

Association for High-Speed Photography

Autumn Conference and Annual General Meeting, 1970

The Autumn Conference of the Association for High-Speed Photography met at the Imperial College, London, on September 28, 1970, to hear reports from the 9th International Congress on High-Speed Photography, held in Denver last August.

The Chair was shared by D. P. C. Thackeray and P. B. N. Nuttall-Smith, who introduced the following reporters: G. H. Lunn, Education Panel and Rotating-Mirror and Streak Cameras; R. J. North, Holography and Lasers; K. R. Coleman, Image Converters (with notes from A. E. Huston); D. Barnsley, Light Sources and X-rays; H. James, R. J. North and D. P. C. Thackeray, Applications; J. Hadland, Exhibits and Review.

Three papers presented at the Denver Congress were read by their authors: "The Initiation of Explosion in Single Crystals by Collapsing Bubbles" by M. M. Chaudri and J. E. Field (read by Chaudri); "The Initiation and Growth of Explosion in Liquids" by G. D. Coley and J. E. Field (read by Field); and "Dynamic Deformation of Rotation Mirrors" by Mlle. M. Wetzel (read by K. R. Coleman).

We were particularly pleased that Mlle. Wetzel was able to attend from Arcueil, France, to discuss her work with us.

Some 120 members were present and discussion was quite

lively, the reporters were questioned extensively from those not so fortunate as to attend the Denver Congress.

During the Conference, the Association held its Annual General Meeting. Its officials reported a very active and successful year with possibly even more activity in the future, as the next International Congresses are scheduled for France in 1972 and Britain in 1974.

Two founder Committee and Association members, P. B. N. Nuttall-Smith and D. P. C. Thackeray, the day's Joint Chairmen and current Chairman and Vice Chairman of the Association, stated that they must now retire from active committee duty. They were thanked and given an ovation by the members for their work in making this such an excellent group.

There were four places to fill on the Committee and from eight nominations the following were elected: R. J. North (re-elected), J. A. Nunn (re-elected), K. R. Coleman and J. W. C. Gates.

At a recent meeting of the Executive Committee the following officials were appointed, all unopposed: R. J. North, Chairman; G. H. Lunn, Vice Chairman; J. A. Nunn, Secretary; R. J. Cox, Treasurer; and J. Hadland, National Delegate—*George H. Lunn*, 57 Whitedown Rd., Tadley, Basingstoke, Hants., England

standards and recommended practices

Approved American National Standards

On November 18, 1970, the American National Standards Institute approved three American National Standards which are published here for your information.

C98.3-1970, Electrical Characteristics of Audio Record One for 2-in Quadruplex Video Magnetic Tape Recording at 15 and 7.5 in/s (revision of C98.3-1963) now specifies that the characteristic will have a time constant of 35/2000 microseconds which is a departure from the NAB specification.

C98.4-1970, Speed of 2-in Tape for Quadruplex Video Magnetic Tape Recording (revision of C98.4-1963).

C98.5-1970, Dimensions of 2-in Video Magnetic Tape Reels (revision of C98.5-1965).

Inasmuch as compliance with American National Standards is purely voluntary, these standards will become truly effective only when broad publicity is given to their existence. ANSI and SMPTE would appreciate any personal influence to promote the use of these standards where such action is appropriate. Copies of the standards may be obtained for a nominal fee from the American National Standards Institute, 1430 Broadway, New York, NY 10018—A. E. A.

American National Standard electrical characteristics of audio record one for 2-in quadruplex video magnetic tape recording at 15 and 7.5 in/s

Approved November 18, 1970 Sponsor: Society of Motion Picture and Television Engineers, Inc.

1. Scope

This standard specifies the electrical characteristics of Audio Record One for 2-in quadruplex video magnetic tape recording at 15 and 7.5 in/s, as defined in American National Standard Dimensions of Video, Audio and Tracking Control Records on 2-in Video Magnetic Tape, C98.6-1965.

2. Electrical Characteristics

2.1 Recording Characteristics. Recordings shall be made in such a manner that the proper reproducing characteristics are as defined in 2.2.

2.2 Reproducing Characteristics. The output voltage of an "ideal" reproducing head (see Note), shall pass through an amplifier whose output voltage shall fall with increasing fre-

quency at a rate of 6 dB per octave, except as modified by the following equalizations:

2.2.1 The voltage attenuation of a single resistance-capacitance high-pass filter having a time constant of 2,000 μ s.

2.2.2 The inverse of the voltage attenuation of a single resistance-capacitance low-pass filter having a time constant of 35 μ s.

NOTE: An "ideal" reproducing head is defined as a reproducing head, the losses of which are negligible. With a normal ferromagnetic head, this means that the gap is short and the arc of contact with the tape is long compared to the relevant wavelengths, and the losses in the material of the head are small. With the reproducing heads used in practice, an equalization to compensate for the head losses must be added to the replay amplifier.

American National Standard speed of 2-in tape for quadruplex video magnetic tape recording

Approved November 18, 1970 Sponsor: Society of Motion Picture and Television Engineers, Inc.

1. Scope

This standard specifies the nominal rates of travel of 2-in wide magnetic tape for quadruplex video magnetic tape recording.

2. Primary Nominal Rate of Tape Travel

The primary nominal rate of tape travel shall be 15 in/s (38.1 cm/s).

3. Secondary Nominal Rate of Tape Travel

The secondary nominal rate of tape travel shall be 7.5 in/s (19.05 cm/s).

NOTE: The absolute tape speed is outlined in American National Standard Dimensions of Video, Audio and Tracking Control Records on 2-in Video Magnetic Tape, C98.6-1965.

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American National Standard dimensions of 2-in video magnetic tape reels

Approved November 18, 1970

Sponsor: Society of Motion Picture and Television Engineers, Inc.

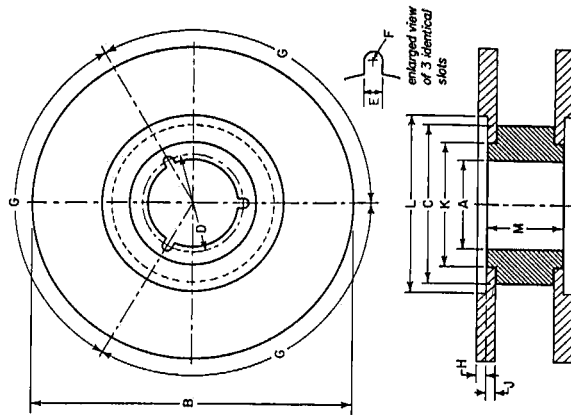
1. Scope

This standard specifies the dimensions of reels in maximum capacities of 750, 1650, 3600, 5540, and 7230 ft designed to accommodate the maximum thickness of 2-in wide magnetic tape for television recording, as specified in American National Standard Dimensions of 2-in Video Magnetic Tape, C98.1-1963 (Reaffirmed 1969).

2. Reel Dimensions

2.1 The dimensions of the reels shall be as specified in the figure and tables.

2.2 Flange-fastening members shall be flush with or below the outer surface of the flanges.



2.3 The outside cylindrical surface of the hub (C diameter) shall be concentric with the center bore (A diameter) within 0.002 in (0.05mm) and shall have a maximum taper of 0.0016 in (0.040mm).

2.4 The outside diameter of the flanges (B diameter) shall be concentric to the center bore of the hub (A diameter) within 0.015 in (0.38mm).

Table 1
Reel Dimensions

Dimensions	Inches	Millimeters	Degrees
A	3.000 + 0.004	76.20 + 0.10	
B	See Table 2	See Table 2	
C	4.500 ± 0.010	114.30 ± 0.25	
D	3.250 ± 0.002	82.55 ± 0.05	
E	0.219 + 0.006	5.56 + 0.15	
F	0.109 ref	2.77 ref	
G			120 ± 0.1
H*	0.025 max	0.64 max	
J*	0.098 max	2.49 max	
K†	3.600 min	91.44 min	
L†	6.000 min	152.40 min	
M‡	2.212 ± 0.003	56.18 ± 0.08	

* The surface of the flanges from B to L shall lie between the planes defined by H and J.

† Outside surfaces of reel flanges between diameters K and L shall not extend beyond the surfaces defined by Dimension M. The hub surfaces defined by M, shall be parallel within 0.0008 in (0.020mm) and square with the hub outside diameter C within 0.003 in (0.08mm) at maximum diameter.

Table 2
Reel Capacities

Maximum Capacity,*	Maximum Playing Time in Min at		Dimension B
	Feet	Meters	
750	228	20	6.500 ± 0.010
1650	503	44	8.000 ± 0.010
3600	1097	96	10.500 ± 0.010
5540	1689	148	12.500 ± 0.010
7230	2203	192	14.000 ± 0.010

* Maximum capacity is based on a minimum distance of 0.2 in (5mm) from the reel periphery to the tape stack, utilizing maximum thickness tape.

Appendix

(The Appendix is not a part of this American National Standard, but is included to facilitate its use.)

The outside diameters of the flanges, B, will give reels the capacities suggested in Table 2. These capacities should be regarded as maximum.

It is recommended that both flanges have air escape holes. If provided, these holes should extend to the hub periphery and be of such size at this point as to facilitate easy threading.



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