



DS6000

Kirisun Digital Trunking System

Kirisun digital trunking system is based on DMR technology and composed of base station, switcher, network management and dispatch. It is able to perform voice communication, data transmission, terminal management, versatile of dispatch functions, which meet the requirements by different users for different communication methods.



DS6000 Kirisun Digital Trunking System

System Features

- Register/De-register
- Authentication
- Kinds of Voice Call
- Priority Call
- Emergency Call
- Call ID Display
- AIS Networking/Secondary development Interface
- Dispatch feature (voice, text message, locating, audio recording and etc.)
- Networking Feature (equipment management, number management, status monitor, firmware upgrade and etc.)
- DGNA
- PSTN/PABX
- Message
- GPS Information Management
- OTAP
- Call Transfer
- Call Limit
- Break In/Break down
- Call Limit
- AES/DES Encryption
- Link Backup
- Master Backup
- Specialized /Mixed/Shared Control Channel

System Introduction

Base Station



- Channel controller and transceiver are of 1 U with compact structure and advanced integration;
- The power supply is independently built in the channel controller and transceiver to avoid influence by other power modules.

Channel Controller



- The hardware of the channel controller and switcher is the same for easy maintenance;
- The channel controller is designed to be modularized and each module connects to only one port, without affecting one another;
- The channel controller is installed with built-in GPS for network synchronization;

Transceiver

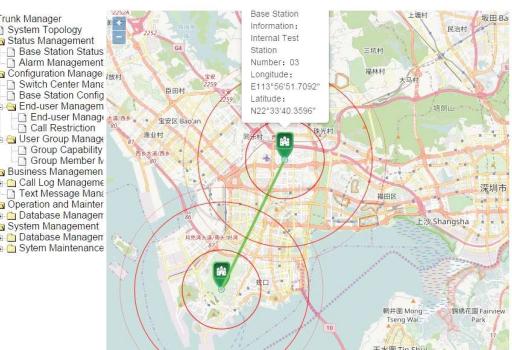


- Built-in fan in the transceiver makes for good heat dissipation and stability on long operation;
- The TX module and Rx module in the transceiver are separated from each other to insulate from interference;
- The external data port on the transceiver is designed to be internet port for easy connection and extension;

Dispatcher

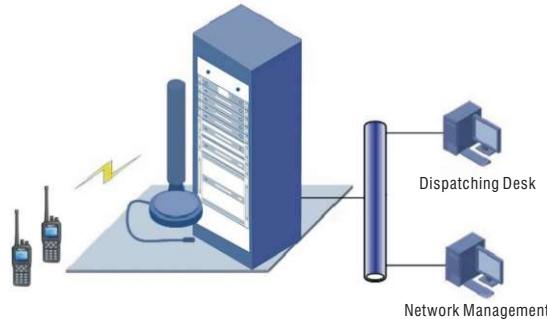


Network Management Software



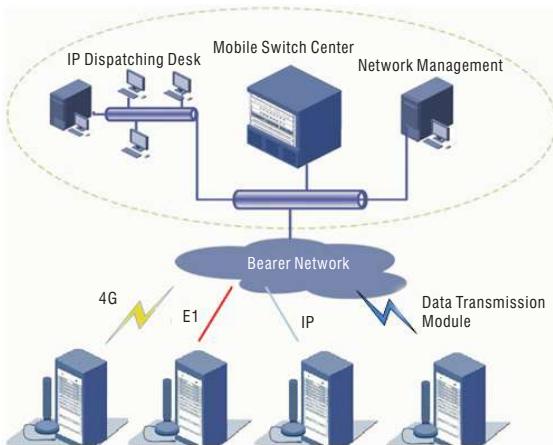
Network Topology

Single Base Station System



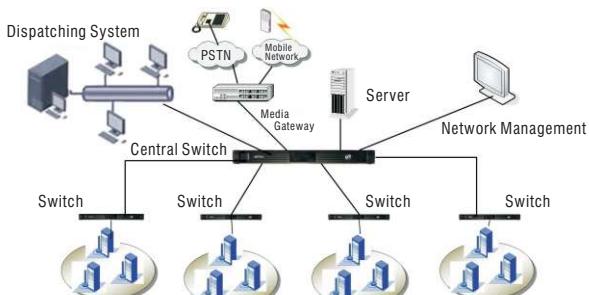
The single base station system is the most simple and basic networking form, and it is applied to small regions, such as border check-points, enterprises, scenic spots and etc.

Single-region Multiple Base Station System



Single-region multiple base station system is mainly applied in the region of bigger coverage requirements or in regions needing unified management. The control center of the system is connected to each base station through bearer network. The coverage involves several single base stations.

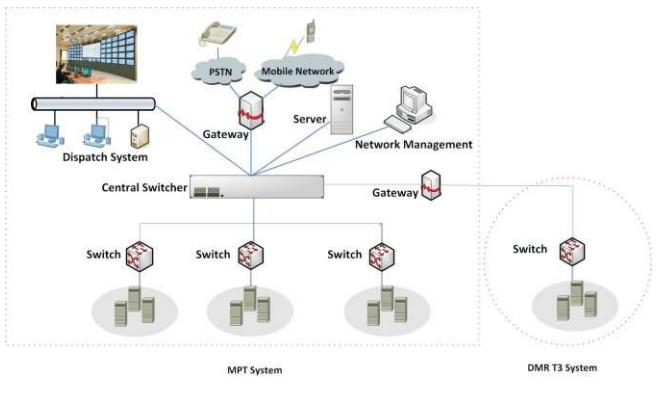
Multi-region Multiple Base Station System



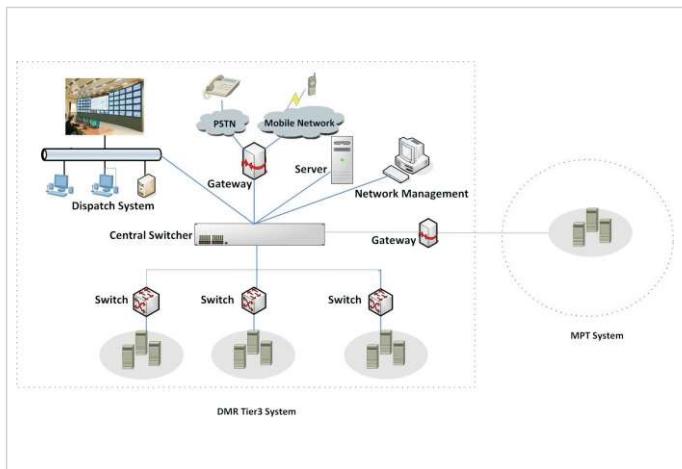
Multi-region multiple base station system is mainly applied to networks of major city or province with wide coverage, large scale of subscribers and management on multiple ranks



Migration from MPT System to DMR Tier3



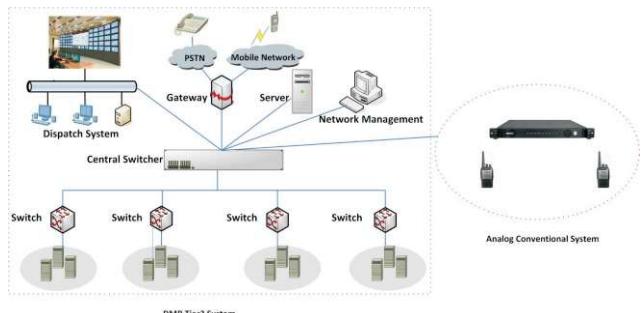
Picture 1



Picture 2

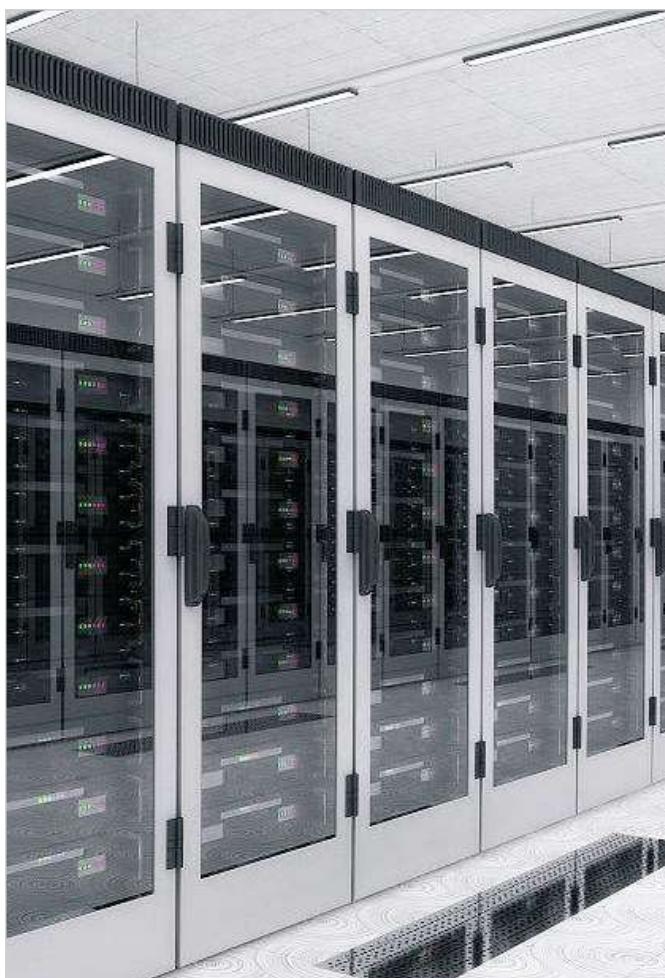
You are using MPT system, and now want to add DMR to expand the system capacity, or improve the coverage footprint. You can use Kirisun Gateway to connect new Kirisun DMR Tier3 sites to the existed MPT system. In this new system, new DMR radios can communicate with the existed MPT radios, and new DMR system can use the existed MPT dispatcher system and network management system. Refer to picture1. Or the existed MPT system can use the dispatcher system and network management of new DMR system. Refer to picture2.

Migration from conventional analog System to DMR Tier3



You are using conventional analog system and now want to add DMR tier3 system to expand the system capacity. You can change the existed repeater of analog system to Kirisun repeaters and connect the repeaters to the central switch of new DMR tier3 system.

You will keep using the existed analog system. Meanwhile, you will enjoy the functions and capacity of DMR Tier3 system. And DMR Tier3 system can communicate with the existed analog radios.

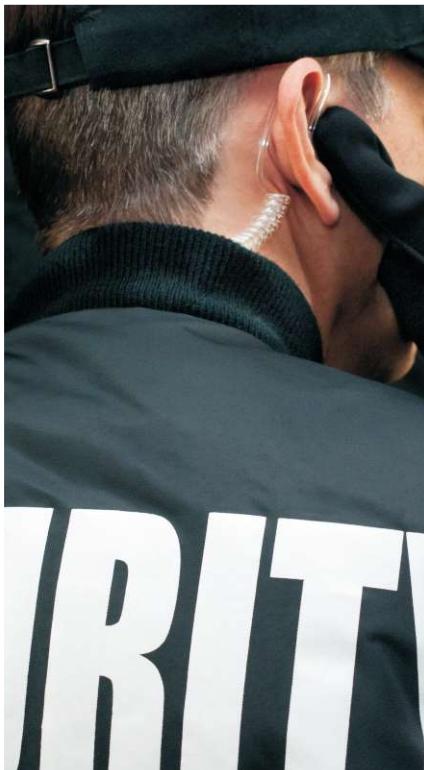


System Advantages

- IU design on channel controller/switcher for easy set-up; Protected from virus;
- The transceiver configuration is managed by the channel controller, and can be changed easily with convenient maintenance;
- Easy configuration interface and it supports remote parameter settings and software upgrade;
- Comprehensive dispatch features for easy dispatch;
- Supports multiple trunking dispatch methods including message trunking, transmission trunking and etc;
- Easy check on local data for quick connection;
- Supports multiple link transmission including IP, E1, 4G or data transmission module ;
- Supports multi-level backups, from transceiver, channel controller and switch;
- Supports multiple-level failure softening;
- The control channel can be shared and the base station stays dormant for saving power when there is no connection.



Applications



Public Security



Airport



Railway



Oil and Gas



Harbor



City Management

System Parameters

System Performance		Parameters
Frequency	136-174MHz,350-400MHz,400-470MHz,450-520MHz	
Size(Single cabinet four carrier frequency)	Width:600mm;Depth:600mm;Height:22U	
Weight(Single cabinet four carrier frequency)	≤160kg	
Normal Operating Voltage	AC:100~240V (DC:13.6V built-in)	
Digital Vocoder Type	AMBE++,NVOC	
Maximum duty cycle	100%	
Frequency Stability	+/-0.5ppm	

Receiver Specifications	
Sensitivity	Analog:0.3uV (12dB SINAD)、0.22uV (Typical) Digital:5% BER:0.3uV
Inter modulation	≥75dB(TIA-603-D)
Adjacent Channel Selectivity	≥70dB@25KHz(TIA-603-D)
Spurious Response Rejection	≥70dB@25KHz (TIA-603-D)
Audio Distortion	≤3%
Received Signal to Noise Ratio	≥45dB@25KHz
Audio Response	+1,-3dB
Conducter Spurious Emission	≤-57dBm

Transmitter Specifications	
TX Power	40W-45W(Each carrier frequency)100% continuous working period for 24 hours
Modulation Maximum Deviation	±5.0KHz@25KHz
Transmit Signal to Noise Ratio	≥45dB@25KHz,≥40dB@12.5KHz
Spurious Emissions	-36dBm<1GHz/-30dBm>1GHz
Adjacent Channel Power	≤-60dB@12.5KHz,≤-70dB@20/25KHz
Modulation Characteristic(300-3000Hz)	+1, -3dB
Modulation distortion	≤3%
FM Modulation mode	11K0F3E\16K0F3E\4FSK



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