SURYA TELECOM
Sales | Service | Support

Surya DMR Trunking Lite

- Open Standard
- Smooth Migration
- Overall Delivery
- Power Up To Talk

DMR
DIGITAL MOBILE RADIO ASSOCIATION

www.suryatel.com

Surya
DMR Trunking Lite

Surya DMR trunking lite is a digital trunking system, which is based on ETSI open standard and focuses on transportation, energy resource, public utilities, enterprise &business, etc.. With high integrate design, Surya DMR Trunking Lite is provided with special features such as simple to installation, convenience to transportation and compact appearance.

System Key Features

Open Standard

DMR Trunking Lite is based on DMR tier III standard which was defined by ETSI in 2005.
With the help of dedicated control channel, DMR Trunking Lite can achieve versatile functions.

Integrated RF System

Integrated 2-carrier RF system, significantly saves the BS space and reduces the cost of divider, combiner and duplexer.

IP Architecture

All devices are based on IP architecture to ensure flexible networking and system expansion.

Open API

Open API satisfies further development based on different customers' need, such as billing system, e-mail gateway, etc..

Non-centralilzed Structure Design

Non-centralized structure can be used in 1 up to 5 base stations network to ensure a cost-effective and flexible network.

Smooth Migration

DMR Trunking Lite transceiver supports smooth migration from conventional to trunking. Multi-modes provide customers different choices for continual investment.

Versatile Services

Voice services, data services, priority, late entry, call back, recording, PSTN call, ESN check, authentication, E2EE, kill, GPS, emergency alarm, etc..

Interconnection with Other Systems

Different gateways support the interconnection between DMR trunking and other system, such as PSTN gateway, analog conventional gateway, MPT gateway, DMR conventional gateway, etc..

DS-6211 Base Station Overview

400-470MHz 2 carrier BS
600*600*675mm

Overall Delivery

High level integrated 2-carrier 400MHz-470MHz base station supports overall delivery and promises power up to talk on site.

Components Delivery

Base station components can be offered separately, and customers have alternative choices for their own cabinet and IP equipment.

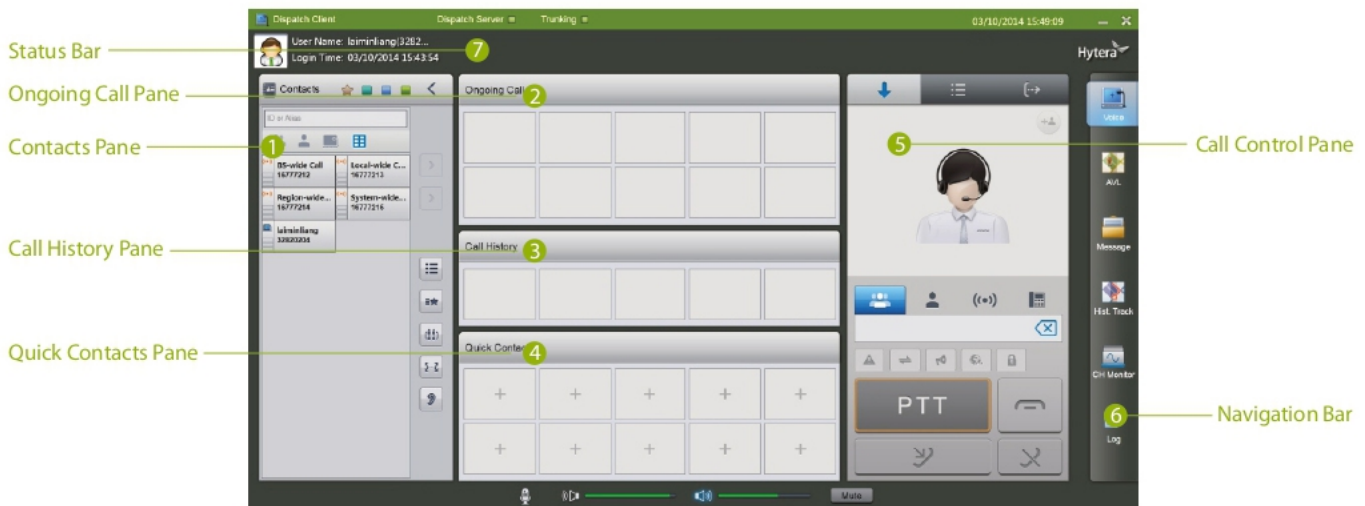|			
① Power Distribution Unit		② Transceiver	
③ Transceiver Power Supply		④ Transceiver	
⑤ Switch		⑥ BS PSU	
⑦ Base Station Controller		⑧ 2-channel RF System	

Key Component RD98XS

Rack design

- Standard 19 inch rack design facilitates simple installation and maintenance.
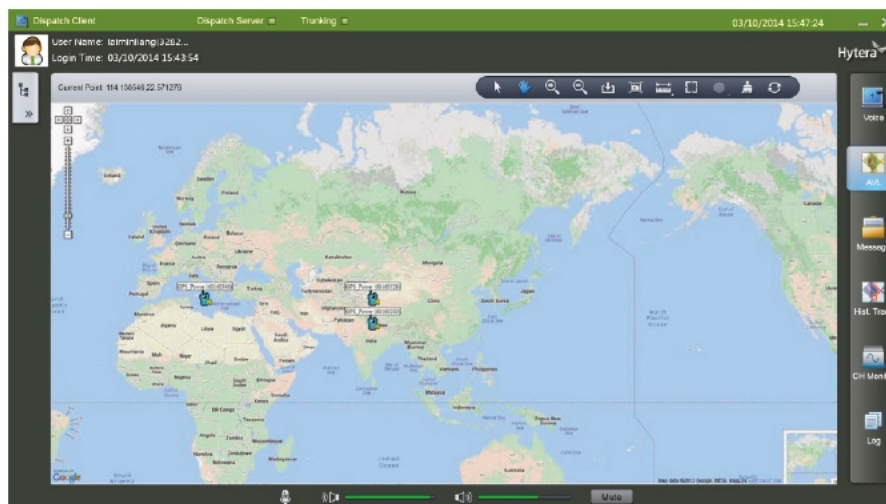
Multi-mode operation

- RD98XS supports multi-mode operation, which can work in different mode such as DMR conventional mode, MPT mode, DMR trunking mode, Analog simulcast mode and Digital simulcast mode.

Dispatching System

Status Bar

Ongoing Call Pane

Contacts Pane

Call History Pane

Quick Contacts Pane
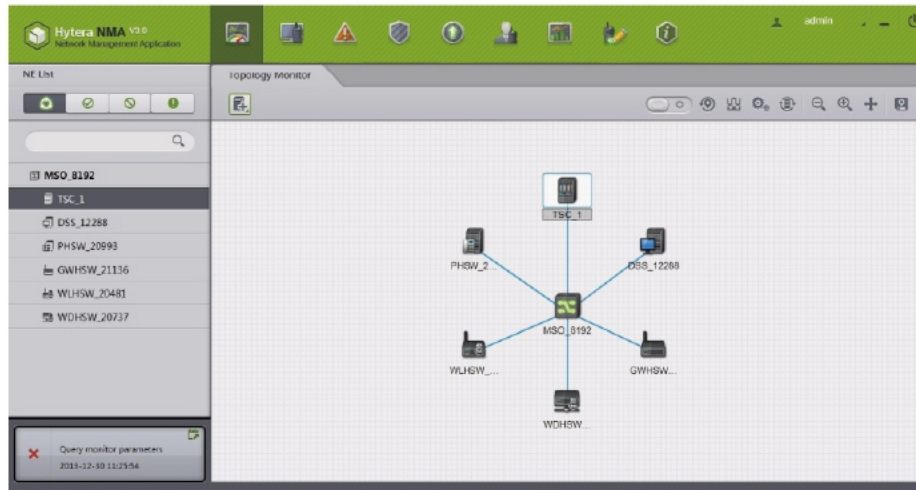
Call Control Pane

Navigation Bar

- Dispatch workstation offering system communication management including individual call, group call, short message and enhanced functions such as emergency call, call priority, call status, voice recording & message log, which provide customers more operation choices.

- Dispatch workstation offering Automatic Vehicle Location (AVL) function based in online/offline digital map to tracking radios.

- Dispatch workstation client supporting standard/touch screen as option.

Network Management System

- Various management capabilities:
  User management, configuration management, alarm report, authority management and performance statistics.

- Remote software upgrade.

- SNMP.

- Adopting C/S structure to support multi-user operation in complex and large networks.

- OTAP.

DMR Trunking Terminals

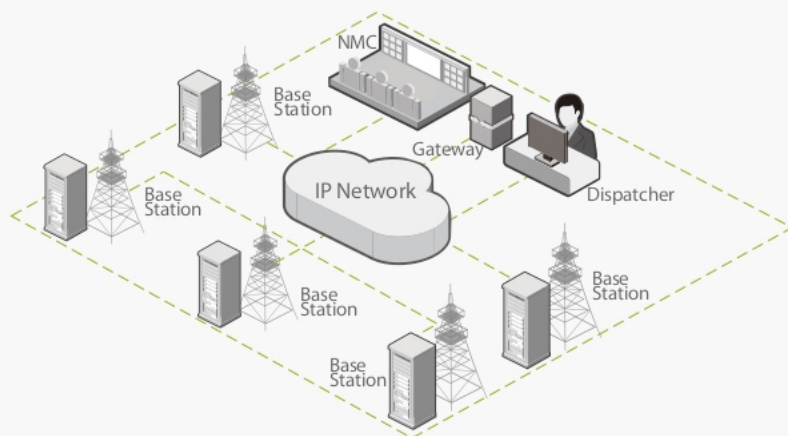| MD78X | PD70X | PD78X | X1e | X1p | PD79X Ex |

- The most complete DMR trunking terminals. Portable radio PD70X, PD78X, X1e and X1p, mobile radio MD78X, intrinsically-safe radio PD79X Ex. The smallest full power DMR trunking portable radio X1e & X1p in the world. The world's first intrinsically-safe DMR trunking radio PD79X Ex.

- Four-mode DMR trunking terminals support analog conventional mode, DMR conventional mode, MPT trunking mode and DMR trunking mode.

- Trunking terminals support software upgrade from conventional to trunking mode.

- All the trunking terminals support build-in GPS and MIL-STD-810C/D/E/F/G. Portable radios are compliant with IP67 while mobile radio is IP54.

RD98XS, MD78X, PD70X, PD78X, PD79X Ex: X=0, 2, 5, 6 or 8, model number varies geographically. For details, please contact our regional sales representatives.
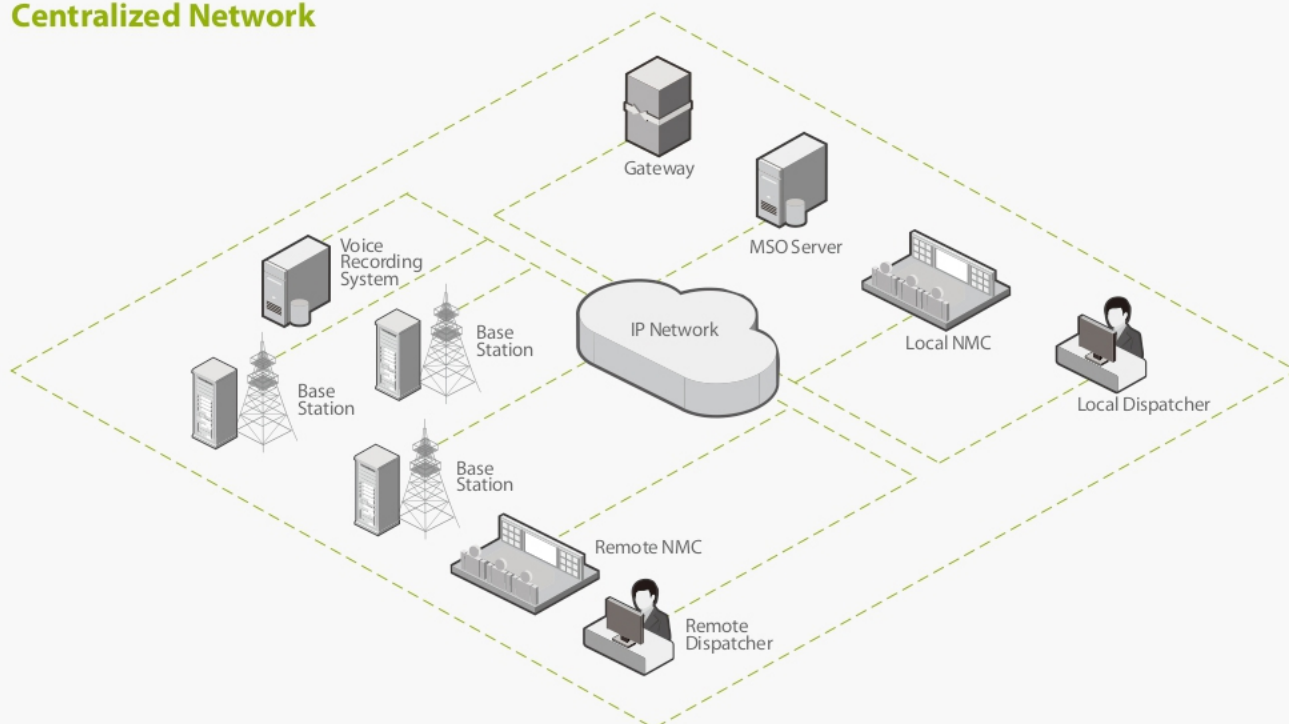
Typical Networking

DMR Trunking Lite System supports a variety of networking as below:

Non-centralized Network

- Non-centralized network can operate independently in trunking mode without MSO. This structure can support 1 up to 5 base stations or 20 carriers. Each base station can support up to 8 carriers (15 traffic channels).

- NMC (Network Management Client) and dispatcher connect to the BS through IP backbone.

Centralized Network

- Provides wider coverage and intercommunication.

- Multiple BSs connect by E1 or IP to realize large scale coverage.

- 50 BS at most, and 8 carriers per base station.

- Local & remote NMS and dispatcher.

- System interconnection can be realized by different gateways.

Application Industries

Transportation

Highway, Public bus, Taxi, Airport, Port, etc.
Characteristic: Medium network, a large user amount, special application, information system interconnection.

Energy Resources

Petrochemical industry, Mine, Smelter, Electric Power, etc.
Character: Multi-site, large user amount, explosion-proof, high degree of protection.

Commercial Industry

Hotel, Property, Supermarket, Construction site, Park, etc.
Characteristic: Single Site, medium user amount, special application.

Public Utilities

Education, Forestry, Water Conservancy, etc.
Characteristic: Multi-site, small user amount, data transfer, telemetry.

Specifications

General	
Operating Frequency	UHF: 400-470MHz, VHF: 136-174MHz
Full Load Power Consumption	2-carrier: ≤600W; 4-carrier: ≤1200W
Operating Temperature	Normal temperature: +15℃ to +35℃, Extreme temperature: -30℃ to +60℃
Storage Temperature	-40℃ to 85℃
Dimensions (WxDxH)	2-carrier: 600X600X675mm (13U cabinet); 4-carrier: 600X600X1750mm (37U cabinet)
Humidity	Normal: 20%~75% RH; Extreme: 5%~95% RH
Weight	2 carriers: ≤110Kg; 4 carriers: ≤200Kg

Receiver	
Static Sensitivity	-118dBm @ BER≤5%
Maximum Input Level	-10dBm (BER≤0.01%)
Blocking	≥84dB @ ±1M/2M/5M/10MHz
Co-channel Rejection	≥-12dB
Adjacent Channel Selectivity	≥60dB
Intermodulation Response Rejection	≥70dB
Spurious Radiation	≤-57dBm@100KHz @ 9.00-1.00GHz; ≤47dBm @ 1.0MHz @ 1.00-12.75GHz

Transmitter	
TX Power	CHU: ≤50W; Antenna connector: ≤14W
Power Adjustment Range	5-50W
Occupied Bandwidth	≤8.5KHz @ 99% TX Power
Modulation Accuracy	≤5.0%
Frequency Error	±200Hz
Intermodulation Attenuation	≤-70dB
Adjacent Channel Power Rejection	Normal condition: ≥60dB @ 12.5KHz; Extreme condition: ≥50dB @ 12.5KHz
Spurious Emission	9K-1GHz: ＜-36dBm @ sending; 1G-4GHz: ＜-30dBm @ sending

Reliability	
Mean Time Between Failures (MTBF)	100,000 hours
Mean Time to Repair (MTTR)	30 minutes

All Specifications are tested according to applicable standards, and subject to change without notice due to continuous development.

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