

Australian Standard[®]

**Magnetic tape sound recording
and reproducing systems**

**Part 5: Electrical magnetic tape
properties**

This Australian Standard was prepared by Committee TE/8, Audio and Video Engineering and Recording. It was approved on behalf of the Council of Standards Australia on 21 July 1994 and published on 17 October 1994.

The following interests are represented on Committee TE/8:

Consumer Electronics Suppliers Association
Department of Transport (Commonwealth)
Federation of Australian Commercial Television Stations
Federation of Australian Radio Broadcasters
Institution of Radio and Electronics Engineers, Australia
National Acoustic Laboratories Division of Australia Hearing Services
Special Broadcasting Service

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PREFACE

This Standard was prepared by the Standards Australia Committee TE/8 on Audio and Video Engineering and Recording. It is identical with and has been reproduced from IEC 94-5:1988, *Magnetic tape sound recording and reproducing systems*, Part 5: *Electrical magnetic tape properties*.

This Standard is one of a series which deals with magnetic tape sound recording and reproducing systems. The series is arranged as follows:

AS

3871	Magnetic tape sound recording and reproducing systems
3871.1	Part 1: General conditions and requirements
3871.2	Part 2: Calibration tapes
3871.3	Part 3: Methods of measuring the characteristics of recording and reproducing equipment for sound on magnetic tape
3871.4	Part 4: Mechanical magnetic tape properties
3871.5	Part 5: Electrical magnetic tape properties
3871.6	Part 6: Reel-to-reel systems
3871.7	Part 7: Cassette for commercial tape records and domestic use
3871.8	Part 8: Eight-track magnetic tape cartridge for commercial tape records and domestic use
3871.9	Part 9: Magnetic tape cartridge for professional use
3871.10	Part 10: Time and address codes
3871.11	Part 11: Address code for compact cassettes

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

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For the purpose of this Standard, the source text should be modified as follows:

- (a) *Terminology* The words 'this Australian Standard' should replace the words 'this International Standard' wherever they appear.
- (b) *References* The references to international Standards should be replaced by references, where appropriate, to the following Australian or Joint Australian/New Zealand Standards:

*Reference to International Standard
or other publication*

Australian or Joint

Australian/New Zealand Standard

IEC		AS	
94	Magnetic tape sound recording and reproducing systems	3871	Magnetic tape sound recording and reproducing systems
94-1	Part 1: General conditions and requirements	3871.1	Part 1: General conditions and requirements
94-2	Part 2: Calibration tapes	3871.2	Part 2: Calibration tapes
94-6	Part 6: Reel-to-reel systems	3871.6	Part 6: Reel-to-reel systems
94-7	Part 7: Cassette for commercial tape records and domestic use	3871.7	Part 7: Cassette for commercial tape records and domestic use
94-9	Part 9: Magnetic tape cartridge for professional use	3871.9	Part 9: Magnetic tape cartridge for professional use

IEC		AS	
386	Method of measurement of speed fluctuations in sound recording and reproducing equipment	3561	Speed fluctuations in analogue sound recording and reproducing equipment—Method of measurement
651	Sound level meters	1259	Acoustics—Sound level meters
		1259.1	Non-integrating
CCIR			
468-3	Measurement of audio frequency noise voltage level in sound broadcasting	—	

CONTENTS

SECTION ONE — GENERAL		
Clause		<i>Page</i>
1.1	Scope	1
1.2	Object	1
SECTION TWO — TECHNICAL REQUIREMENTS AND INFORMATION CONCERNING TESTING CONDITIONS		
2.1	Standard atmospheric conditions	1
2.2	Mechanical characteristics of tape transports	1
2.3	Electrical characteristics of test equipment	3
2.4	Calibration tape	4
2.5	Reference tape	4
2.6	Bias	5
2.6.1	Reference bias	6
2.6.2	Conventional test bias	6
SECTION THREE — PARAMETERS TO BE MEASURED		
3.1	Bias ratio	8
3.2	Maximum output level	9
3.3	Relative tape sensitivity	12
3.4	Reference level to bias noise ratio	13
3.5	Signal to bias noise ratio	13
3.6	Reference level to d.c. noise ratio	14
3.7	Reference level to print to ratio	15
3.8	Erasing attenuation (under consideration)	16
3.9	Uniformity variations	17
3.10	Drop-out annoyance	18
SECTION FOUR — INFORMATION TO BE SUPPLIED BY THE MAGNETIC TAPE MANUFACTURER		
4.1	Recommended form for published data	20
APPENDIX A — Equipment noise correction		25
APPENDIX B — Measuring means		26
APPENDIX C — Intermodulation distortion measuring equipment		28

AUSTRALIAN STANDARD

**MAGNETIC TAPE SOUND RECORDING AND REPRODUCING
SYSTEMS****Part 5: Electrical magnetic tape properties**

SECTION ONE — GENERAL**1.1 Scope**

This standard applies to non-perforated magnetic tape used for professional and domestic analogue sound recording and reproduction.

1.2 Object

The object of this standard is to list and define the characteristics, methods of measurement and equipment necessary to determine the electrical properties of magnetic tapes. It will also enable users of magnetic tapes to compare the technical product data of different manufacturers, produced in accordance with this standard.

**SECTION TWO — TECHNICAL REQUIREMENTS
AND INFORMATION CONCERNING TESTING CONDITIONS****2.1 Standard atmospheric conditions**

Ambient temperature $\left[20 \begin{smallmatrix} +5 \\ -5 \end{smallmatrix} \right] ^\circ\text{C}$

Relative humidity $[60 \pm 15] \%$

Where necessary the tests shall be preceded by a period of conditioning to ensure that the test specimen has reached equilibrium with the environment.

2.2 Mechanical characteristics of tape transports**a) Tape speed**

The tape transports shall be capable of operating at the mandatory rated tape speed specified in Table I.

TABLE I
Rated tape speeds

Tape application	Speed (cm/s)
Professional 6.30 mm wide tapes	$38.1 \pm 0.2\%$
Domestic 6.30 mm wide tapes	$9.53 \pm 0.2\%$
Domestic 3.81 mm wide tapes	$4.76 \pm 0.2\%$

Other tape speeds may be required when additional optional information is given.

The tape speed fluctuations (wow and flutter) shall be not more than 0.15 % when measured in accordance with IEC Publication 386.