

## EBU Technical Recommendation R38-1998

### Allocation of audio channels in analogue tape recording formats for international exchange of programmes

<i>EBU Committee</i>	<i>First Issued</i>	<i>Revised</i>	<i>Re-issued</i>
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EBU Member-organizations use analogue television recorders conforming with a variety of standards:

- transverse-track recorders using 50.8-mm tape [1] (generally now only used for archive material);
- format-B recorders using 25.4-mm tape [2][3];
- format-C recorders using 25.4-mm tape [4][3];
- U-matic, U-matic H and U-matic SP recorders using 19-mm tape in cassettes [5];
- Betacam and Betacam SP (Format L, Modes I and II in IEC documentation) recorders using 12.7-mm tape in cassettes [6];
- MII (Format M in IEC documentation) recorders using 12.7-mm tape in cassettes [7].

The different recording formats provide different numbers of recordable sound and auxiliary channels.

When a television programme is accompanied by more than one synchronous sound channel, it is preferred to record the sound channels on the same tape as the picture, provided that the tape format can accommodate all the necessary sound signals.

The EBU *recommends*

that, for the international exchange of programmes when two synchronous sound channels accompany a picture recorded on format-B, format-C, U-matic, Betacam or MII tapes, the tracks are allocated to audio channels in accordance with *Table 1*.

The allocation of sound channels on digital recordings is given in EBU Recommendation R48 [8],

**Table 1 – Preferred allocation of audio tracks.**

Operation mode	Channel	Format				
		<b>B</b> <i>(Notes 1,2)</i>	<b>C</b> <i>(Notes 1,3)</i>	<b>U-matic</b> <i>(Notes 1,4,5)</i>	<b>Betacam</b> <i>(Notes 1,6,7,8)</i>	<b>MII</b> <i>(Notes 1,7,8)</i>
Exchange of finished monophonic television programmes	Monophonic programme mix	Track 1	Track 1	Track 2	Track 1	Track 1
	International sound (if any)	Track 2	Track 2	Track 1	Track 2	Track 2
Exchange of finished stereophonic television programmes	Stereo left	Track 1	Track 1	Track 1	Track 1	Track 1
	Stereo right	Track 2	Track 2	Track 2	Track 2	Track 2
Exchange of original news recordings	Commentary (if any)	Track 1	Track 1	Track 1	Track 1	Track 1
	International sound (if any)	Track 2	Track 2	Track 2	Track 2	Track 2

*Notes:*

1. Track 1 is the edge track in format-B and the U-matic format; it is the inner track in format-C, Betacam and format MII.
2. Audio track 3 in format-B is allocated to the time code and may not carry an audio channel except by mutual agreement.
3. Audio track 3 in format-C is allocated to the time code and may not carry an audio channel except by mutual agreement. Audio track 4 is optional and, in the case of an exchange of stereo recordings, it may be used by the sending organization, by mutual agreement, to record the monophonic mix. In the case of an exchange of monophonic programmes, it may be used by the receiving organization to record its own dubbed sound.
4. The same preferred track allocation applies to the U-matic H and U-matic SP formats.
5. The exchange of television programmes with stereo sound on the U-matic format is not encouraged.
6. The same preferred track allocation applies for Betacam and Betacam SP (format L mode I and mode II).
7. The Betacam SP and MII formats have two additional FM audio tracks, usually referred to as tracks 3 and 4. The allocation of these tracks is not standardized by the EBU.
8. The Betacam SP and MII formats can have optional PCM audio tracks. These replace the longitudinal audio track 1. This option has not been used to a significant extent by the EBU Members and is not standardized by the EBU.

## **Bibliography**

- [1] IEC Publication 60347: **Transverse track video recorders\***
- [2] IEC Publication 60602 plus Amendment No.1: **Type B helical video recorders\***
- [3] EBU Technical Standard N6-1994: **Helical-scan television recording on 25.4-mm tape**
- [4] IEC Publication 60558 plus Amendments No.1 and No. 2: **Type C helical video tape recorders\***
- [5] IEC Publication 60712 plus Amendment No. 1: **Helical-scan video-tape cassette system using 19-mm (3/4-inch) magnetic tape, known as U-matic\***
- [6] IEC Publication 60961: **Helical-scan video tape cassette system using 12.65 mm (0.5 in) magnetic tape on type L\***
- [7] IEC Publication 61118: **Helical-scan video tape cassette systems using 12.65 mm (0.5 in) magnetic tape type MII\***
- [8] EBU Technical Recommendation R48-1996: **Allocation of audio channels in digital television tape-recording formats (D-1, D-2, D-3, D-5 and Digital Betacam).**

\* Note: from 1997 the catalogue numbers of all IEC Publications have been increased by 60 000 to avoid duplication with the numbers of ISO Standards.

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