

Recommendation R31-1997

Methods of measurement of the characteristics of television cameras

<i>EBU Committee</i>	<i>First issued</i>	<i>Revised</i>	<i>Re-issued</i>
PMC	1983	1986, 1997	

Keywords: Cameras - Television, Measurements/Alignment

The EBU believes that it is desirable to use standardised methods of measurement of the functional characteristics of television cameras. Such standardisation enables broadcasters to exchange data on television cameras, and provides a uniform basis for discussion on the subject with the manufacturers.

The EBU has established, for this purpose, methods for measurement of ten principal characteristics of television cameras:

- sensitivity,
- signal-to-noise ratio,
- resolution,
- registration,
- geometry,
- white shading,
- black shading,
- streaking,
- flare,
- gamma correction.

These methods are described in two EBU documents:

- Tech. 3238 [1] - which covers tube cameras.
- Tech. 3281 [2] - which covers CCD cameras.

In addition, document Tech 3281 also describes measurement methods for the following parameters of CCD cameras:

- aliasing,
- smearing,
- over-exposure headroom,
- blemishes,
- image format.

It is intended that the methods described should be used during acceptance tests. The methods make use of a certain number of test cards which are described in the documents.

The EBU has also established procedures for measurement of the colour reproduction of both types of television cameras. These procedures are described in document Tech. 3237, Supplement 1 [3]. It is intended that the real samples method and/or spectrophotometric method described in this supplement should be used during acceptance tests and other detailed tests of cameras. The methods make use of a number of colour samples which are described in the document.

The EBU *recommends*:

that its Members use the methods described in documents Tech. 3238, Tech 2381 and Tech. 3237, Supplement 1, and that they should base their own specifications on the use of these methods.

Bibliography

- (1) EBU document Tech. 3238 (1983): **Methods for measuring the main characteristics of television cameras**
 - (2) EBU document Tech. 3281 (1995): **Methods of measurement of the characteristics of CCD cameras**
 - (3) EBU document Tech. 3237 (1983) + corrigendum (1989): **Methods of measurement of the colorimetric fidelity of television cameras - Supplement 1 (2nd edition, 1989): Measurement procedures**
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