

# Research on embedded Mobile Video Surveillance Service system

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**Keywords:** embedded; mobile video; surveillance service

**Abstract:** in the analysis of mobile end-user video surveillance service, it is necessary to pay attention to the system application of video surveillance service media under protocol wireless network according to the effective three-terminal mode plan. Through the analysis of system mode, the protocol component standard under hardware compression function is adjusted, the fusion of embedded service and the application of embedded system are paid attention to, through the operation of open source media library, the planning of TCP//RTCP protocol is paid attention to, and the actual problems are analyzed, and the control standard mode of bitter war platform is studied.

In the development of communication technology, wireless communication has become the preferred method of video surveillance. According to the operation mode of smart phone, we should pay attention to the remote monitoring management of intelligent terminal service, combine the monitoring data mode, adjust the information query of mobile phone terminal, and monitor the field analysis. Through the analysis of the service requirements of mobile media stream, the standardization of communication technology network is promoted step by step, and the development process and the application of technology mode are adjusted step by step. Through the custom standard analysis of 3GP data information, combined with the related mobile media stream, the related standardized applications are implemented. The embedded video digital monitoring system is used to construct the small system geometry with compression function, to strengthen the comprehensive application of network link, real-time operation, stability and reliability, to improve the accurate operation of digital monitoring video, to perfect the comprehensive application of data communication, and to clarify the specification of 3GP system and the promotion of digital mobile video surveillance service mode.

## 1. Pattern Analysis of Mobile data Network

In wireless communication, the development of 2G, 3G, 4G and 5G is realized by using media stream service operation through the system group of network data and taking data carrying as the standard. Taking the new data wireless communication service as the standard, the wireless fusion of mobile data user information is strengthened, the transmission application under IP system is strengthened, the bandwidth standard is defined, and the network standard is used. Through the transmission of data service, pay attention to the video analysis under the network tone, and improve the comprehensive application of video service.

Based on the exchange of media flow services between ports, attention is paid to the service fusion specification of data and information. The mode of application service is analyzed by PSS, and the communication service process of normative media stream client is adjusted. According to the coding operation of PSS video, the current intelligent data is widely used, and the video data compression standard in accordance with the actual operation is determined.

Table1. embedded data network video monitoring service system

2G-5G data bearing system	IP transmission system	Bandwidth data communication system	Mobile terminal user information fusion platform
Service transmission application	Analysis of network keynote video	Video service application	Intelligent data operation configuration

## **2. Design and Analysis of System Pattern**

In the system of embedded data and video monitor, the analog signal is obtained by camera through high embedded compression chip, the signal is compressed by A / D mode, and the embedded control flow of compressed video is adjusted. According to the application standard of system transmission, pay attention to the mode encapsulation of chip and deepen the layout and distribution of user system. According to the information analysis of 3GPP data media stream, the actual framework use standard under the service system is adjusted, the data exchange allocation is strengthened, the protocol management of the data layer is determined, and the protocol allocation of the book port is strengthened. Through the analysis of the terminal RTSP system protocol, the whole media data information analysis of the server is paid attention to, and the application of the instruction mode is determined by extending the protocol mode, adjusting the expansion of the service monitoring cloud platform of the mobile phone terminal.

### **2.1 Analysis of hardware design patterns**

According to the embedded mobile data monitoring system mode, the effective video compression accounting mode is taken as the standard, and the application analysis of the core algorithm subsystem is paid attention to. By analyzing the changes of video system, adjusting the compression editing mode of video signal, determining the data flow, encapsulation standard, media function application and so on. Through the operation of the general control end of the system, the data parameter initialization operation of the compression system is adjusted, the coding development of the compression system is determined, and the operation embedding of the compression chip is made clear. In the video compression system, through accurate chip encapsulation, multi-channel, digital video coding analysis is implemented, and the support matching coding mode of the chip is determined. According to the relevant video compression process, adjust the actual programming setting standards, judge the coding rate of the relevant fixed mode. Through accurate motion detection, adjust the dynamic storage of the external interface, determine the external host interface, compress the interface content of the chip. Adjust the fusion application of high performance hardware and software modules for video processing. In the operation of compression chip, the host interface mode is used to adjust the different nursing requirements. According to the functional point of view of analysis, determine synchronous, asynchronous mode operation. Through the analysis of special data, the dynamic memory mode of external interface is adjusted, and the interface application of actual host is determined. Adjust the video volume and high hardware integration effect through the compression chip. The compression chip supports the application of different processing systems in the host interface mode. From the functional point of view, pay attention to different types of synchronization and concurrent mode analysis. According to the application of special data monitoring system and the mobile operation of strip constant information data, the transmission performance is determined. According to asynchronous, single two modes, determine the output data flow standard, adjust the effect of each transmission byte mode. Through the allocation of the host interface, the threshold is determined and the actual data clock analysis effect is judged. According to the specific compression chip support, the video interface can be linked. The detection range and standard of the operation port are determined by using the professional video coding data analysis and the external video chip decoder of the host computer. According to the reading and writing threshold, determine the application of data clock. In the interface analysis of compression chip host, it is necessary to adjust the actual characteristics of CPU chip, adjust the internal structure of DMA chip, and make clear the effect of network control according to different modes. According to the asynchronous reading and compression data analysis of the system relay response mode, the storage coding in the compressed video is adjusted, the storage size is adjusted, the mode is determined, and the application of endorsement clock is implemented. In the processing of the core system, the intelligent instruction technology standard should be adopted in the highly integrated micro-processing mode. Through effective multi-embedded operation, adjust the peripheral equipment content of the product.

Through serial port control, general input, output control, chip memory module analysis and so on, the actual system cost is adjusted and the design effect of the system is determined. In the core system mode processing, through the network interface, serial port, internal integration terminal everywhere function, adjust the integrated design and application of the system module, analyze the input and output standard of the actual programmable logic mode system, and adjust the logic effect of the internal terminal control end. Through the analysis of Taiyuan network in the system, the signal control end of the chip is determined, the program sequence content of the initial loading is adjusted, and the application of the kernel system is determined.

## 2.2 Software design

According to the standard of data transmission and control module, embedded video surveillance system pays attention to the penetration of internetwork and the implementation of platform control function. According to the level of protocol quantity, the analysis of open source media module, the transmission library of strip protocol, and the degree of span are implemented. Through the improvement of mode operation, the implementation of rapid development, improve the overall service system application. Through the operation of the sub-module, the network interface is determined, the programming details of the platform are shielded, and the basic mode operation is provided for the cross-platform operation. Through research, error correction, warning, output and other processing to adjust the specific cyclic mode operation. Bronze drum function protocol analysis, determine different types of media fusion operations. The encapsulation processing of RTP/RTCP protocol is carried out, the effect of protocol processing is analyzed, the application mode of data end camera under video surveillance system is determined, and the rotation of video end camera is carried out, so as to achieve better analysis of data monitoring effect.

Table 2. Software design and hardware design key content analysis

software design	Cross platform research	Data error correction	Protocol encapsulation	Port output	Cloud platform synchronization
hardware design	Chip selection	serial ports	Input module general control	Output port logical provisioning	Integration of Ethernet information link

## 3. Conclusion

To sum up, in the analysis of embedded mobile video surveillance system, according to the effective video surveillance service mode, we pay attention to the realization effect of video output of the whole mobile video surveillance service, and do a good job of video storage, integration and analysis. The integrated data service is realized by embedding the mobile terminal, and the integration of software design and hardware design is integrated to improve the application of cloud storage and service system under the integrated mobile video terminal.

## Acknowledgement

2018-KYYWF-1248, Research team of embedded wireless motion monitoring based on big data.

## References

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