

RS-5180 CDMA800/1900 TDMA1900 Indoor Fiber Optical

Antenna Distribution System Operational Theory

1. General

Indoor Antenna Distribution System is a flexible solution to wireless communication indoor coverage systems. It aims to optimize the indoor signal coverage; improve the services and operational performance of wireless communication networks. It is the best way to fulfill the demands of signal coverage from commercial buildings, airports, subways, hotels, exhibition centers and shopping centers...

2. Operational Theory

The master unit of RS-5180 CDMA800/1900 dual band indoor fiber-optic repeater combines RF signals from CDMA800 and, CDMA1900 or TDMA1900 Micro-cell BTSs, the interface unit converts the RF signals into optical signals and transmits them to remote unit, which converts the optical signals into RF signals that are finally transmitted by feeders and antennas so as to expand signal coverage area.

Uplink and downlink signals transmitting processes:

Downlink: The master unit combines RF signals from CDMA800 and/or CDMA1900/TDMA1900 Micro-cell BTSs, the interface unit converts the RF signals into optical signals and transmits them to remote unit, which converts the optical signals into RF signals and transmits the RF signal through the antenna ports, feeders and antennas to the coverage areas.

Uplink: the Remote unit receives the RF signal from mobile hand sets through the antennas, and converts the RF signals to optical signals, and transmits to the interface unit fitted in the Master unit. The interface unit converts the optical signals to RF signals and send to the master unit. The Master will pick up the CDMA800 uplink signals and CDMA1900/TDMA1900 uplink signals and send to the corresponding ports to the corresponding Micro-cell BTS.

3. System Configuration

One master unit supports 2 systems including CDMA800 and CDMA1900/TDMA1900, 1 alarm unit and up to 4 interface units. Each interface unit supports 4 remote units, and each remote unit has four antenna ports. Each antenna ports can supports up to 2 antennas. The output power level at the antenna end is about 5dbm. Therefore, a fully loaded system includes a master unit, 4 interface units, 16 remote units and 128 antennas.