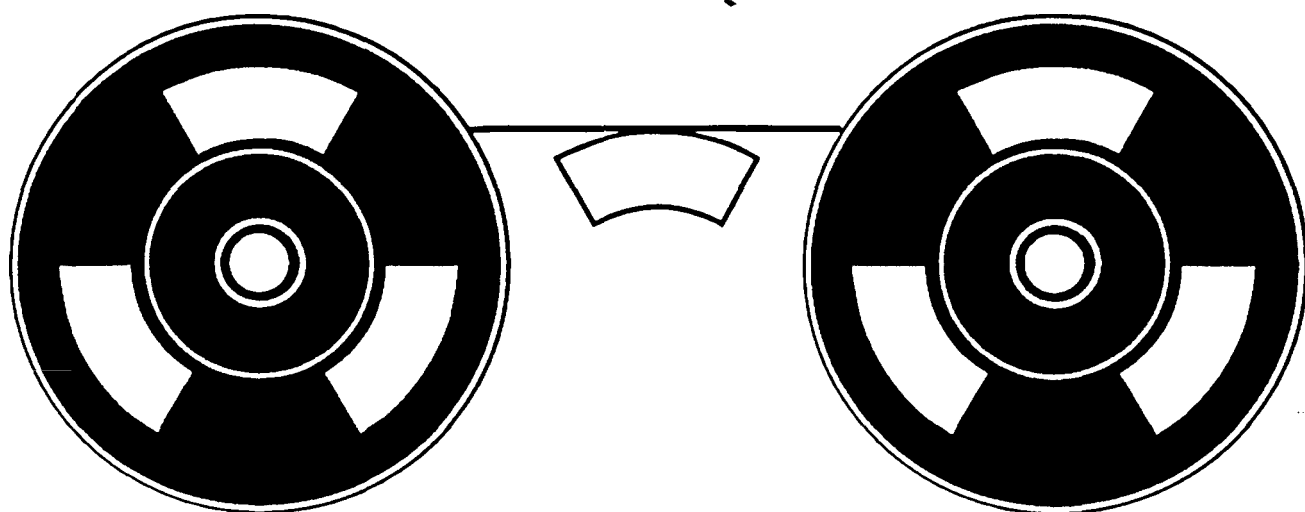




INTERNATIONAL TELECOMMUNICATION UNION

# 1992 - CCIR RECOMMENDATIONS

(New and revised as of 15 September 1992)



RBR SERIES  
SOUND AND  
TELEVISION RECORDING



INTERNATIONAL RADIO CONSULTATIVE COMMITTEE

ISBN 92-61-04721-1

Geneva, 1992

© ITU 1992

All rights reserved. No part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without written permission from the ITU.



## Recommendation 778 (1992)

### Analogue component television tape recording - Standards for the international exchange of television programs on magnetic tape

Extract from the publication:

*CCIR Recommendations: RBR series: Sound and Television Recording*  
(Geneva: ITU, 1992), pp. 8-11

This electronic version (PDF) was scanned by the International Telecommunication Union (ITU) Library & Archives Service from an original paper document in the ITU Library & Archives collections.

La présente version électronique (PDF) a été numérisée par le Service de la bibliothèque et des archives de l'Union internationale des télécommunications (UIT) à partir d'un document papier original des collections de ce service.

Esta versión electrónica (PDF) ha sido escaneada por el Servicio de Biblioteca y Archivos de la Unión Internacional de Telecomunicaciones (UIT) a partir de un documento impreso original de las colecciones del Servicio de Biblioteca y Archivos de la UIT.

(ITU) للاتصالات الدولي الاتحاد في والمحفوظات المكتبة قسم أجراه الضوئي بالمسح تصوير نتاج (PDF) الإلكترونية النسخة هذه والمحفوظات المكتبة قسم في المتوفرة الوثائق ضمن أصلية ورقية وثيقة من نقلاً.

此电子版（PDF版本）由国际电信联盟（ITU）图书馆和档案室利用存于该处的纸质文件扫描提供。

Настоящий электронный вариант (PDF) был подготовлен в библиотечно-архивной службе Международного союза электросвязи путем сканирования исходного документа в бумажной форме из библиотечно-архивной службы МСЭ.

## RECOMMENDATION 778

## ANALOGUE COMPONENT TELEVISION TAPE RECORDING

Standards for the international exchange  
of television programmes on magnetic tape

(Question 102/11)

(1992)

The CCIR

*recommends*

that magnetic recordings of analogue component signals used for the international exchange of television programmes should meet the following standards.

**1. Television standard**

Recording on magnetic tape of television programmes for international exchange should be carried out in accordance with one of the following classes of television systems:

- 625-lines: 50 fields/s;
- 525-lines: 60 fields/s.

**2. Recording format****2.1 Analogue recording of component video signals**

The recordings should conform with one of the formats specified in the following:

- helical-scan video tape cassette system using 12.65 mm (0.5 in) magnetic tape on type L: IEC Publication 961 + Amendment 1;
- helical-scan video tape cassette system using 12.65 mm (0.5 in) magnetic tape on type M 2: IEC Document 60B (Secr) 191.

*Note 1* – The characteristics of the television systems are given in Recommendation 470.

*Note 2* – References for the measurement and alignment for television tape recorders will be contained in a draft new Recommendation.

*Note 3* – Guidelines for the storage of magnetic tapes are contained in EBU Publication Tech. 3202.

**3. Specifications for programme sound recording****3.1 Programme sound allocation**

The allocation of programme sound channels to the longitudinal audio tracks is defined in EBU Technical Recommendation R38-1987 (for type L only).

The allocation of programme sound channels to the FM and (optionally) PCM audio tracks requires prior agreement.

*Note 1* – Although many broadcasting organizations use companding for internal purposes, the use of audio companding on the longitudinal audio tracks for international programme exchange is not recommended.

#### **4. Editing**

Electronic editing shall maintain an off-tape synchronizing pulse train with a phase relationship to the playback reference of the machine sufficiently close to avoid disturbances.

Information on the time and control code required for editing can be found in IEC Publication 461.

The requirements for dominant field editing as defined in EBU Technical Recommendation R62-1990 must be observed. (See Annex 1 of Recommendation 469.)

*Note 1* – If the programme signals recorded have been derived from a composite source, special rules for composite editing should be observed to achieve optimum signal quality. The EBU has issued Technical Statements D23-1984 and D25-1986 describing in detail the EBU requirements for synchronizing pulse generators for 625-line/50 fields PAL signals. Further information can be found in CCIR Recommendation 469, Annex 2.

#### **5. Composition and duration of leaders and trailers**

Leader and trailer sections of monophonic recordings should be located on the tape in conformity with the sequence shown in Table 1. For stereophonic recordings see Table 2.

#### **6. Programme identification**

**6.1** The following minimum information should be supplied with each recorded television 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;
- reference number (library number) of programme or of tape;
- total playing-time, and playing-time of the programme material recorded on the tape;
- line and field system (625/50 or 525/60);
- which audio tracks have been used;
- the content of each audio track.

**6.2** The information required in § 6.1 shall be provided in at least one of the official languages of the ITU.

TABLE 1

Tape section		Duration (s)	Picture	Sound (on any channel carrying programme sound)	Control track signal
Leader	Protection leader	10 (minimum)	Blank tape		
	Alignment leader	60 (minimum)	Alignment signal (1)	1 000 Hz at reference level (2)	Uninterrupted
	Optional	5 (maximum)	Blank tape		
	Identification leader	15 (minimum)	Programme identification	Spoken identification preferred, or silence	Uninterrupted
	Cue-up leader	8	Black or cue (3)	Silence or cue	
2		Black (3)	Silence		
Programme (4)		Playing time of programme	Programme		
Run-out trailer		30 (minimum)	Black (3)	Silence	

(1) Examples of suitable alignment signals for 625-lines, 50 field/s systems will be given in a draft new Recommendation.

(2) See § 3.1 of Recommendation 469.

(3) In the case of colour recordings the black signal should be colour black. It is desirable that the colour field sequence (8 fields in PAL, 4 fields in NTSC) should continue uninterrupted in relation to the beginning and end of the programme recording.

(4) Where the time and control code is recorded on the assigned longitudinal track (see § 3), the time indication of the programme start should be shown on the label accompanying the tape.

TABLE 2

Tape section		Duration (s)	Picture	Sound track 1	Sound track 2	Control track signal
Leader	Protection leader	10 (minimum)	Blank tape			
	Alignment leader	60 (minimum)	Alignment signal (1)	1 000 Hz at reference level (2), interrupted (3) (4)	1 000 Hz at reference level (2) (4)	Uninterrupted
	Optional	5 (maximum)	Blank tape			
	Identification leader	15 (minimum)	Programme identification	Spoken identification preferred, or silence	Spoken identification preferred, or silence	Uninterrupted
	Cue-up leader	8	Black or cue	Silence or cue	Silence or cue	
2		Black	Silence	Silence		
Programme (5)		Playing time of programme	Programme			Uninterrupted
Run-out trailer		30 (minimum)	Black	Silence	Silence	

(1) Examples of suitable alignment signals for 625-lines, 50 field/s systems will be given in a draft new Recommendation.

(2) See § 3.1 of Recommendation 469. The tones for both tracks must be coherent (i.e. from the same source) and in phase.

(3) The tone should be interrupted for 0.25 s every 3 s to enable identification of stereophonic recordings. The interruption may be made without using automatic equipment by organizations that only very occasionally need to interchange stereophonic video tape recordings. Under these circumstances, it is recognized that the specified interruption duration will not be strictly adhered to.

(4) In Australia the reference tone is on track 1 and the interrupted reference tone is on track 2. This is done to identify tracks and retain compatibility with mono track 1 reference tone.

(5) Where the time and control code is recorded on the assigned longitudinal track, the time indication of the programme start should be shown on the label accompanying the tape.