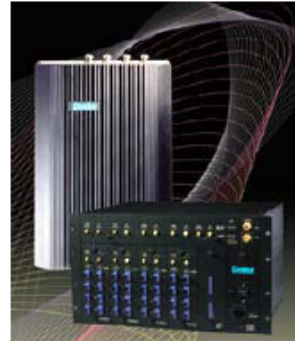


### Features

- GSM900/1800 fiber optical distribution.
- Suitable for large-scale indoor installation.
- State of the art modular design in 19" technology.
- Highly scalable with maximum configuration of 1 main unit, 4 optical interface modules, 16 remote units with 64 antenna ports.
- Integrated unit supporting multiple cellular standards.
- Low noise and high reliability.
- Laser technology with high linearity.
- Remote Unit is light weight and easily installed with wall mounting chassis.
- Built-in alarm interface for remote system monitoring.



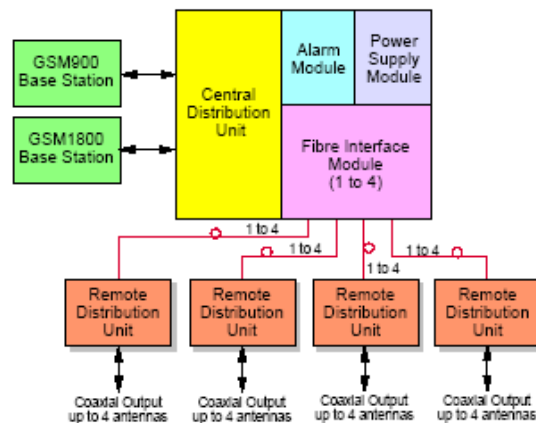
### Product Description

The RS-5180A is a dual band GSM900/1800 optical RF repeater for point-to-point indoor distribution system. It uses single-mode fiber and is suited for applications where large signal coverage is required, such as high-rise office buildings and hotels, shopping malls, underground tunnels, airports and convention centers.

The system comprises of:

- A Central Distribution Unit (CDU) that connects the duplex RF ports of the base station to the Fiber Interface Module. Uplink attenuation can be adjusted manually together with AGC control. ALC function controls the downlink signal level within a range of +5 to +20dBm. The CDU comes installed in a rack-mountable 19" chassis.
- The Fiber Interface Module (FIM) converts the downlink RF signals to optical signals, and vice-versa for the uplink signals. Up to 4 FIMs can be installed in a chassis with a CDU, with each FIM supporting 4 single mode fibers.
- The Remote Unit (RU) converts the optical signals from the FIM to RF outputs. Each RU has 4 antenna ports for connection to 4 passive antennas.
- The Alarm Module (ALM) can be installed to report alarms to the BTS.
- The Power Supply Unit (PSU) converts the ac voltage to power up the CDU, FIM and ALM.

### System Block Diagram



### Technical Specifications

#### RF Specifications

Frequency Range, Uplink – [MHz]	
- GSM900	890 - 915
- GSM1800	1710 - 1785
Frequency Range, Downlink – [MHz]	
- GSM900	935 - 960
- GSM1800	1805 - 1880
Max. Output Power (with ALC), DL – [dBm]	16 ± 1
System Bandwidth – [MHz]	
- GSM900	25
- GSM1800	75
Max. System Gain – [dB]	19 ± 1
Gain Adjustable Range (1 dB step) – [dB]	0-20 ± 1
Pass Band Ripple, p-p – [dB]	
- GSM900	≤ 5
- GSM1800	≤ 6
3rd Order Intercept – [dBm]	
- Downlink, OIP3	≥ 31
- Uplink, IIP3 (GSM900)	≥ -8
- Uplink, IIP3 (GSM1800)	≥ -9
System Noise Figure, Uplink – [dB]	
- GSM900	≤ 18 (typ. 15)
- GSM1800	≤ 20 (typ. 17)
Spurious – [dBm]	
- 9kHz to 1GHz	≤ -36
- 1GHz to 12.75GHz	≤ -30
System Group Delay – [μsec] (excluding cable)	< 1.0
Maximum Input Power, Downlink – [dBm] (at CDU RF input)	+20
Return Loss – [dB]	
- Remote unit	≥ 8
- Main unit	≥ 12
Impedance – [Ω]	50

#### Optical Specifications

Wavelength – [nm]	1310
Optical Output Power – [dBm]	
- Remote unit	-3 to 0
- Main unit	-6 to -3
Max. Optical Path Loss – [dB]	≤ 2.0
Optical Return Loss – [dB]	≥ 50
Connector Type	SC / APC

#### Environmental

Operating Temperature – [°C]	0 to +40
Operating Humidity – [%]	≤ 85
MTBF – [hrs]	> 50,000

#### Central Distribution Unit

RF Connectors	2x N-Female
LED Alarm and Status Indicators	Downlink RF Monitor
Power Supply – [VAC]	100-250 / 45-65Hz
Current Consumption – [A]	1.0
Power Consumption – [W]	≤ 35
CDU Enclosure Dimensions, HxWxD – [mm]	265 x 482 x 368 (19" 6U)
Weight – [kg]	20 (approx.)

#### Fiber Interface Module

RF Connectors	SMA-Female
Single-Mode Fiber Connectors	1 pair, SC/APC Female
LED Alarm and Status Indicators	Status (for each port, 4 total)
Power Supply – [VDC]	+12
Power Consumption – [W]	≤ 5
Dimensions, HxWxD – [mm]	352 x 190 x 71
Weight – [kg]	1.8

#### Alarm Module

RS-232 Interface	DB-9 connector
Remote Alarm Connector (contact closure)	RJ-11, RJ45, 9-pin DIN
Communications (not used)	8-pin RJ-45
LED Alarm and Status Indicators	Power, Status
Power Supply – [VDC]	+12
Power Consumption – [W]	2.5
Dimensions, HxWxD – [mm]	352x190x71
Weight – [kg]	1.0

#### Power Supply Unit

LED Alarm and Status Indicators	Power
Power Supply – [VAC]	100-250 / 45-65Hz
Power Consumption – [W]	1.5
Dimensions, HxWxD – [mm]	352 x 190 x 71
Weight – [kg]	1.6

#### Remote Unit

RF Connectors	4x N-Female
Single-Mode Fiber Connectors	1 pair, SC/APC Female
LED Alarm and Status Indicators	Power
Power Supply – [VAC]	90-132 / 170-264, 47-63Hz
Current Consumption – [A]	0.2 – 0.5
Power Consumption – [W]	≤ 35
Dimensions, HxWxD – [mm]	368 x 220 x 60
Weight – [kg]	5.5 (approx.)