AS/NZS 1367:2007

Australian/New Zealand Standard™

Coaxial cable and optical fibre systems for the RF distribution of analog and digital television and sound signals in single and multiple dwelling installations

This Joint Australian/New Zealand Standard was prepared by Joint Technical Committee CT-002, Broadcasting and Related Services. It was approved on behalf of the Council of Standards Australia on 5 September 2007 and on behalf of the Council of Standards New Zealand on 14 September 2007.
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The following are represented on Committee CT-002:

Australian Broadcasting Corporation
Australian Chamber of Commerce and Industry
Australian Communications and Media Authority
Australian Electrical and Electronic Manufacturers Association
Australian Information Industry Association
Australian Subscription Television and Radio Association
Broadcast Australia
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Community Broadcasting Association of Australia
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We also welcome suggestions for improvement in our Standards, and especially encourage readers to notify us immediately of any apparent inaccuracies or ambiguities. Please address your comments to the Chief Executive of either Standards Australia or Standards New Zealand at the address shown on the back cover.

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PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee CT-002, Broadcasting and Related Services, to supersede AS/NZS 1367:2000, *Coaxial cable systems for the distribution of analog television and sound signals in single and multiple unit installations*.

The objective of this Standard is to provide specifications and requirements for the cabling of range of premises and buildings generally referred to in this Standard as dwellings, for distribution of analog and digital services such as free-to-air TV and sound, subscription or pay TV, or in-house video systems via RF distribution. Such distributed services may include an interactive path.

A further objective of this Standard is to provide building owners, managers, architects, consultants, designers, manufacturers, installers, maintainers, service providers and users with requirements to meet user and service provider expectations, including performance criteria, for existing and foreseeable future services.

This Standard specifies the required equipment and system performance to meet safety, EMC and quality of service requirements of the end user or consumer.

This revision of AS/NZS 1367:2000 reflects the changes in the transmission formats such as the introduction of Free To Air (FTA) digital terrestrial television broadcasts using DVB-T and Cable systems introducing digital DVB-C plus advances in DVB-S equipment and systems. The following additions and revisions are included.

Transmission medium and major equipment type additions:

- Optical
- DVB-T
- DVB-C
- T-DAB
- Multiswitches
- Diplexers
- Transmodulators (TDT) for DVB-S conversion to DVB-C

Specification and text revisions:

- Satellite IF bandwidth extension to 2150 MHz
- System outlet level revisions and expansion
- Signal quality revisions and expansion
- Maximum level capability revisions and expansion
- Return loss revisions
- Safety requirements revisions
- EMC revisions for clarity
- Addition of Coaxial Cable specifications
- Addition of F-type Connector informative revisions
- Addition of a grade choice in specifications

- Removal of *Methods of Measurement* Appendix. This change is intended to encourage reliance upon compliant test equipment, which is now readily available, rather than special methods of measurement or test procedures. Common test structures rely upon direct reference to CENELEC/IEC or ETSI or ANSI/SCTE test procedures.
- Supporting explanatory text
- Impulse noise advice inclusions
- DVB-T multipath, echo and SFN briefs
- Device labelling requirements
- Glossary revision and expansion
- Revision of symbols
- Revision of diagrams, drawings and schematics

Statements expressed in mandatory terms in notes to tables are deemed to be requirements of this Standard.

The terms ‘normative’ and ‘informative’ have been used in this Standard to define the application of the appendix to which they apply. A ‘normative’ appendix is an integral part of a Standard, whereas an ‘informative’ appendix is only for information and guidance.

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1.1 SCOPE AND APPLICATION

1.1.1 Scope

This Standard sets out specifications that relate to the design, installation, electrical safety aspects and working performance of a range of Radio Frequency (RF) distribution systems along with passive and active components that will enable the high quality distribution of analog and/or digital television and sound signals in single homes and multiple unit dwellings. The end result of compliant systems and components is to make available RF based broadcast or in-house signals carried by coaxial cable or by a combination of coaxial cable and fibre optic cable, to one or several outlets in a user's dwelling(s) and then onto a user's receiver where a tuner may reliably select and decode the desired signal with minimum distortion or interference. The scope is illustrated in Figure 1.1.

This Standard is applicable to systems capable of accommodating the distribution of RF signals depending on service requirements that may include interactive return path, over a frequency range that may cover from 5 MHz to 2150 MHz.

This Standard covers distribution systems that typically carry, as a minimum, the local Analog TV and Digital TV[1] Free-To-Air (FTA) terrestrially broadcast services, through to extensive systems that combine terrestrial and satellite IF (single or multiple) distribution and also may separately distribute Cable services.

This Standard provides specifications for a range of passive and active devices including coaxial cable. The specification compliance of individual components performance and the interaction between them is seen as an essential primary requirement to provide a design that has predictable level and quality outcomes leading to robust overall performance that is presented to the user's connection point (system outlet or 'wallplate').

This Standard provides level and quality parameters applicable to the final system for both design guidance and system commissioning.

This Standard provides examples of system topology and although applying limitations the Standard is not intended to restrict other potentially compliant system topologies.

1.1.2 Objective

The intended result of the application of the requirements in this Standard is a distribution system that delivers a desired range of RF based broadcast or in-house signals to the end-users' tuners/receivers at a sufficient but not excessive level to ensure that noise, intermodulation, cross-modulation or other interference will not impair reception. The specified design and construction of the distribution system is also intended to minimize other effects such as ghosting, signal ingress to or egress from the system that could be caused by component and coaxial cable mismatch or shielding deficiency.

[1] 'FreeView' in New Zealand