



Hytera Integrated Command & Control System

Incident taking, handling, police force deploying,
GIS, and cloud dispatching



Background

As cities are developing rapidly and science and technology are evolving dramatically, the public expect more for urban public security management. In addition to traditional modes to handle natural disasters, public emergencies, security and crime events, public security management must also implement control over key areas and prevent crimes efficiently based on technologies such as powerful information platform, big data system, and intelligent city. Requirements for public security are rapid response, flat command, joint operation, and effective prevention.

Based on various telecommunication modes and the large intelligence and police services integrated systems in public security, Hytera integrated command & control system integrates wired and wireless command and control system, Geographic Information System (GIS), large screen display, and graphic system. In this way, Hytera integrated command & control system implements centralized incident taking, unified command, information sharing, rapid response, and effective prevention. It merges high technologies and police services perfectly, and greatly enhances the capability of the public security system and associated government agencies to respond rapidly, act jointly, make policies, and command.



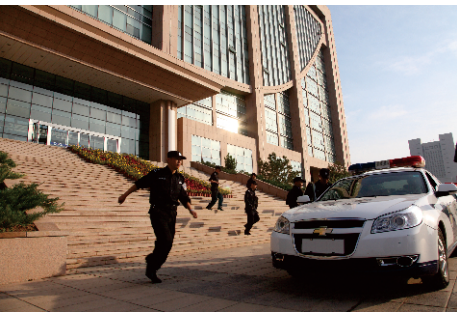
Features

- 1 Various voice terminals, system products, and application software, providing end-to-end public security solutions.



2 Powerful wireless voice call function.

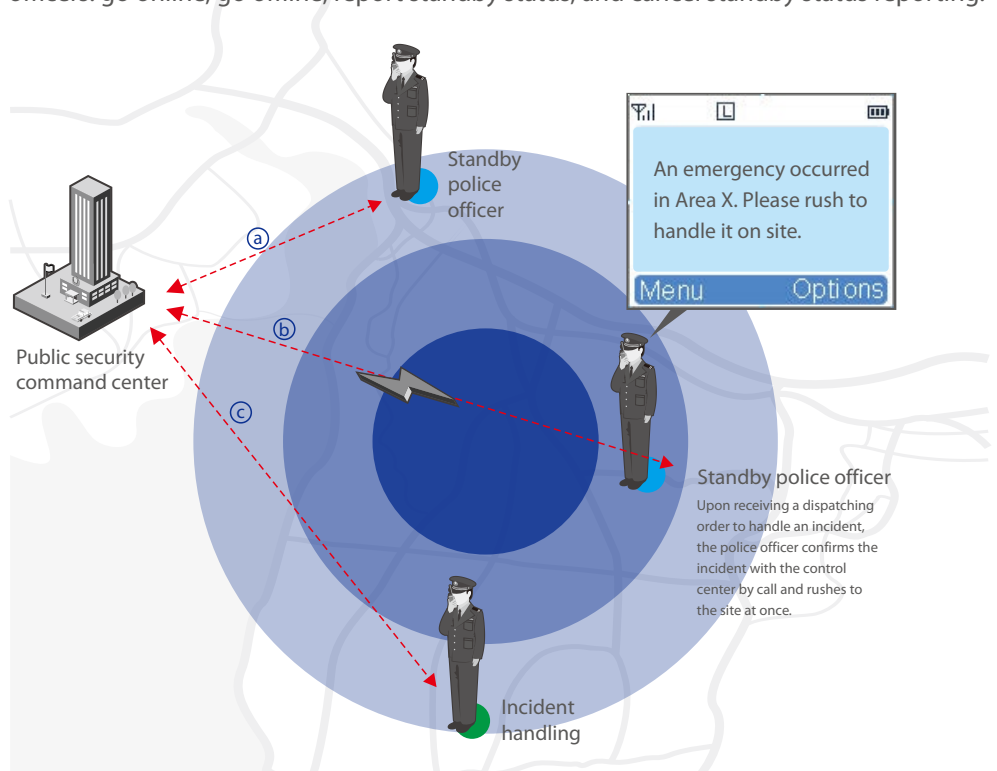
The powerful trunking call function improves originally weak trunking call services, including priority call, ambience listening, dynamic group number assignment (DGNA), combination of talk groups, and emergency alarm.



Convergence of wired and wireless calls	
Wireless group call	Wireless call hold/re-access
Wireless individual call	DGNA
Wireless emergency call/priority call	Combination of talk groups
Wired call	Call based on the base station
Wired/wireless meeting	Long/short message
Wireless group call listening	Ambience listening
Wired call hold/re-access	Emergency call
Wired call listening, forced release, break-in	Wireless call break-in, forced release, floor preemption

3 Seamless integration with digital trunking systems (PDT and TETRA) to meet the digital trend.

Convenient short message communication enables management of daily tasks for police officers: go online, go offline, report standby status, and cancel standby status reporting.



- (a) A standby police officer uses a walkie talkie to report the standby status to the command center by means of message or call. Upon receiving the report, the command center confirms the status and determines the distance between the standby police officer and the incident site.
- (b) A standby police officer uses a walkie talkie to report the standby status to the command center by means of message or call. Upon receiving the report, the command center confirms the status and determines the distance between the standby police officer and the incident site. If the police officer is the nearest to the site, the command center sends a dispatching order.
- (c) A police officer uses a walkie talkie to report emergency handling status to the command center by means of message or call. Upon receiving the report, the command center confirms the status.

④ Unified platform and framework, plug-in design, satisfying customization requirements.



⑤ Grid-based management and flat dispatching.

⑥ Open platform architecture.

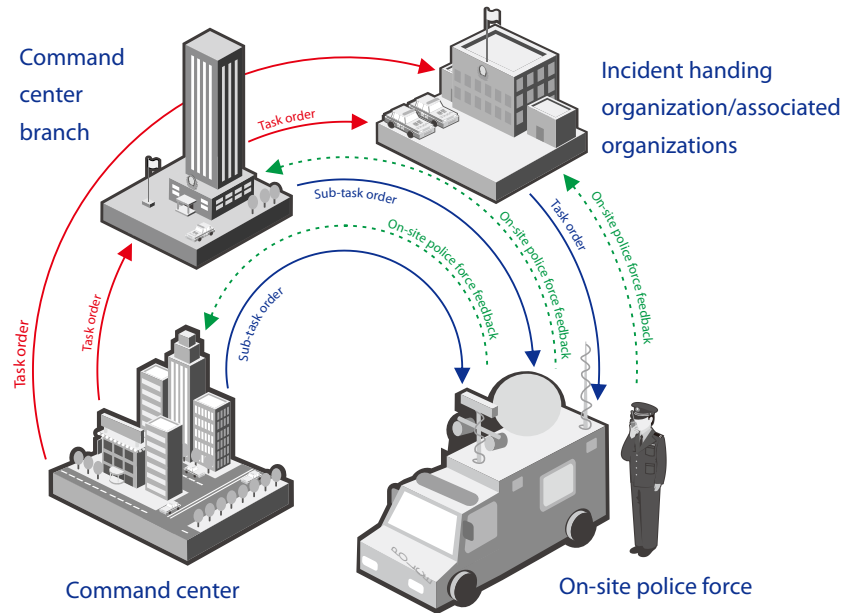
The system platform is open and can provide a third party with the dispatching function that integrates wired and wireless communication. This platform allows a third party to obtain high-speed GPS data and use voice and message channels, and to develop a dispatch and command system based on customization requirements.



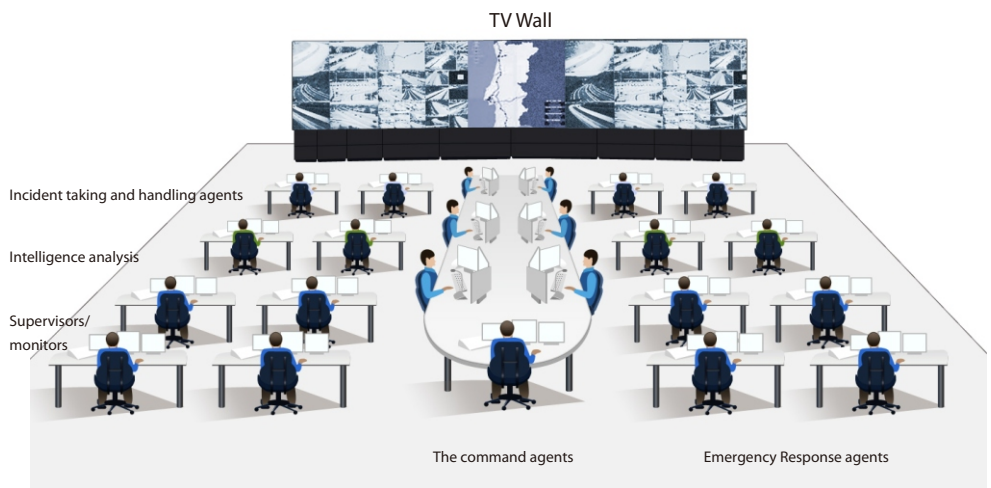
Hytera
Integrated Command &
Control System



Hierarchical Management and Flat Command



1 Command center



Based on incident taking quantity and emergency handling process, a command center is deployed with incident taking agents, handling agents, supervisors/monitors, commanders, and joint emergency response agents in proportion, to implement incident handling, case recording, study and determination analysis, and dispatching. Command centers can be deployed hierarchically as required.

- Incident taking and handling agents

For incident taking and handling agents, three screens are deployed for each agent. The incident taking and handling screen is used to receive calls, record events, and dispatch police forces. The PGIS screen is used to visually determine the occurrence of events and the distribution of police forces near the incident site. The dispatching screen is used to call road policemen or police stations near the incident site.



- Supervisors/monitors

For supervisors/monitors, two screens are deployed for each agent. The main screen is monitored by the agent and is composed of GIS, video, and data statistic interfaces, each of which can be dragged freely and laid out flexibly. The dispatching screen is used for dispatching in emergency.



2 Agents in police stations

These agents are deployed in police stations located far from command centers to receive incident orders, simply dispatch police forces, and report incidents.

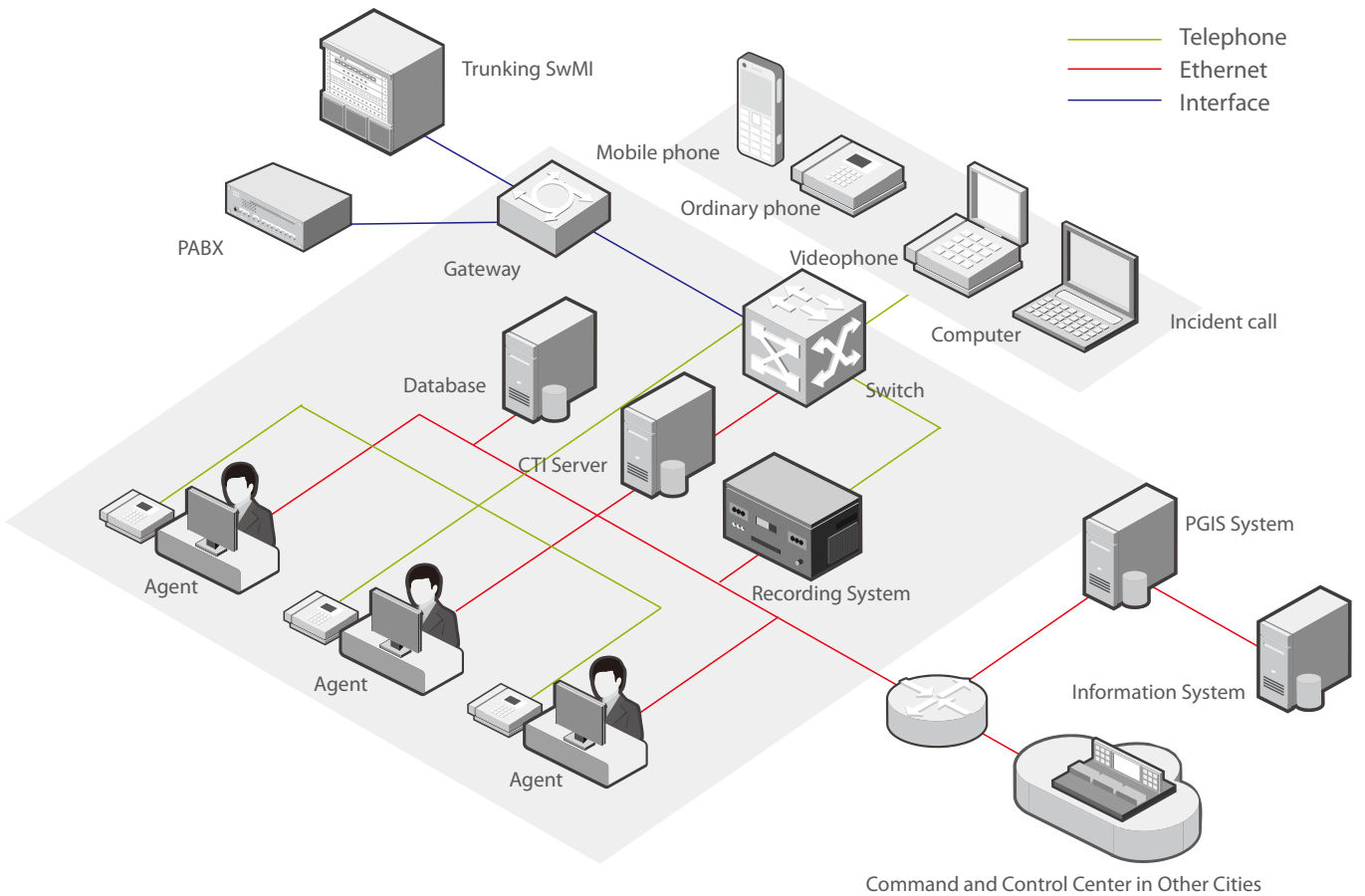


Geographic information



Agents in police stations

Topology



Functions

SN	Parameter	Description
01	Support for various incident reporting modes	Supports incident reporting by call, message, technical prevention, and Internet.
02	Intelligent analysis of incident reporting calls	Checks whether the call number belongs to a key institution and whether the incident is repeatedly reported; determines the incident reporting position; and searches for available police forces nearby.
03	Incident track and management	Synchronizes incident information in real time and presents it as a whole based on the timeline.
04	Incident handling in multiple modes	Handles incidents by multi-party call, wired and wireless dispatching, order distribution on network, short message, or associated mode.
05	Call operation	Manages walkie talkie calls, such as individual call, listening, group call, call in turn, meeting, or a combination of these modes.
06	Joint dispatching	Makes calls to devices such as ordinary phones, videophones, mobile phones, TETRA, PDT, and DMR.
07	Blacklist	Filters incoming calls or locks them by time through control over the called party; plays voice incident reporting; tracks malicious calls; and creates a blacklist database.
08	Incident outline	Displays the number of an incident, incident reporting time, and incident taking information.
09	Incident handling history	Displays the handling times for the incident and the number of organizations involved in each handling.
10	Information feedback	Displays all on-site information about the incident and the registration time.
11	Recording	Displays all recordings related to the incident, which can be played back upon clicking.
12	Result output	Exports the incident to an excel or a word file.
13	Log record	Displays all operations related to the incident from the report to the settlement.
14	Current incident display	Displays accepted incident list, including incident type, status, incident taking time, incident site, and competent organization.
15	Rapid incident filter	Rapidly filters current incidents to display required incidents by selecting corresponding key indicators in the incident filter column.
16	Incident details	Displays the whole incident handling process and records on the incident details interface by double-clicking an incident record.
17	Incident status change	Changes the incident statuses such as incident taking, incident handling, feedback, and settlement on the shortcut menu.
18	Incident query	Filters current incidents to display required incidents when query criteria are entered on the query criteria interface, which is displayed by clicking the query button.
19	Peripheral organizations	Displays key organizations in a certain distance around the incident site on map.
20	Peripheral police forces	Displays police forces in a certain distance around the incident site on map.
21	Settlement	Rapidly settles selected incidents, modifies incident statuses, and synchronizes the statuses to other agents and systems.
22	Re-handling	Re-handles selected incidents: transfers the incidents to the incident taking and handling interface for information entry and police force dispatching.
23	Incident combination	Combines currently handling incidents to the selected incidents in the list.
24	Recording playback	Plays recordings by using the agent phone.
25	Manual incident taking	Manually creates or records an incident, and requests the server to generate a manual incident when an incident taking police officer accepts a non-call incident report, such as an oral or special incident report.
26	Available/Unavailable	Changes the availability of the agent phone. When an agent phone is unavailable, no incident reporting calls can be received.
27	Video monitoring	Displays videos at fixed or moving points.

Applicable Industries

Hytera integrated command & control system applies to urban emergency command and control, as well as other industrial scenarios where a call center is required to receive calls, collect information, generate dispatching orders, dispatch personnel for handling, collect dispatching statistics, and monitor the handling. Such scenarios include but are not limited to environment-friendly industry, governmental hotlines, safe production, oil industry, safety supervision, airports, railways, emergency medical aids, and urban management.



Specifications

SN	Parameter	Value
01	Maximum daily incident taking quantity	> 60000
02	Maximum incident taking quantity at peak time	180/1 minute
03	Incident synchronization time between agents	≤ 1s
04	Quantity of concurrently accessed wireless individual calls	Equal to the quantity of agents
05	Quantity of concurrently listened wireless group/individual calls	Eight per dispatcher
06	Quantity of tracked terminals in real time per dispatcher	200
07	Time to query a single incident order at an incident taking and handling agent	≤ 3s
08	Time to query 200 incident orders at an incident taking and handling agent	≤ 5s
09	Maximum calls allowed by the CTI software per minute	> 300



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