

Enhance Your Visual Reach



Mobile IP Video Surveillance Solutions

KEDACOM

Always Connected Mobile Surveillance

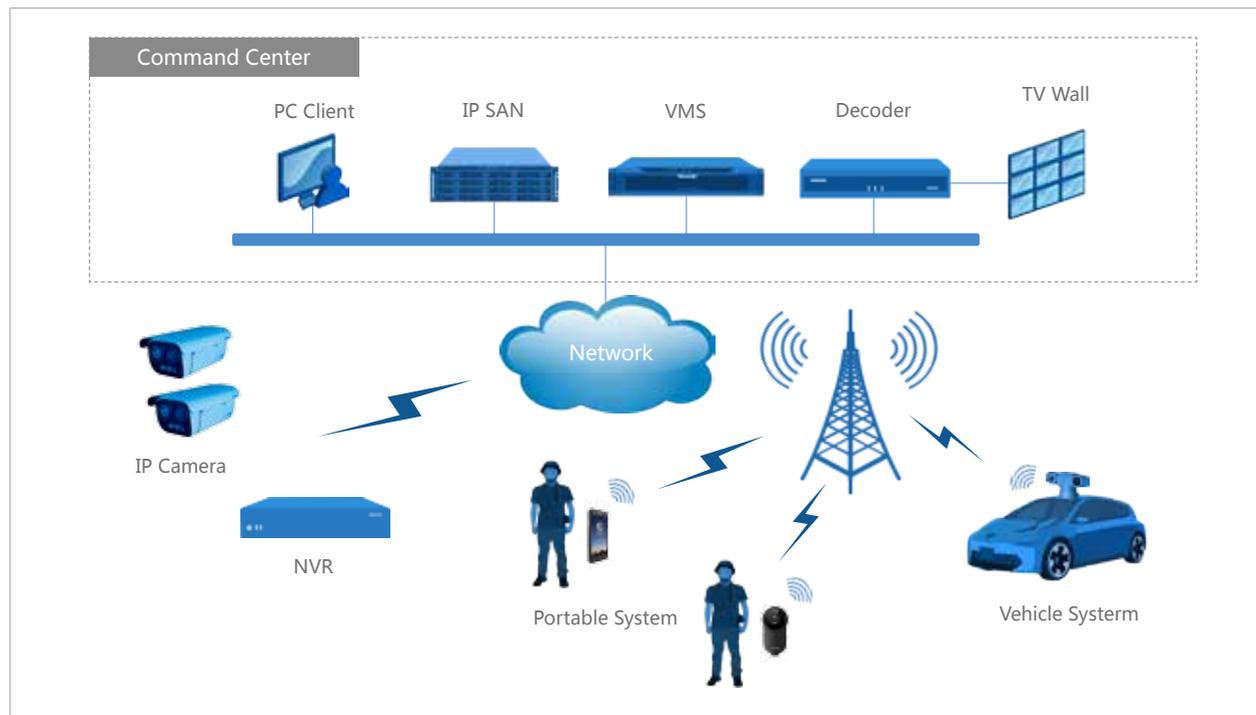
With the development of 3G/4G and latest wireless networks, the era of truly versatile mobile video surveillance has arrived. KEDACOM is constantly releasing innovative mobile video solutions with real-time connectivity which dramatically expand video surveillance coverage. Some practical applications of KEDACOM mobile video surveillance systems have been in crisis management, combat command, public safety, security patrol, private security and industrial sectors. These can also be integrated seamlessly with stationary video surveillance systems.



System Structure

Vehicle and Portable Mobile Video Surveillance Systems are two essential parts comprising KEDACOM mobile video solutions. These can be connected to the VMS at the command center using 3G/4G or wireless networks to enable real-time video streaming from multiple nodes with high volume audiovisual data flow. This system can also be integrated with fixed and third party video surveillance systems to form scalable comprehensive mobile video solutions.

Every vehicle can be mounted and personnel equipped with mobile hardware thus transmitting real-time videos to command center via established mobile communication links. Further, all audiovisual data can be recorded for interaction and recorded for future reference.



KEDACOM Vehicle Mobile System

KEDACOM developed the KEDACOM Vehicle Mobile System (KVMS) which possesses powerful video processing capabilities and robust mobile network adaptability. It incorporates an in-vehicle NVR, PTZ camera, fixed camera, control PAD, vehicle-mounted bracket with shock absorber and device box. This system can be deployed in any patrol wagon, fire truck, emergency vehicle, bus and other similar vehicle. In-vehicle surveillance and concurrent live-viewing, seamless, fast and secure upload of audiovisual data to command center is a technological paradigm shift.



The embedded communication functions within the KVMS works through 3G/4G and wireless network while audiovisual data is uploaded to command center and shared with users within the same networking group. The KEDACOM KWTP wireless protocol used by our system ensures very low latency and drastically reduces packet loss for video streaming while delivering superior image quality.

Vehicle PTZ Camera

1. Dual-sleeve Vehicle PTZ IR Camera



The IPC521-H120/F233-N PTZ camera can operate consistently with its shock-proof design. The 360° camera rotation function and 20x optical zoom allows for monitoring of vast areas closely. This camera is equipped with a super low illumination sensor with which it can acquire images in color mode at only 0.003lux luminance. Further, 120dB ultra WDR is supported for superb light distribution for consistent, high quality imaging. With an efficient IR, distances of up to 200 meters can be monitored during night time.



2. Vehicle Magnetic PTZ IR Camera



The IPC521-H210-W PTZ IR Camera can be mounted on the top vehicles conveniently with 5 pieces of powerful magnets at its base. The high capacity built-in battery delivers 8-hour long operation time while its embedded WiFi module requires no cables. A conventional vehicle can be transformed for surveillance with high quality video acquisition and transmission capability by integrating it with the IPC521-H120-W PTZ camera. With embedded 4 IR light units and a super low illumination sensor, up to 60 meter distances can be monitored during night time.

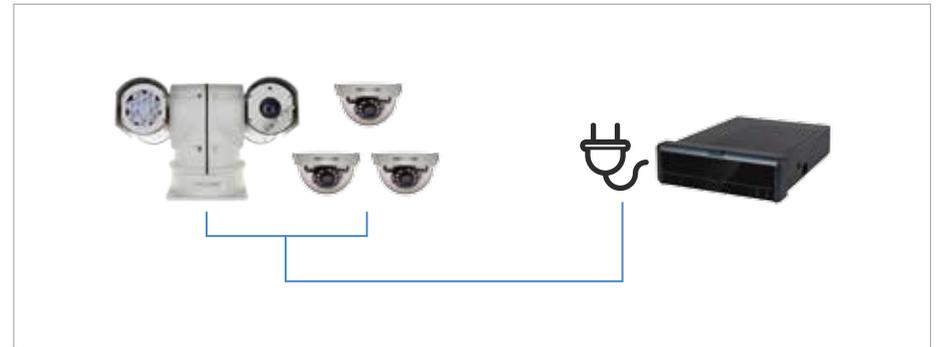
3. Fixed Camera



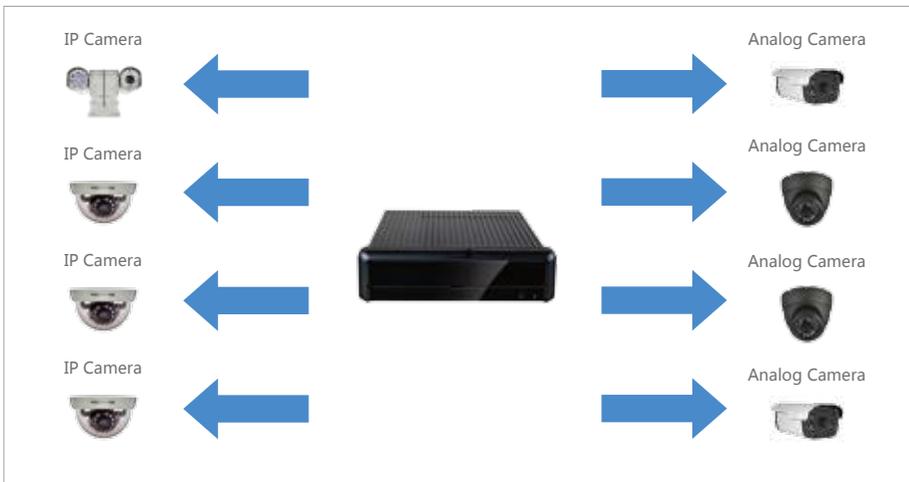
KEDACOM Vehicle Mobile System (KVMS) can also assimilate a variety of fixed cameras which can be installed inside or outside the vehicle easily. These fixed cameras feature IR and wide Field of View (FOV) capability, are rated IP66 for weather protection, and have a vandal-proof design among other characteristics. An embedded high fidelity microphone allows the cameras to acquire sound signals within a 5-meter diameter. This design improves overall audio-dependent situational awareness around the vehicle wirelessly without additional devices.

Vehicle NVR / Wireless Mobile Encoder

1. Vehicle NVR / Wireless Mobile Encoder



Cameras are connected to KDM2410M-V21 either through its combined aviation plug or embedded WiFi. A stable physical connection is assured with an aviation plug even when vehicle is being driven on bumpy roads. The combined aviation plug not only supports Ethernet and analog cameras' interfaces, but it can also feed power backward to all cameras, which makes the installation more conveniently.



KDM2410M-V21 is a professional vehicle-mounted device which can either emulate an NVR to view IP-based camera streams or a wireless encoder for analog camera access. It can connect, manage and record videos from up to 4 IP-based and analog cameras simultaneously.



The embedded GPS, WiFi module and optional global position module such as Beidou, GLONASS in the KDM2410M-V21 can upload the vehicle's accurate location to command center. Optional 3G/4G module makes it possible to support almost all kinds of network protocols, including FDD-LTE, TDD-LTE, HSPA/UMTS, GSM/GPRS/EDGE, TD-SCDMA, EVDO/CDMA and so on. Video stream can be transmitted to command center instantly with such diversified network adaptability.



Vehicle CD Player



KDM2410M-V21

KDM2410M-V21 has a compact design which can be swiftly installed in the place of a vehicle CD player which is also aesthetic and saves space.



KDM2410M-V1 possesses a 2.5-inch hard disk drawer, which can be locked and supports 4TB storage. A structure comprising of a spring capsule with double shock-proof design, protects hard disk while the vehicle is being driven on bumpy roads. Besides, the drawer design helps users change hard disk more conveniently. With the help of USB interface in its rear panel, the audiovisual records can be retrieved quickly.

2. Control PAD



Comprehensive interactive operations such as System Management, Live View and Playback can be conducted through the Control Pad. It can access the in-vehicle NVR by connecting to its WiFi hotspot and, hence, not needing any extra cables. After a connection has been established, the user can wirelessly control the PTZ camera. The touchscreen control makes the PTZ camera more maneuverable and its operations more visual and simplified. It also supports real-time two-way voice interaction with command center.

3. Device Box



The Device Box is another alternative for where to install the in-vehicle NVR. If for users it is not an option to install an in-vehicle NVR in the place of an in-vehicle CD player, it can be placed in the Device Box with relevant cables.

Vehicle System Feature

1. H.265 High Efficiency Video Coding



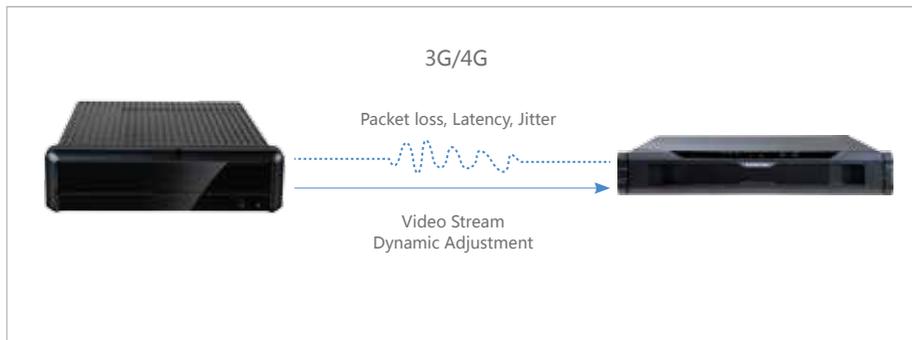
H.264, 1080p, 4Mbps



H.265, 1080p, 2Mbps

Every camera, NVR and Control PAD within the in-vehicle mobile system supports H.265 HEVC resulting in 30% ~ 50% reduced bandwidth and storage space while enhancing video quality over 3G/4G networks. As a consequence, the amount and cost of video storage and leased bandwidth will decrease.

2. Innovative KWTP Wireless Protocol



Conventional video surveillance systems frequently experience difficulties to transmit data through 3G/4G networks because of issues like data packet loss, high latency and jitter. To overcome these shortcomings, KEDACOM developed the KEDACOM Wireless Transmission Protocol (KWTP). This protocol constantly monitors the network and dynamically adjusts key internal settings thereby enhancing video streaming (data packet size and transmission frequency) in real-time. Taking advantage of this innovative technology, the KEDACOM Vehicle Mobile System (KVMS) is providing more continuous and stable real-time video streaming and keeping communication between command center and vehicle consistent and reliable.

3. Overall Shock-proof



By using a more sturdy drive structure compared with that of a conventional PTZ camera, Vehicle PTZ Camera ensures no skewing on position even when the vehicle is being driven on bumpy roads. Vehicle PTZ camera is also equipped with the Electronic Image Stabilization (EIS) function and, as a result, special accessories accompanying the PTZ camera can withstand shock as well and function normally. Accessories such as aviation plug and spring capsule have a shock-proof design so users can operate equipment reliably at vehicle speeds as high as 80km/h.

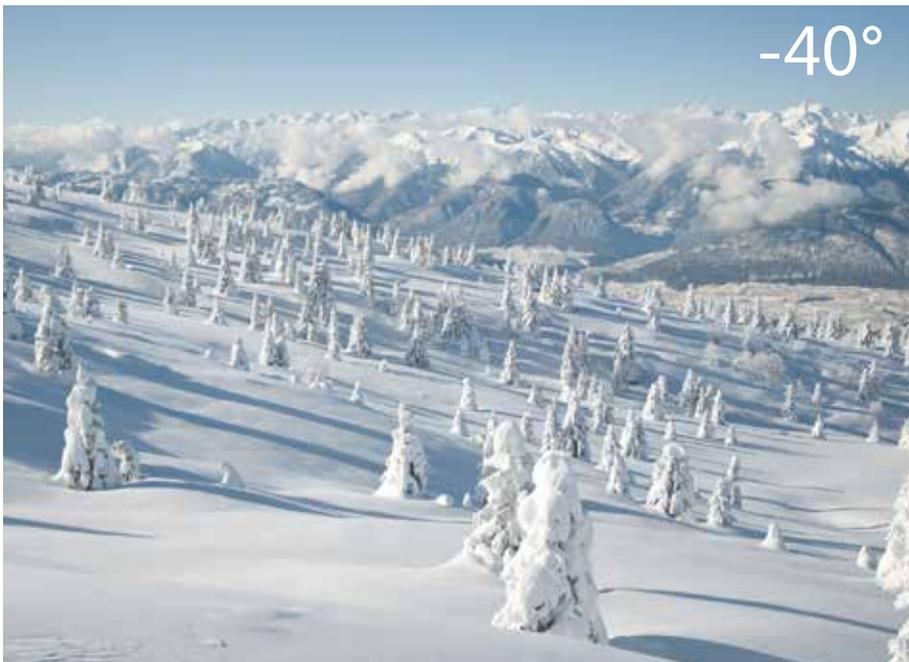
4. Convenient Installation and Use



The KEDACOM Vehicle Mobile System (KVMS) supports wireless connectivity between vehicle-mounted camera and mobile NVR. It also support 9V~36V broad range voltage input suitable for both 12V and 24V in-vehicle power supply which can feed power to the cameras. The fixed cameras have an embedded microphone which makes wireless communication simpler. The installation of the KVMS saves time considerably and is cost effective.

Other than from within the Control PAD, KEDACOM Vehicle Mobile System (KVMS) can also be turned on or off by synchronizing it with the vehicle's ignition system. Different kinds of remote tasks can be achieved with the KVMS via the command center. For example, innovative functions such as "Automatic Hibernation" (turning off 3G/4G access when no video streaming is uploading) and "Remote Activation" (turning on 3G/4G access by calling/messaging SIM card number in Vehicle NVR) can be achieved remotely.

5. Extreme Environment Adaptability



IP66 and other standards such as TVS 6000V lightning protection, surge protection and voltage transient protection are all being tested for vehicle PTZ camera for overall protection in different types of environments. Wiper is supported in dual-sleeve vehicle PTZ camera and can be used in sleety weather. With all its design characteristics, such as vehicle PTZ camera's drive structure which can run in low temperature, vehicle NVR's fan-less conductive heat dissipation design and hard disk drawer's heating function, ensure system's efficient adaptability within temperature range from -40° ~70° .

Portable System

KEDACOM Portable Mobile System comprises high-performance video surveillance devices together with abundant accessories which can all be carried by law enforcement personnel. It encompasses Body Worn Surveillance Phone, Body Worn Camera, External Camera, DV adaptor, Data Docking Station and other related accessories. KEDACOM Portable Mobile System is being applied within law enforcement, security patrol, crisis management, covert monitoring and similar scenarios to acquire audiovisual data and upload it to command center in real-time.

KEDACOM Portable Mobile System is being widely deployed for use with 3G/4G and wireless networks. Real-time audio and video interaction is possible between related peripheral units and command center. It can also be used with the KEDACOM KWTP wireless protocol to ensure excellent video stability for streaming and superior image quality.



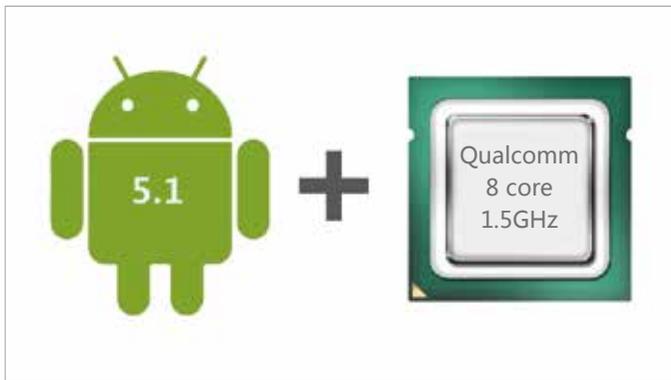
Body Worn Surveillance Phone



IPW200 Series Body Worn Surveillance Phone is a specialized and intelligent device which has powerful video processing and video streaming capabilities. It is equipped with a 5.5-inch touchscreen and high definition dual cameras. It enables real-time capture and video uploads to command center using 3G/4G and WiFi networks through KEDACOM' s professional app which is installed in the device by default. The surveillance phone can be deployed within varying environments because of its dedicated water-proof, dust-proof and drop tested design.

Feature

1) Qualcomm 8 Core High-performance Processor



Different from general surveillance phone, the IPW200 possesses Qualcomm 8 core 64-bit high-performance mobile processor, which provides powerful processing capability and outstanding network adaptability.

2) 3G/4G and WiFi Network Access



IPW200 supports multiple networks including FDD-LTE, TD-LTE, EVDO, TD-SCDMA, WCDMA, CDMA, GSM and 802.11 b/g/n and, hence, can be used with a variety of wireless networks.

3) GPS + GLONASS + Beidou



By supporting GPS, GLONASS and Beidou system, the IPW200 surveillance phone can upload real-time geographical location of personnel carrying it.

4) 8 hours Continuous Working



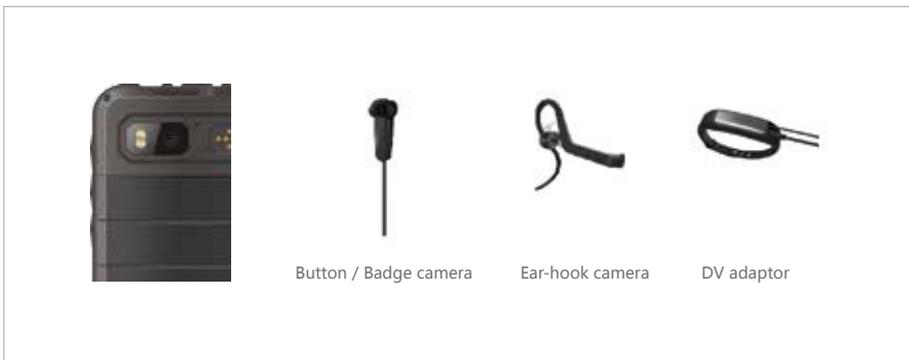
The 4000mAh high capacity built-in Li battery is replaceable and rechargeable. It is sufficient to record more than 8 hours of audiovisual data and upload them to command center.

5) 5.5 inch Touchscreen



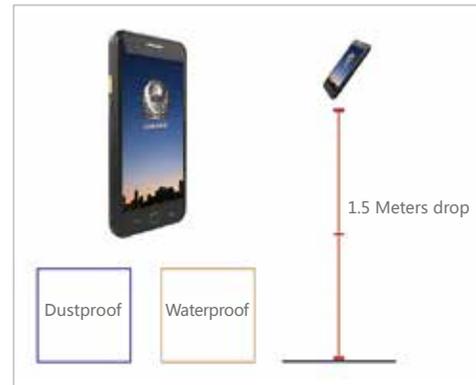
The 5.5-inch 1080P FHD screen is clearly visible in the sun with its super Field of View (FOV). It also has a touchscreen and, hence, operable with gloves on or water on the screen which makes it an all-weather device.

6) High Quality Video



The rear 13MP camera supports autofocus and LED flashlight. It is capable of 1080p resolution video streaming and snapshot with higher resolution. The front 8MP camera can be used for video intercom. In addition, it can be used with auxiliary accessories like the Button/Badge Camera, Ear-hook Camera and DV adaptor which are needed if video capture requires more flexibility in certain scenarios.

7) Ultrathin + 3 Proofings



The IPW200 body worn surveillance phone can be deployed within extreme weather conditions and for this reason adheres to the IP67 weather-proof standard. Meanwhile, it weighs only 237.7g with battery and, in addition to its 12mm ply, is truly ultra-thin and ultra-light.

8) Bidirectional Audio



IPW200 supports bidirectional audio with an integrated microphone or external Bluetooth headset for real-time communication with command center.

9) Dual SIM and Abundant Apps

IPW200 comes with an optimized version of Android OS. It supports 2 SIM cards which can both be on standby mode or access a wireless network. It can further be used as a conventional cellphone for calling and SMS, in addition, third party mobile apps can be installed on it as well.

10) Shortcut Button



A pre-defined emergency button is created for the IPW200. In case of an emergency, by pressing this button the command center is alerted by means of an alarm to merit a swift centralized response.

IPW also supports Push to talk (PTT) which can be activated by pressing a pre-defined button. In conjunction with the KEDACOM specialized video communication platform, PTT function can be used between each portable device or between portable devices and command center.

11) More Accessories and Applications



The IPW200 surveillance phone can be deployed within specialized scenarios as its capabilities can be expanded with additional accessories. Some key external accessories can connect with it using Bluetooth; NFC support and specialized sockets make the IPW200 more fit for specific scenarios. For example, a person's ID information can be read using the NFC function. A headset can be linked to the IPW200 for a private conversation and an external printer can be connected to it via Bluetooth. Besides, KEDACOM can provide dedicated sockets for more interfaces and further functions like Fingerprint Identification and ID recognition. An extra 4000mAh battery enables the device to record audiovisual data far more than 8-hours.

12) Customizable OS

KEDACOM is capable of providing more customizations for users such as prohibiting WiFi or Internet access, blocking third party mobile app installation in case there arises a need to make the IPW200 even more secure.

Body Worn Camera



DSJ-U1 series is an exquisite all-in-one Body Worn Camera from KEDACOM. This device can be carried easily, and with continuous video streaming can record and upload these to command center in real-time through 3G/4G or WiFi network. DSJ-U1 is embedded with a high resolution 13MP camera, an LED and IR light for day/night vision. It is designed for use within multiple environments, adhering to the IP67 and drop test standard.

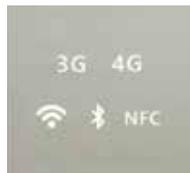
Feature

1) Qualcomm 8 Core High-performance Processor



DSJ-U1 is the first Body Worn Camera using a Qualcomm mobile processor. In comparison with general body worn camera, DSJ-U1 provides unparalleled real-time video quality by using powerful video coding technology and wireless network adaptability.

2) 3G/4G, WiFi, Bluetooth, NFC



DSJ-U1 supports multiple networks including FDD-LTE, TD-LTE, EVDO, TD-SCDMA, WCDMA, 802.11 b/g/n and 2.4G+5G WiFi thus relying on various wireless networks to always be connected. Meanwhile the Bluetooth and NFC functions make it easier for more wireless connections.

3) GPS+ GLONASS+Beidou



DSJ-U1 can upload real-time geographical location of personnel carrying it by supporting GPS, GLONASS and Beidou systems.

4) 6 hours Continuous Working



The 2700mAh high capacity built-in Li battery is replaceable and rechargeable and allows constant recording of audiovisual data for more than 6 hours and uploading it to command center.

5) Shortcut Button + 2.2 inch Touchscreen



The DSJ-U1 is integrated with a shortcut button and touchscreen which make it more user-friendly. Shortcut buttons, including "PTT", "Power On/Off", "Video Recording", "Audio Recording", "Snapshot", "Event Tag", "Volume Up/Down", can be used for all kinds of rapid operations. (Some of the buttons are reserved for more extensive applications). All of its settings and operational capabilities can be accessed visually through its 2.2-inch touchscreen.

6) High Quality Video



A camera with wide Field of View (FOV) up to 150° delivers 1080p video streaming and snapshot with higher resolution. Besides, its IR light makes it possible for users to see 15 meters in total darkness.

In addition, enhanced video capture can be conducted with accessories like Button/Badge Camera and Ear-hook Camera.

7) Compact + 3 Proofings



DSJ-U1 can be deployed within extreme weather conditions as it conforms to the IP67 standard and is 2-meter-drop tested. Further, it weighs only 206 grams with its battery and its dimensions of 112.2mm × 61.8mm × 29.4mm make it conducive as a wearable device.

8) Bidirectional Audio



The DSJ-U1 camera supports bidirectional audio through an embedded microphone and an external Bluetooth headset for real-time communication with command center using intercom mode.

Accessories

1. Button / Badge camera



USBCAM-100 is an external USB camera which can be used together with IPW200 and DSJ-U1. It can be disguised as a button and used for covert surveillance. It weighs just 30 grams which is conveniently worn with service uniforms.

USBCAM-100 supports a resolution of 720p@30fps. Together with its embedded microphone, it delivers excellent audio and video continuously.

2. Ear-hook camera



USBCAM-200 is an ear-hook camera which can be used together with IPW200 and DSJ-U1. On first glance, It looks like a Bluetooth headset from appearance but it enables true covert surveillance. USBCAM-200 also has a lens with F2.2 large aperture and diagonal Field of View (FOV) up to 100°, to acquire videos at 720p@30fps. The built-in microphone and headset can be used for communication with command center in intercom mode.

3. DV adaptor



PF10 is a device to convert signal from HDMI to USB, which can work with IPW200. PF10 can convert and transmit video from micro HDMI interface from third party DV or video capture device to IPW200 linked to micro USB. By doing this, third party equipment' s video can be acquired and accessed. The resolution can be as high as 1080p.

4. Data Docking Station



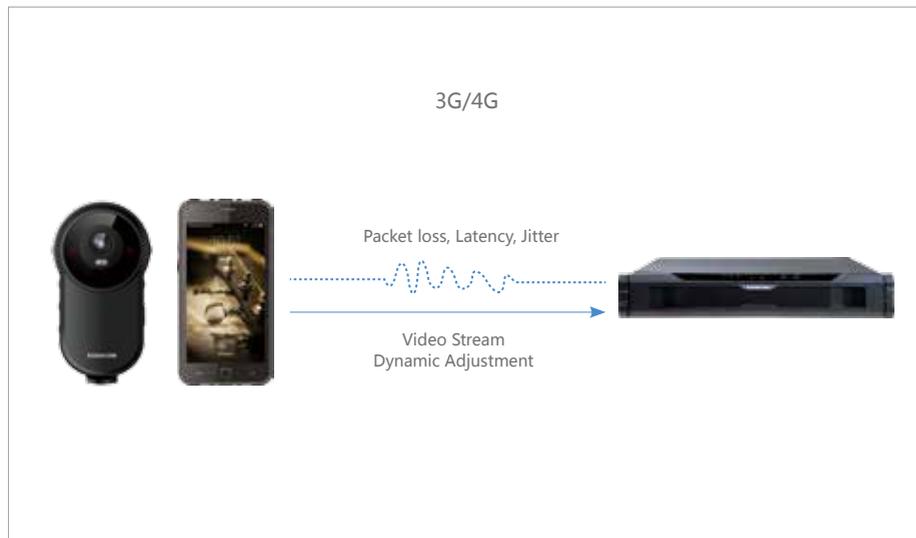
ZCS-KDCA1 is an associated equipment for DSJ-U1 Body Worn Camera. Up to 24 units of Body Worn Cameras can be docked in it simultaneously. Correspondingly, unified management for record downloading and camera charging can be done using it.

ZCS-KDCA1 supports a 13.3-inch touchscreen to provide a more visible user interface. 3 slots for 3.5-inch hard disk supports up to 12TB space with RAID functionality which secures data more reliably.

Functions like Resume Download in addition to Auto Download, Auto File, Auto Delete are supported to make ZCS-KDCA1 very simple to use. Users only need to dock the Body Worn Camera into the dock and manage it offline using the touchscreen. ZCS-KDCA1 is also available for optional software to manage multiple ZCS-KDCA1 units simultaneously.

Portable System Feature

1. Innovative KWTP Wireless Protocol



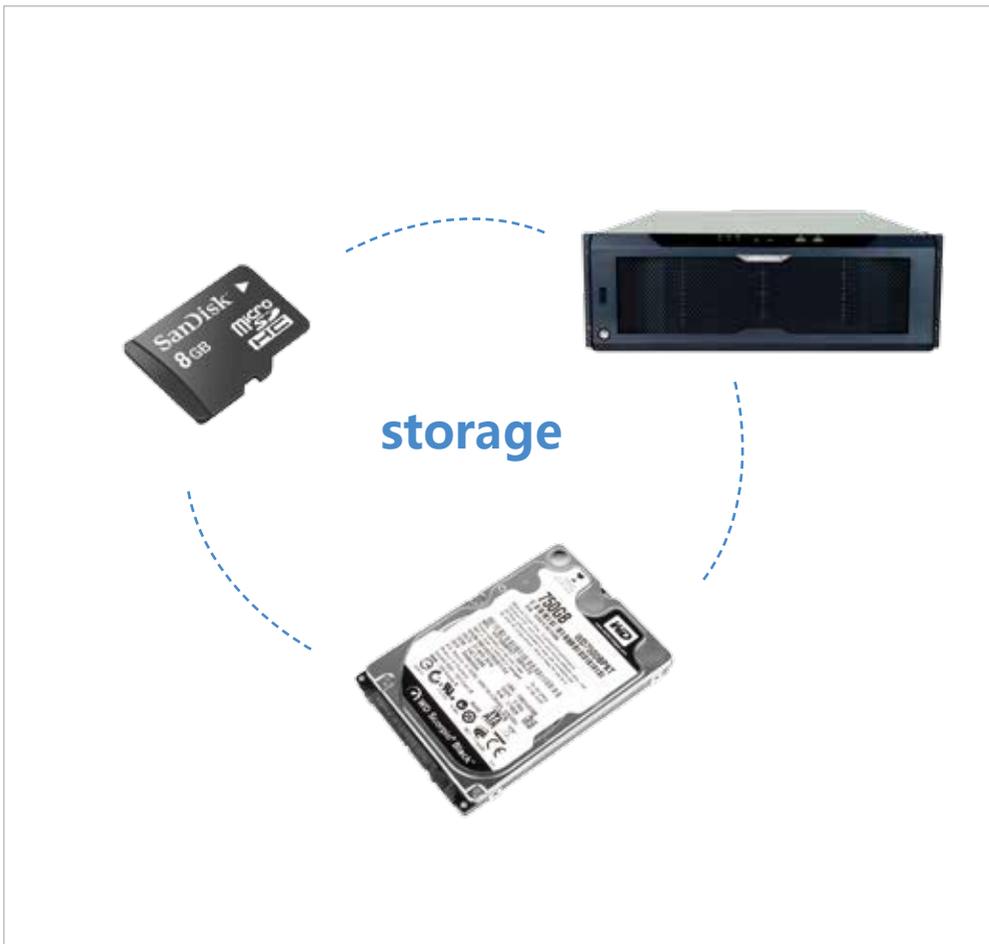
Conventional video surveillance systems frequently experience issues with reliably transmitting audiovisual data using 3G/4G networks commonly because of data packet loss, network latency, and jitter. To overcome these shortcomings, KEDACOM developed the KEDACOM Wireless Transmission Protocol (KWTP) which can constantly monitor network conditions and dynamically adjust to optimum conditions for enhanced audiovisual data transfer (packet size and packet sending frequency) in real-time. Taking advantage of this innovative technology, KEDACOM Portable Mobile System provides continuous and stable real-time video streaming and maintains smooth and reliable interactivity with command center.

2. Abundant Products and Accessories



KEDACOM Portable Mobile System can be applied to almost all kinds of carry-on video surveillance scenarios. These devices can be selected and used in combination and managed centrally by connecting to VMS from within the command center.

3. Multiple Storage



Local storage is available within the IPW200 Body Worn Surveillance Phone or DSJ-U1 Body Worn Camera. Furthermore, its storage capacity can be extended using an external 128GB SD card. The Portable Mobile System can support simultaneous storage in VMS site and through Data Docking Station, unified storage management can be achieved. These multiple storage capabilities provide not only more flexibility but reliable choices for users as well.

Command Center

KEDACOM has a complete backend system for command center which includes VMS, IP SAN, Decoder and TV Wall. Through deployment of the backend system, users can have Access, Live View, Playback, Record, and Store functions and generally manage video data generated from Vehicle and Portable Mobile System. The powerful converging capability of the backend system helps integrate multiple models of conventional IP Cameras to develop a comprehensive system.

Users can access abundant management software applications to develop a professional command center which is suitable for different sectors such as police, military, fire safety, crisis management, private security, city transportation and factories.



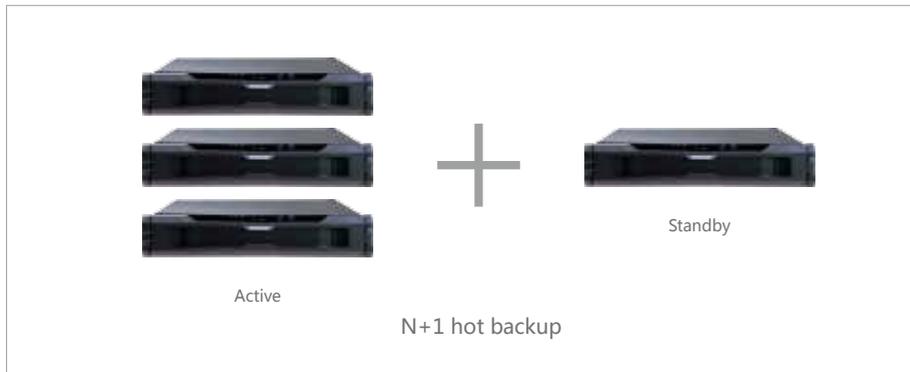
VMS



The KDM2800 series is a hardware-based VMS. It can access, configure and manage various types of associated equipment such as in-vehicle NVR, in-vehicle camera, portable camera, general NVR and IP-based cameras. All video data can be live-viewed, recorded and analyzed. The VMS can also access and manage IP SAN for retrieving large-sized records. And videos can be displayed on a TV Wall via Decoders connected to VMS.

Feature

1) High Security and Reliability



The KDM2800 series VMS is based on embedded customized Linux OS. Because of its closed management for system resource allocation, there are no resource conflict issues or vulnerability to computer virus in Windows software based VMS. KDM2800 series also supports N+1 hot backup for any VMS in the network which is a safeguard for the system's continuous 24-hour reliability.

2) Huge Access Capability



The KDM2800 series VMS supports 32-units stack and 8-levels cascade. It can access up to 50,000 peripheral units from within one single system. This capability simplifies device accessibility for different types of connected mobile and fixed video surveillance points.

3) Unique Mobile Surveillance Access



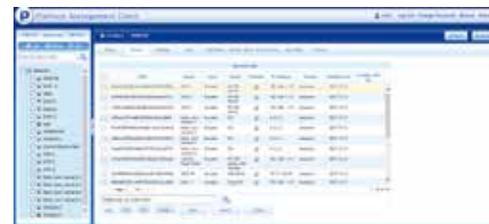
Vehicle and Portable Mobile peripheral units can be connected to KDM2800 series VMS directly without any extra gateway equipment. It can also support the KEDACOM Wireless Transmission Protocol (KWTP) which can adjust video streaming strategy based on real-time network status monitoring and ensure a continuous and reliable transmission to VMS over 3G/4G and wireless network.

4) E-Map



E-Map function is supported in the VMS client software. Other than live viewing of each peripheral in E-Map together with its GPS location, a user can also get targets' positions immediately. Meanwhile, the targets' GPS location can be stored for further trace replaying.

5) Remote Management



A unified management of equipment can be done through VMS client software. Different types of parameters for each peripheral unit can be set and status of alarm and equipment can be monitored.

IP SAN



VS200 series is a dedicated IP SAN unit with 16 hard disk slots, 96TB storage capacity and 500Mbps data throughput per set. It can record not only video but also pinpoint GPS locations for different kinds of mobile and fixed video surveillance points in conjunction with VMS. In addition to RAID 0/1/5/6/10, KEDACOM' s innovative RAID X technology guarantees system to work continuously even if multiple hard disks malfunction at once.

Decoder



The KDM201 series is a modular decoder with 8 slots. It can support a variety of decoder modules with different capabilities and provide video output of up to 32 channels. With flexible layouts in each decoder module, as many as 72 x 1080p videos can be decoded. All configurations can be adjusted and general system management achieved via VMS client software after connecting KDM201 to VMS.

TV Wall



KEDACOM JY series Fine Pixel-Pitch LED Display Screen is specifically developed for large-scale command centers. P1.2, P1.5, P1.9 spacing modules can be selected accordingly depending on precision required for 2K, 4K, 8K or even higher resolution and seamless splicing using different modules. The LED Splicing Screen uses light absorbing material with matt surface and supports Field of View (FOV) up to 160° . It is fan-less with low noise and can provide an extremely sharp display experience. Its magnetic front-end modular design is also very convenient for installation and maintenance by mounting/dismounting.

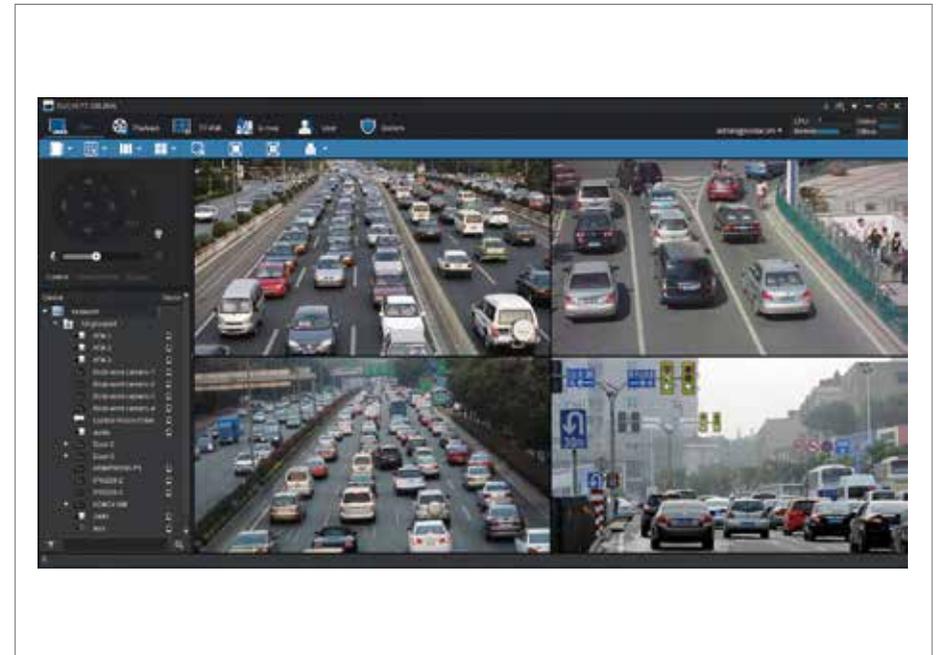
Command Center Feature

1. Total Solution



KEDACOM complements a command center with almost every kind of core video equipment. Users can build a complete system/solution including Peripheral Unit Access, Storage, Live View and Control functions and display these from within the spliced screen. This system/solution not only comprises video mobile system but also integrates all general IP-based video surveillance equipment to form unified system management.

2. Unified User Interface



Users do not need to run multiple software for complicated operations but, instead, all configurations and operations can be done via VMS client software. These unified operations ensure high efficiency and rapid action in command center which is at the core of the mobile video system as well as the command center.

Case Study

Emergency Managing Center in South Korea



By deploying KEDACOM Vehicle Mobile System (KVMS), VMS and IP SAN, Emergency Managing Center in multiple provinces of South Korea now can live view and remotely command emergency vehicles. This application helps increase efficiency and synergy for day-to-day operations.

Police Precinct in Turkey



A whole set of KEDACOM Vehicle Mobile System (KVMS) is equipped for a police precinct in Turkey. Multiple channels of video are constantly uploaded to command center which keeps officers at the command center aware of situations around mobile police vehicle.

Police Department in Singapore



KEDACOM Portable Mobile System is equipped for a department of police in Singapore. Real-time video and full record during duty are uploaded. Personnel in command center can interact with officers on site and assess the videos received which increases efficiency and take swift action where necessary.

Boarder Defense in China



4000 units of KEDACOM Vehicle Mobile System (KVMS) are deployed for boarder defense scenarios in China. Technological Combat Command is implemented since then.



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