Using a direct serial connection to a PC, installation and commissioning of the RD-2122 is accomplished by the OMT. Using the integrated wireless modem (data or SMS mode), the equipment parameters can be monitored and controlled remotely.

Controlled equipment parameters include: Carrier Switch, Channel No., ATT, RF Switch, Self-Oscillation Control 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 Input Power Overload, DL Output Power Low, Over Temp, VSWR), DL Output Power and DL Input Power.

The RD-2122 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