

## Features

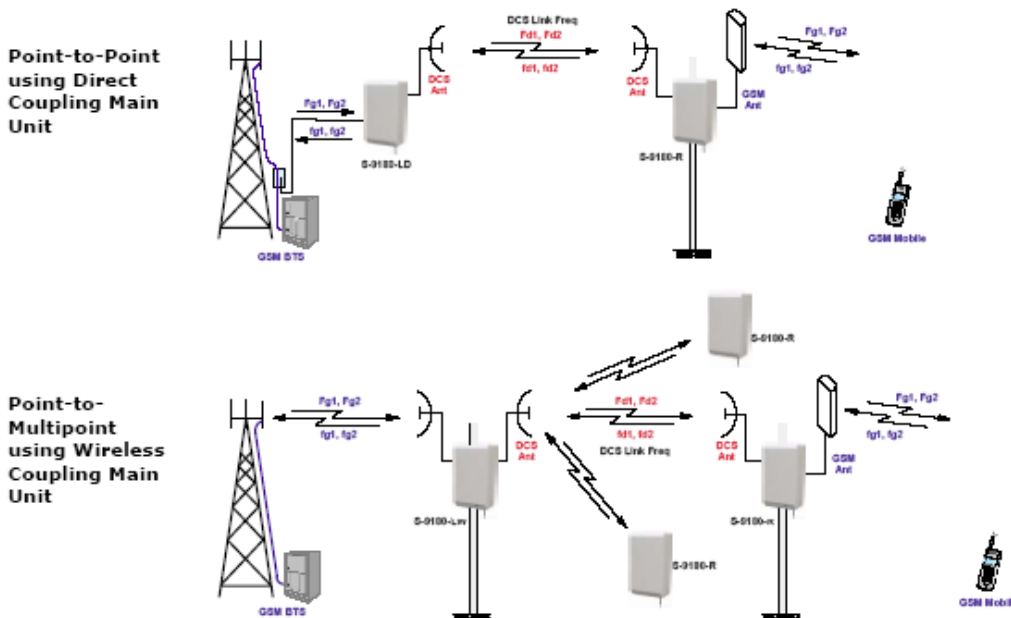
- Permits flexible network design using point-to-multipoint.
- Reduced site deployment costs by eliminating donor antenna isolation problems through frequency translation.
- Channel selective power amplifier provides effective amplification of signal source.
- Built-in antenna (option) in remote and wireless-coupling main units permits easy installation.
- Optional external antenna for special coverage conditions.
- Easy operation and maintenance through remote alarm using BTS alarm relay contacts.
- Designed for all-weather outdoor - waterproof, damp-proof and omni-sealed.
- Permits local monitoring via notebook computer and remotely by wire or GSM modem.
- Alarm data can be transmitted to OMC via SMS or data call.
- Internal battery backup ensures alarm messages are transmitted when power fails.



## Product Description

The S-9180 is a point-to-multipoint, frequency-shifting repeater system that overcomes the antenna isolation problem in conventional repeater system. The main unit receives the GSM900 donor signal via direct (S-9180-LD) or wireless coupling (S-9180-LW), and translates to a GSM1800 (or GSM900) link frequency for transmission to the remote units (S-9180-R). The remote units receive the GSM1800 (or GSM900) link signal and translate the signal back to the GSM900 signal, which are then transmitted to the areas to be covered. The mapping of GSM to DCS (or GSM to GSM) channels is user-defined through the OMT software. The S-9180 comes complete with integrated antennas, or separate connectors for connection to suitable external GSM and/or DCS antennas. Each S-9180 can support 2 channel frequencies, and may be connected in parallel for higher number of channels. Optional solar powered remote unit is also available.

### System Application Examples



### Technical Specifications

#### Electrical

Working Frequency, Uplink – [MHz]	890 – 915
Working Frequency, Downlink – [MHz]	935 – 960
Link Frequency, Uplink – [MHz]	
- GSM-DCS : S-9180	1710 – 1785
- GSM-GSM : S-9180(G)	890 – 915
Link Frequency, Downlink – [MHz]	
- GSM-DCS : S-9180	1805 – 1880
- GSM-GSM : S-9180(G)	935 – 960
Number of Channels	2
Maximum Gain – [dB]	
- Direct Coupling Main Unit	27 ± 2
- Wireless Coupling Main Unit / Remote	5 ± 2
Gain Adjustment Range – [dB]	
- Master Unit (1dB step)	0-40 ± 1.5
- Remote Unit (1dB step)	0-20 ± 1.0
Output Power per Ch, Downlink – [dBm]	
- Direct Coupling Main Unit	27 or 33 ± 1
- Wireless Coupling Main Unit / Remote	33 ± 1
Output Power per Ch, Uplink – [dBm]	
- Direct Coupling Main Unit	-5 ± 1
- Wireless Coupling Main Unit / Remote	33 ± 1
Spurious and Intermod ** – [dBm]	
- 9kHz - 1GHz	≤ -36
- 1 - 12.75 GHz	≤ -30
Noise Figure – [dB]	≤ 5.0 (typ. 4)
Group Delay – [µsec]	
- Main + Remote units	≤ 15
Minimum Channel Spacing – [kHz]	
- within working band or link band	600
- between working and link bands *	800
Input Power Range per Ch, DL – [dBm]	
- Direct Coupling Main Unit	0 to 40
- Wireless Coupling Main Unit / Remote	-72 to -32
Input Power Range per Ch, UL – [dBm]	
- Direct Coupling Main Unit	-101 to -35
- Wireless Coupling Main Unit / Remote	-101 to -35
Max. RF Input Power, DL – [dBm]	
- Direct Coupling Main Unit	+40
- Wireless Coupling Main Unit / Remote	+10
VSWR	≤ 1.5 (typ. 1.4)
Impedance – [Ω]	50

#### Power, Mechanical, Environmental

Power Supply Options	155-285 VAC / 45-55Hz or -48 VDC ±20% or +24 VDC ±10%
Power Consumption – [W]	
- Direct Coupling Main Unit	65
- Wireless Coupling Main Unit	110
- Remote Unit	110
MCU Battery Backup Time – [hr]	6 (approx.)
Power Up Waiting Time – [sec]	60 (approx.)
Dimensions, HxWxD – [mm]	
- without integrated antenna	555 × 320 × 168
- with integrated antenna	555 × 320 × 175
Weight – [kg]	15 (approx.)
Operating Temperature – [°C]	-40 to +55
Operating Humidity – [%]	≤ 95
RF Connector	
- Coverage and Link Antenna	N-Female
- Wireless Modem Antenna	SMA-Female
Mounting Hardware	Wall or Pipe
MTBF	> 50,000
Environmental Class	IP65

#### Operation & Maintenance

Local Control and Monitoring	PC via RS232
Remote Control and Monitoring	via integrated GSM modem in Data Link or SMS modes
Local and Remote Controlled Parameters	Working Channel No, Translation Channel No, ATT, Soft PA ON/OFF, Over-Temp Threshold, Alarm Report Enable
Local and Remote Monitored Parameters	Alarms (LNA, PA, PLL unlock, Power Down, PSU Fault, Over Temp), UL/DL Output Power, DL Input Power

\* for S-9180(G) only

\*\* for Direct Coupling Main unit with 27dBm.

### Mechanical Outline Drawing

