
INTERNATIONAL STANDARD



3615

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Magnetic tape for instrumentation applications — Standardization of analogue modes of recording

Bande magnétique pour l'enregistrement de mesures — Normalisation des modes d'enregistrement analogique

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FOREWORD

ISO (the International Organization for Standardization) is a worldwide federation of national standards institutes (ISO Member Bodies). The work of developing International Standards is carried out through ISO Technical Committees. Every Member Body interested in a subject for which a Technical Committee has been set up has the right to be represented on that Committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work.

Draft International Standards adopted by the Technical Committees are circulated to the Member Bodies for approval before their acceptance as International Standards by the ISO Council.

International Standard ISO 3615 was drawn up by Technical Committee ISO/TC 97, *Computers and information processing*, and circulated to the Member Bodies in March 1975.

It has been approved by the Member Bodies of the following countries :

Australia	Italy	Turkey
Belgium	Japan	United Kingdom
Czechoslovakia	Poland	U.S.A.
France	Romania	U.S.S.R.
Germany	South Africa, Rep. of	Yugoslavia
Hungary	Switzerland	

No Member Body expressed disapproval of the document.

ISO/TC 97/SC 12 is concerned with the preparation of International Standards in the field of magnetic tape for instrumentation applications. The programme of work envisages an inter-related series of International Standards concerning I) Reels, II) Unrecorded magnetic tape, III) Recorded magnetic tape and IV) Recording methods. This International Standard forms part of that series and should be read accordingly.

STANDARDS PUBLISHED AND IN PREPARATION

ISO/R 1858, *General purpose hubs and reels with 76 mm (3 in) centrehole, for magnetic tape used in interchange instrumentation applications.*

ISO 1859, *Information processing — Unrecorded magnetic tapes for interchange instrumentation applications — General dimensional requirements.*

ISO 1860, *Information processing — Precision reels for magnetic tape for interchange instrumentation applications.*

ISO 2690, *Unrecorded magnetic tapes for instrumentation applications — Physical properties and test methods.*

ISO 3413, *Information processing — Recorded magnetic tapes for interchange instrumentation applications — Standard tape speeds and track configurations.*

ISO . . . , *Interchange practices and test methods for unrecorded instrumentation magnetic tape.*

ISO . . . , *Interchange practices and test methods for recorded magnetic tape.*

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Magnetic tape for instrumentation applications — Standardization of analogue modes of recording

1 SCOPE AND FIELD OF APPLICATION

This International Standard provides for the standardization of analogue modes of recording on magnetic tape for instrumentation applications (Direct, Single-Carrier FM, and Multiple-Carrier FM Modes). It includes standards for record and reproduce set-up procedures, tape speed control and flutter compensation.

NOTE — This International Standard covers most of the requirements for commonly used recording modes, but may not guarantee that all interchange requirements for telemetry systems will be met. A more comprehensive International Standard covering additional telemetry interchange requirements is under development.

2 DIRECT RECORDING

2.1 Bandwidths

2.1.1 For the purposes of this International Standard, four bandwidths are designated, as follows :

- a) Low band : Signals having a minimum recorded wavelength on the tape of $15,2 \mu\text{m}$ ($600 \mu\text{in}$).
- b) Intermediate band : Signals having a minimum recorded wavelength on the tape of $6,1 \mu\text{m}$ ($240 \mu\text{in}$).

c) 1,5 Wide band : Signals having a minimum recorded wavelength on the tape of $2 \mu\text{m}$ ($80 \mu\text{in}$).

d) 2,0 Wide band : Signals having a minimum recorded wavelength of $1,5 \mu\text{m}$ ($60 \mu\text{in}$).

Interchange of recorded tapes between wide band machines and low or intermediate band machines is not recommended.

2.1.2 The frequency or pass band of direct recorded data as a function of tape speed is given in table 1.

In measuring this response, signals throughout the specified pass band are recorded at Normal Record Level (see 2.3.1) and the $\pm 3 \text{ dB}$ pass-band response is referenced to the reproduced output at the Record Level Set Frequency.

2.2 Bias

2.2.1 Frequency

The high frequency bias signal for low and intermediate band records shall have a wavelength on the tape less than $1,5 \mu\text{m}$ ($60 \mu\text{in}$).

For wide band recorders the bias frequency shall be greater than 3,4 times the highest direct record frequency for which the system is designed.