

Characteristics and Countermeasures of Radio and Television Technical Maintenance in the New Era (Postprint)

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Abstract

Radio and television occupy an important position in people's daily lives. As society continues to progress, the radio and television industry is also constantly innovating, with increasing adoption of innovative equipment and technologies, thereby posing challenges to maintenance work. Therefore, for the contemporary media industry, strengthening radio and television maintenance and comprehensively improving the effectiveness of radio and television technology maintenance bear important practical significance.

Full Text

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Abstract: Radio and television hold an important position in people's daily lives. As society continues to progress, the broadcasting industry is constantly innovating, with an increasing number of innovative devices and technologies being introduced, which poses new challenges for maintenance work. Therefore, for the current media industry, strengthening radio and television maintenance work and comprehensively improving the effectiveness of broadcasting technology maintenance has significant practical importance.

Keywords: Radio and television; technical maintenance; characteristics; practical countermeasures

1.1 Networkization and Automation

With the unprecedented popularization of the Internet, its integration with various industries has effectively promoted socio-economic development. The broadcasting industry has achieved network-based transmission and automated

playback, incorporating a large number of electronic information devices into every aspect of its operations. This presents a major challenge for staff, as the introduction of electronic information equipment requires them to become proficient with new devices. Moreover, the adoption of new equipment means the obsolescence of old equipment, rendering years of accumulated work experience outdated and necessitating that staff undergo relevant training to master the operating principles of new devices and ensure the stability of networkization and automation in broadcasting systems.

1.2 Digitalization of Broadcasting Systems

Traditional broadcasting transmission typically used analog signals, but DVB signals, DAB signals, and HDTV signals are now widely used, with most broadcasting organizations having completed the transition between the two systems. This has led to the replacement of transmission and emission systems. Digital compression technology has increased transmission data, while changes in multi-channel and teletext technologies have also diversified broadcasting functions, adding complexity to maintenance work.

2.1 Development Status of Radio and Television

With the continuous acceleration of social pace, the frequency and number of radio and television broadcasts have increased according to people's needs. According to research, most radio and television stations broadcast for up to eighteen hours per day, with some stations even operating round-the-clock. Consequently, broadcasting maintenance work has become increasingly frequent.

2.2 The Role of Maintenance Work

As a traditional media form, radio and television have their own characteristics compared to current emerging online media. Broadcasting typically transmits information with greater reliability and stability—advantages that current emerging media cannot match. Like most media, radio and television can only achieve good broadcasting effects by ensuring sufficient public attention, which usually depends on program quality and stability. The transmission quality of radio and television programs is supported by hardware, so ensuring program quality requires emphasizing hardware equipment maintenance. In specific maintenance processes, rigorous and effective work methods must be implemented based on actual conditions to ensure normal broadcasting and demonstrate these advantages.

2.3 Analysis of Characteristics of Technology Maintenance Work

With increasingly fierce competition among media, traditional channel transmission methods are no longer suitable for the current development environment, and integrated broadcast control systems better meet the needs of modern broadcasting development. However, this has also resulted in more complex transmis-

sion systems. As the complexity of media information transmission increases, so does the complexity of transmission systems. Therefore, broadcasting technology maintenance work has the characteristic of growing complexity.

Transmission technology continues to develop with scientific progress. Currently, radio and television employ multiple transmission methods, including fiber optic propagation, satellite transmission, and digital compression, demonstrating the diversity of broadcasting technology maintenance work. The continuous popularization of information technology has enabled automated operation of radio and television, changing traditional broadcasting patterns. Electronic information equipment is typically updated and iterated rapidly, which poses significant challenges for maintenance work while also promoting its development.

3.1 Building Complete Maintenance Records

Maintenance records play an important role in maintenance work but are often neglected by staff. Complete maintenance records can provide effective references for technical improvements and important basis for equipment repairs, making them highly valuable in maintenance work. In daily operations, staff must record maintenance work immediately upon completion. During this recording process, maintenance personnel can also review whether previous work had any omissions, ensuring maintenance quality. Simultaneously, the process of creating maintenance records serves as a learning opportunity, allowing staff to understand key points and details in maintenance work, thereby accumulating relevant experience and improving their technical skills.

3.2 Mastering Normal Equipment Operation Modes

Broadcasting equipment typically comes with a complete factory report describing its normal operating state. Technicians should use this to establish equipment files, using test reports as the foundation for future maintenance work. Staff should pay attention to establishing failure archives for equipment, documenting different fault conditions. This not only enables rapid identification of causes during future inspections but also deepens technicians' understanding of equipment operating principles and improves their technical proficiency.

3.3 Establishing Emergency Response Plans

Establishing emergency response plans based on equipment maintenance records and operating principles to improve staff emergency handling capabilities is an important component of the broadcasting technology support system. Therefore, maintenance staff should regularly conduct comprehensive assessments of equipment operation, analyzing primary failure elements and occurrence patterns through maintenance logs and repair records. By regularly optimizing equipment operating environments and avoiding external factors that affect operation, they can prevent failures before they occur. Maintenance personnel

should develop emergency response plans in advance based on work experience and current equipment status to ensure rapid resolution when sudden failures occur.

3.4 Emphasizing Technical Talent Cultivation

Broadcasting technology maintenance is a highly specialized profession. The continuous updating and iteration of technological equipment requires corresponding technical talent. Broadcasting equipment maintenance teams must possess highly skilled professionals with strong specialized qualities. In training, managers should also focus on cultivating technicians' innovative concepts, enabling them to proactively identify problems and propose optimization solutions in daily work. While emphasizing professional technical training, attention should also be paid to safety knowledge education, helping staff understand the dangers of accidents and the importance of their work for broadcasting operations, thereby aligning their thinking with their actions.

3.5 Improving Rules and Regulations

Although there are relatively few positions in broadcasting technology maintenance, managers must establish clear rules, regulations, and operational procedures to prevent staff from relying solely on personal experience and preferences in daily work. Every work step must have regulations and codes of conduct; otherwise, the effectiveness of maintenance work cannot be ensured. Daily maintenance work is often highly repetitive, making staff prone to boredom. Therefore, managers should provide constraints and stimulate technicians' enthusiasm through improved reward and punishment systems, thereby enhancing broadcasting technology maintenance standards from the foundation. Regulatory departments should change their supervision models, shifting from on-site management to position management to ensure every position has corresponding supervisors. For both new and old equipment, maintenance teams need to establish relevant operational standards, promptly replace unusable equipment or components, and establish maintenance standards for new equipment in a timely manner to ensure broadcasting quality.

Conclusion

In the context of modern society, broadcasting technology maintenance work plays a crucial role in the development of the broadcasting industry. To ensure broadcasting stability, broadcasting technology maintenance must have higher standards and more detailed maintenance methods. Broadcasting technology maintenance personnel must continuously update their professional skills along with equipment updates, explore more reliable maintenance technologies using their work experience and new technical knowledge, face complex and diverse equipment with excellent skills, and implement broadcasting maintenance work effectively.

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