

AS 3737—1990  
IEC 843(1987)

Australian Standard<sup>®</sup>

---

**Helical-scan videotape cassette  
system using 8 mm magnetic  
tape—Video 8**

---

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 15 August 1989 and published on 16 February 1990.

---

The following interests are represented on Committee TE/8:

Australian Broadcasting Corporation  
Australian Electrical and Electronic Manufacturing Association  
Confederation of Australian Industry  
Consumer Electronics Suppliers Association  
Department of Transport and Communications  
Federation of Australian Commercial Television Stations  
Federation of Australian Radio Broadcasters  
Institution of Radio and Electronics Engineers  
National Acoustic Laboratories  
Telecom Australia  
University of New South Wales  
University of Sydney

---

**Review of Australian Standards.** To keep abreast of progress in industry, Australian Standards are subject to periodic review and are kept up to date by the issue of amendments or new editions as necessary. It is important therefore that Standards users ensure that they are in possession of the latest edition, and any amendments thereto.

Full details of all Australian Standards and related publications will be found in the Standards Australia Catalogue of Publications; this information is supplemented each month by the magazine 'The Australian Standard', which subscribing members receive, and which gives details of new publications, new editions and amendments, and of withdrawn Standards.

Suggestions for improvements to Australian Standards, addressed to the head office of Standards Australia, are welcomed. Notification of any inaccuracy or ambiguity found in an Australian Standard should be made without delay in order that the matter may be investigated and appropriate action taken.

---

Australian Standard<sup>®</sup>

---

**Helical-scan video tape cassette  
system using 8 mm magnetic  
tape—Video 8**

---

First published as AS 3737—1990.

PUBLISHED BY STANDARDS AUSTRALIA  
(STANDARDS ASSOCIATION OF AUSTRALIA)  
1 THE CRESCENT, HOMEBUSH, NSW 2140

ISBN 0 7262 5913 6

## PREFACE

This Standard was prepared by the Standards Australia Committee on Audio and Video Engineering and Recording. It is identical with and reproduced from IEC 843—1987, *Helical-scan video tape cassette system using 8 mm magnetic tape-Video 8*.

The Standard is one of a series to be prepared on video magnetic tape recorders using, in this case, 8-mm wide magnetic tape of suitable quality, in order to scan, record and replay either monochrome or colour television signals. The requirements cover both NTSC (525 line-60 field) and PAL (625 line-50 field) systems as alternatives.

The various types of magnetic tape including their physical and magnetic properties and their recording characteristics are described, while an Appendix lists information on sources of reference and sub-reference tape for calibration of the audio characteristics listed. The physical and mechanical parameters describing the cassette system plus dimensions and details such as tape speed, drum diameter, tape tension, tape geometry and track configuration are also detailed, as are the various recording characteristics described.

The page numbers of the IEC English text are given on the bottom left corner of each page of the Standard.

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

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

- (i) *Definitions.* The terms used in this Standard are those defined in AS 1852: *International electrotechnical vocabulary*.
- (ii) *Environmental conditions.* Where the conditions of measurement required in this Standard are not attainable, Standard Atmospheric Conditions are given in Clause 5 of AS 1099.1—1989 shall apply, and where different from those given in Clause 3, shall be stated.

## CONTENTS

	<i>Page</i>
SECTION ONE — GENERAL	
Clause	
1. Scope .....	5
2. Object .....	5
3. Environmental conditions .....	5
SECTION TWO — VIDEO TAPE	
4. Type of magnetic tape .....	5
5. Physical properties of the tape .....	5
5.1 Magnetic tape width .....	5
5.2 Magnetic tape width fluctuation .....	6
5.3 Magnetic tape thickness .....	6
5.4 Transparency of the magnetic tape .....	6
6. Magnetic properties of the tape .....	6
7. Recording characteristics of the tape .....	6
7.1 Video characteristics .....	6
7.2 Auxiliary audio characteristics .....	7
SECTION THREE — VIDEO TAPE CASSETTE	
8. Mechanical parameters .....	8
8.1 Dimensions of the cassette .....	8
8.2 Datum planes Z, X and Y .....	8
8.3 Tape winding .....	8
8.4 Window and label .....	8
8.5 Withdrawal force .....	8
8.6 Support areas A, B, C and D .....	8
8.7 Cassette holding areas .....	8
8.8 Incorrect insertion protection .....	9
8.9 Accidental erasure protection .....	9
8.10 Recognition holes .....	9
8.11 Changer grip .....	9
8.12 Lid .....	9
8.13 Reels .....	10
8.14 Reel spring .....	10
9. Magnetic tape length .....	10
10. Leader and trailer .....	10
10.1 Automatic stop .....	10
10.2 Dimensions of the leader and trailer tape .....	11
10.3 Transparency of the leader and trailer tape .....	11
10.4 Splicing .....	11
11. Cassette designation .....	11
SECTION FOUR — VIDEO CASSETTE RECORDERS	
12. Tape speed .....	23
12.1 525 line — 60 field system .....	23
12.2 625 line — 50 field system .....	23
13. Drum diameter .....	23
14. Tape tension .....	23
15. Inclined azimuth angle .....	23
16. Track configuration and dimensions .....	23