

Australian Standard[®]

**RECOMMENDED METHODS OF
MEASUREMENT ON RECEIVERS
FOR TELEVISION BROADCAST
TRANSMISSIONS**

**PART 1—GENERAL
CONSIDERATIONS—
ELECTRICAL MEASUREMENTS
OTHER THAN THOSE AT
AUDIO-FREQUENCIES**

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The following scientific, industrial, consumer and governmental organizations and departments were officially represented on the committee entrusted with the preparation of this standard:

Australian Broadcasting Commission
Australian Consumers Association
Confederation of Australian Industry
Electronics Importers Association
Federation of Australian Commercial Television Stations
Federation of Australian Radio Broadcasters
Postal and Telecommunications Department, Broadcasting Engineering Division
Telecom Australia

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PREFACE

This standard was prepared under the authority of the Association's Committee on Radio-communications. It is technically identical with and substantially reproduced from IEC 107-1:1977, and it supersedes AS 1173—1971, which was the endorsement of IEC 107-1960. Acknowledgment is made of the assistance received from the IEC publication. Changes introduced in this edition are of an editorial nature only.

The purpose of this Part of the standard is to standardize the conditions and methods of measurement to be used for television receivers in order to permit comparison of the results. The standard is therefore a collection of selected measurements currently recommended for assessing receiver characteristics thought to be essential in assessing performance of a given type of receiver on a comparative basis. Other Parts of IEC 107 now being prepared and which will be considered for adoption as Parts of this standard will cover audio-frequency measurements, colorimetric and photometric measurements, and additional measurements.

The standard is neither mandatory nor limiting in the sense that no limiting values for the various characteristics are specified as acceptable performance levels. The choice of measuring methods is permitted and if necessary additional measurements may be made to suit the particular requirements.

The methods of measurement given have been selected to apply particularly to both monochrome and colour receivers designed according to the systems described in the Recommendations and Reports of the International Radio Consultative Committee (CCIR). Due regard, however, must be given to the transmission standard for television broadcasting published by the Australian Postal and Telecommunications Department.

For a complete understanding of the requirements of this standard reference may be required to the following:

- AS 1099 Basic Environmental Testing Procedures for Electronics and Telecommunications Purposes
Part 1—General
Part 2—Tests
- AS 1173 Recommended Methods of Measurement on Receivers for Television Broadcasting Transmissions
Part 2—Electrical Measurements at Audio Frequencies*
- AS 1188 Rules for Safe Practice in the Operation and Maintenance of Electronic Equipment
- AS 2176 Primary Batteries
- AS 3159 Electronic Sound and Vision Equipment

* In course of preparation.

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STANDARDS ASSOCIATION OF AUSTRALIA

Australian Standard

RECOMMENDED METHODS OF MEASUREMENT ON RECEIVERS FOR
TELEVISION BROADCAST TRANSMISSIONSPart 1—General Considerations—Electrical Measurements Other than those at
Audio-frequencies

SECTION 1. INTRODUCTION AND EXPLANATION OF TERMS

1.1 Object

The object of this standard is to standardize the conditions and methods for the measurements to be used for the study of a receiver for television broadcasting so as to make possible the comparison of the results of measurements. Specifying limiting values of the various quantities for acceptable performance is not an object of this standard.

The standard constitutes a catalogue of selected measurements recommended for assessing the essential properties of receivers of a given type. It is neither mandatory nor limiting; a choice of measurements can be made in each particular case and, if necessary, additional measurements may be carried out.

The recommended methods are designed to make possible the assessment of the performance of the complete receiver, without going into more than a minimum of detail and without giving its components separate consideration.

It should be realized that the measurements proposed are subject to future improvements as methods are refined and with the development of receiver techniques.

1.2 Scope

The methods of measuring the electrical, acoustic and optical properties described in this standard apply more particularly to broadcast television receivers designed for monochrome and colour vision reception with accompanying sound of the systems of the CCIR* recommendations and reports, due regard being given to national transmission standards.

1.3 Definitions

The following general definitions apply for the purpose of this standard.

1.3.1 *Voltage* and *current* mostly imply in television technique “peak-to-peak” values; this is indicated by p-p. Without such indication, voltage and current imply r.m.s. values unless otherwise specified. A fully modulated radio-frequency signal is a radio-frequency signal modulated to white level in accordance with the standard of the television system used. By convention, the signal strength is considered to be equal to the r.m.s. value of an unmodulated radio-frequency signal having the same peak amplitude as the modulated signal has at the peak of modulation. This corresponds to white level for systems using positive modulation and synchronizing level for systems using negative modulation as shown in Figures 1a and 1b.

Notes 1. — Greater modulation depths can occur with colour signals, see Clauses 1.3.2 and 1.3.3.

2. — The true r.m.s. value of a modulated signal will be different from this value, the magnitude of the difference depending on the depth of modulation and its waveform. In the tests in which a sine-wave modulated carrier can be used, the factor for conversion to peak values is given in the appropriate figures.

* CCIR: International Radio Consultative Committee.