Application Research of Electronic Information Technology in Communication

RuiZhi Feng
North China Electric Power University (Baoding), Baoding, Hebei, 071000, China

Abstract. In some actual communication command operations, it is found that communication signals are more susceptible to interference. Interference includes both internal and external factors. The interference causes the communication information to be not transmitted to the terminal device in time, and the communication work cannot be completed. Today, with the rapid development of electronic technology, the combination of electronic information technology and communication engineering can not only lay a technical foundation for command work, but also greatly improve the signal transmission speed and quality of communication command. This topic will analyze the impact of electronic information technology on communication command work, and explore how to effectively use electronic information technology for communication command work.

1. Introduction
With the rapid development of China's modern social economy and technology, electronic information technology has also made rapid progress, and has been widely used in various industries to promote the overall development of the industry. In the field of communication command, electronic information technology is also widely used, which not only improves the ability and level of communication command work, but also further improves the overall quality and efficiency of communication command work, fully exerts and guarantees the communication command in society. An important role to protect the development of social harmony. This paper mainly analyzes the significance of the application of electronic information technology in communication command and the mutual development of the two, focusing on the technical methods mainly used in communication command, and the specific methods of electronic information technology application.

2. Overview of Electronic Information and Communication Engineering

2.1 Electronic information overview
Electronic information technology includes information control and information processing, research information extraction and processing and development of information. Learn basic circuit knowledge based on the use of a computer. For example, electrical engineering, electronic technology, signals and systems, and calculation of emergency control principles. The technology includes two main technologies: one is power electronics; the other is information electronic technology, its coverage is very extensive, information technology is an important pillar of our country's economic development, and is closely integrated with communication engineering in the development process. The new era of the network and the digital age in today's society.
2.2 Communication Engineering Overview

The coverage area of communication engineering is mainly in the field of communication, involving optical fiber, digital and Internet communication. It mainly deals with the exchange of information between people and the handling and maintenance of its communication process. Communication engineering is closely related to people’s daily life. It needs to rely on modern information technology. Its main functions are information analysis and information processing. In the communication engineering, various information and related elements need to be collected and processed, including light, sound, electricity, etc. Each element corresponds to the relevant program code and is stored in the electronic chip to form a signal system.

According to the user's command relationship and actual functional requirements, the communication command adopts the hierarchical command organization structure, which is divided into three levels from top to bottom: the first-level communication command sub-system, the second-level communication command sub-system and the three-level communication command sub-system, such as Figure 1 shows.

The communication command sub-systems at all levels realize interconnection and information interaction through wired and wireless communication networks, and realize distributed implementation of communication command functions according to the principle of jurisdiction management. The first-level communication command sub-system can command the second-level communication command sub-system, and the second-level can accept the command of the first-level communication command sub-system, and can also command the three-level communication command sub-system under the jurisdiction.

Figure 1. Schematic diagram of the organizational structure of the communication command system

The communication command system includes communication command processing server, communication command data server, communication command terminal and other equipment. The specific equipment configuration quantity can be adjusted as needed. The communication command processing server provides a back-end application processing service for the communication command system, and the application service components include a communication monitoring service, a communication support solution service, a communication configuration service, and a user registration service, and the communication command system equipment is as shown in Figure 2.

The communication command data server provides the back-end data storage function for the communication command subsystem, and provides a communication guarantee solution library, a communication information base, a communication resource library, and a system operation log library.

The communication command terminal provides a man-machine interface for communication command, and provides a function display interface for the communication commander to provide communication monitoring and communication support plan formulation.
2.3 The relationship between electronic technology and communication engineering
The relationship between electronic technology and communication engineering is expressed as “mutual promotion”. The continuous development of communication engineering requires the support of electronic technology. The application of electronic technology can solve the processing problems of switching equipment in communication engineering, and it can improve the switching equipment. To support the development of communication engineering, in communication engineering, it contains more core hardware. These hardwares have high dependence on electronic technology and require the support of electronic technology to run stably. Communication engineering has been under constant development, making people rely more and more on efficient information exchange technology. The development of communication engineering has promoted the spread of information technology and provided a good opportunity for the application.

3. Development status of electronic information technology and communication command
As far as China's electronic information technology and communication command field is concerned, due to the late start time, there is still a certain gap with the developed countries, and there are still many shortcomings in its development. The development of related industries and various normative systems is still not Exact match. In addition, the lack of relevant technical researchers, as well as the construction and introduction of a comprehensive high-standard talent system in the technical field is still further intact.

However, with the continuous development of China's electronic information technology in recent years, the technology has been greatly improved. In order to meet the needs of the development of modern society, China is vigorously developing electronic information technology. Considering the vast territory of China, the replication of topography and landforms, and the variability of climate and environment, the impact on the quality of information transmission. Especially in the wide area and long distance information transmission, this has higher requirements for communication command work. At present, the field of communication command uses electronic information technology based on mature and convenient wireless communication technology. On the one hand, it can not only effectively play the radio communication of microwave, satellite, infrared, short/medium/long wave, etc. in communication command work. The effect, and also helps to break through the geographical restrictions, so as to ensure the quality of the communication command signal, achieve a wider coverage, and increase the capacity of the entire communication system. It is more convenient to realize the flexible networking and operation of the communication command system.
4. Application of Electronic Information Technology in Communication

Electronic information technology is used in communication command, mainly including information collection, information processing, command and control, etc. This paper mainly introduces information collection and information processing.

4.1 Information Acquisition Technology in Communication Engineering

Through the integrated camera inside and inside the car, real-time video surveillance of the scenes inside the car and the environment outside the car can be realized; in the complex geographical environment that the city's civil air defense command communication vehicle cannot reach, the single-pass piggyback wireless broadband video is adopted. The acquisition device transmits the image and sound of the scene back to the mobile command communication system in real time via wireless means. It can also be used to record live audio and video information, making the on-site recording more detailed.

Through the camera inside the car, real-time video monitoring of the scenes and equipment running status in the vehicle can be realized, so that the vehicle's civil defense command organization or ground command center can keep abreast of the environmental conditions inside the vehicle and provide accurate information support for command and decision.

The individual soldier piggyback system inputs the collected audio and video information to the audio and video distributor through the wireless transceiver device, one output to the composite matrix, and the other to the hard disk recorder; the vehicle camera inputs the captured image information to the video cable through the video cable.

![Figure 3. Schematic diagram of information collection](image)

4.2 Information Processing Technology in Communication Engineering

The information processing subsystem is an important part of the entire communication vehicle. It is the key task of the information processing of the command center and the nerve center of the entire command center.

The information processing subsystem is equipped with military primary reinforcement computers, servers, multi-function office and other office equipment, and is equipped with various information storage devices such as hard disk recorders. All devices are interconnected by on-board computer network, which can communicate with the private network through VSAT satellite, optical fiber, network cable, GSM/CDMA network, etc., so that the human defense mobile command center can conveniently carry out data, video, voice, etc. with the outside. The interaction of multimedia information enables the release of command information. At the same time, it builds a reliable information transmission platform for the information collection subsystem and command and control subsystem of the mobile command center, making the whole vehicle electronic information system an organic whole.

Information processing includes computer network sub-computers and computer terminals.

The external connection of the system interconnection network is the core of emergency support, and is the link between the connection system and the fixed command center. The system connects with the
network of the rear fixed command center through various communication methods such as wired, wireless, satellite, etc., to provide service links for voice, image and data transmission, and provides the first field important decision-making basis for the leaders of the fixed command post. As shown in Figure 4.

Figure 4. Command platform communication network topology

5. Conclusion
In summary, the application of relevant electronic information technology in the actual communication command work can effectively guarantee the effective implementation and development of communication work. As long as the emphasis on electronic information technology is advanced and scientific application is sufficient, it can be guaranteed. Overall work level and efficiency improvement. From the perspective of the development of modern society in China, the development of electronic information technology is a necessary and important form of development, which plays an active role in promoting social progress and deeply affects the process of communication command. This should require relevant technical personnel to fully apply electronic information technology, and continue to carry out relevant analysis and research, and strive to fully play out the important role of electronic information technology, fully demonstrate its ability to obtain geographic location, and further promote The related work went smoothly.

6. References
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