

EBU Technical Standard N6-1994

Helical-scan television recording on 25.4-mm tape

<i>EBU Committee</i>	<i>First Issued</i>	<i>Revised</i>	<i>Re-issued</i>
PMC	1983	1988, 1989, 1994	

Keywords: Video recording - B/C

1. Introduction

In 1978, the EBU Technical Committee approved a Technical Information Sheet which contained detailed specifications for both format B (segmented) and format C (non-segmented) recording of television on 25.4-mm wide tape.

This has since served as the basis for IEC Publication 602 (1980) and its Amendment No.1 (1987) [1] and IEC Publication 558 (1982) and its Amendment No.1 (1987) [2].

In accordance with a well-established policy, the EBU automatically adopted these IEC Publications for application in the international exchange of television programmes between its Member-organizations. However, progress in the relevant studies within the EBU has brought to light a need to revise and update some aspects of the IEC Publications. The present EBU Standard describes these revisions and updates, which have been adopted by the EBU and sent to the IEC for consideration within that organization.

2. Format B recordings

The specifications contained in IEC 602 apply with the following revisions and updates.

2.1. Tip penetration

(Item 6.1 in IEC 602)

Dimension H (Tip penetration) should be 0.030 mm and not 0.060 mm.

2.2. Use of audio noise reduction systems

(Item 7.4 in IEC 602)

No standard has been issued as yet on this subject. However, the EBU has produced Recommendation R39 [3] providing guidelines as to the systems and recording levels that would preferably be used for the international exchange of programmes.

3. Format C recordings

The specifications contained in IEC 558 apply with the following revisions and updates.

3.1. Revised tolerances for audio track positions

The dimensions shown in Table 1, corresponding to Table IV and Fig. 4 of IEC 558, are revised to the new figures to give tighter tolerances on the position of the audio track records.

3.2. Use of audio noise reduction systems

(Item 8.5 in IEC 558)

No standard has been issued as yet on this subject. However, the EBU has produced Recommendation R39 [3] providing guidelines as to the systems and recording levels that would preferably be used for the international exchange of programmes.

Table 1 - Revised tolerances for audio track positions.

Symbol	Description	Old		New	
		Min	Max	Min	Max
A	Audio 3, Lower edge	0.000	0.200	0.050	0.150
B	Audio 3, Upper edge	0.775	1.025	0.825	0.975
J	Audio 1, Lower edge	22.700	22.900	22.770	22.830
K	Audio 1, Upper edge	23.475	23.725	23.525	23.675
L	Audio 2, Lower edge	24.275	24.525	24.325	24.475
M	Audio 2, Upper edge	25.100	25.300	25.150	25.250
AA	Audio 4, Lower edge	1.500	1.700	1.550	1.650
BB	Audio 4, Upper edge	2.275	2.525	2.325	2.475

Note: All the dimensions are in millimetres.

3.3. Use of the PAL eight-field information on the control track

Playback modes

3.3.1. Four-field lock mode:

The machine should lock to a PAL four-field sequence. A PAL four-field sequence can be derived from the eight-field edit pulse.

3.3.2. Eight-field frame mode:

The machine should use an eight-field edit pulse to secure eight-field framing but only during the initial lock-up period.

These two modes shall be switch-selectable.

4. Operating practices

The specifications in IEC Publications 558 and 602 apply with the following additions.

4.1. International exchange of recordings

EBU Members wishing to exchange television programmes should reach prior agreement on the video recording format to be used. Information regarding the preferences of the EBU Members as regards recording formats for programme exchange is given in EBU Technical Information 120 [4].

4.2. Programme label

At least the following information should be supplied with the documentation accompanying each television programme recorded on tape:

- name of the organization which made the recording;
- title of programme, or title, sub-title and episode number;
- total number of spools, and number of the spool in the sequence when the programme is contained on more than one spool;
- library number (reference number) of programme or of tape;
- playing-time of the programme material recorded on each tape;
- scanning standard (625/50 or 525/60);

- colour system for colour television recordings;
- recording format (B or C);
- audio noise reduction system, if used;
- monophonic or stereophonic recording.

The information required should be provided in at least one of the official languages of the EBU.

The information required should be supplied on a label affixed to the programme spool and to the container.

Fig. 1 shows, as an example, the possible dimensions and lay-out of such a new label. It will be noted that space is provided on it for information on the allocation of the various audio tracks available in formats B and C.

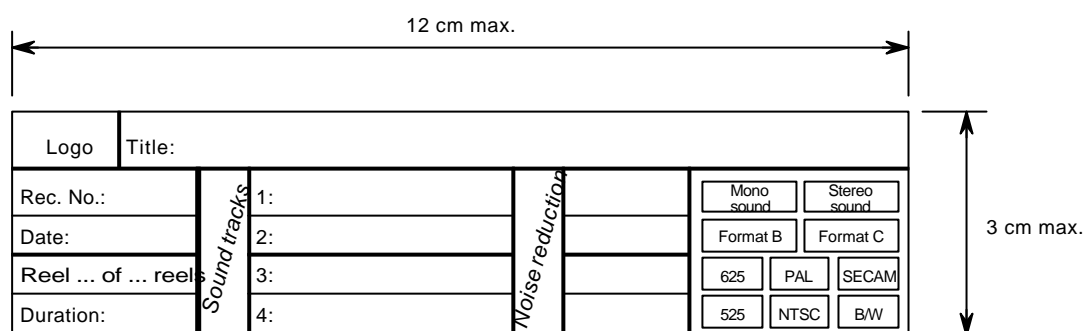


Fig. 1 - Example of a possible standard label for format B or format C recordings.

4.3. Composition and duration of leaders and trailers

Leader and trailer tape sections should conform to EBU Recommendation R49 [5].

Bibliography

- [1] IEC Publication 602 plus Amendment No. 1: **Type B helical video recorders**
 - [2] IEC Publication 558 plus Amendment No. 1: **Type C helical video recorders**
 - [3] EBU Technical Recommendation R39-1993: **Use of sound companding techniques on the sound channels of television tape recordings for the international exchange of programmes**
 - [4] EBU Technical Information I 20-1993: **Analogue VTR formats for the exchange of television programme material between EBU Members**
 - [5] EBU Technical Recommendation R49-1993: **Tape alignment leader for the exchange of television programmes**
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