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PEOPLE'S REPUBLIC OF CHINA**

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**Uniform technical specification for digital satellite news
gathering
(English Translation)**

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Foreword

This standard mainly refers to Recommendation ITU-R SNG.1007-1 and other satellite news gathering of the Radiocommunication Sector of the International Telecommunication Union Series of Recommendations, and European Telecommunications Standards Organization's series of standards and reports on digital satellite news gathering, combined with China's satellite news gathering the technical requirements for network access are based on the practical application of digital broadcasting and satellite news gathering in China's radio and television.

This standard is under the jurisdiction of the National Radio and Television Standardization Technical Committee.

This standard was drafted. Standardization Planning Institute of the State Administration of Radio, Film and Television, and CCTV.

Introduction

Digital Satellite News Gathering (DSNG) uplink earth station has small equipment size, easy installation, quick start-up, and no geographical restrictions and flexible and mobile characteristics, so it plays an important role in the interview of important news events, and the application in the radio and television industry More and more extensive.

DSNG operates in the fixed-satellite service band and is used temporarily. It is important to consider the following principles when using it.

-Ensure compliance with international radio regulations and relevant domestic regulations;

- Ensure that the technical requirements for satellite access are met;
- According to transmission requirements, technical means for scrambling and encryption can be provided;
- Minimize internal links, install quickly and easily, all external connections should be waterproof. With proper device configuration, allow Some equipment of DSNG works after the shelter is removed, but it provides a non-open-air environment for the electrical equipment to control the system equipment.

General technical specifications for digital satellite news gathering

1 Scope

This standard specifies the general technical requirements for digital satellite news gathering.

This standard applies to the production, acceptance, network access, use and operation of digital satellite news gathering earth stations (vehicle or removable stations) equipment maintain.

2 Normative references

The clauses in the following documents have become the clauses of this standard after being referenced. For dated references, all subsequent Neither amendments (excluding errata) or revised versions are applicable to this standard, however, parties who have reached an agreement under this standard are encouraged to study is the latest version of these files available? For undated references, the latest version applies to this standard.

GB 9159-1988 safety requirements for radio transmitting equipment GB 12638-1990 Microwave and Ultrashort Wave Communication Equipment Radiation Safety Requirements GB 13615-1992 Earth station electromagnetic environment protection requirements GB/T 17700-1999 Satellite digital television broadcasting channel coding and modulation standard GB/T 17975.1-2000 Information technology. Universal coding of moving pictures and associated audio information. Part 1. System GB/T 17975.2-2000 Information technology. Generic coding of moving pictures and associated audio signals. Part 2. Video GB/T 17975.3-2002 Information technology. Generic coding of moving images and associated sound signals. Part 3. Audio ITU-R BO.1211 Digital multi-program transmission system for satellite television, sound and data services in 11/12GHz ITU-R S.524-7 Maximum allowable off-axis EIRP density of GSO fixed earth transmitting earth stations in 6GHz, 14GHz and 30GHz Level Antenna radiation pattern for ITU-R S.580 geostationary satellite earth station design ITU-R S.726 Maximum allowable level of spurious radiation for ultra-small aperture terminals ITU-R SNG.722-1 (Analog) General Technical Standard for Satellite News Gathering ITU-R SNG.770-1 General operation procedure for satellite news gathering ITU-R SNG.1007-1 (Digital) General Technical Standards for Satellite News

Gathering Digital transmission technology used in ITU-R SNG.1152 (sound) satellite news gathering ITU-R SNG.1421 Common operating parameters for digital satellite news gathering transmission interoperation ETSI EN 301 210 Frame structure, channel coding and modulation for digital satellite news gathering and other satellite distribution applications ETSI TR 101 221 User Guide for Digital Satellite News Gathering and Other Satellite Distribution Applications ETSI ETS 300 327 Satellite News Gathering Removable Earth Station IESS 308 uses convolutional coding/Viterbi coding and QPSK modulation, working characteristics of digital carrier with medium data rate

3.1 Terms and definitions

The following terms and definitions apply to this standard.

Digital satellite news gathering (DSNG) Working in the fixed-satellite service band, using digital technology, using vehicle-mounted or portable satellite uplink earth stations to view video and audio signals Temporary transmission.

3.2 Acronyms

The following abbreviations apply to this standard.

8PSK Eight Phase Shift Keying BER Bit Error Ratio DSNG Digital Satellite News Gathering EIRP Equivalent Isotropically Radiated Power GSO Geostationary-Satellite Orbit IF Intermediate Frequency IRD Integrate Receiver Decoder QEF Quasi-Error-Free QPSK Quaternary Phase Shift Keying RF Radio Frequency RS Reed-Solomon UPS Uninterrupted Power Supply

4 DSNG system transmission process and basic components

The signal processing and transmission process of DSNG system is shown in Figure 1.

Audio

Encoder

video

Power amplifier

Upconverter

modem

Satellite transponder Satellite receiving antenna IRD Satellite transmitting antenna Audio video TV station satellite Collection site DSNG system

Figure 1 Signal processing and transmission process of DSNG system

The basic components of a DSNG system include.

- Antenna feeder system;
- RF subsystem;
- Compression coding and modulation subsystem;
- Ancillary function subsystems.

Among them, the auxiliary function subsystem includes.

- Monitoring unit;
- IRD unit;
- Power supply unit;
- Positioning and pointing device.

5 Safety requirements

5.1

The microwave and ultra-short wave radiation intensity of the uplink station equipment should not exceed the safety limit specified in GB 12638-1990.

5.2

The safety requirements of the transmitting equipment of the uplink station shall meet the relevant regulations of GB 9159-1988.

6 Electromagnetic environment requirements

The electromagnetic environment requirements shall meet the relevant regulations of GB 13615-1992.

7.1.1 Video encoding

Adopt MPEG-2 4. 2. 0MP @ ML main type main stage and MPEG-2 4. 2. 2P @ ML video encoding, which should comply with the relevant requirements of GB/T 17975.2-2000 Regulations.

7.1.2 Audio encoding

May use MPEG-2 level I or level II audio coding, should comply with the relevant provisions of GB/T 17975.3-2002.

7.2 Transmission system technical requirements

The functional block diagram of the transmission system is shown in Figure 2.

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