GSM1900 Band Adjustable Repeater
SR-1910

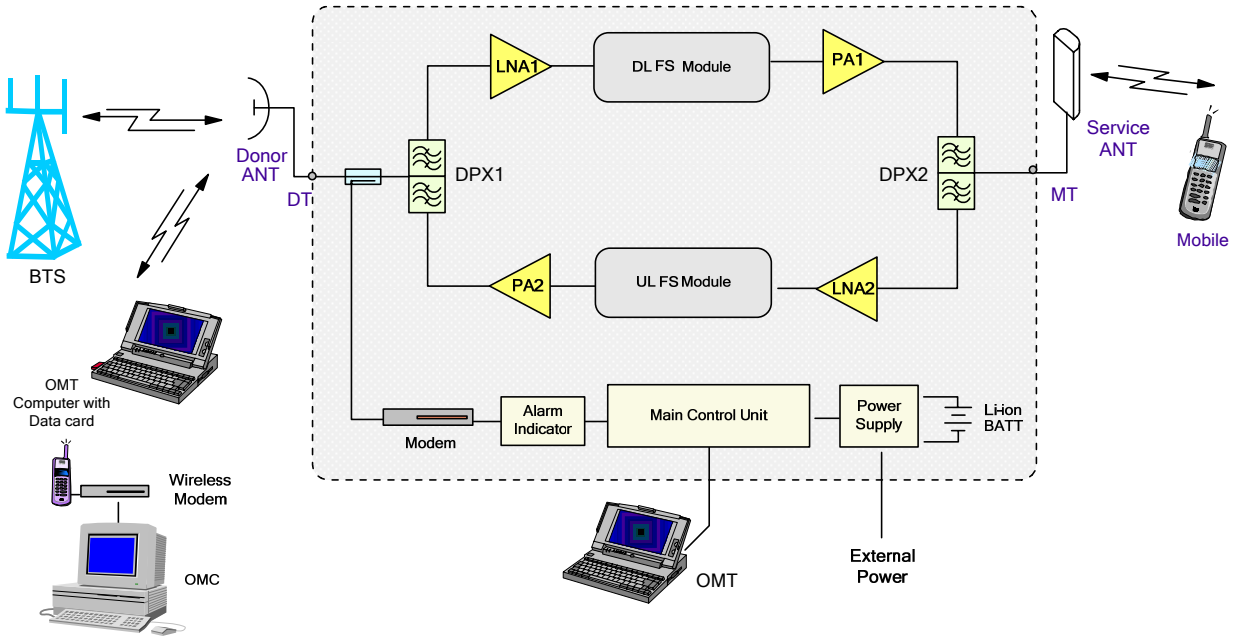
Features

- Downlink output power at 0.5W.
- Band adjustable from 15MHz to 60MHz and customized fixed bandwidth.
- Adjustable centre frequency within 60MHz of the 1900MHz frequency band.
- Filtering and amplification of both uplink and downlink signals with good system gain.
- Low noise amplifier improves uplink system noise figure for better voice quality and reduced drop call.
- Can be configured as Master Unit (MS) or Slave Unit (SU) in a centralized monitoring system.
- Local control and monitoring function: operating status and parameters can be set or monitored by OMT PC.
- OMC is available for remote operation and maintenance via an integrated wireless modem. (Optional)
- Back-up Li-ion battery keeps the equipment operating for up to two hours in the event of power failure.
- The enclosure is designed for all indoor and sheltered outdoor environment – waterproof, damp-proof and omni-sealed (IP55)

Product Description

The SR-1910 GSM1900 Band Adjustable Repeater is designed for indoor operation in the GSM1900 band and used in indoor locations where small-scale signal coverage for city structures is desired (e.g., hotels, department stores and shopping malls, underground parking lots and tunnels, convention centers, arenas, airports, etc.). Band-specific linear amplifier and IF filtering effectively amplify the desired BTS carriers and provide superior out-of-band rejection. Automatic temperature compensation for gain and working frequency ensures the working temperature for equipment to operate normally. Local and remote configuration and surveillance is possible through PC by using Comba's OMT/OMC software. Internal Li-ion backup battery ensures alarm signals are sent out in the event of power failure. The SR-1910 comes in a sealed, well-ventilated cast aluminum enclosure and is suitable for indoor and sheltered outdoor environment.

Functional Block Diagram



Technical Specifications

Electrical			
Frequency Range	Uplink	MHz	1850 – 1910
Frequency Range	Downlink	MHz	1930 – 1990
Maximum System Gain		dB	80 ± 2
Gain Adjustment Range (1dB Step)		dB	0 – 30 ± 1.5
Operating Bandwidth		MHz	5, 7.5, 10, 15, 20, 25*
Output Power	Uplink	dBm	17 ± 1
	Downlink		27 ± 1
Downlink 3rd Order Intercept, OIP3		dBm	≥ 41.5
Pass Band Ripple, p-p		dB	≤ 5
System Group Delay		μsec	≤ 5
System Noise Figure at Maximum Gain		dB	≤ 5
Out-of-band Gain	at ± 400KHz offset	dB	≤ 65
	at ± 600KHz offset		≤ 55
	at ± 1MHz offset		≤ 50
	at ± 5MHz offset		≤ 40
Spurious	9KHz to 1GHz	dBm	≤ -36 / 100KHz
	1GHz to 12.75GHz	dBm	≤ -30 / 1MHz
Input VSWR			≤ 1.5
Absolute Maximum RF Input Power		dBm	+10
Impedance		Ω	50
Power, Mechanical & Environmental			
Dimensions, H x W x D		mm	430 x 300 x 152
Weight (approx.)		kg	13
Power Supply		VAC	85 – 264 / 47 – 63Hz
Power Consumption (approx.)		W	55
Power Up Waiting Time (approx.)		sec	120
MCU Battery Backup Time (approx.)		hr	2
Enclosure Cooling			Convection
RF Connectors			N-Female
Operating Temperature		°C	-20 to +40
Operating Humidity		%	≤ 85
Environmental Class			IP55
MTBF		hr	> 50,000

Note: Typical specification at room temperature
* Customizable fixed bandwidth

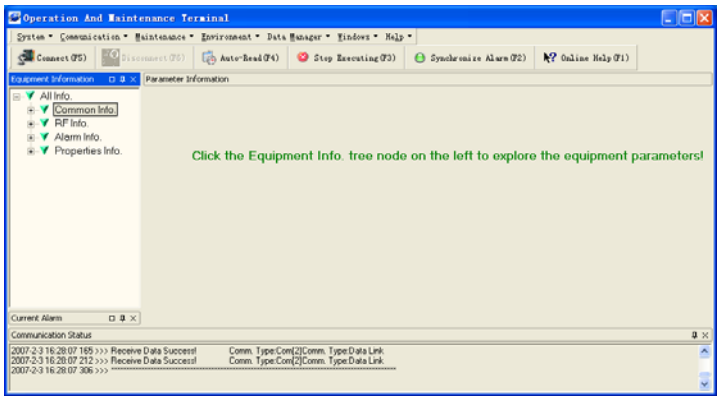
Operation and Maintenance

By using a direct serial connection to PC, the installation and commissioning of the SR-1910 is accomplished by the OMT. With the integrated wireless modem (data or SMS mode), equipment parameters can be monitored and controlled remotely.

Controlled equipment parameters include: RF Switch, ATT, Over-Temp Threshold, Output Power Alarm Threshold.

Monitored equipment parameters include: Alarms (LNA, PA, Power Down, Power Fault, PLL, Temperature, VSWR, DL Output Power Low).

The SR-1910 has been developed to take advantage of advanced network operation, where the OMC (optional) provides an effective solution for central monitoring a group of Comba products.



Outline Drawing