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Access to audio and video type leased circuits on radio link. Specification of the user-network interface.

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Abstract : Requirements for the network interface of a audio- and video connection via radio link.

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1 Scope

This specification gives requirements for the network interface for leased circuits used for the transmission of audio and video on radio links.

2 References

2.1 Normative references

- [1] ITU-R Report 624-4 (1990): "Characteristics of television systems".
- [2] IEC 60169-8 (1978-01) "Radio frequency connectors – Part 8: R.F coaxial connectors with inner diameters or outer conductor 6,5 mm (0,256 in) with bayonet lock – Characteristic impedance 50 ohms (Type BNC).
- [3] IEC 60268-12 (1987-08) "Sound system equipment. Part 12: Application of connectors for broadcast and similar use.
- [4] EN 300 386-2: "Electromagnetic compatibility and Radio spectrum Matters (ERM); Telecommunication network equipment; Electro Magnetic Compatibility (EMC) requirements; Part 2: Product family standard". V1.1.3 (1997-12).
- [5] EN 60950: "Safety of information technology equipment including electrical business equipment" (1992)
- [6] EN 41003: "Particular safety requirements for equipment to be connected to telecommunication networks" (1991-05)
- [7] ITU-T K31: "Bonding configurations and earthing of telecommunication installations inside a subscriber's building" (1993-03)
- [8] ITU-T K20: "Resistibility of telecommunication switching equipment to over-voltages and over-currents" (1996-10)
- [9] ITU-T K15: "Protection of remote-feeding systems and line repeaters against lightning and interference from neighbouring electricity lines" (1988-11)
- [10] ITU-T K.21: "Resistibility of subscribers' terminal to over-voltages and over-currents" (1996-10)
- [11] EN 300 128 (1999): "Transmission and Multiplexing (TM); Digital Radio Relay Systems (DRRS); Parameters for DRRS for the transmission of digital signals and analogue video signals operating at 23 GHz".

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2.2 Informative references

- [12] EG 201 147: "Equipment Engineering (EE); Interworking between Direct Current/Isolated (DC/I) and Direct Current/Common (DC/C) electrical power systems" . V1.1.2 (1998-02).

3 Definitions and abbreviations

PAL - Phase Alternating Line

4 Video interface

The video interface will be a PAL interface as specified in ITU-R Rep.624 [1]

4.1 Level

The level of the video interface is nominally 1 V peak-to-peak.

4.2 Impedance

The impedance of the video interface will be 75 ohms unbalanced.

4.3 Return loss

The video interface will have a return loss of minimum 26 dB.

4.4 Connector

The connector for the video interface will be BNC (female).

5 Audio interface

Up to four audio channels are available each with a bandwidth of 40 Hz – 15 kHz..

5.1 Level

The level of the audio input and output interface is 0 to +6 dBm (peak level +18 dBm).

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5.2 Impedance

The impedance of the audio input interface will be 600 ohms symmetric.

The impedance of the audio output interface will be < 50 ohms symmetric.

5.3 Return loss

The audio interface will have a return loss of minimum 20 dB.

5.4 Connector

The connector for the audio interface will be BNC (female).

6 Safety, EMC, bonding and over-voltage requirements

6.1 Safety

Equipment connected to the interface shall be in accordance to [5] EN60950, and [6] EN 41003.

6.2 Over-voltage protection

Equipment connected to the interface shall be in accordance to [8] ITU-T K20 and [9] ITU-T K15.

If the cables between the network termination point and the terminal equipment leave the building, protection of the terminal equipment may be required according to [10] ITU-T K21.

6.3 Electromagnetic Compatibility (EMC)

The EMC requirement for the equipment ports is given in [4] EN 300 386-2, subclause 5.2.3: "Other than telecommunication centres, ports for indoor signal lines". This requirement shall be interpreted as valid for the interface ports formed by the input/output sockets.

6.4 Bonding configuration and earthing of equipment using the specified interface

Bonding configurations and earthing of telecommunication equipment connected to the interface shall be in accordance to [7] ITU-T K31.

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Note:

As the outer coaxial conductor normally will be grounded in each end at the equipment ports, a connection between different ground levels and/or different current systems may be established. This may cause transmission noise and have a safety aspect in case of short-circuiting in one of the power feeding systems.

Guidelines to overcome those problems are given in [12] EG 201 147.

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