

RECOMMENDATION ITU-R BT.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**

(Question ITU-R 1/11)

(1970-1974-1986-1990)

The ITU Radiocommunication Assembly,

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 ITU-R BT.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⁾

* This Recommendation should be brought to the attention of Radiocommunication Study Groups 4 and 9 and Telecommunication Standardization Study Group 9.

** Radiocommunication Study Group 6 made editorial amendments to this Recommendation in 2002 in accordance with Resolution ITU-R 44.

3	Details of line-blanking interval⁽⁴⁾	(μ s)
H)	Nominal duration of a line:	$H = 64$
a)	Line-blanking interval:	12 ± 0.3 ⁽⁵⁾
b)	Interval between datum (O_H) and back edge of line-blanking signal (average calculated value for information):	10.5
c)	Front porch:	1.5 ± 0.3 ⁽⁵⁾
d)	Synchronizing pulse:	4.7 ± 0.2
e)	Build-up time (10-90%) of line blanking edges:	0.3 ± 0.1
f)	Build-up time (10-90%) of line-synchronizing pulses:	0.2 ± 0.1

4 **Details of the field-blanking interval**

j)	Field-blanking period:	$25 H + a$ ⁽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 ITU-R BT.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 Radiocommunication Study Groups 4 and 9 and Telecommunication Standardization Study Group 9 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.
- (5) In 625-line countries using teletext system B as specified in Annex 1 to Recommendation ITU-R BT.653, to reduce the possibilities of data loss, the following values are preferred:
- a) line-blanking interval: $12_{-0.3}^{+0.0} \mu\text{s}$
- c) front porch: $12_{-0.0}^{+0.3} \mu\text{s}$
- (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 Report ITU-R BT.626).
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