

International Telecommunication Union

ITU-T

TELECOMMUNICATION
STANDARDIZATION SECTOR
OF ITU

J.601

Amendment 1
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SERIES J: CABLE NETWORKS AND TRANSMISSION
OF TELEVISION, SOUND PROGRAMME AND OTHER
MULTIMEDIA SIGNALS

Transport of Large Screen Digital Imagery

Transport of Large Screen Digital Imagery (LSDI)
applications for its expanded hierarchy

**Amendment 1: Modification of required picture
and scanning characteristics**

ITU-T Recommendation J.601 (2005) – Amendment 1



ITU-T Recommendation J.601

Transport of Large Screen Digital Imagery (LSDI) applications for its expanded hierarchy

Amendment 1

Modification of required picture and scanning characteristics

Summary

A number of appendices of ITU-T Recommendation J.601 (2005) were adopted in ITU-R Recommendation BT.1769.

In particular, Table IV.1 of J.601, *Picture and Scanning characteristics*, has been identified as normative in BT.1769.

In order to align J.601 with BT.1769, this table has been extracted from the former Appendix IV and included in J.601 as new Annex A, thus making it normative.

Source

Amendment 1 to ITU-T Recommendation J.601 (2005) was approved on 29 July 2007 by ITU-T Study Group 9 (2005-2008) under the ITU-T Recommendation A.8 procedure.

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ITU-T Recommendation J.601

Transport of Large Screen Digital Imagery (LSDI) applications for its expanded hierarchy

Amendment 1

Modification of required picture and scanning characteristics

A number of appendices of ITU-T Recommendation J.601 (2005) were adopted in ITU-R Recommendation BT.1769. In particular, Table IV.1 of J.601, Picture and scanning characteristics, has been identified as normative in BT.1769. In order to align J.601 with BT.1769, this table has been extracted without modification from the former Appendix IV and included in J.601 as new Annex A, thus making it normative.

1) Add the following new Annex A

Annex A

The expanded hierarchy of the LSDI image formats

(This annex forms an integral part of this Recommendation)

This annex provides the fundamental parameter values for the members of the expanded hierarchy of LSDI image formats.

Table A.1 – Picture and scanning characteristics

Item	Parameter	Values	
		3840 × 2160 LSDI system	7680 × 4320 LSDI system
1.1	Picture aspect ratio	16:9	
1.2	Samples per active line	3840	7680
1.3	Active lines per picture	2160	4320
1.4	Sampling lattice	Orthogonal	
1.5	Order of samples	Left to right, top to bottom	
1.6	Pixel aspect ratio	1:1 (square pixels)	
1.7	Sampling structure	4:2:2, 4:4:4	
1.8	Frame rate (Hz)	24*, 25, 30*, 50, 60*	
1.9	Image structure	Progressive	
1.10	Bit/pixel	10, 12	
1.11	Colorimetry	See ITU-R Rec. BT.1361	

* For the 24, 30 and 60 Hz systems, frame rates having those values divided by 1.001 are also specified.

2) *Replace Appendix IV by the following*

Appendix IV

Estimated compression rates for distribution of expanded hierarchy signals

(This appendix does not form an integral part of this Recommendation)

Table IV.1 – Estimated net compressed bit rate required to transport expanded hierarchy signals for contribution and for distribution purposes

Parameter	3840 × 2160 LSDI system			7680 × 4320 LSDI system		
	4:4:4	4:2:2	4:2:0	4:4:4	4:2:2	4:2:0
Sampling structure for source coding	4:4:4	4:2:2	4:2:0	4:4:4	4:2:2	4:2:0
Frame rate (Note 1)	60	60	60	60	60	60
Bit/pixel (Note 2)	10	10	10	10	10	10
Source bit rate	14.9 Gbit/s	9.95 Gbit/s	7.46 Gbit/s	59.7 Gbit/s	39.8 Gbit/s	29.9 Gbit/s
Approximate Target encoding bit rate for H.264 (Note 3)	100 Mbit/s	66 Mbit/s	50 Mbit/s	400 Mbit/s	265 Mbit/s	200 Mbit/s
Approximate Target encoding bit rate for H.262 (Note 3)	200 Mbit/s	135 Mbit/s	100 Mbit/s	800 Mbit/s	530 Mbit/s	400 Mbit/s
NOTE 1 – An appropriate frame rate should be chosen depending on the application.						
NOTE 2 – Only the case of 10 Bit/pixel is shown here.						
NOTE 3 – An appropriate bit rate should be chosen depending on the application.						

It should be noted that, since ITU-T Recommendations H.264 and H.262 do not currently support signals in the 3840 × 2160 or 7680 × 4320 image formats, transmission of those formats can currently be implemented by dividing the image into 16 × 9 sub-rasters, each one of them in the 1080 × 1920 format, and each one separately encoded.

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