

## Analysis of Characteristics and Countermeasures for Radio and Television Technology Maintenance in the New Era (Postprint)

**Authors:** Zhang Yu

**Date:** 2023-10-08T00:00:00+00:00

### Abstract

With the continuous improvement of people's living standards, increasing importance is being attached to entertainment and leisure. Broadcast television, as a significant component of people's entertainment, thus occupies an increasingly prominent position. In the current development of broadcast television, a crucial point for its better advancement and for better satisfying people's demands is to perform technical maintenance, ensuring that the functions and roles of broadcast television are more effectively fulfilled. This paper analyzes the characteristics and countermeasures of broadcast television technical maintenance work in the new era.

### Full Text

#### Analysis of the Characteristics and Countermeasures of Broadcast Television Technology Maintenance in the New Era

**Abstract:** As living standards continue to improve, people are placing greater emphasis on entertainment, and broadcast television, as an important component of entertainment, has assumed an increasingly significant position. In the current development of broadcast television, technical maintenance is essential to ensure better development and meet people's needs, guaranteeing that the functions and roles of broadcast television are fully realized. This paper analyzes the characteristics and countermeasures of broadcast television technology maintenance in the new era.

**Keywords:** broadcast television; technical maintenance; characteristics; countermeasures

**CLC Number:** TN94

**Document Code:** A

**Article ID:** 1671-0134(2018)09-073-02

**DOI:** 10.19483/j.cnki.11-4653/n.2018.09.028

**Author:** Zhang Yu

In the new situation of continuous development across all sectors of society, promoting better operation and development of broadcast television has become a necessary task. To achieve this goal, technical maintenance is an essential requirement. In the process of carrying out broadcast television technology maintenance, relevant staff must fully understand the characteristics of their work and implement effective countermeasures to improve the level of technical maintenance and achieve ideal results, thereby ensuring that broadcast television operates more effectively and better meets people' s needs.

## 1. Overview of Broadcast Television Technology Maintenance in the New Era

In terms of the current new social development situation, broadcast television technology maintenance work mainly includes three aspects: First, regular maintenance of the broadcast television system and equipment components must be performed, along with emergency fault repair; second, technical maintenance and repair of broadcast television should be conducted according to the actual operating patterns of equipment to ensure optimal performance; third, targeted technical maintenance and repair should be implemented for unexpected problems that arise during equipment operation to restore normal functionality. In practice, broadcast television technology maintenance typically combines regular maintenance with emergency fault handling to ensure ideal maintenance outcomes.

Under the new social development situation, achieving better implementation of broadcast television technology maintenance requires greater attention to relevant work principles. During actual broadcast television operations, routine inspections should be conducted frequently to effectively reduce fault occurrence rates, thereby decreasing the frequency of emergency fault handling and ensuring stable system operation. Additionally, during regular maintenance, the incidence of emergency fault handling should serve as a work guide, with both maintenance methods applied collaboratively to better satisfy broadcast television quality and stability requirements and promote better development [?].

## 2. Characteristics of Broadcast Television Technology Maintenance in the New Era

### 2.1 Large Volume of Information Transmission

In current broadcast television operations, the system covers a large area and maintains close connections with information transmission systems. However,

limitations and impacts from transmission technology factors affect normal program broadcasting, primarily due to poor information transmission quality that influences audience viewing. Under special weather conditions, broadcast television information transmission effects are particularly poor. In the current context of information communication development, traditional transmission technology can no longer meet actual needs and requirements, making it necessary to change information transmission methods. Against the backdrop of rapidly developing modern satellite technology, both the quality and efficiency of information transmission have improved, enabling better implementation of broadcast television technology maintenance work and enhancing its reliability.

## **2.2 Complex Signal Transmission**

With the continuous and rapid development of various transmission technologies, the complexity of signals transmitted during broadcast television signal transmission has increased. If single transmission methods are still selected in current broadcast television signal propagation, it will impact development. To achieve better development of the broadcast television industry, comprehensive-function broadcast television systems have emerged and been applied. These systems demonstrate greater flexibility in television program production and possess powerful functions, including large-scale audio and video switching matrices and relatively complete peripheral equipment.

## **2.3 Increasing Number of Channels and Broadcast Frequency**

Against the backdrop of continuous social, economic, and scientific development, the broadcast television industry has also achieved good development. As audience demands continue to change in the new era, existing broadcast channels, times, and frequency can no longer meet actual needs. To satisfy these demands and achieve better development, both the number of broadcast television channels and broadcast frequency have shown continuous growth trends. Additionally, broadcast television program airtime has continuously extended, with most programs broadcasting up to seventeen hours, and some achieving twenty-four-hour uninterrupted playback. This situation has increased the difficulty and cost of broadcast television technology maintenance work, creating greater pressure on maintenance operations.

## **2.4 Intelligent Broadcast Television Systems**

In the current development of broadcast television, systems are gradually demonstrating an intelligent development trend. Through the application of computer technology and network technology, broadcast television work efficiency and quality have been effectively improved, providing better guarantees for program broadcast security and integrity. During actual broadcast television information dissemination, intelligent operations enable network surfing and other entertainment value-added business processing. The rational application of technology better satisfies people's spiritual and cultural needs. Against the backdrop of

achieving intelligent goals, broadcast television technology maintenance work has also shown an intelligent development direction. Maintenance personnel can better apply modern maintenance technologies to effectively improve maintenance efficiency and ensure better maintenance work implementation [?].

### **3. Countermeasures for Broadcast Television Technology Maintenance**

#### **3.1 Clarifying Maintenance Objectives**

In current broadcast television technology maintenance work, there are many new technologies with different specifications. As technical maintenance personnel, it is essential to clarify the objectives of broadcast television technology maintenance, with the core objective being the reduction of broadcast accidents caused by equipment failures. During actual operation of broadcast television systems, equipment failures can lead to broadcast accidents, reducing broadcast television authority and affecting development. Therefore, relevant technical maintenance personnel must actively carry out equipment maintenance work. First, broadcast television equipment should be inspected frequently to ensure normal operation. Second, equipment rooms should be kept clean with appropriate humidity levels. Third, appropriate placement distances should be maintained between different equipment to prevent magnetic frequency interference. Additionally, daily equipment maintenance should be strengthened to extend service life and reduce repair costs. Meanwhile, negative impacts from human error should be actively avoided. When problems occur, they should be analyzed and resolved promptly to ensure normal broadcast television system operation.

#### **3.2 Clarifying Maintenance Work Approaches**

In the actual implementation of broadcast television technology maintenance work, sufficient attention should be paid to regular equipment inspection. Components that are easily damaged or temperature-sensitive should be monitored closely, and equipment dust should be cleaned promptly to prevent dust from affecting heat dissipation functions. Simultaneously, temperature detection of air-cooling components and power supply components should be strengthened to observe whether they are normal. Equipment overheating issues should be given full attention to prevent component damage caused by excessive temperatures. Additionally, it should be ensured that transmitter and power amplifier air-cooling systems work normally, and poor contact issues should be checked in detail. For faulty equipment, appearance should be checked first to see if indicator readings and components are normal, paying attention to whether there are abnormal sounds in broadcast signals and inside the machine, and whether wires and components show signs of burning. Furthermore, during inspection work, measurement instruments should be used to measure data parameters of relevant equipment according to actual instrument application conditions, which

is of great importance and significance for improving fault detection efficiency.

### 3.3 Improving Operator Skills and Capabilities

In the implementation of broadcast television technology maintenance work, faults caused by human factors should be actively avoided. To achieve this goal, operator skills and capabilities need to be improved. First, in actual work, operators' safety awareness should be cultivated so that they recognize the importance of safe operation from an ideological perspective, thereby operating relevant instruments and equipment safely and reasonably to avoid faults caused by improper human operation. Second, technical training for operators should be further strengthened to enable them to master modern technologies and operation methods, avoiding operational errors during actual operation and ensuring that broadcast television equipment operates well and achieves better application. Third, scientific and reasonable operation systems and standards should be formulated to guide operators in better equipment operation.

### 3.4 Building a Technical Maintenance System

In the process of carrying out broadcast television technology maintenance work, to achieve more ideal results, attention should also be paid to building a scientific and reasonable technical maintenance system to make maintenance work more systematic and effectively improve its scientific nature and rationality. To build such a system, the following aspects should be addressed in actual maintenance work. First, greater attention should be paid to technical maintenance work, with a clear understanding of its importance, active investment in actual work, and ensuring rationality so that broadcast television technology maintenance work can be better implemented and achieve more satisfactory results. Second, a clear responsibility system should be established to ensure effective completion of relevant technical maintenance tasks assigned by leadership, achieving unity in thought and action to better participate in maintenance work. Third, more targeted maintenance measures should be formulated. In maintenance work, relevant staff should develop more scientific and reasonable technical maintenance measures based on actual conditions to make maintenance work more targeted and ensure more satisfactory results.

## 4. Conclusion

In the actual operation and development of current broadcast television systems, broadcast television technology maintenance work constitutes important content and an inevitable requirement that enables better application of broadcast television equipment. As broadcast television technology maintenance personnel, it is essential to strengthen understanding of maintenance work and clearly grasp its characteristics. On this basis, effective countermeasures should be used to scientifically and reasonably carry out broadcast television technology maintenance work to improve maintenance efficiency and quality, ensure more

stable and good development of broadcast television, and enable it to provide better services for people.

## References

- [?] Wang Lei. Analysis of the Characteristics and Countermeasures of Broadcast Television Technology Maintenance in the New Era[J]. Science and Technology Communication, 2017, 9(15): 48-49.
- [?] Li Baojun. Characteristics and Countermeasures of Broadcast Television Technology Maintenance in the New Era[J]. China Media Technology, 2013(22): 137.
- [?] Huang Shiquan. Analysis of the Characteristics and Countermeasures of Broadcast Television Technology Maintenance in the New Era[J]. West China Broadcasting TV, 2013(14): 143, 145.
- [?] Guo Xuemin. Analysis of the Characteristics and Countermeasures of Broadcast Television Technology Maintenance in the New Era[J]. Science and Technology Communication, 2011(24): 20-21.

**(Author Affiliation: Hulunbuir Radio and Television Station)**

*Note: Figure translations are in progress. See original paper for figures.*

*Source: ChinaXiv – Machine translation. Verify with original.*