

SECTION 11C: CONTROL, MEASUREMENT AND INTERNATIONAL EXCHANGE OF TELEVISION PROGRAMMES

RECOMMENDATION 472-3*

VIDEO-FREQUENCY CHARACTERISTICS OF A TELEVISION SYSTEM
TO BE USED FOR THE INTERNATIONAL EXCHANGE OF
PROGRAMMES BETWEEN COUNTRIES THAT HAVE ADOPTED
625-LINE COLOUR OR MONOCHROME SYSTEMS

(Questions 1/11, 2/11)

(1970-1974-1986-1990)

The CCIR

UNANIMOUSLY RECOMMENDS

1. the video characteristics, given below, for the international exchange of programmes between countries that have adopted 625-line colour or monochrome television systems. In particular, countries that use Systems B, C, D, G, H, I, K, K1 and L will facilitate programme interchange by adopting these characteristics.

Note 1 — The details concerning the line-blanking and field-blanking intervals are listed in the same order and are designated by the same symbols as in Report 624.

Note 2 — This Recommendation is not intended to apply to Standard N.

2. General characteristics

- | | | |
|------|---|--------------------------------|
| 2.1 | Number of lines per picture: | 625 |
| 2.2 | Line frequency and tolerance f_H (Hz) ⁽¹⁾ | |
| | — monochrome transmissions: | 15 625 $\pm$ 0.02% |
| | — colour transmissions: | 15 625 $\pm$ 0.0001% |
| 2.3 | Field frequency f_v (Hz): | (2/625) f_H |
| 2.4 | Picture-frame frequency f_p (Hz): | (1/625) f_H |
| 2.5 | Gamma of picture signal: | approx. 0.4 |
| 2.6 | Nominal video bandwidth (MHz): | 5, or 5.5, or 6 ⁽²⁾ |
| 2.7 | Nominal difference between black level and blanking level (as a percentage of the luminance amplitude): | 0 ⁺⁵ ₋₀ |
| 2.8 | Nominal video level at interfaces (from synchronizing level to peak white-level) (V_{pp}): | 1.0 ⁽³⁾ |
| 2.9 | Nominal video level at interfaces (from blanking level to peak white-level) (V_{pp}): | 0.7 ⁽³⁾ |
| 2.10 | Nominal synchronizing level at interfaces (from blanking level to synchronizing level) (V_{pp}): | 0.3 ⁽³⁾ |

3. Details of line-blanking interval ⁽⁴⁾

(μs)

- | | | |
|-----|--|------------------------------|
| (H) | Nominal duration of a line: | $H = 64$ |
| (a) | Line-blanking interval: | 12 $\pm$ 0.3 ⁽⁵⁾ |
| (b) | Interval between datum (0_H) and back edge of line-blanking signal (average calculated value for information): | 10.5 |
| (c) | Front porch: | 1.5 $\pm$ 0.3 ⁽⁵⁾ |
| (d) | Synchronizing pulse: | 4.7 $\pm$ 0.2 |
| (e) | Build-up time (10-90%) of line blanking edges: | 0.3 $\pm$ 0.1 |
| (f) | Build-up time (10-90%) of line-synchronizing pulses: | 0.2 $\pm$ 0.1 |

* This Recommendation should be brought to the attention of Study Groups 4 and 9 and the CCIR.

4. Details of the field-blanking interval

- (j) Field-blanking period: $25 H \pm a^{(6)}$
- (k) Build-up time (10-90%) of field-blanking edges as in (e): 0.3 ± 0.1
- (l) Duration of first equalizing pulse sequence: $2.5 H$, or $3 H^{(7)}$
- (m) Duration of field-synchronizing pulse sequence: $2.5 H$, or $3 H^{(7)}$
- (n) Duration of second equalizing pulse sequence: $2.5 H$, or $3 H^{(7)}$
- (p) Duration of equalizing pulse (one half the value given in (d)): 2.35 ± 0.1
- (q) Duration of field-synchronizing pulse (average calculated value for information): 27.3
- (r) Interval between field-synchronizing pulses as in (d): 4.7 ± 0.2
- (s) Build-up time (10-90%) of field-synchronizing pulses as in (f): 0.2 ± 0.1
- (¹) When the reference of synchronism is being changed, the tolerance for colour transmissions may be increased to $\pm 0.01\%$ (see Report 624). Attention is drawn to the desirability of adding to these characteristics a value for the maximum rate of change of line frequency.
- (²) The attention of Study Groups 4 and 9 and the CMTT is drawn to the desirability of subsequently standardizing tolerances for corresponding transmission characteristics applicable to all 625-line systems. For international routine measurements, it is suggested that the test signals be based on a single reference frequency which could be 5 MHz, particularly by countries using systems with nominal video bandwidth of 6 MHz. For example, this suggestion is not contrary to the use of a frequency close to 6 MHz in a multiburst test signal.
- (³) When the voltage is measured across a matched 75Ω termination.
- (⁴) The nominal value of the picture-synchronizing signal ratio is 7/3. For details of permitted tolerances in long-distance transmissions, see Recommendation 567.
- (⁵) In 625-line countries using teletext system B as specified in Annex I to Recommendation 653, to reduce the possibilities of data loss, the following values are preferred [CCIR, 1982-86a, b]:
- (a) line-blanking interval: $12^{+0.0}_{-0.3} \mu s$
- (c) front porch: $1.5^{+0.3}_{-0.0} \mu s$
- (⁶) In the blanking interval, lines 16, 17, 18, 19, 20, 21 and 329, 330, 331, 332, 333 and 334 are reserved for the reception of any special signals.
- (⁷) These values may be subject to revision in the case where a single equalizing pulse system might be adopted (see [CCIR, 1963-66] and Report 626).

REFERENCES

CCIR Documents

[1963-66]: XI/115 (United Kingdom).

[1982-86]: a. 11/365 (Australia); b. 11/376 (Germany (Federal Republic of)).