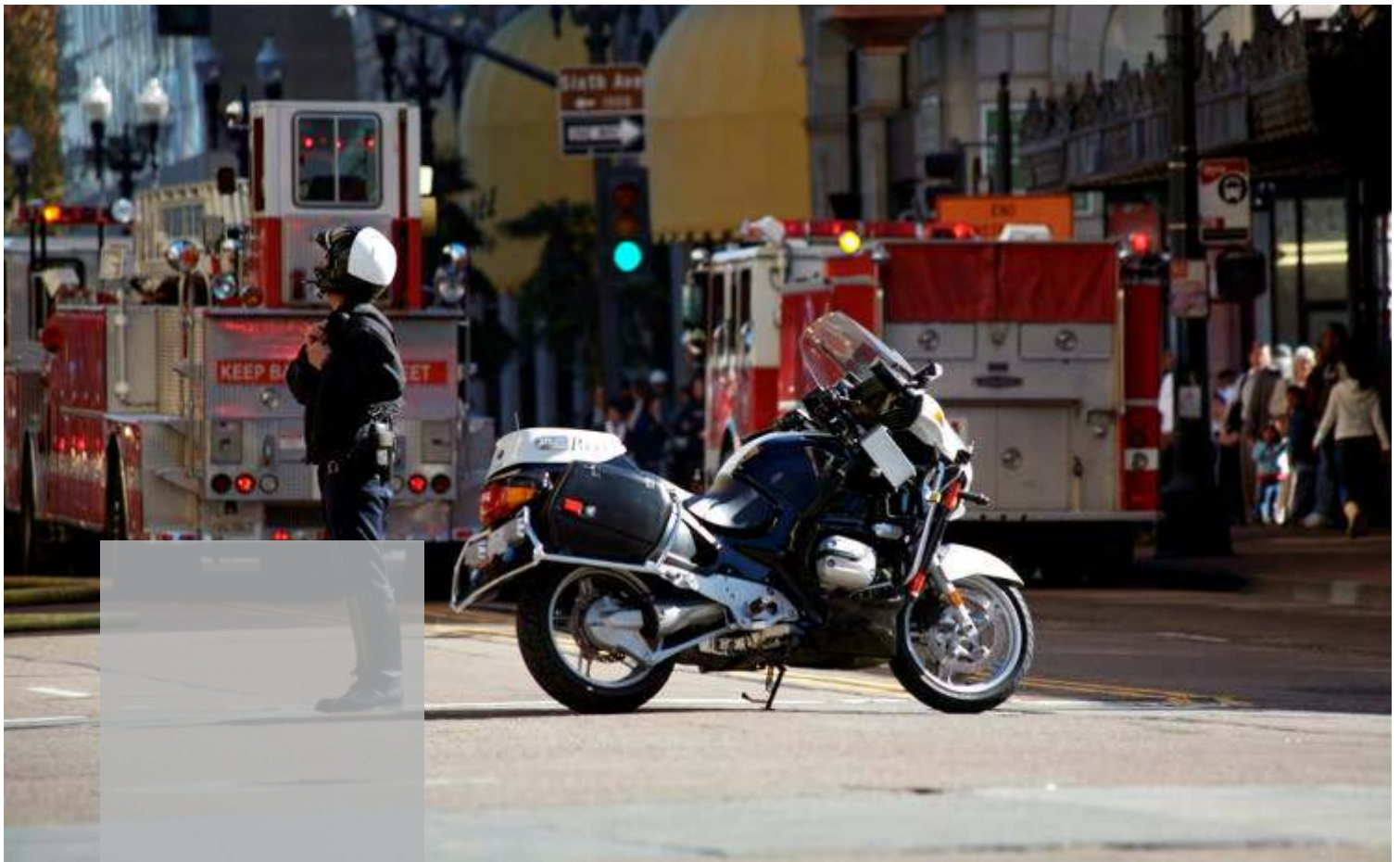




Hytera DMR Simulcast System

- Higher Frequency Efficiency
- Smooth Roaming and Handover
- Dynamic Voting
- Analog/Digital Self-adaptive
- Smart Subnetting and Patching





DS-6310

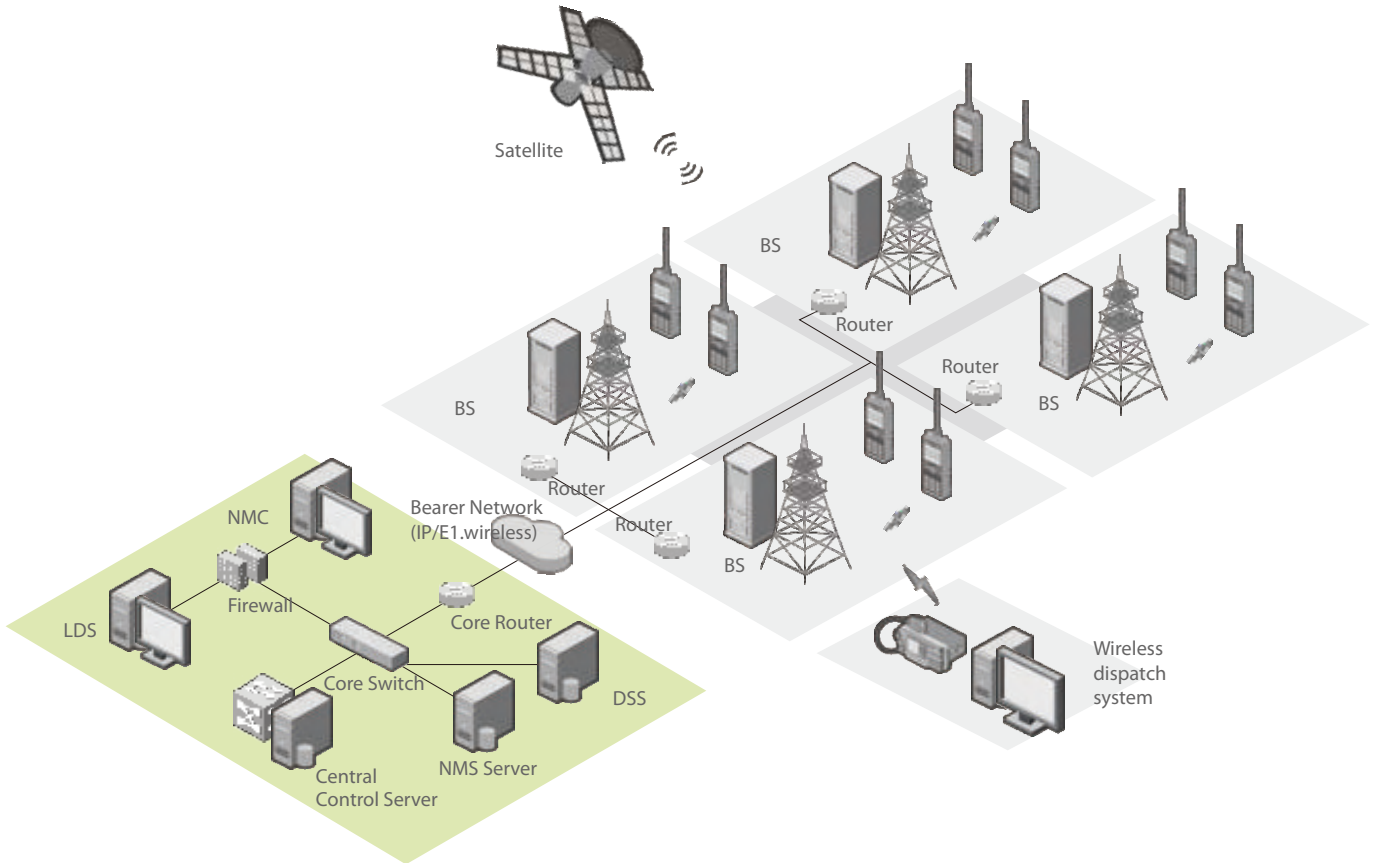
DMR Simulcast System

Hytera DMR Simulcast System (DS-6310) is developed on the basis of the Digital Mobile Radio (DMR) Tier II standard, by following a set of principles such as simultaneous broadcasting, large coverage and smooth analog-to-digital migration. It can fully meet the requirements of the users who need an easy to set up, easy to use and reliable communication network with even one pair of frequency over a wide area.



Architecture

Hytera DMR simulcast system consists of MSO (Mobile Switching Office), Base Station, Dispatch System, NMS, Service Terminals and Bearer Network. One MSO supports up to 100 Base Stations or 200 carriers. A single DMR simulcast Base Station can support up to 2 carriers.



DS-6310 Base Station Overview



Single Carrier BS (8U)

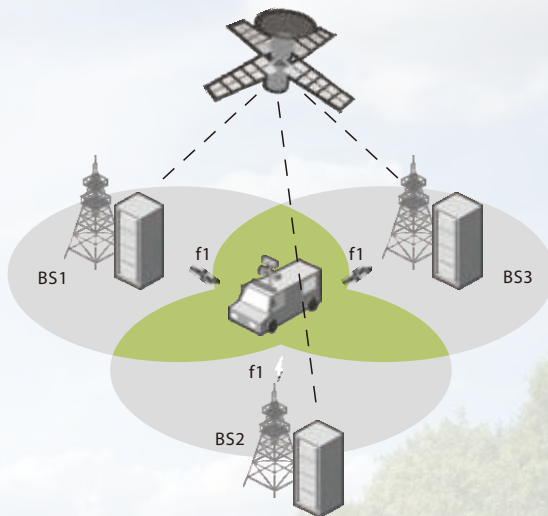
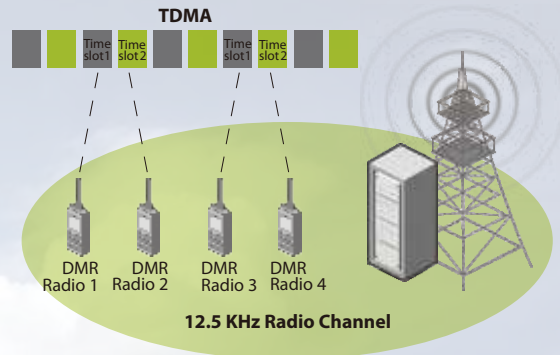
- ① Built-in Router
- ② Synchronized Expansion Unit
- ③ Transceiver (RD98XS)
- ④ Power Unit & Duplexer

- Compact design, high integration, easy for delivery and deployment.
- Module structure for faster maintenance and modules replacement.

Key Features

Higher Spectrum Efficiency

- Simulcast technique reduces to a single pair of frequency needed (one for TX and one for RX) regardless the number of BSs in the network.
- DMR two-slot TDMA technique supports 2 simultaneous communications on a single 12.5 kHz radio channel.



Smooth Roaming and Handover

- In simulcast system, the radio is capable of roaming and handover seamlessly between different BSs, the ongoing communication can continue normally during handover.

Dynamic Voting

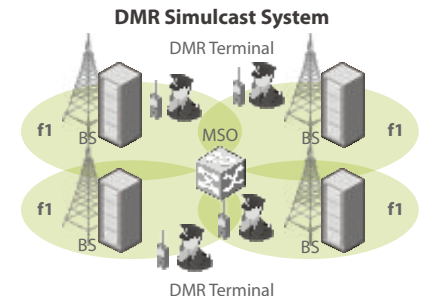
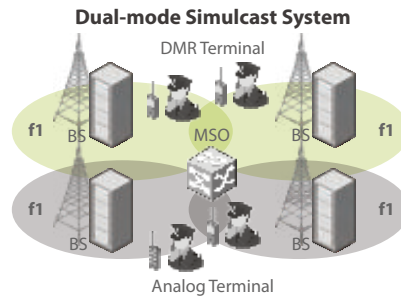
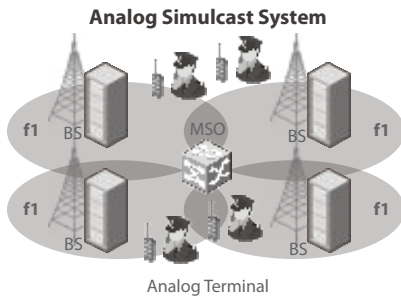
- Simulcast system can provide good voice performance in overlap area as radios in overlap area can always receive the best voice frame through dynamic voting.
- As a voting center, MSO is used to analyze each voice frame received from Base Stations in real time. The best voice frame will be extracted and sent to radios.

Flexible Networking

- The IP-based architecture enables flexible networking.
- Multiple transmission links can be used between BS and MSO, such as IP, E1, Microwave, wireless bridge, etc.
- The standard SIP and RTP are used to interconnect with other systems such as PSTN system, DMR trunking system.

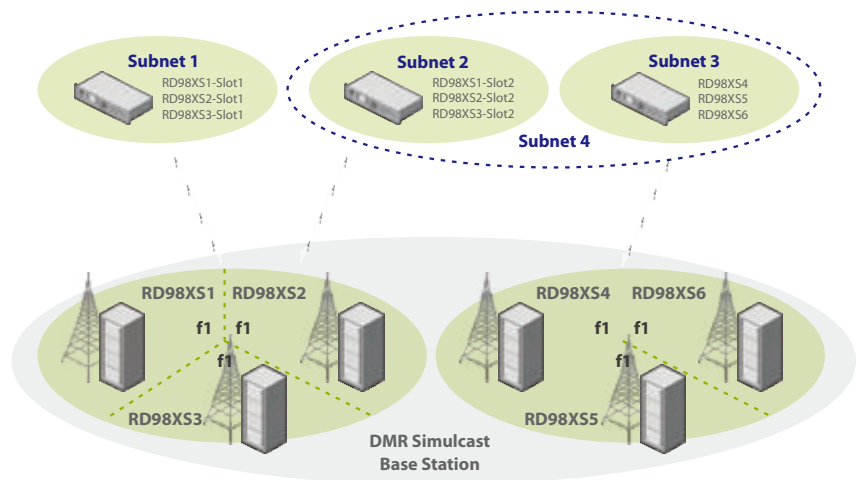
Analog/Digital Self-adaptive

- Simulcast Base Station channels support working both in analog and digital mode, to ensure smooth migration from analog to digital network.
- Digital or analog mode is automatically selected based on the incoming signals.



Smart Subnetting and Patching

- According to management requirements, DMR simulcast system can be divided into different subnets by Base Station or by time slot of channel unit in each Base Station. Each subnet can work as a independent simulcast system.
- Different subnets can be patched to make a larger subnet temporarily according to the requirements.



Dedicated GPS Channel

- In order to increase the GPS data transmission capability, a dedicated GPS channel can be used in DMR simulcast Base Station.

Versatile Services

- Voice services: individual call, group call, all call, emergency call, broadcast call, dispatcher call, PSTN call, etc.
- Data services: text message, status message, emergency alert, GPS data polling, AVL, etc.
- Advanced services: end-to-end encryption, late entry, discreet listening, voice recording, etc.

Long Time GPS Holdover

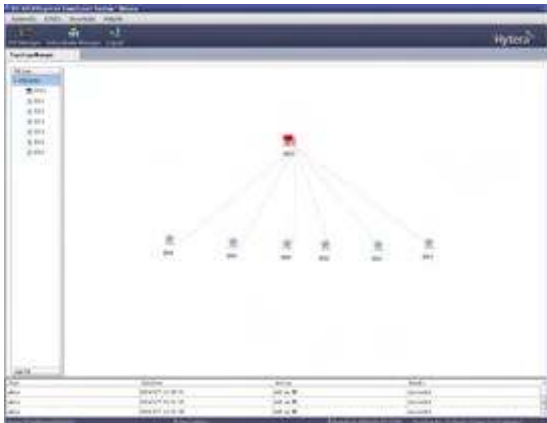
- In case of GPS failure, the Base Station supports a holdover of 48 hours via the internal synchronization reference, ensure the simulcast service maintain normal.

Open API

- Open API for further service development, such as dispatch service, network management service and GIS service.

Network Management System

The network management system is composed of server and clients. It is designed to remotely manage and control the simulcast system.



- Various management capabilities: system configuration management, fault management, security management, topology management, etc.
- Support SNMP.
- Adopt C/S structure to support multi-user operation.
- Provide API for further development.

Dispatching System

The dispatching system is designed for efficient communication, management and dispatching of professional users in Hytera DMR simulcast system. Hytera can provide both wireless dispatch system and wired dispatch system for the simulcast system.



- **Automatic Vehicle Location (AVL)**
 - Multiple maps (Google map or MapInfo) support.
 - Terminal location real-time tracking & display.
 - Track playback.
 - Geo-fencing.
- **Voice Service**
 - Individual call, group call, broadcast call, emergency call, etc.
- **Data Service**
 - Text message, status message, GPS Polling and emergency alert.
- **Other Service**
 - Stun/revive,voice recording,subnet patching, E2E encryption, etc.

DMR Simulcast Terminals

- The most complete DMR simulcast terminals portfolio. Portable radio PD5 series, PD6 series, PD7 series, X1e and X1p, mobile radio MD65X, MD78X, intrinsically-safe radio PD79X Ex.



MD78X

PD70X

PD78X

PD79X Ex

X1e

X1p



PD50X

PD56X

PD60X

PD66X

PD68X

MD65X

For more information,
Please visit: www.hytera.com
or contact our local dealers and sales representatives.

Specifications

| | | |
|--------------------|--|---|
| General | Operating Frequency | VHF: 136–174MHz; UHF3: 330–400MHz; UHF1: 400–470MHz |
| | Standard Compliance | DMR Tier II |
| | BS Capacity per MSO | 100 |
| | Carrier Capacity per MSO | 200 |
| | Subnet Capacity | 99 |
| | Carrier Capacity per BS | 1 or 2 |
| | Channel Spacing | ≥ 12.5kHz |
| | Duplex Spacing | VHF ≥ 5.3MHz ; UHF1/UHF3 ≥ 10MHz |
| | Multi-access Method | TDMA |
| | Modulation | 4FSK (index: 0.27) |
| | Modulation rate | 9.6Kbps/carrier |
| | Full Load Power Consumption | Single-carrier BS ≤ 200W; Dual-carrier BS ≤ 400W |
| | Operating Temperature | -30°C to 60°C |
| | Storage Temperature | -40°C to 85°C |
| | Operating Humidity | 5% to 95%RH |
| Dimensions (H*W*D) | Single-carrier BS: 355*425*482.6mm; Dual-carrier BS: 900*600*600mm | |
| Weight | Single-carrier BS ≤ 50kg; Dual-carrier BS ≤ 110kg | |

| | | |
|-------------------|------------------------------------|----------------------|
| Receiver | Static Sensitivity | -118dBm@BER5% |
| | Blocking | ≥ 84dB |
| | Co-channel Rejection | -12 to 0dB (12.5kHz) |
| | Adjacent Channel Selectivity | ≥ 60dB (12.5kHz) |
| | Intermodulation Response Rejection | ≥ 70dB |
| Spurious Emission | ≤ -57dBm@100kHz | |

| | | |
|-------------|----------------------------------|---|
| Transmitter | TX Power | 1 to 50W (adjustable) |
| | Output Power Tolerance | Normal: ± 1.5dB; Extreme: -3 to +2dB |
| | Modulation Accuracy | 5% |
| | Frequency Offset | ± 16Hz |
| | Adjacent Channel Power Rejection | ≤ 60dB (12.5kHz) |
| | Spurious Emission | 9kHz to 1GHz: TX: ≤ -36dBm @ 100kHz ; Standby: ≤ - 57dBm@100kHz 1GHz to 12.75GHz: TX: ≤ - 30dBm@1kHz ; Standby: ≤ - 47dBm@1kHz |

All specifications are subject to change without notice due to continuous development.

Your Hytera partner:



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Encryption features are optional and have to be configured separately; they also are subject to German and European export regulations.

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