

Intelligent Cellular Access Management System

Designed by Synway for Judicial, Public Security, Military, Enterprises, Secrets or any Government & Commercial Customers

www.synway.net

About This Cellular Network Product

Synway's cellular access management system leverages its decades of expertise in cellular network communications to provide complete control of cellular access within and around a facility. The system offers an immediate and efficient solution to address issues of contraband or unauthorized use of cell phones within secured areas.

Protect Your Facility From Unwanted Cell Phone Conversations

Designed to allow administrators to manage access to public cellular networks with the option, this system allows white-listed users and emergency calls to proceed unimpeded. It is specifically optimized for each facility, based on local commercial cellular coverage, layout of the premises, and best practices for cellular signal control.

By customizing the system to cover just the commercial cellular bands and technologies in use at the specific facility, the solution minimizes hardware and installation costs, allowing the facility to limit access to the commercial carrier networks. Additionally, each controllable facility coverage area ensures access to network is not extended beyond the facility boundaries.

Challenges in Cellular Access Management

In wireless communication control, Synway has accumulated abundant technical know-how in past decades, and its systems have been widely used by hundreds of partners from a range of sectors, including public security, Justice, military, telecommunications, finance, education, electricity, transportation and more. Synway's technologies and solutions have been field approved and adopted by clients from 20 countries today.

Market Demand for Cellular Access Management

Secure communications are very vital in the world. In order to securely control wireless communication devices or terminals, Synway has continued to sharpen its secure technology to fit to high demanding requirement of judicial, public security, army, government and enterprise and other institutions. By securely controlling over the wireless communication signals in the designated areas, Synway's systems enable users to rid insecurity and leakage of wireless communication.

Today, supervisory control over wireless communication devices and terminals in specific areas is facing more and more challenges. In lots of scenarios of wireless communication control, users demand for robust and versatile monitoring systems featuring GREEN low radiation, full functions, high efficiency, high precision, high adaptivity, as well as wireless signal shielding&detection. Synway's Systems have come out to address these above long-standing issues.



Current problems in traditional Cellular Access Management system

In most cases, wireless communication signal control is easy to realize signal shielding in 2G, 3G mobile networks, and today's mainstream solution is to apply high-power noise interference. However, with the evolution of communication systems and adoption of 4G/5G networks, this conventional noise interference mechanism in wireless signal control has not been relevant for current requirement in most cases, due to poor shielding capability and high-risk radiation.

The traditional noise interference mode has the following problems: The control scope is uncontrollable or inaccurate; improperly disturbs untargeted communications devices (users) beyond setup scope; can't adjust to complex network environment and leads to failure in shielding and user authorization; only with shielding capability, it can't do number identification, location, data statistics, analysis and management; cannot centralize management, or check device running status; cannot prevent human destruction or unexpected shutdown of devices;

Synway's management and control system has sort out all above issues for its partner worldwide.

Key Features and Benefits



- **State-of-the-art technology for more intelligent control**

Synway cellular access management system completely adopts advanced wireless communication technology, and its evolving architecture can assure system upgrade and compliance with existing frequency spots and upcoming 5G.

- **Intelligent configuration management process**

Synway cellular access management system supports intelligent network search function, and can automatically or manually scan base station parameter configuration in control area in the public network. Besides, it could analyze all available frequency spots and signal quality, and further decipher neighbor list information in each available frequency spot.

- **A range of control measures for various application scenarios**

Synway wireless communication control can efficiently shield voice, SMS, data and other phone functionalities, while the wireless terminals can be managed via SMS reminders or SMS alert. In the control area, the signal shielding ratio on illegal wireless terminals can be as high as 99.9%. And shielding leakage is minimized and limited to less than 5 meters away from control area, while not interfering upon devices or terminals outside control area.

- **User friendly intelligent analysis and screening**

Synway cellular access management system can detect information, illegal mobile terminal serial Number (IMSI), intrusion time, carrier, number zone, black and white list function (enable white list user to restore its functions). If the system works with Synway's one-man device, it can also locate target within control area.



- **Powerful backend software system**

Synway cellular access management system has a powerful backend management function, including user management, equipment management, maintenance, SMS management, report management and any other ease-of-use management tools.

Fixed and Portable Cellular Access Management Systems

● Product 1: Fixed Cellular Access Management System

This fixed intelligent Cellular Access Management system of wireless communication adopts simulated base-station and computer intelligent management and controlling technology. And it could identify unauthorized and authorized mobile phones, and disconnect unauthorized mobile phones from available base stations. By so doing, the unauthorized phones would be shielded from these stations, except the simulated one. All authorized mobile phones would be granted to conduct normal communication after they are identified as authorized numbers by simulated base station.

Fixed Cellular Access Management system consists of intelligent controller, backend management and antenna.

Intelligent controller: control all wireless signals from any carriers in the control area. The intelligent controller includes: 2G, CDMA, 3G, 4G and other control modules, as well as amplifier control, multiplexer, network interconnection, power supply, and management module.

Backend management system: monitoring platform, real-time monitor device operation and parameter configuration.

Antenna feed system: Through the antenna, evenly distribute resources to the control area to ensure even coverage of the signal.

Function description:

- In control area, mobile phone reboot, voice, SMS or other illegal activities can be monitored;
- In a variety of formats, such as IMSI, IMEI, ESN and time could be captured;
- For all illegal mobile phones in the control area, the system could implement information collecting, behavior detection, real-time alarm;
- Could control mobile phone number, SMS content for real-time access;
- Support remote upgrade, easy maintenance and management;



•Product 2: Portable Cellular Access Management System

The portable Cellular Access Management mainly applies to the confidential meeting room, examination room, court and other small-sized areas. It is an integrated device with antenna and host system, easy to carry and camouflage, and can shield all mobile phones, with most major features, including black and white list settings, illegal detection, translation of mobile phone numbers and other functions.



Function description:

- Can realize all the standard mobile phone shielding;
- Black-and-white list function;
- Integrative product design for portability and camouflage;
- Detect wireless environment and parameter changes;
- Automatically adjust wireless parameters to ensure system reliability;
- Precise range control within 2 meters, without disturbing the uncontrolled site;
- Detection of illegal telephone and SMS;
- Support air interface and GPS synchronization in both indoor and outdoor environment;
- Real-time translation of mobile phone numbers, with 6-10 phone numbers/min;

Technical Specification

Equipment type		Fixed controller	Portable Controller
Network	2G	GSM 900, DCS1800, More	GSM 900, DCS1800, More
	3G	TD-SCDMA, WCDMA, EVDO, More	TD-SCDMA, WCDMA, EVDO, More
	4G	TDD-D/E/F, FDD B8/B5, More	TDD-D/E/F, FDD B8/B5, More
Transmit power		0 to 10W adjustable (single system)	0 ~1W adjustable (single system)
Receiving sensitivity		Better than -104dBm	Better than -104dBm
Shielding rate		99.9%	99.9%
Shielding speed		1~20 seconds	1~20 seconds
Number of white lists		3000	1000
transfer method		Wired transmission	Wired transmission
Control distance		Depend on antenna deployment	30m (depend on the public network environment)
Translation module configuration		Three-way (flexible configuration for different operators)	Three-way (flexible configuration for different operators)
Translation speed		6-10 number/min	6-10 number/min
Mean time between failures		>8000 hours	>8000 hours
Working temperature		-30℃ ~60℃	-30℃ ~60℃
Working environment humidity		<90%	<90%

Typical Applications



● Barracks, military control zone

Shielding 2G/3G/4G mobile phones from any carriers, so that these phones cannot call and access to Internet; support time-based screening; Support white and black list, and mobile phones in white list can use internet and call; Detect illegal rebooting/calling/SMS sending and reception; Detect the called number and short message content while needed; Optional location device can locate illegal mobile phones position, with high precision of 1 meter.



● Confidential meeting for agencies

Confidential meeting for Government, Public Security, Army, Enterprise to strictly controls the wireless terminals inside; this system could control and monitor mobile phones in over 300-attendee conference room; it also could implement black and white list, number catching, SMS alert, activity detection, and more; auto switching between control and translation mode to facilitate venue control; adopt speaker, sound box and other exterior design; Radiation complies with international norms in the control area.



● School wireless communication control

Teaching area and dormitory could implement independent control. In teaching area, this system permits mobile phones in white list to call normally; in dormitory areas, the system could control phone call, SMS, Internet access; Radiation complies with international norms in the control area.

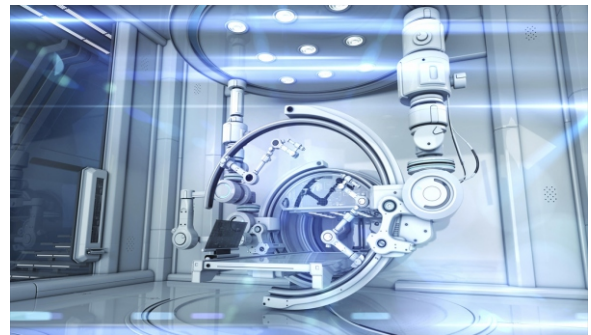
● Justice and other national institutions

The control system can make full coverage of the supervisory area, and has no interference on permitted communication inside supervisory area as well as normal communication outside the area; this system has a range of functions, including activity detection, Black-and-white list, SMS alert and so on, and has no influence on the policemen's mobile phones. Radiation complies with international norms in the control area.



● About Synway

As a premium technology provider, Synway has delivered a range of systems to communicate, protect and detect for governments and commercial customers worldwide. Based on long-standing business network, Synway's products and service have served a variety of customers, including enterprises, telecom carriers, intelligence, public security, law enforcement, etc. Currently, Synway's technologies and solutions mainly cover 4 sectors: Communications, Surveillance and Big Data and Security, and have been widely adopted by over 300 clients from 51 countries.



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