

Features

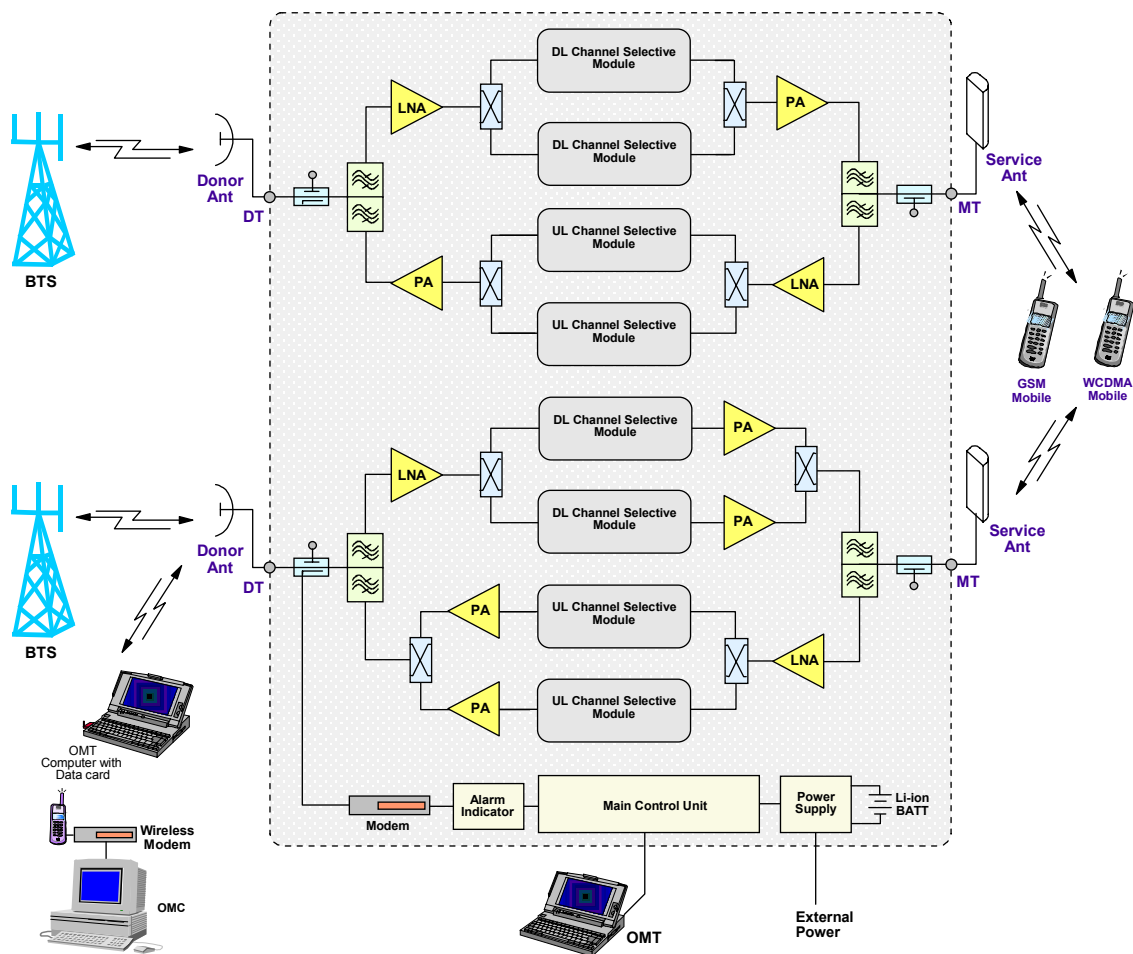
- Dual band configuration of EGSM900 and WCDMA2100 (2W or 5W) in a single unit minimizing installation footprint.
- Support up to four EGSM900 channels and two WCDMA channels.
- Built in wireless modem realizes remote control and monitoring for both EGSM900 and WCDMA via Comba OMT/OMC.
- Optional single and dual antenna configuration.
- Designed for all outdoor installation - waterproof, damp-proof and omni-sealed (IP65).
- ETSI ETS 300 609-4 (EGSM900) and 3GPP TS25.106 (WCDMA) compliant.



Product Description

The RD-7622 dual band channel-selective repeater is designed for dual band operation for EGSM900 and WCDMA. Channel-specific linear amplifier and filtering effectively amplifies the desired BTS/NodeB carriers and provides superior out-of-band rejection. Typical units incorporate up to four pairs (uplink and downlink) of channel modules for EGSM900 and two pairs (uplink and downlink) of channel modules for WCDMA and 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 OMT/OMC. Internal Li-ion backup battery ensures alarm signals are sent out during power failure. The RD-7622 comes in a completely sealed, cast aluminum enclosure, suitable for all weather conditions.

Functional Block Diagram



Technical Specifications

Model		2W	5W
Electrical – EGSM Unit			
Frequency Range, Uplink	MHz	880 – 915	
Frequency Range, Downlink	MHz	925 – 960	
Number of Channels		4	
Output Power per Channel, Uplink	dBm	30 ± 1	
Output Power per Channel, Downlink	dBm	30 ± 1	
Maximum System Gain	dB	92 ± 2	
Gain Adjustment Range (1dB Step)	dB	0 – 30	
Channel Selectivity	at ± 100KHz	dB	> -2
	at ± 400KHz	dB	≤ -45
	at ± 600KHz	dB	≤ -55
	at ± 1MHz	dB	≤ -60
Spurious and Intermodulation	9KHz to 1GHz	dBm	≤ -36
	1GHz to 12.75GHz	dBm	≤ -30
Pass Band Ripple, 200KHz Channel, p-p	dB	≤ 2	
System Noise Figure at Maximum Gain	dB	≤ 5	
System Group Delay	µsec	≤ 8	
Input VSWR		≤ 1.5	
Absolute Maximum RF Input Power	dBm	+10	
Impedance	Ω	50	
Electrical – WCDMA Unit			
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	33 ± 1
	2 Channels	dBm	29 ± 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	≤ 4	
System Group Delay	µsec	≤ 5	
Out-of-Band Emission		3GPP TS 25.106 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	600 x 450 x 295	
Weight	kg	51	
Power Supply	VAC	176 – 264 / 47 – 63Hz	
	VDC	-48	
AC Power Consumption (approx.)	W	450	
Power Up Waiting Time (approx.)	sec	60	
MCU Battery Backup Time (approx.)	hr	3	
Enclosure Cooling		Convection	
RF Connectors		N-Female	
Operating Temperature	°C	-40 to +55	
Operating Humidity	%	≤ 95	
Environmental Class		IP65	
MTBF	hr	≥ 50,000	

Note: Typical specifications at room temperature

Dual Band Channel Selective Repeater

RD-7622



Operation and Maintenance

Using a direct serial connection to a PC, installation and commissioning of the RD-7622 is accomplished by the OMT. Using the integrated wireless modem (data or SMS mode), equipment parameters can be monitored and controlled remotely.

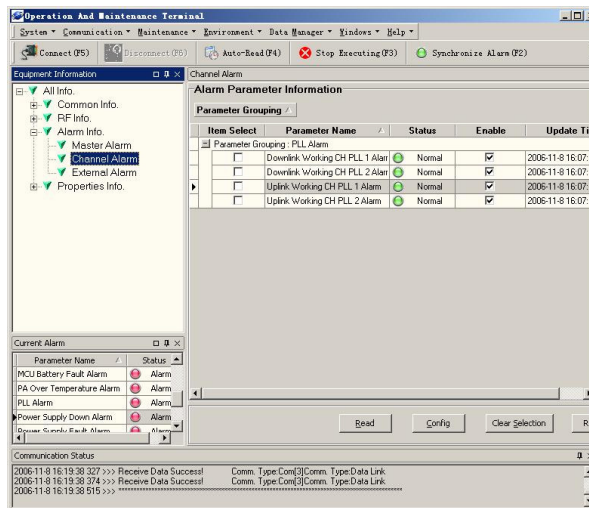
Controlled equipment parameters include: **EGSM Unit:** Channel No., UL/DL Pre-ATT/Post-ATT, PA switch, Chassis Over Temperature Threshold, DL Input Power Overload Threshold, DL VSWR Threshold, Alarm Report Enable

WCDMA Unit: Channel No., UL/DL Pre-ATT/Post-ATT, PA switch, PA Over-Temp Threshold, DL Output Power Low Threshold, DL Input Power Low/Overload Threshold, Li-ion Battery Voltage Threshold, DL VSWR Threshold, Alarm Report Enable, Carrier Switch

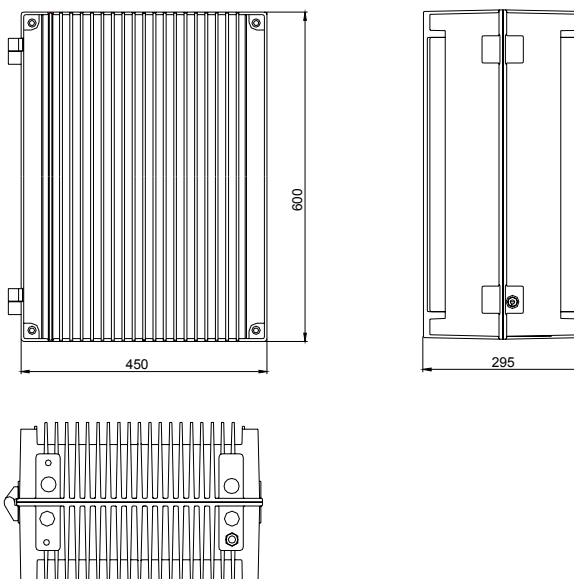
Monitored equipment parameters include: **EGSM Unit:** Alarms (UL/DL LNA Fault Alarm, Chassis Lock, Li-ion Battery Fault Alarm, Oscillation Alarm, UL/DL PA Alarm, DL Input Power Overload Alarm, PLL, Power Supply Down Alarm, Power Supply Fault Alarm, Equipment Power Temperature Alarm, DL VSWR Alarm, External Alarm), UL/DL Output Power, DL Input Power

WCDMA Unit: Alarms (UL/DL LNA, UL/DL PA, PLL unlock, PA Over Temp, DL VSWR, Li-ion Battery Fault Alarm, Oscillation Alarm, DL Output Power Low, DL Input Power Low/Overload, Power Down, Power Fault), UL/DL Output Power, DL Input Power

The RD-7622 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



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