



DS-6210 DMR Trunking Pro

- Enhanced Capacity
- High Security
- Extended Coverage
- Field Proven Reliability





System Overview



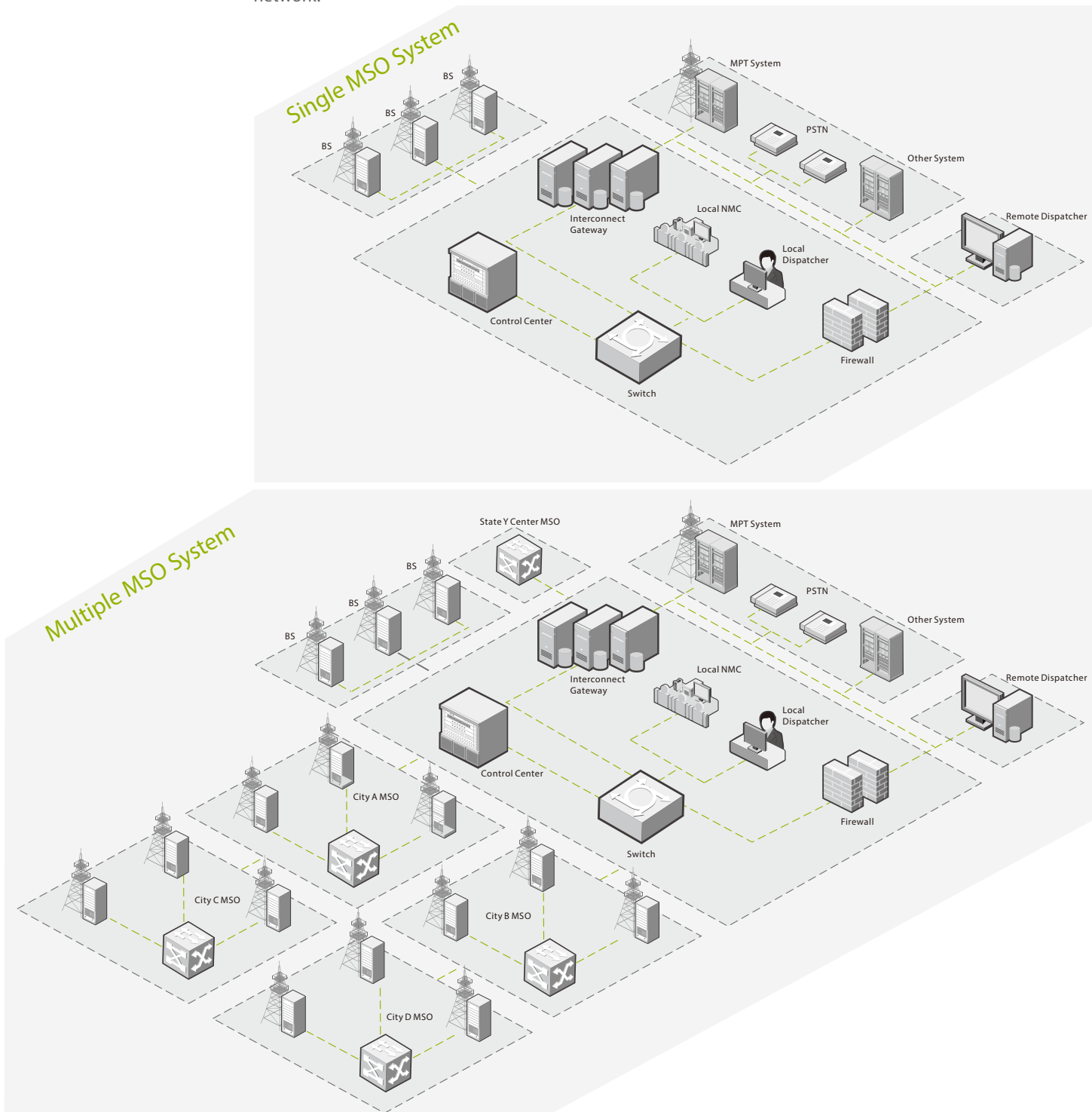
DS-6210 DMR Trunking Pro, developed from ETSI DMR open standard, is an IP-based Digital Trunked System Infrastructure specifically designed to provide mission critical voice, dispatching and management capacity across various geographic areas. With all-IP architecture, centralized networking and modular design, the system delivers the solution with high spectrum efficiency, wide coverage, flexible networking, cost effective and high security. The trunking system network scale can be from a single site network to national-wide network.



System Structure

The DMR Trunking Pro logically consists of base station system, service terminal, bearer network and mobile switching office (MSO). One MSO supports up to 512 base stations, 4096 carriers. A single base station supports up to 48 carriers.

Multiple MSOs can interconnect with each other via IP bearer network so as to build a large scale network.



As the core of Hytera DMR Trunking Pro, MSO comprises a wide array of subsystems to enrich the application functions, such as Network Management System (NMS), Dispatching System and Multimedia Record & Playback System(MRPS).

System Key Features ➤➤

① Superior Reliability

- Modularized design and multi-level fault-tolerant capability for enhanced reliability and efficiency.
- MSO supports local and Offsite redundancy mechanism. When one fails, the other one can take over its services immediately.
- Interference monitoring and link detection features guarantee the high performance of the system.
- Redundancy capability for key modules such as base station control unit, power supply unit, control channel, and traffic channel, etc.

② Versatile Services

- Registration/deregistration/periodic registration, handover/roaming, subscriber area restriction, control channel reselection, etc.
- Data services: text message, GPS data polling, status message, emergency alarm, etc.
- Advanced services: late entry, ambience listening, listening, interrupt/override, dynamic group number assignment, voice recording, remote monitor, include call, super group call, OTAP, Vote now, Group patching, etc.
- Voice services: individual call, group call, emergency call, broadcast call, all call, dispatcher call, PSTN call, MPT call, DMR conventional call, full duplex individual call, etc.
- Security services: ESN check, authentication, stun/revive, kill, end-to-end encryption, Air interface encryption (AIE) etc.
- Providing AIS and API for further development, such as customized dispatcher, billing system, etc..
- Multiple dialing scheme: DMR dial scheme, MPT1343 dial scheme, CPS-P3 dial scheme.





③ Wider Coverage

- Fully Compliant with DMR Tier 3 technology which born with the advantage of wider coverage over other technologies.
- Non-linear amplifier.
- Innovative triple-diversity receiving technology with 3-5dB gain.

④ Flexible Networking

- The IP-based architecture enables flexible networking.
- Different gateways are provided to connect with other system, such as PSTN, MPT, Tetra, DMR conventional, etc.

⑤ Powerful Dispatching Capability

- The Browser/Server structure ensures networking and expanding capabilities.
- GPS visual dispatching system.
- User-friendly operation interface and versatile functions.

⑥ High Spectrum Efficiency

- 2-Slot TDMA technology.
- DMR trunking simulcast feature enable the same frequency used for the whole network.

Base Station >>

Overview

Powered by cutting-edge technology and versatile functions, DMR Trunking Pro base station offers refreshing communication experience with ultimate reliability and scalability.

Base Station Components



Highlights

Innovative Design

- Blade structure to facilitate O&M and enhance cooling performance.
- Modularized design for customization.
- Triple diversity technology to increase dynamic receiving sensitivity.
- Input & output alarm port.

High Reliability

- Modularized design and fault-tolerant capability to significantly enhance reliability and efficiency.
- The redundancy mechanism is employed for key devices such as the base station control unit (hot standby), trunking channel unit, power supply unit, link, etc.



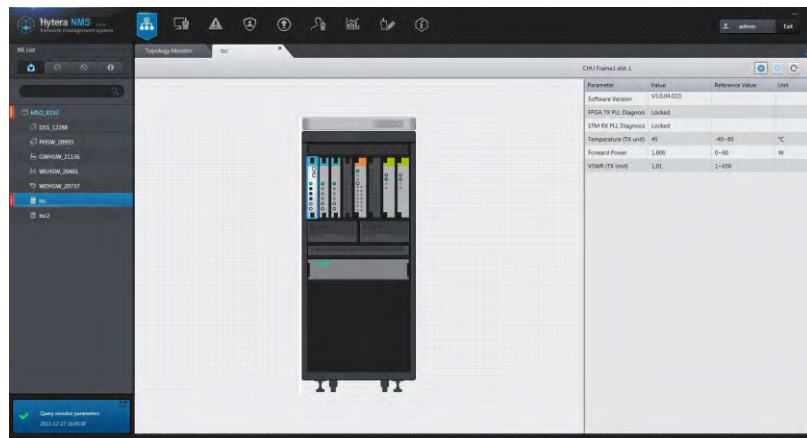
Network Management System ➤

Overview

Network Management System (NMS) is composed of the server and network management client (NMC). It supports management, monitoring, operation and maintenance functions for the DMR Trunking Pro Base Station.

Key Features

- Provide a complete management capabilities such as subscriber management, configuration management, fault management, security management, topology management and performance statistics.
- Support SNMP to facilitate integration into different NMS as required; adopt flexible structure to support multi-user operation in complex and large networks.
- Easy maintenance with remote upgrade, OTAP, IP link detection, system health monitoring, etc.



Dispatching System ➤➤

Overview

Professional Unified Communication (PUC) is composed of modules such as dispatch sever and dispatch clients. As a part of the DMR Trunking solution, the dispatching system incorporating rich data services(SMS, status message, and GPS data) with voice dispatching capability, the system enables the Hytera DMR Trunking Pro solution to deliver enhanced dispatching capabilities for professional users in public security, public utility, enterprise and business .

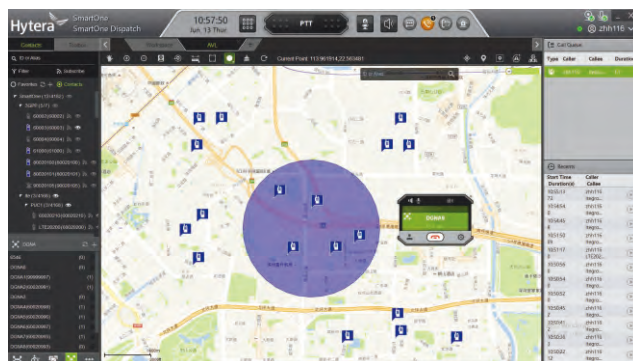
Key Features

- Voice call
 - Support versatile voice calls, including individule call, group call, broadcast call, PSTN call, PABX call and all call.
 - Support group call late-entry and emergency call.
 - Detailed call history to record call parties.
 - Various indicating sound & light.
- Text message
 - Support predefined text message, status message, text messaging group sending; message template and emergency messaging.
- External call
 - Support calls between dispatchers.
- Advanced function
 - Support DGNA,Group patch, multi-select call,automatic voice recording, channel monitor,RSSI Report, etc.
- The system supports external tools like desktop speaker, foot-tap PTT, and microphone with PTT.
- Automatic Vehicle Location (AVL)
 - GIS map load & display.
 - Terminal location tracking & display.
 - Track playback.
 - Geo-fencing.
- Security Services
 - Supports Kill / Stun / Revive, ambience listening, discreet listening, interrupt / override,end to end encryption, etc.

Main Interface



AVL Interface



Multimedia Record & Playback System

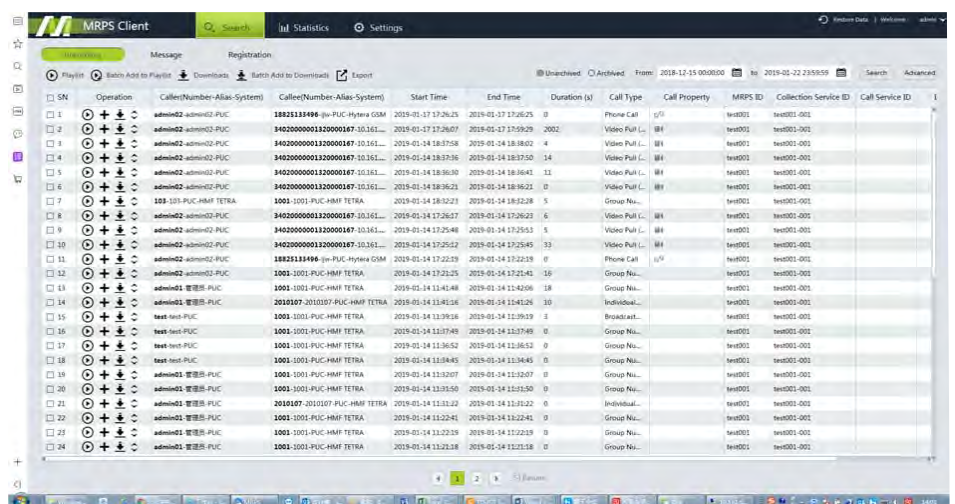
Overview

Multimedia Record & Playback System(MRPS) is a recording solution based on IP network. The voice recording capacity is huge, which can record both voice and SMS conversations over the whole network without any omission and maintain high voice quality of the audio files. The access control based on the licensing mode presents high security for voice recording, while the B/S architecture allows query and playback of the audio files at any time anywhere.

Key Features

- IP-based digital network-wide voice recording.
- Browser/Server architecture.
- Hot standby for stability improvement and 24-hour voice and SMS recording.
- Access control based on licensing mode with high security.
- Statistics analysis for voice and SMS recording data.
- Files online playback and download.
- Flexible recording based on organization and time.

Main Interface



The screenshot displays the MRPS Client software interface. The top menu bar includes 'MRPS Client', 'Search', 'Statistics', and 'Settings'. Below the menu, there are tabs for 'Message', 'Registration', and 'Playback'. The 'Playback' tab is active, showing a list of recorded calls. The table has columns for SN, Operation, Caller/Number-Alias-System, Callee/Number-Alias-System, Start Time, End Time, Duration (s), Call Type, Call Property, MRPS ID, Collection Service ID, and Call Service ID. The table contains 24 rows of data, each representing a recorded call with various details such as caller and callee numbers, timestamps, and call properties.

SN	Operation	Caller/Number-Alias-System	Callee/Number-Alias-System	Start Time	End Time	Duration (s)	Call Type	Call Property	MRPS ID	Collection Service ID	Call Service ID
1	+	admin02-admin02-PUC	1882115198 (in-PUC-Hytera GSM)	2019-01-17 17:26:25	2019-01-17 17:26:25	0	Phone Call	U/I	hw001	hw001-001	
2	+	admin02-admin02-PUC	3402000000132000187-10.161...	2019-01-17 17:26:07	2019-01-17 17:59:29	2002	Video Pull L...	W/I	hw001	hw001-001	
3	+	admin02-admin02-PUC	3402000000132000187-10.161...	2019-01-14 18:17:58	2019-01-14 18:18:02	4	Video Pull L...	W/I	hw001	hw001-001	
4	+	admin02-admin02-PUC	3402000000132000187-10.161...	2019-01-14 18:17:36	2019-01-14 18:17:50	14	Video Pull L...	W/I	hw001	hw001-001	
5	+	admin02-admin02-PUC	3402000000132000187-10.161...	2019-01-14 18:16:50	2019-01-14 18:16:41	11	Video Pull L...	W/I	hw001	hw001-001	
6	+	admin02-admin02-PUC	3402000000132000187-10.161...	2019-01-14 18:16:21	2019-01-14 18:16:21	0	Video Pull L...	W/I	hw001	hw001-001	
7	+	188-101-PUC-HMF TETRA	1001-1001-PUC-HMF TETRA	2019-01-14 18:16:23	2019-01-14 18:16:28	5	Group No...		hw001	hw001-001	
8	+	admin02-admin02-PUC	3402000000132000187-10.161...	2019-01-14 17:26:07	2019-01-14 17:26:23	6	Video Pull L...	W/I	hw001	hw001-001	
9	+	admin02-admin02-PUC	3402000000132000187-10.161...	2019-01-14 17:25:48	2019-01-14 17:25:53	5	Video Pull L...	W/I	hw001	hw001-001	
10	+	admin02-admin02-PUC	3402000000132000187-10.161...	2019-01-14 17:25:12	2019-01-14 17:25:45	33	Video Pull L...	W/I	hw001	hw001-001	
11	+	admin02-admin02-PUC	1882115198 (in-PUC-Hytera GSM)	2019-01-14 17:22:59	2019-01-14 17:22:58	0	Phone Call	U/I	hw001	hw001-001	
12	+	admin02-admin02-PUC	1001-1001-PUC-HMF TETRA	2019-01-14 17:21:25	2019-01-14 17:22:41	16	Group No...		hw001	hw001-001	
13	+	admin01-管理组-PUC	1001-1001-PUC-HMF TETRA	2019-01-14 11:41:48	2019-01-14 11:42:06	18	Group No...		hw001	hw001-001	
14	+	admin01-管理组-PUC	2010107-2010107-PUC-HMF TETRA	2019-01-14 11:41:16	2019-01-14 11:41:26	10	Individual...		hw001	hw001-001	
15	+	test-test-PUC	1001-1001-PUC-HMF TETRA	2019-01-14 11:39:18	2019-01-14 11:39:19	1	Broadcast...		hw001	hw001-001	
16	+	test-test-PUC	1001-1001-PUC-HMF TETRA	2019-01-14 11:37:49	2019-01-14 11:37:49	0	Group No...		hw001	hw001-001	
17	+	test-test-PUC	1001-1001-PUC-HMF TETRA	2019-01-14 11:36:52	2019-01-14 11:36:53	0	Group No...		hw001	hw001-001	
18	+	test-test-PUC	1001-1001-PUC-HMF TETRA	2019-01-14 11:36:46	2019-01-14 11:36:46	0	Group No...		hw001	hw001-001	
19	+	admin01-管理组-PUC	1001-1001-PUC-HMF TETRA	2019-01-14 11:32:07	2019-01-14 11:32:07	0	Group No...		hw001	hw001-001	
20	+	admin01-管理组-PUC	1001-1001-PUC-HMF TETRA	2019-01-14 11:31:50	2019-01-14 11:31:50	0	Group No...		hw001	hw001-001	
21	+	admin01-管理组-PUC	2010107-2010107-PUC-HMF TETRA	2019-01-14 11:31:22	2019-01-14 11:31:22	0	Individual...		hw001	hw001-001	
22	+	admin01-管理组-PUC	1001-1001-PUC-HMF TETRA	2019-01-14 11:22:41	2019-01-14 11:22:41	0	Group No...		hw001	hw001-001	
23	+	admin01-管理组-PUC	1001-1001-PUC-HMF TETRA	2019-01-14 11:22:19	2019-01-14 11:22:19	0	Group No...		hw001	hw001-001	
24	+	admin01-管理组-PUC	1001-1001-PUC-HMF TETRA	2019-01-14 11:21:18	2019-01-14 11:21:18	0	Group No...		hw001	hw001-001	

HP78X



HP70X



HP78X UL913



HP70X UL913



HM78X



PDC680



HP79XEx IIC/IIA



DMR Trunking Terminals ➡➡

Highlights

- The most complete DMR trunking terminal portfolio. Portable radio HP70X, HP78X, mobile radio HM78X, intrinsically-safe radio HP78X UL913, HP70X UL913, HP79XEx IIC/IIA.
- Multi-mode DMR Trunking terminal, supporting analog conventional mode, DMR conventional mode and DMR Trunking mode.
- All the terminals support software upgrade from conventional mode to trunking mode.
- All the portable terminals support at least IP67, all the terminal radios supports GPS and MIL-STD-810C/D/E/F/G.

X=0, 2, 5, 6 or 8, model number varies geographically. For details, please contact our regional sales representatives.

System Specifications ➤➤

Item	General	Trunking Simulcast
Max.MSO Capacity(pcs)	512	512
Max. Base Station Capacity (pcs)	512	256
Max. Carrier Capacity per Base Station	48	16
Network Capacity (carrier)	4096	2000
Dispatch Client Capacity (pcs)	50000	128
Network Management Client Capacity (pcs)	64	32
PSTN/PABX Interconnect (way per gateway)	120 (4*E1)/ 30 (1*E1)	60 (2*E1)/ 30 (1*E1)
Group Call Set-up Duration (ms)	<300 (within a single MSO)	<500

BS Specification	
Frequency Range	U1: 400-470MHz; U2: 450-520MHz; U3: 350-400MHz; U5: 806-941MHz; V: 136-174MHz
Carrier Capacity	1~48
Max. Power Consumption	4 - carrier: ≤1000W 8 - carrier: ≤2000W 16 - carrier: ≤4000W
Operating Temperature	-15°C to +35°C
Extreme Operating Temperature	-30°C to +60°C
Storage Temperature	-40°C to +85°C
Dimensions (H×W×D)	29U: 1,430 * 600 * 600 mm 42U: 2,000 * 600 * 700 mm
Receiver	
Static Sensitivity	-118dBm@BER5%
Dynamic Sensitivity	-108dBm@BER5%
Blocking	≥84dB
Co-channel Rejection	-12dB to 0dB
Adjacent Channel Rejection	≥60dB@12.5KHz
Intermodulation Response Rejection	≥70dB
Spurious Emission	9.00KHz-1.00GHz -57dBm@100kHz 1.00GHz-12.75GHz -47dBm@1.0MHz

Transmitter	
Rated TX Power	≤50W (VHF,UHF1,UHF2,UHF3)/ ≤35W(UHF5)
Adjust power range	1-50W
Occupied Bandwidth	≤8.5kHz@-3dB
Max. Modulation Frequency Deviation	±3.15KHz
Frequency Offset	±100Hz
Intermodulation Attenuation	≤-60dB
Adjacent Channel Power Ratio	≤-60dB@(12.5kHz)
Spurious Emission	9.00 kHz to 1.00 GHz ≤-36 dBm@100 kHz 1.00 GHz to 12.75GHz ≤-30 dBm@1.0 MHz

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



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