BRITISH STANDARD 1492 : 1948

35-MM. CINEMATOGRAPH RELEASE PRINTS

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BRITISH STANDARDS INSTITUTION

Incorporated by Royal Charter

24/28 VICTORIA STREET, LONDON, S.W.1

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THIS BRITISH STANDARD, having been approved by the Cinematograph Industry Standards Committee and endorsed by the Chairman of the Engineering Divisional Council, was published under the authority of the General Council on 29th December, 1948.

The Institution desires to call attention to the fact that this British Standard does not purport to include all the necessary provisions of a contract.

In order to keep abreast of progress in the industries concerned, British Standards are subject to periodical review. Suggestions for improvements will be recorded and in due course brought to the notice of the committees charged with the revision of the standards to which they refer.

A complete list of British Standards, numbering over one thousand, indexed and cross-indexed for reference, together with an abstract of each standard, will be found in the Institution's Yearbook, price 3s. 6d. post free.

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Users wishing to be kept informed of any alteration to this standard should notify the Sales Department of the Institution, giving the number and title of the standard.

CO-OPERATING ORGANIZATIONS

The Cinematograph Industry Standards Committee, under whose supervision this British Standard was prepared, consists of representatives of the following Government departments and scientific and industrial organizations :—

*Associated Photographic Film Manufacturers
Association of Specialised Film Producers
Board of Trade
British Film Institute
*British Film Producers' Association
*British Kinematograph Society
*Cinematograph Exhibitors' Association of Great Britain and Ireland
Government Cinematograph Adviser
*Home Office
Illuminating Engineering Society
*Incorporated Association of Kinematograph Manufacturers Ltd.
*Kinematograph Renters' Society
Ministry of Education
Ministry of Supply
Photographic Industry Standards Committee

The scientific and industrial organizations marked with an asterisk in the above list, together with the following, were directly represented on the committee entrusted with the preparation of this British Standard :—

Association of Film Laboratory Employers
British Railways
Kinematograph Projectionists and Engineers Association
Manufacturers of cinematograph equipment.

BRITISH STANDARD SPECIFICATION FOR

35-MM. CINEMATOGRAPH RELEASE PRINTS IN 2000 FT. LENGTHS

FOREWORD

This British Standard has been prepared, in close co-operation with the American Standards Association, to standardize features such as head-leaders, cues and tail-leaders of 35-mm., 2000 ft., cinematograph release prints.

These prints were formerly distributed in lengths approximating to 1000 ft., a practice which is still common in many countries other than the United States of America and the United Kingdom.

In the U.S.A. and the United Kingdom prints are now released in reels containing a nominal 2000 ft. of film. Up to the time the film reaches the distributor, it is in 1000 ft. lengths. The first two reels of a film are numbered 1A and 1B, the second two reels 2A and 2B ; when the film reaches the distributor, reels 1A and 1B are assembled into release reel 1, and so on. This procedure is followed because it is more economical and efficient to distribute film in 2000 ft. lengths and because it diminishes the work of a cinema projectionist in making up a programme.

New problems have arisen, however, because of the extra weight and bulk of the longer release prints, and this standard will be supplemented by other British Standards dealing with spools and transit cases for 2000 ft. release prints.

Except as shown hereunder, the provisions of this standard are equivalent to those of American Standard Z22.55/44 '35-Millimetre sound motion picture release prints in standard 2000-foot lengths,' published by the American Standards Association.

The main exception is in the provision for the synchronizing leader. This British Standard provides for a 16-mm. sound-start mark, in addition to the 35-mm. sound-start mark, for the convenience of users of 16-mm. reduced prints of 35-mm. film. The standard also permits a maximum length of 2050 ft. in place of the American maximum length of 2000 ft., and contains provisions for print protection that are not included in the American Standard.

SPECIFICATION

SCOPE

1. This British Standard specifies features of 35-mm. cinematograph release prints in 2000 ft. lengths. The standard covers leaders, cues and trailers, and it makes recommendations on the protection of prints and the avoidance of emulsion pick-up.

SECTION ONE : HEAD-LEADERS

The head-leaders shall consist of the following, in the order given :—

a. Protective head-leader.
b. Identification head-leader.
c. Synchronizing leader.

PROTECTIVE HEAD-LEADER

2. The protective head-leader shall be either of transparent or raw stock.

NOTE. When the protective head-leader has been reduced to a length of 6 ft. it should be restored to a length of 8 ft.

IDENTIFICATION HEAD-LEADER

3. The identification head-leader shall contain 24 frames, as follows :—

a. Six frames, on which shall be plainly printed, lengthwise with the film, in white letters on a black background : (i) reel number, (ii) picture title.

b. Eighteen frames, on each of which shall be plainly printed in black letters on white background : (i) type of print, (ii) reel number (arabic numerals not less than ¼ of frame height), and (iii) picture title.

NOTE. Where lettering is written longitudinally, care should be taken that the letters are within the area of the picture frame, so that no part of the lettering is cut off.

SYNCHRONIZING LEADER

4. The synchronizing leader shall consist of 26 frames before the 'picture-start' mark, and then 12 ft., including the 'picture-start' mark, to the picture. This leader shall be opaque, except as specified below :—

In the centre of the first frame there shall be printed across the picture and sound track area, a white line 1/32 in. wide, upon which is superimposed a circle of ⅜ in. diameter. The words '16 mm.' shall be printed in letters ⅜ in. high, on the right-hand side of the circle and immediately above the white line.

In the centre of the seventh frame, there shall be printed across the picture and sound track, a white line 1/32 in. wide, upon which is superimposed a diamond ⅛ in. high. The words '35 mm.' shall be printed in letters ⅜ in. high, on the right-hand side of the diamond and immediately above the white line.

Six of the next 15 frames may be used by the studio for sensitometric or other information. Any of this part of the leader not so used shall be opaque.

The 'picture-start' mark shall be the twenty-seventh frame, in which shall be printed 'picture-start' (inverted) in black letters on a white background. The standard camera-aperture height of 0·631 in. shall be used

in photographing this frame, and all others between the 'picture-start' mark and the beginning of the picture.

From the 'picture-start' mark to the picture, the leader shall contain frame lines which do not cross the sound track area and the sound track area shall be opaque.

Beginning 3 ft. from the first frame of picture, each foot shall be plainly marked by a transparent frame containing an inverted black numeral at least ½ the frame height. Footage indicator numerals shall run consecutively from 3 to 11, inclusive. In the frames in which the numerals '6' and '9' appear, the word 'six' and 'nine' (also inverted) shall be placed immediately below the numerals, to eliminate the possibility of misreading in the projection room, due to the similarity between the inverted numerals. At a point exactly 20 frames ahead of the centre of each footage numeral frame, there shall be a diamond (white on black background) ⅛ in. high by ⅜ in. wide.

SECTION TWO: PICTURE

PICTURE

5. *a.* The length of a standard reel shall be not more than 2050 ft., including the leaders and run-outs.

b. It is recommended that picture action should start in reel 'A' and finish in reel 'B' on fades wherever possible; otherwise significant sound should be kept at least 5 ft. from the start and finish of the picture.

c. In 'A' and 'B' 1000 ft. prints issued by laboratories, the end of any 'A' reel should contain 21 frames of the sound track from the reel 'B'.

NOTE. This provision is necessary, because the sound track is 21 frames ahead of the picture to which it relates.

MOTOR AND CHANGE-OVER CUES

6. *a.* Motor and change-over cues shall be marked on the 'B' reel only.

b. The motor cue shall consist of circular opaque marks with transparent outlines printed from the negative which has had four consecutive frames punched with a die 0·094 in. in diameter. The centre of these holes shall be half-way between the top and second sprocket holes 0·281 in. from the right-hand edge of the film, with heads up and emulsion towards the observer. Following the four frames containing the circular opaque marks there shall be 10 ft. plus 12 frames, to the beginning of the change-over cue.

c. The change-over cue shall consist of 4 frames, containing circular opaque marks, punched similarly to, and of the same dimensions and position on the frame as, the motor cue. Following the change-over cue marks there shall be 18 frames to the beginning of the run-out leader.

NOTE. See Appendix B for recommended methods of obtaining the circular transparent outline.

SECTION THREE: RUN-OUT AND TAIL-LEADERS

RUN-OUT LEADER

7. The run-out leader shall be opaque and shall be 3 ft. in length.

IDENTIFICATION TAIL-LEADER

8. The identification tail-leader shall contain 24 frames as follows:—

a. Eighteen frames, in each of which shall be plainly printed in black letters on a white background: (i) end of reel, (ii) reel number (arabic numerals not less than ¼ of frame height), and (iii) picture title.

b. Six frames, in which shall be plainly printed, lengthwise with the film in white letters on a black background: (i) end of reel, and (ii) picture title.

c. The letters in *a* and *b* above shall be confined within the picture frame area.

PROTECTIVE TAIL-LEADER

9. The protective tail-leader shall be either of transparent or raw stock.

NOTE. When the protective tail-leader has been reduced to a length of 6 ft. it should be restored to a length of 8 ft.

SECTION FOUR: PRINT PROTECTION

PRINT PROTECTION

10. Protective bands (e.g. of tough paper) shall be provided around every reel.

NOTE. Where transit spools are not provided, the use of a smooth hardwood core, to protect the film, is recommended.

APPENDIX A

RECOMMENDED METHOD OF AVOIDING EMULSION PICK-UP

To reduce the incrustation of gelatine which accumulates on the gate runners and pressure pads, when running 'green prints' (i.e. new prints) through the projector, edge-waxing (or specialized treatment covering the whole emulsion surface) is recommended.

NOTE. The tendency towards abrasions due to this incrustation is greater with the 2000 ft. reels than with the shorter lengths.

APPENDIX B

RECOMMENDED METHODS OF OBTAINING THE CIRCULAR TRANSPARENT OUTLINE

To obtain the transparent outline for motor and change-over cues (see Clause 6) the use of a serrated die is recommended.

The following alternative method may, however, be used: insert into the celluloid side of the cue-mark hole in the negative, a skewer of hard rubber or hard wood, which has been dipped in coding ink, and rotate the skewer slightly in the film so that the ink will form a thin ring around the edge of the hole. Only a very small amount of ink is necessary.

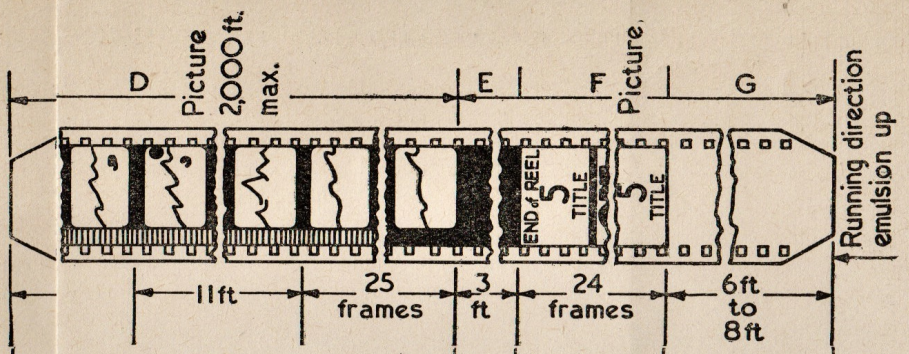

Fig. 1.

(D) **PICTURE SECTION**

The length of a standard reel shall be not more than 2,050 ft. including the leaders and run-outs.

MOTOR CUE. Circular opaque marks with transparent outlines printed from a negative which has had four consecutive frames punched with a die 0·094 in. in diameter. The centre of these holes shall be half-way between the top and second sprocket holes, 0·281 in. from the right-hand edge of the film with heads up and emulsion toward the observer, Following the 4 frames containing the circular opaque marks there shall be 10 ft. plus 12 frames to the beginning of the change-over cue.

CHANGE-OVER CUE. Four frames containing circular opaque marks, punched similarly to and of the same dimensions and position on the frame as the motor cue. Following the change-over cue marks there shall be 18 frames to the beginning of the run-out leader.

(E) **RUN-OUT LEADER.** This shall be opaque, 3 ft. in length.

(F) **IDENTIFICATION TAIL-LEADER (end-of-part title)**

Shall contain 24 frames (1) in 18 of which shall be plainly printed in black letters on a white background: (*a*) end of reel, (*b*) reel number (Arabic numerals not less than ¼ of frame height), and (*c*) picture title; (2) in 6 of which shall be printed lengthwise with the film in white letters on a black background, (*a*) end of reel, (*b*) picture title.

(G) **PROTECTIVE TAIL-LEADER**

Same as protective head-leader (see (A) above).

(A) PROTECTIVE HEAD-LEADER

Either transparent or raw stock.
When the protective head-leader has been reduced to a length of 6 ft. it should be restored to a length of 8 ft.

(B) IDENTIFICATION HEAD-LEADER (part title)

Shall contain 24 frames (1) in 6 of which shall be plainly printed lengthwise with the film, in white letters on a black background, (*a*) reel number, (*b*) picture title ; (2) in 18 of which shall be plainly printed in black letters on a white background, (*a*) type of print, (*b*) reel number (Arabic numerals not less than ¼ of frame height), and (*c*) picture title.

(C) SYNCHRONIZING LEADER

The synchronizing leader shall consist of 26 frames before the 'picture-start' mark, and then 12 ft., including the 'picture-start' mark, to the picture. This leader shall be opaque, except as specified below :—

In the centre of the first frame there shall be printed, across the picture and sound track area, a white line 1/32 in. wide, upon which is superimposed a circle of 3/8 in. diameter. The words '16 mm.' shall be printed in letters 3/8 in. high on the right-hand side of the circle and immediately above the white line.

In the centre of the seventh frame there shall be printed across the picture and sound track, a white line 1/32 in. wide, upon which is superimposed a diamond 1/8 in. high. The words '35 mm.' shall be printed in letters 3/8 in. high on the right-hand side of the diamond and immediately above the white line.

Six of the next 15 frames may be used by the studio for sensitometric or other information. Any of this part of the leader not so used shall be opaque.

The 'picture-start' mark shall be the 27th frame, in which shall be printed 'picture-start' (inverted) in black letters on white background. The standard camera aperture height of 0·631 in. shall be used in photographing this frame, and all others between the 'picture-start' mark and the beginning of picture.

From the 'picture-start' mark to the picture, the leader shall contain frame lines which do not cross the sound track area and the sound track area shall be opaque.

Beginning 3 ft. from the first frame of picture, each foot shall be plainly marked by a transparent frame containing an inverted black numeral at least ½ frame height. Footage indicator numerals shall run consecutively from 3 to 11, inclusive. In the frames in which the numerals '6' and '9' appear, the words 'six' and 'nine' (also inverted) shall be placed immediately below the figure, to eliminate the possibility of misreading in the projection room due to the similarity between the inverted numerals. At a point exactly 20 frames ahead of the centre of each footage numeral frame, there shall be a diamond (white on black background) 1/8 in. high by 3/8 in. wide.

(D) PICTURE SECTION

The length of a standard reel shall be not more than 2,050 ft. including the leaders and run-outs.

MOTOR CUE. Circular opaque marks with transparent outlines printed from a negative which has had four consecutive frames punched with a die 0·094 in. in diameter. The centre of these holes shall be half-way between the top and second sprocket holes, 0·281 in. from the right-hand edge of the film with heads up and emulsion toward the observer, Following the 4 frames containing the circular opaque marks there shall be 10 ft. plus 12 frames to the beginning of the change-over cue.

CHANGE-OVER CUE. Four frames containing circular opaque marks, punched similarly to and of the same dimensions and position on the frame as the motor cue. Following the change-over cue marks there shall be 18 frames to the beginning of the run-out leader.

(E) RUN-OUT LEADER. This shall be opaque, 3 ft. in length.

(F) IDENTIFICATION TAIL-LEADER (end-of-part title)

Shall contain 24 frames (1) in 18 of which shall be plainly printed in black letters on a white background : (*a*) end of reel, (*b*) reel number (Arabic numerals not less than ¼ of frame height), and (*c*) picture title ; (2) in 6 of which shall be printed lengthwise with the film in white letters on a black background, (*a*) end of reel, (*b*) picture title.

(G) PROTECTIVE TAIL-LEADER

Same as protective head-leader (see (A) above).

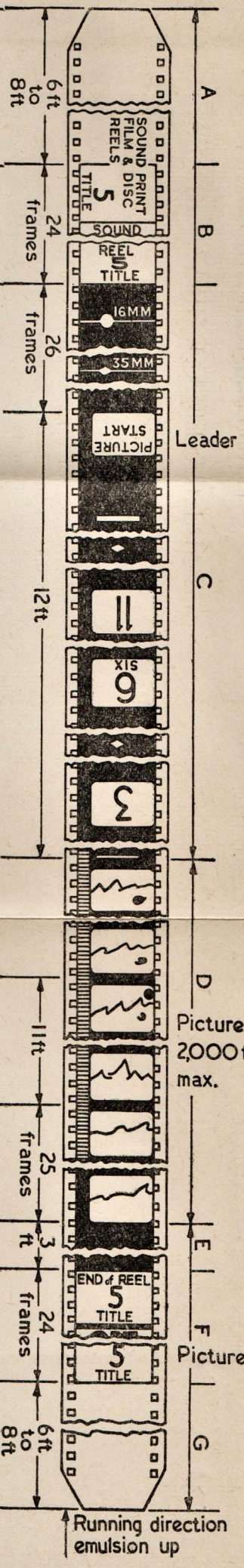

Fig. 1.

BRITISH STANDARDS

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BRITISH STANDARDS INSTITUTION

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The principal objects of the Institution are to co-ordinate the efforts of producers and users for the improvement, standardization and simplification of engineering and industrial materials ; to simplify production and distribution ; to eliminate the waste of time and material involved in the production of an unnecessary variety of patterns and sizes of articles for one and the same purpose ; to set up standards of quality and dimensions, and promote the general adoption of British Standards.

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The Institution is not a profit-making concern, its only expenses being staff salaries, office expenses and printing.

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