RADIO·CHINA

The Future of Communication Starts Here

Status Quo of China's PMR Industry / P9

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RADIO · CHINA

If Not Now, When?

By Editorial Dept.

The global Professional Mobile Radio (PMR) industry is experiencing unprecedented changes, such as analog-to-digital migration, broad & narrow band converging, public-private networks merging, intelligent command & control integration. All kinds of technologies tend to converge into an intelligent platform. It is an industry-wide transformation. Manufacturers across the world compete with each other, bringing their technical innovations and value propositions. Competition at the end of the day is positive for users, as well as all the rest of the stakeholders of the PMR industry. Among them, Chinese developers and manufacturers are playing an increasingly important role. They are the epitome of decades of evolvement from Made-in-China to Design-in-China.

While there are some Chinese two-way radio brands having managed to expand their presence overseas, more are still looking for the right way to interact with the international market, though they have quality products. The other side of the story is that the international market is huge, and at the same time very diversified in terms of protocols, budget, application scenarios and user habits. The diversification is so immense that certain market requirements,

potentially business opportunities, are simply neglected sometimes.

With the rise of trade protectionism and conflicts, more businessmen are having the consensus that it is increasingly difficult to do international business. Radio China does see the difficulties out there, and its own value as a media and event platform to present the latest PMR products designed in China and to facilitate technical and business interaction in the global ecosystem. If not now, then when? The founding team of Radio China has a proven track record of success in running the No. 1 PMR business journal in China and helping top Chinese PMR manufacturers to develop business in global markets. The team is passionate about synergizing the stakeholders of the PMR community across the world.

Status Quo of China's PMR Industry and Development of Overseas Markets

By Joseph Tian

Joseph Tian: Cheif Editor of Radio China

Early 1990s, China's private communication network industry was still in a toddler stage. Most of the enterprises in the industry played the role of channel business providers, mainly supplied the products and solutions for foreign vendors to meet the emerging market demand. At that time, China didn't have the ability of developing and manufacturing the private networks independently. The relevant enterprises were in the downstream of the entire industrial chain and lacked of competitiveness.

China's social vitality has been further stimulated since 1992, and the market economy accelerated. Along with the changes in the economic and social environment, the demand for private networks has been expedited and released. The Chinese manufacturing industry has started independent innovation on the basis of learning advanced foreign technology and experience. Since then, China's private network enterprises has been growing and developing continually, taking advantage of the technological innovation, abundant human resources, broad markets actively, and gradually establish a relatively complete industrial chain. On the basis of consolidating technological innovation and product quality, Chinese enterprises have been striving to open up both international and domestic markets. After several years of hard work, China's private network products have turned into a gorgeous turn, from "bringing in" to "going out", began to compete with international private network manufacturers, and achieved a very good market results.

For this reason, this article will introduce the relevant situation, in order to enable overseas readers to understand the situation of China's private communication network industry more quickly.

1. ENTERPRISES

There are about 300 manufacturing companies in China, mainly located in Beijing, Shenzhen and Quanzhou. In addition, there are also some distributed in Guangzhou, Shanghai, Hangzhou, Wuhan, Chengdu, Xi'an, Fuzhou, Shijiazhuang and other cities, but the number is small. Among them, enterprises in cities like Beijing and Shenzhen mainly focus on the vertical market, while ones in Quanzhou and other places mainly focus on the industrial and commercial market, and different development strategies are carried

out for different types of markets.

Nowadays, China's well-known private network enterprises are increasing, among which Huawei, ZTE, Hytera, TD Tech, Wange, Eastcom, BFDX, and Lisheng are the most outstanding. Hytera, as the leading company, has reached the number one No.1 position in China and the second 2nd place in the world in the PMR industry. Huawei, ZTE, CETC, CICT and other companies have regarded private communication networks as an important strategic segment, constantly deploying and deepening. These companies compete and cooperate with each other, which has greatly enhanced the R&D and service capabilities of the PMR industry.

Quanzhou is known as the "hometown of two way radio", and there are about 200 companies of all sizes born there doing manufacturing of radio. Its products are inexpensive and of high quality, competitive in both international and domestic markets consequently.

2. PRODUCTS
The products produced by China's private network enterprises have covered all categories and full series. Among them, multi-mode convergence terminals and intelligent terminals have launched about ten models, representing the highest level of private network products.

In recent years, with the rapid development of broadband, LTE private network terminals have been used on a large scale. Huawei, TD Tech, Caltta, Xinwei, China Potevio, Sinolte, China Electronics 7th Institute, Datang, Hytera, Far East Communication, Wuhan Hongxin and other companies have launched B-TrunC products, including network equipment, Handheld terminal equipment, vehicle terminal equipment, CPE data terminal equipment and dispatching station equipment, and all manufactures carried out interoperability test of related products.

In the field of narrowband, products includes: TETRA, PDT, DMR, dPMR and other standards. Among them, PDT systems and terminals have been widely used in the public security field in Chinese domestic market, and digital products such as DMR are widely used in the industrial and commercial market, fire prevention and other fields.

At present, there are still a large number of analog two way radios produced in China, but "Analog to digital" is the trend, the number of analog two way radios will gradually decrease.

Another important category in the industry is the manufacture and sale of PoC. PoC can achieve wide-area intercom depending on the public network, which is favored by many commercial users. China's PoC industry is in the forefront of the world.

Innovative products such as Mesh networks, explosion-proof terminals, and secure customized terminals are constantly evolving and are quite competitive in the market. In addition, in the field of antennas, batteries, headphones, screens and other accessories, many high quality products have come forth.

3. MARKETS
Users of China's private communication networks are mainly concentrated in public security, government affairs, transportation, energy, and industrial and commercial fields. Among them, public security is one of the largest markets for private networks, whose users include public security police, armed police force, emergency management and other related departments. At present, the public security market mainly purchases domestically developed products and promote the development of national brands.

The field of government affairs has users mainly including prisons, courts, procuratorates, city management, food and drug supervision, water, sports, environmental protection and other departments. Many cities in China are building a government private network, hoping to integrate the demand for private communication network in different departments and achieve it through one network.

The transportation industry covers railways, rail transit, ports, airports, maritime and other fields. This field

has a huge market demand, and overseas companies have many opportunities.

The energy industry including electric power, petroleum and petrochemical, coal mines, non-coal mines and other users. The demand for private networks is increasing and the scale is large, but mainly basing on large projects and overall solutions.

The demand for private network of industrial and commercial users such as logistics, property management, hotels, supermarkets, factories and banks is relatively simple and there are no excessive restrictions. Each private network enterprise can compete through advantages on product, technology

and service.

4. GOING ABROAD

It has taken a long time for China's PMR companies to open up overseas markets. Many companies have their overseas revenues exceed the ones in the domestic market, and become a catalyst and booster for enterprise development. With the development of economic globalization, overseas markets

have become an indispensable link for the development of enterprises. At present, more PMR bfhchjhgcompanies are carrying out the top-level design of the system, creating professional teams and launching differentiated products, in order to deepen the overseas markets comprehensively. During this process, building a complete upstream and downstream industry chain and getting more partners has become one of the main demands. We believe that this is a rare opportunity for overseas channel providers, distributors, integrators and users. Wish all of us work together for a better future!

Push-to-Talk Over Cellular Market Analysis

By JC

JC: COO of Radio China

Ever since its introduction of PMR, mission critical has become the daily requirement of users such as Public Safety & Security, Transportation, Utilities and Commercial etc.

With the rapid growth of data requirement, 4G has become a mature carrier of our daily lives for voice communication and data transmission. Moreover, the presence of next-generation wireless networks and the deployment of 5G networks across the globe are also some of the factors driving the push-to-talk over cellular market. Push-to-Talk over Cellular (PoC) has become a new way of communicating via cellular phone within or between one or several groups of users. The application allows customers to use their cellular phones in a way similar to a "walkie-talkie". Moreover, push-to-talk over cellular offers instant one-to-many or one-to-one mobile voice communication without protracted dialing, ringing, and answering steps like a regular phone call. Some of the key advantages of push-to-talk over cellular over the traditional technologies is the quick call setup and a wide network range.

Agroup could be anything from a local uber company to a group of friends outdoors in. Groups can be established from a web based tool (pre-defined groups) or from the mobile phone by using the so called ad-hoc groups. Users can participate in several groups, one of them being the default group. Basically, this means that you can listen to several different groups/channels, but only speak to the members of the default group when you press the push-to-talk key.

The key advantages of PoC over a standard cellular phone call are a quick call setup and no need to dial numbers. By simply pressing a

key on the phone, every member of a group can hear the talker simultaneously and immediately, without having to press the answer key. Any phone or computer capable of IP communication can work as a PoC client, provided that enough processing and network capacity is available. A separate PoC client application will be available for mobile phones that do not have built-in PoC support. Moreover, a desktop PC client is available that can provide "dispatcher" functions as well as hands-free, ruggedized devices for harsh environments. PoC server are manageability, scalability and extensibility. The PoC server architecture can be designed in accordance with the available PoC specifications and the integration requirements of mobile phone operators. Special consideration has been given to make the architecture compatible and easily extensible with new PoC standards, general VoIP, the Wireless Village and the 3GPP IMS features.

Beside the hardware of PoC, the software segment is expected to grow at a relatively higher CAGR as the demand for push-to-talk over cellular software is growing rapidly in various countries such as India, U.K., and China due to continuous increase in the number of mobile workforces. Moreover, the global adoption of the internet is rapidly driving the usage of advanced push-to-talk over cellular software and solutions. Furthermore, the software segment is also expected

to capture the largest market in the global push-to-talk over cellular market and is expected to create an incremental opportunity of US$ 953.5 Mn between 2018 and 2026. The services segment is also expected to witness high growth rates during the forecast period as the demand for integration & deployment services and maintenance & support services for push-to-talk over cellular solutions is growing rapidly in various developing countries around the world. Furthermore, this segment is expected to create an incremental opportunity of US$ 922.3 Mn during the forecast period. Growth in the number of mobile devices & network devices and the rising adoption of accessories, such as headsets, earpiece, speakers, and palm-microphones, are among factors driving the push-to-talk over cellular market.

Based on industry, the push-to-talk over cellular market is subsegmented into security, construction, energy & utility, transportation & logistics, manufacturing, travel & hospitality, and others. Growth in the demand for push-to-talk over cellular for security applications as well as advancements in mobile communication technologies are some of the major factors promoting the growth of the security subsegment. Furthermore, the security segment is also expected grow at a relatively higher CAGR during the forecast period.

On the basis of geography, the North America push-to-talk over cellular market is expected to dominate the global push-to-talk over cellular market due to advancements in next-generation communication technologies in the country. In addition, the region has witnessed the widespread

deployment of IoT and ultrareliable low-latency communications technologies in the past couple of years. These factors are fueling the growth of the push-to-talk over cellular market in North America. The push-to-talk over cellular market has high potential in Europe owing to major technological advancements in the telecommunication industry and an increase in the mobile workforce in various countries of the region.

According to PMR analysis, long-term contracts with business partners are likely to increase revenue and new innovation strategies are estimated to enable push-to-talk over cellular vendors to reach new growth markets. Some of the market participants in the global push-to-talk over cellular market include AT&T, Inc.; Qualcomm Technologies, Inc.; Verizon; MOTOROLA SOLUTIONS; TASSTA; Kyocera Corporation; Mobile Tornado; Hytera Communications, Sprint Corporation; Bell Canada; Simoco Wireless Solutions; Sonim Technologies Inc. Telo Systems.

3GPP is further leading the critical communication

—Interview with the GM of TASSTA Mr.Kaveh Hosseinzadeh

How do you see the Chinese radio environment?

Mr. Kaveh Hosseinzadeh : Chinese radio devices are the best in regards to quality for the price. China has a long radio history and with Huawei and ZTE two of the biggest producer. The benefit is definitely in the massive home market that companies can build high volume and establish better quality. As far as the radio is, by definition a simple to use the product, the complexity and innovation are low, and it can be handled by smaller companies also. We saw smaller companies starting roughly seven years ago to move in the direction of 2G/3G/LTE radio. The results are excellent now, and we are looking forward to seeing more competition in the market. What we miss is quality control that makes it for outsiders more transparent.

What's your opinion about the PMR market in your region?

Mr. Kaveh Hosseinzadeh : The market is moving quite fast compared to the years before when only the big players dictated the speed and forced customers to purchase radios. You have to imagine that we are in an industry where vendors are promoting a color screen as an innovation. So the step that we are using smartphones and discussing big data and providing video and information in real time is a huge step. By having a worldwide standard for Mission Critical PTT like 3GPP with ETSI and TCCA, we created a whole new world using LTE networks. Two of the most meaningful countries, UK and USA, for radios started to operate and all others shall follow very soon. 3GPP will be the future for all critical communication users during the next 20 years.

Which Chinese brand is familiar to you, and how do you balance them?

Mr. Kaveh Hosseinzadeh : We know many devices from the Chinese market like Huawei, ZTE, BoxChip, K-mobile, TeloSystems, Hytera, and many others. The list is nearly endless. TASSTA is providing MCPTT Software for critical communication users, and we get at least two requests per month. Right now Hytera seams to move faster than ever before. We saw them launching three devices last year, and they plan the next three this year. Additionally, they purchase companies to raise their market share and improve their products and strengthen their market position. Hytera did by far the most significant rise in the market compared to others.
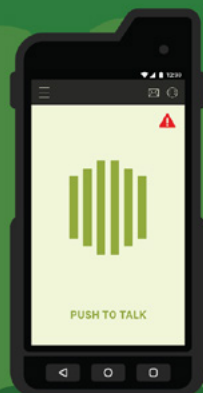
M TASSTA is a German company. T.Flex is TASSTA's application designed for smartphones or tablets but also desktop computers. T.Flex is running on IP networks (2G/ 3G/ 4G/ Wifi) powered by the most popular operating systems Android, iOS, and Windows. It grants users maximum operational capability with a modern user interface and keeps high availability even on slow data networks. With T.Flex you can use MCPTT according to the 3GPP Standard in combination with Push to Video (PTV) and further features like Emergency alarm and Lone Worker Protection (LWP) solutions, Indoor localization plus GPS or organizing users with a Task Manager. We are committed to the critical communication users, and for that, we are offering P25, DMR, TETRA, and Analog gateways to the radio networks for seamless integration. TASSTA T.Flex passed all security checks and is compliance for all FirstNet users. TASSTA provides with customization of its solution regularly additional features for better functionality and more possibilities for First-responders and is the most innovative and optimized solution in the filed for all kind of operations. ≡

The fast growing market of MENA leads by DMR and P–LTE

—Interview with the CEO of Microhit Group of Companies Mr. Chandran Mavulla

Radio China: How do you see Chinese radio?

Mr. Chandran MP : We have been dealing with Chinese radio manufacturers and promoting the products within Middle East and Africa for almost 20 years and found good quality products with all modern features and economically priced.

Ministry of Interior, Airports, and Oil & Gas etc. and also within hospitality sector and construction industries. We have started with analog and then moved to digital and now to LTE .We have installed many DMR trunking solutions within UAE and Africa region. We have witnessed the growth of Hytera from a small analog radio manufacturer to today's Hero, who is almost the No.1 radio manufacturer in radio communication system.best of the products, solutions and services to enable our customer's maximum satisfaction.

Radio China: What's your opinion for the PMR market in your region?

Mr. Chandran MP : We, Microhit Technologies Headquartered in Dubai is in the PMR business for more than 20 years. We have started with Motorola and then added Hytera into our radio communication product range. We still promote both the products depending upon the local requirements. Radio communication is very popular in this region and is still growing. It is widely used in Government departments such as Police,

Radio China: Which Chinese brand is familiar to you and how do you balance them?

Mr. Chandran MP : We have been dealing with Hytera and promoting Hytera products for more than 17 years and almost captured the PMR market with Hytera products. We have almost introduced this in the Middle East market since early 2000.

Microhit Technologies is an integrator of telecommunication, wireless and security systems. Microhit can assist your organization with the development and implementation of affordable communication, wireless and security solutions that fit your budget and your operation.

To be the first choice of our customers for telecom, wireless network and security solutions and products in the Middle East, Africa and South Asia. We are committed to operating with highest degree of integrity and competence with a single-minded determine to satisfy customer needs, offering the best possible solutions and employing the best possible practices in everything we do at reasonable price.

We are looking to building long term, fruitful business relationship with existing and new customers in the Middle East, Africa & South Asia determined to help our customer maintain and develop their wireless networks and security systems with state of the art solutions, products and services.

Microhit Technologies provides world-class solutions and services to our customers in the area of Telecommunication, Wireless network and Security systems using best of the products, solutions and services to enable our customer's maximum satisfaction.
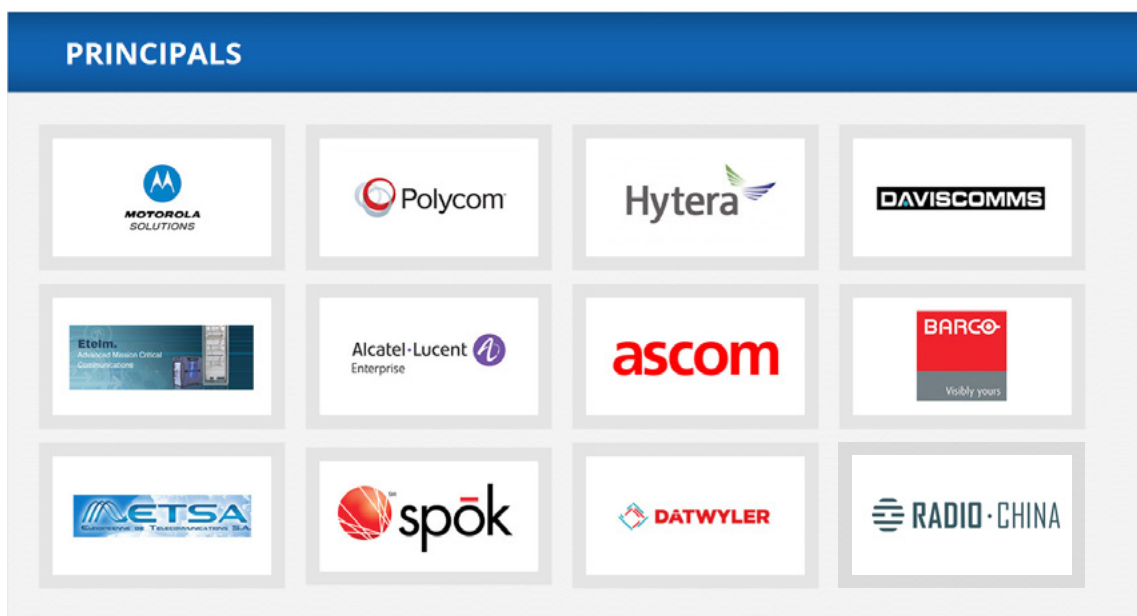
Lisheng (Fujian) Communication Co., Ltd.

Lisheng (Fujian) Communication Co., Ltd. has specialized in manufacturing PoC radios, standard DMR radios, Standard dPMR radios, portable analog radios, mobile radios, repeaters, CB radios, Marine radios etc for more than 25 years. Along with its own research and development department, Lisheng integrates production and sale into one factory and is equipped with much advanced production and testing equipment such as SMT, network analyzer, general-purpose tester frequency analyzer, vibration test, keypad life testing, battery performance test, etc. With three advanced JUKI SMT imported from Japan and two fully automatic production lines of SMT, it has a daily output of 3000 sets.

Depend on strict QC procedures include AOI automatic testing

system, which ensure the quality of products and achieve a first pass yield above 98 %. Besides, the company has also established a standard a test lab which is high-and-low temperature resistant, low-pressure, vibration-proof and has passed the international authoritative certifications such

as ISO9001/ISO14001, CE and FCC. Completely meeting related requirements of RoHS directives, it has won the recognition of each member country of the EU for product safety. The perfect QC team and the strict implementation of AQL0.4 quality test standard have better guaranteed a high

quality of the products and thus met the requirements of famous enterprises such as Clarigo in Shanghai which is branch of Motorola and TC Group which is the largest telecommunication company of Thailand.

Integrity, impetus and concentration have always been LiSheng operation philosophy; Lisheng have adhered to excellent quality and considerate after-sale service for more than twenty years, which has created a solid market and sales network. 70 % of Lisheng products are sold to overseas markets, such as, Europe, North America, Africa, Southeast Asia and Middle East.

The future 2-3 years, LiSheng Communications will further set up strategic agencies in some countries, and will aim to form large sales projects and bring the products into several wireless communication markets, to become the most popular two way radios supplier in the world.

Lisheng(Fujian) Communication Co., Ltd.
Web: www.cnlisheng.com
Email: stone@cnlisheng.com

R68D

- Small and easy to carry, Convenient keypad operation
- All-Network System, Support 2G/3G/4G/LTE/Wifi
- 1.77 inch large screen display
- USB Charging and Data Transfer
- Seat-charger and direct-charger versions are optional
- Extension Card Support
- Large capacity battery guarantees long standby time
- Universal 3.5 headphones, easy to replace
- Support Bluetooth
- Android Operating System
- GPS, GLONASS, Beidou (Support A-GPS)
- IP54 Standard
- Support 8MP rear camera (Optional).

D828

- Single/Group/Full Call
- GPS, GLONASS, Beidou (Support A-GPS)
- Super-stable sucker bracket
- Supporting 2G/3G/4G/LTE/Wifi
- 1.77 inch large screen display
- Support Bluetooth
- IP54 Standard
- Android operation system

Q878

- PTT one touch communication, strong signal and long continuation talking
- Private Call/Group Call
- GPS navigation, radio track playback
- Visualization management platform Visualization dispatch platform
- Low TX power, very environmental
- Supports 2 optional storage cards and 2 SIM cards
- 3.5 inch IPS touch screen
- Front and rear cameras
- Support Bluetooth
- Android 8.0 version

Fujian BelFone Communications Technology Co., Ltd.

Fujian BelFone Communications Technology Co., Ltd. is a pioneer in PMR industry with over thirty years of experience and expertise, providing a full range of radio solutions from traditional analog radios, 4G LTE PoC Radios, entry-level DMR radios, repeaters, and accessories, to DMR Tier III trunked systems, benefiting thousands of customers across the world.

With an internationalized manufacturing base covering an area of 23,000.00 m2 , more than 600 employees and 3 professional R&D centers, BelFone Communications is the best qualified solution-provider for your radio communication needs. We have the production capacity, R&D strength and technical support to serve you and take your business to the next level. Moreover, your ODM/OEM requirements are equally welcome.

We dedicate ourselves to bringing more efficiency and safety to your work and life—to be a trusted and valued provider of PMR solutions. (For more information, please visit www.belfone.com)

Fujian BelFone Communications Technology Co., Ltd.
Web: www.belfone.com
Email: overseas@bfdx.com

Shenzhen CXD Science & Technology CO., Ltd.

Shenzhen CXD Science & Technology CO.,Ltd. Founded in June 2002. CXD mainly engages in provision of wireless communication solutions as well as R&D, production, sales and services for advanced accessories. The portfolio of products are including: audio accessories, battery packs & chargers for world-class brand communication equipment and have been widely used by users from Public Safety, Industry, Government, Aviation, Urban Transit & Commercial areas.

Focused on innovation, CXD has been continuously investing on its R&D. Today, more than 20% employee are from R&D dept., which including a group of scientists, masters & bachelor's degree holders. CXD R&D team is known as one of the high-tech talent team with the largest number of personnel and the strongest R&D strength in wireless communication accessories area within China. All the products are independently developed and manufactured by CXD, in addition, CXD can offer a complete customized communication solutions for critical communication applications.

CXD implements strict internal quality control system to redound upon users with excellent quality. Its factory has passed ISO9001 and ISO14000 management system certification and all products have passed REACH, ROHS and CE certification. CXD always adhere to the principle of "Quality Products • Excellent Service". It is striving for customers' highest satisfaction by providing products of maximum reliability together with high-class services.

SHENZHEN CXD SCIENCE & TECHNOLOGY CO., LTD.
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Shenzhen RSTON Communications Co., Ltd.

Founded in 2011, **Shenzhen RSTON Communications Co., Ltd.** (Hereafter referred to as RSTON), is one of the professional wireless communication equipment & solution provider specializing in design and manufacturing of high performance BDA (Bi-Directional Antenna). With more than 15% revenue investment on research and development each year, RSTON has made a significant growth in the market by providing cutting edge oriented products.

With the newly launched dual mode and triple mode of DMR/TETRA/LTE all in one amplifier, RSTON has won a good reputation in various industries such as: PSS (public safety & security), transportation, utilities & commercial in Chinese domestic market as well as overseas. This will further lead RSTON to continue its investment on future products development and customized solution design to serve the diversified fields.

RSTON has been adhering to improve work efficiency and safety in the special environment of each industry as the key aim. It has been committed to provide users with the best products, services and solutions to improve emergency communications capabilities.

Further improving the integration of communications and management to enhance organizational effectiveness, RSTON always adheres to business purposes of "High Quality Creates High Value Services", and strive to achieve a win-win situation with customers in long-term.

Shenzhen RSTON Communications Co., Ltd.
Web: www.szrston.com.cn
Email: sales@szrston.com.cn

Quan Zhou Fei Jie Electron Co., Ltd.

Quan Zhou Fei Jie Electron Co., Ltd. was founded since 1990, and locates in the Hi-tech industrial park of Quan Zhou, China. We focus on meeting the needs of our customers by providing the latest technology in wireless communication equipments, such as Analog and Digital Professional radio, Amateur radio, Mobile radio and POC network trunking radio.

& marketing team to provide our customers with highly value-added products and services. Our RD laboratory and production lines are equipped with lots of advanced production and testing equipment such as Juki SMT, Agilent Network Analyzer, HP Spectrum Analyzer, HP RF Communication Test Set and High-Low Temperature Chamber, Vibration Testing Equipment, etc.

efforts, we have achieved a great growth both on LINTON brand business and OEM business around the world. With You, we will continue our efforts to provide value and success to our customers.

Quan Zhou Fei Jie Electron Co., Ltd.
Web: www.linton.cn
Email: service@linton.cn

With our advanced & strong RD team, reliable & strict quality control system, and the professional sales

The products meet the standard requirements of ISO9001, CE/FCC & RoHS. With years of continued

Kirisun Communications Co., Ltd.

Kirisun, a world-leading professional wireless communications solution provider, is committed to the research, development, manufacturing, sales, and service of professional radio terminals and system solutions, providing integrated communications solutions for carrier operators and private networks. one of the world's leading professional two-way radio manufacturers.

Kirisun has a well-established global distribution network covering 80 countries in global market.

With rapid development of wireless communications, cloud computing, big data, and mobile Internet, Kirisun has successfully transformed itself from a traditional two-way radio manufacturer into a "converged communications" provider and operator of multi-standard and multi-system terminals, multi-network solutions.

At present, Kirisun's products and solutions are widely used in a variety of industries, such as Public Safety & Security, Urban Transit, Utility, and commercial businesses.

The company's numerous products effectively improve the level of communication security with respect to social public security and safety.

In the field of justice systems, the command and dispatch solution accurately improves institution-level supervision.

Kirisun works with numerous industries to help safeguard the security and prosperity of the communities through comprehensive industry-based solutions.

With world-leading product solutions and services. Kirisun has a strong foundation in the domestic market, and at the same time has the knowhow and products to explore new territories and expand its business overseas.

From analogue to digital, from private to public networks, Kirisun has been constantly innovating in response to the changing times and is leading industry progress and development.

Project Reference
Bird's Nest for 2008 BEIJING Olympic Games

Background & challenge of the project: As the main venue for

Typical Project: Bird's Nest

Solutions:
★ Trunking Dispatching System at the Command Center of the Stadium
★ Converged Dispatching System for the General Command Center 2 kilometers away
★ IP Site Connect Based Data Interconnection with Dual Hot Backup
★ Extended outreach commanding system for Winter Olympics (for communication with the games sites in Zhangjiakou and Changbaishan)
★ 300 pieces of DP990 professional DMR portable radios (with BT, audio accessories and trunking services such as voice recording, kill and GPS positioning)

Beijing Olympic and Paralympic Games 2008, the National Stadium (the "Bird's Nest") is mainly used for international sports events and big activities. It will also become the main venue for Winter Olympics 2022.

At present, the stadium is carriesing out the carrier's public network and the private trunking system of two independent communication systems. It is often necessary to use a variety of different terminals to achieve communication with subordinate command centers or field workers in daily command and dispatch. In an emergency case, only the public network or the analog trunking system can be used to issue commands, resulting in inefficient command and dispatch. At the same time, since different departments uses different communication systems, voice intercommunication can't be achieved between them, which makes joint operations difficult.

Kirisun Solution: To meet the Bird's Nest's emergency communication requirements, Kirisun has developed a customized solutions according to different venue layouts and users.

1. For the emergency communication requirement in the venue, Kirisun adopts an 8-carrier DMR trunking solution to realize voice and short message communication among more than 600 security personnel.

2. For the voice and video call needs required outside the venue, Kirisun uses 4G PoC solution to fulfill the requirement.

3. For the interconnection and intercommunication requirement of different venues, Kirisun adopts IP to inter-connect multiple DMR trunking sites to meet the command and dispatch requirements of multiple venues.

4. For the unified command and dispatch requirement of public network、private network and voice communication, Kirisun adopts KiNet convergence intelligent solution to realize the unified command and dispatch management of different networks and different groups of people, providing security for large-scale events.

Other Global Reference List:
Public Safety——Maharashtra, India

DMR portable radio DP770 and mobile terminal TM840& TR850, total 2000PCS to Maharashtra police, help to facilitate the daily management and ensure the local securities

Utility——South Africa, Nationwide
Portable radio DP990 and mobile terminal TM840 & TR850, total 2000pcs to the electric power station in South Africa, help them transfer from MPT1327 to DMR T3 with 5 years contract

Mining——DMR Tier3 Trunking Solution, South Africa
Kirisun provided DMR Tier3 trunking system to South Africa Mining to meet its coverage and communication requirements

Prison——Yunnan Bureau of prisons DMR solutions, China
Kirisun provided DMR Tier2 solution with over 9000pcs DP580, 31 repeaters and 31 suits dispatcher to 31 prisons, to meet Yunnan Prison daily communication and dispatching requirements etc……

Kirisun Communications Co., Ltd.
Web: www.kirisun.cn
Email: marketing.os@szkirisun.com

ESTALKY

Unlimited Talk Coverage

K-mobile Technology Co., Ltd.

Estalky understand push to talk (POC) market growing and market demand. we dedicated to provide professional radio or android PTT Device which use GSM.WCDMA, LTE network to offer customers unlimited, instant national communications.Our mission is to make business critical communications accessible to everyone at the time it matters.

We are not just device provider ,developer and manufacturer, our company also provide complete technical support on third party PTT apk integration, improve the whole solution(PTT device+PTT platform+network) performance, help communicate more quickly, more securely and with more people.

Estalky brand terminals are built tough to meet harsh working environment,our product have been successfully deploy in government, public security, utility, transportation, shopping mall, enterprise & business...... our product have been deployed in UK, Netherland, Finland, Mexico, Chile, brail, panama, South Africa and Singapore market.....

Join in us ,grow together with brand values and global success.

K-mobile Technology Co., Ltd.
Web: www.kmobile-tech.com
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F25
Public 4g
lte network radio
for business level

key Features

E618
Android lte Rugged PTT Phone
Elegant, high performance

E618
Slim design and durability for outdoor people.

Enjoy IP68 water, dust and drop resistance and PTT (Push-to-talk) functionality to match your adventures.

An exchangeable 4800 mAh long lasting battery will support your business with ultimate reliability.

BelFone BMC
Emergency Communications Solution

Empower First Responders to Save the Day

3+3+3 Networking Designs
Flexibility | Reliability | Practicality

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BelFone
Communications for Efficiency and Safety

TASSTA SOLUTIONS: T.FLEX

MOBILE APPLICATION DESIGNED FOR PROFESSIONAL PUSH-TO-TALK AND EMERGENCY USERS

T.Flex is TASSTA's application designed for smartphones or tablets but also desktop computers. T.Flex is running on IP networks (2G/ 3G/ 4G/ Wifi) powered by the most popular operating systems Android, iOS, and Windows. It grants users maximum operational capability with a modern user interface and keeps high availability even on slow data networks. T.Flex provides "always on" PTT operation, Messaging & Status Messages, Voice Recording, and GPS location management. T.Flex can run in parallel with your other business applications, allowing device integration capability. Fully managed by T.Commander, the T.Flex application is always in your control. The application provides including additional features for better functionality and more possibilities in critical situations.
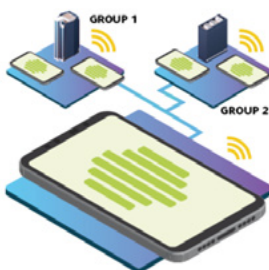
GROUP CALL

The core function of any two-way radio system. Push-to-talk (PTT) allows a single person to reach hundreds of users in groups with a single button press. TASSTA supports PTT group call using high-speed IP networks and providing superb audio quality. With T.Rodon, it's possible to make multiple group calls and see all users on the network from single or multiple screens.

INDIVIDUAL CALL

Allows users to communicate privately outside of a group. A one-to-one simplex call is easy and fast to set up- this feature provides the dispatcher a secure user-to-user simplex voice communication with the press of a button. A private message can be conveyed between a user in the field and the dispatch point. The user rejoins his groups when the personal call is complete.
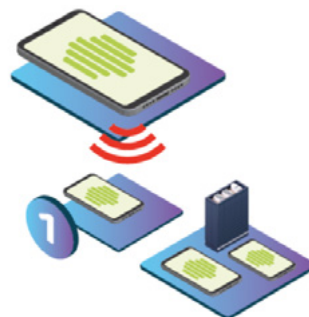
PRIORITY CALL

The TASSTA users can assign a priority level. Often, dispatchers are given the highest priority on the network, allowing them to take control of the channel to coordinate events. Priority call gives them the ability to take the channel from the subscribers in the field and ensure their messages get through.

EMERGENCY CALL

The emergency call feature is designed to keep the T.Flex user safe and in contact with help. It is programmed for use in emergency or distress situations. The T.Flex user initiates the emergency- from the display or a pre-programmed emergency button on the device- The activation of emergency immediately send an alarm (tones) to other users and the dispatcher alerting them of an emergency. The user is immediately granted a voice channel for hands-free communication. The emergency stays in place until the event rectifies. If GPS is enabled, others know the location of the person in distress.

TEXT AND DATA EXCHANGE

Real-time exchange of free form text messages between individual users or groups. The user you have left your message for getting an instant notification message (tone and icon). The messages are color-coded to indicate if they have been read. Offline users receive their messages immediately when they reconnect to the network.

can send and receive status messages that are preconfigured in T.Commander. Both point-to-point (individual messages) and point-to-multipoint (group messages) are supported.

LONE WORKER PROTECTION

An automatic emergency option (Man Down). It uses the accelerometer on the mobile device to detect a fall and sends a text message alert to the emergency contact. The automated Man Down Alerting has proven to be an effective way to make the workplace a safer and healthier place for all levels of employees. The TASSTA LWP is an emergency beacon in an employee's pocket. Whether the lone workers are working in a remote or dangerous location or they are just temporarily away from their team, it keeps the user connected to people.

REMOTE CONTROL

The T.Flex operator can access the microphone or camera of the desired user remotely. It might be essential for critical environments like security services or military where the person can be attacked or working under high-risk conditions.

STATUS MESSAGES

The TASSTA status messages are optimized for the exchange of predefined status messages or user-defined messages. Predefined status messages provide the most efficient coding of user messages where possible. The T.Flex users

VOICE RECORDING AND CALL

HISTORY The TASSTA System has unparalleled voice recording and call history capabilities, allowing users to recall a missed called or hear a message that may have been left while they were offline. TASSTA can maintain call records on the network for months of voice communication between all users. To see call details and replay records T.Flex Mobile has a History Interface in the Main Menu. This feature is entirely programmable within the T.Commander, putting you 100% in control of the network.

GPS HISTORY TRACKER

Depending on the customer requirements, it can quickly turn the mobile devices into a cost-effective, portable communication terminal, with an unlimited coverage area, which includes a GPS tracking function ability.

TASK MANAGEMENT

Real-time exchange of free form text messages between individual users or groups. The user you have left your message for getting an instant notification message (tone and icon). The messages are color-coded to indicate if they have been read. Offline users receive their messages immediately when they reconnect to the network.

GPS LOCALIZATION

T.Flex is integrated with the device (smartphone or tablet) GPS receiver. Tracking information from each user can be uploaded to the network (in real-time). Users can track themselves or other users on a map within their T.Flex interface with an accuracy to the street/house number. Localization is a great way to maintain location awareness of team members and also be able to respond quickly in an emergency.

GPS ROUTE

The T.Flex has a compelling feature that allows us to see user locations on the map. On the T.Flex Map, you can see the TASSTA user's locations in real-time with accuracy up to the street and house number. GPS data from each user can be retrieved from TASSTA server to draw the route in a particular time frame.

INDOOR LOCALIZATION

Determine your and other user's indoor location. Indoor localization is a significant complement segment to GPS. Unlike GPS, it does not provide global coverage, but it is more accurate, efficient, and adaptive to local indoor environments like airports, metro stations, tunnels, and other areas.

Excera Setting new trends in PMR Communications

CCW Show 2019 in Kuala Lumpur, Excera ready to showcase Full DMR&PDT Portfolio and Solutions. Excera Technology, a Chinese PMR manufacturer and service provider is ready to enter the global market; Excera will showcase its latest DMR and PDT radio products at the CCW Show 2019 in Kuala Lumpur from 18th to 20th June.

Excera, a leading solution provider of Professional Mobile Radio communications in China, will bring its complete product portfolio and solution with its unique design concept and unified platform for multi-mode Conventional, pseudo trunk, Simulcast & Trunking solution.

Who is Excera?

Excera is a fast growing and innovative company specializing in design and manufacturing of high performance radios. It developed the world first full duplex multimode Analog/PDT/DMR portable radios. Its parent company, Vigor Communication is a leading designer and manufacturer of Trunking and simulcast infrastructure equipment. Vigor developed the first MPT1327 Trunking system in China in 1995, and has been a leading provider of Trunking system to public safety users for more than 24 years. As a pioneer member of PDT standard in China, it has developed a full range of products which meet PDT, DMR tier II and Tier III standards. Together, they offer complete and customized communication system to serve the diversified fields.

Integrated DMR&PDT Solution

Excera integrates MPT, DMR & PDT solution into one single unified platform which meets both China domestic as well as the global demands for the professional mobile communication with high operational efficiency. Utilizing the latest technology coupled with a strong design & development teams, brings to you full serials of products and solutions which compliant with ETSI DMR open standard, MPT1327 open standard and PDT open standard, including portable and mobile radio, repeater, simulcast, pseudo trunk or Trunking system, coupled with relevant application software, GPS mapping system, NMS, voice recording, etc. to provide complete total system solution.

Unique Features which are first in the world:

• Full duplex capability for its portable and mobile

• Single frequency repeater operation for its portable, mobile and repeater.

• Single frequency wireless link capability;

• Unique Easy Trunk solution providing trunking capabilities in DMR Tier II

Excera is looking for distributors and partners for from the worldwide market and noted that Excera also Excera offers OEM/ODM product design and manufacturing services.

DMR portable radio and mobile radio

Excera offers DMR/PDT high tier terminals for public safety, utilities, transportation, harbors and oil & gas industries market etc., which bring in the right digital value and meets DMR Tier II & tier III and PDT standards, the products are designed to meet stringent Mil MIL-STD-810G standard and IP67 ratings. The radios offers multimode operation, providing both analogue and digital DMR&PDT conventional or simulcast & Trunking operation

with full duplex, noise reduction, built-in GPS and Bluetooth wireless technology.

Reliable, Safety, Innovation And & Advanced

- Full Duplexer Communication
- Large HD Transflective TFT LCD Display
- IP67 And MIL-STD-810G Standard Compliance
- Multi-mode operation, MPT1327, PDT, DMR Tier II Conventional And DMR Tier III Trunking

Excera has also to launched its new DMR commercial radios which are designed to meet the demand for the industries and commercial market segment, supermarket, enterprises, education and public utilities etc and meet DMR Tier II & tier III and PDT standards. The products can be upgraded to DMR Tier III or PDT Trunking mode by software, which provide users a cost effective migration solution

Excera Application

Professional DMR Repeater

Excera also offers a high performance repeater and base station, which meets Analogue, DMR Tier II standards, the company said. The repeater and base station supports multimode operation, analogue mode, DMR pseudo trunk and DMR Conventional and simulcast operations.

With auto switching between digital and analogue, the system achieves a smooth transition from analogue to digital operation. It is able to support multi-repeater operations, as well as wireless simulcast via IP Interconnect. With the advanced features of local area coverage, as well as wide area coverage, it provides a reliable guarantee for critical communications.

Multimode analogue-digital Trunking system

Excera provides a complete system solution from mobiles, portables and infrastructure equipment, as well as numerous applications to support the infrastructure and terminals, such as: dispatcher; GPS mapping; voice recording, etc. via its API and AIS interface.

Its open API/AIS allows for third party software and applications to run on its system. The system offers single sites and multi-site operation with seamless roaming capability. It provides high spectral efficiency, strong security, flexible and reliable networking with seamless switching between analogue and digital.

Excera's products and solutions are suitable for use in public safety,

utilities, forestry, transportation, military, harbors, airports, power station and other industries.

DMR Tier II Easy Trunk Solution

Excera is ready to launch its unique pseudo Trunking solution which is compatible to DMR tier II This solution offers trunking capabilities in DMR Tier II mode to allow increased system capacity. Excera Easy trunk solution is the world first pseudo trunking solution which offer dynamic control channel for ease of channel assignment flexibility and increase system capacity.

DMR Tier II Simulcast Solution,

Excera is ready to launch its DMR simulcast system solution. Adapting the latest in simulcast technology, Excera simulcast system offers quick and large area coverage for fast system response and complete reach out to all team members simultaneously

New Digital radio for Fire brigade

Excera is ready to launch a new DMR products to complement its product offering to cover fire Brigade operation. This radio is specially designed for Fire Brigade users. It have large keypads and LCD display for ease of operation. Highly druggerised (?) design to sustained extreme condition of usage and IP68.

Excera Technology can be found at booth F20 at the CCW show 2019.

Shenzhen Excera Technology Co., Ltd.
Web: www.excera.com
Email: sales@excera.com.cn

EM8100B Digital Base Station

◆ Can be used as a single frequency repeater

◆ 50W high power capability

◆ Built-in AC power supply and support DC power supply

◆ Automatically switch to backup battery when AC power off

◆ Built-in float charge unit design for external backup lead-acid battery

◆ Desktop cabinet design for easy installation and use

◆ Fan free design without fan noise

CXD's high-quality products profile

CXD supplies high-quality products with Surveillance Kits, Speaker Microphones , Palm Microphone, Noisy Cancellation Headsets, Batteries and Chargers, as listed below:

Surveillance Kit   **Speaker Microphone**   **Palm Microphone**

Battery   **Single Unit Charge**   **MCU Multi-unit Rapid rate Charger**

Started from 2016,CXD has expanded its high-quality product range to dispatch control center applications, the typical product model is DM-160 desktop goose-neck microphone integrated with USB interface and used "HID" technology，shows below:

DM-160 Desktop goose-neck microphone

SHENZHEN CXD SCIENCE & TECHNOLOGY CO., LTD.
Web: www.cxd-radio.com
Email: export@cxd.com.cn / info@cxd.com.cn

Trunk Amplifer RG860:two–way signal amplification

RG860 is two-way signal amplification enhancement equipment. It mainly provide two-way signal amplication for terminals and base station .It extends the base station signal in the building, underground construction, tunnels, airports, etc. . It has many features just like low noise level, less time delay, small noise coefficient, good compatibility etc. It effectively solves the problem of poor call quality and blind area because of the base station multistage amplifier and accumulation of noise level.

Key Function Features

● The latest data platform control
    Conveniently configure key indicators, increasing the service efficiency of the user
● Adopts numerical control gain adjustment
    The gain rang up to 30 dB, the full width meets user request
● ALC technology
    The output level can be adjusted continuously and automatically
● Highly linear power amplification
    Effectively restrain inter-modulation and hum & noise

● Guaranteed isolation
    Excellent RX and TX isolation, convenient installation could be assured.
● Real-time remote monitoring
Through the network platform, can real-time usage of equipment in real time remote monitoring and management

Key Features

● Strong and durable
Fully according to the American military standard, with functions of dust-proof, moisture-proof, waterproof, protection grade reaches IP65
● Modular design
Fully adopt the modular design, convenient product maintenance and increasing products stability
● Double port design
Double connection design, easy construct, Ensure the installation neat and beautiful
● unique way of heat dissipation
With good heat dissipation materials and unique natural cooling method ensure the working life is longer.
● Parted RX and TX design
Parted application of RX and TX circuit design, convenient indoor and outdoor coverage

Application

● Dock signal coverage
● Airport signal coverage
● Tunnel signal extension
● Building signal coverage
● Basement signal coverage

Applications:

● Airport signal coverage
The airport usually installs the DMR/TETRA/GSM trunking system with a large area of multiple infrastructure. A amplifier is always required to extend signal from BS to every single coner of the airport to ensure 99.99% coverage and guarantee the quality of each call.
● Tunnel signal extension coverage
Tunnel is usually a tubular structure, and it is long and narrow. It mainly located in the mountain and the mountain produces blocking signal and the tunnel is signal blind area. To install the trunk amplifier, it can enhance the signal and ensure communication without blind area.
● Building signal coverage
Because of short distance between the dense buildings and different floors, the transmission signal is fading fast between buildings, and environmental reasons. Such as electromagnetic dry approach and many other factors led to the poor call quality between buildings. RG860 could selectively amplify the signal, and ensure the purity of forward signal and improve the call quality.
● Basement signal coverage
Communication signal will have loss through the transmission, penetration also will be declining, and the signal is very weak most of the time in the basement. By adopting the trunking amplifier, blind area signal can be significantly improved and the call quality will be increased as well.

Shenzhen RSTON Communications Co., Ltd.
Web: www.szrston.com.cn
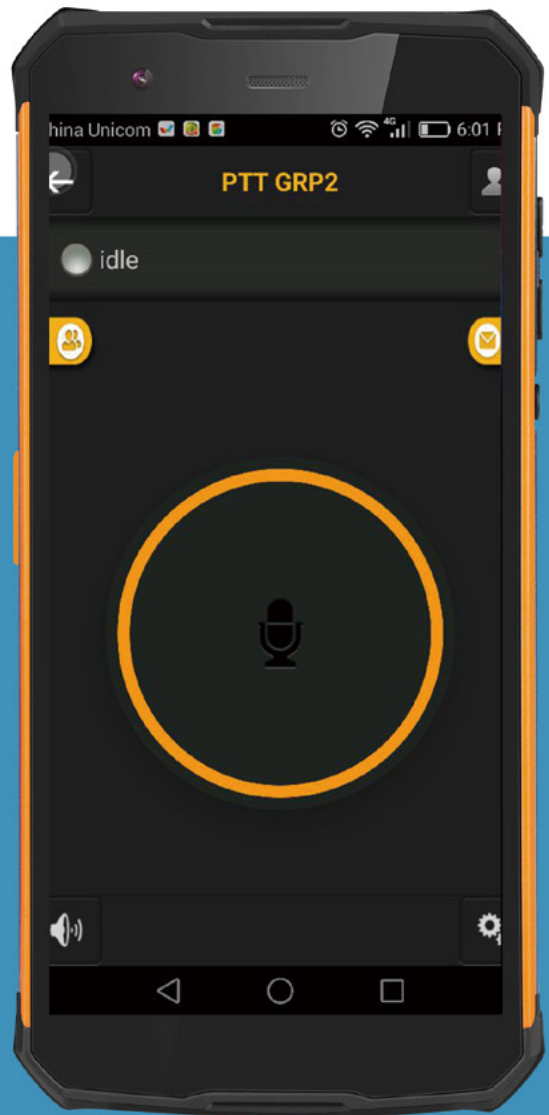**Email:** sales@szrston.com.cn

E618

Android lte Rugged PTT Phone
Elegant, high performance

E618

Slim design and durability for outdoor people.

Enjoy IP68 water, dust and drop resistance and PTT (Push-to-talk) functionality to match your adventures.

An exchangeable 4800 mAh long lasting battery will support your business with ultimate reliability.

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Telephone-style Microphone

Keypad-style Microphone

Goose-neck Microphone

Loudspeaker

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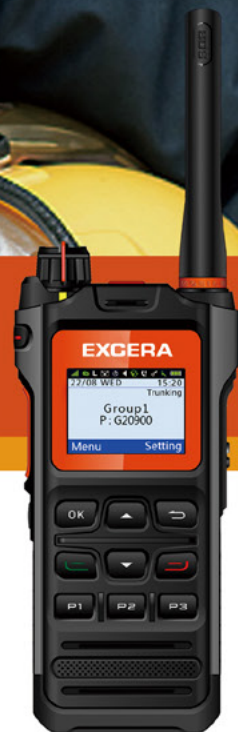
AUDIO • BATTERY • CHARGER

Professional Fire-fighting Two Way Radio

EP8200

Specialized designed for fire-fighting

Completely independent intellectual property

EP8200 Digital **Portable** Radio

Kirisun

Convergence | Evolution | For a Safer World

Typical Project: Bird's Nest

Solutions:

★ Trunking Dispatching System at the Command Center of the Stadium

★ Converged Dispatching System for the General Command Center 2 kilometers away

★ IP Site Connect Based Data Interconnection with Dual Hot Backup

★ Extended outreach commanding system for Winter Olympics
(for communication with the games sites in Zhangjiakou and Changbaishan)

★ 300 pieces of DP990 professional DMR portable radios
(with BT, audio accessories and trunking services such as voice recording, kill and GPS positioning)

Kirisun Communication Co., Ltd.

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