

RECOMMENDATION ITU-R BR.1374-1*

**Scanned area dimensions from 16 mm and 35 mm
cinematographic film used in television**

(Question ITU-R 240/11)

(1998-2001)

The ITU Radiocommunication Assembly,

considering

- a) that the image aspect ratios of television and film, in particular wide-screen feature films made for cinema presentation, do not coincide;
- b) that the conversion of film images for television takes place in telecine equipment that offers a multiple choice of what film image area dimensions to transfer to video for television;
- c) that it is normal practice in broadcasting organization to transfer programmes originated on film to video tape for programme transmission, exchange and distribution;
- d) that, more and more often, films are transferred to video by external post-production or facilities houses rather than in-house by broadcasters;
- e) that broadcasters would like to specify the expected picture area on film received as video from other organizations;
- f) that there should be recommendations specifying scanned area dimensions for television, from release films, that take into account established standards for optical projection;
- g) that there should be recommendations specifying image areas dimensions for film specially shot and framed for television,

recommends

1 that the scanned area dimensions, for film shot and framed for optical projection or television, listed in this Recommendation, should be used as reference values for transferring film images for use in television EBU R86 – 1997 “Scanned area dimensions from films for television”:

- Tables 1 and 3 specify scanned area dimensions for 4:3 television;
- Tables 2 and 4 specify scanned area dimensions for 16:9 television;
- Figures 1-2 show the aspect ratio relations for 4:3 television;
- Figures 3-4 show the aspect ratio relations for 16:9 television;

* This Recommendation should be brought to the attention of the International Standards Organization (ISO TC-36) and the Society of Motion Picture and Television Engineers (SMPTE).

- Appendix 1 shows the intentions, principles and anchor (reference) values behind the scanned area dimensions listed in Tables 1 to 4.

NOTE – This Recommendation replaces Recommendations ITU-R BR.782, ITU-R BR.783, ITU-R BR.716, ITU-R BR.1291, ITU-R BR.1288 and ITU-R BR.1289.

TABLE 1

Film shot and framed for projection and scanned for 4:3 television

(Scanned area dimensions from images on film intended for contact printing and projection. The film material can be a print, an intermediate or camera original)

	Image aspect ratio		Scanned area dimensions				
	<i>framed for</i>	<i>displayed on TV</i>	<i>width</i>	<i>height</i>	<i>centre</i>	<i>appearance</i>	<i>notes</i>
1.1 16 mm: Standard aperture							
1.1.1	1.33:1	4:3 full screen	9.65	7.24	7.98		1
1.1.2	1.33:1	4:3 full screen	9.35	7.01	7.98		2
1.2 35 mm: Academy aperture							
1.2.1	1.37:1	4:3 full screen	20.39	15.29	18.75		3, 4
1.2.2	1.37:1	4:3 full screen	20.12	15.09	18.75		2, 4
1.2.3	1.66:1	4:3 full screen	16.83	12.62	18.75		4
1.2.4	1.66:1	1.66:1 letterbox	20.95	12.62	18.75		5
1.2.5	16:9	4:3 full screen	15.71	11.78	18.75		4
1.2.6	16:9	16:9 letterbox	20.95	11.78	18.75		5
1.2.7	1.85:1	4:3 full screen	15.09	11.32	18.75		4
1.2.8	1.85:1	1.85:1 letterbox	20.95	11.32	18.75		5
1.2.9	2.39:1	4:3 full screen	11.69	17.53	18.75		4
1.2.10	2.39:1	2.39:1 letterbox	20.95	17.53	18.75		5



Cropped area on the film image



Black area on the television display

NOTE 1 – These dimensions are based on the “projected area” dimensions in ISO 359 Standard – Cinematography – “Projectable image area on 16 mm motion-picture prints”.



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NOTE 2 – These dimensions are based on the “transmitted area” dimensions in ISO 1223 Standard – Cinematography – “Picture areas for motion picture films for television”. These dimensions are related to the historic concept of scanning film for television transmission.

NOTE 3 – These dimensions are based on the “projected area” dimensions in ISO 2907 Standard – Cinematography – “Maximum projectable Image area on 35 mm motion picture film”.

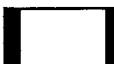
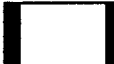
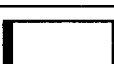
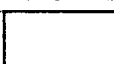
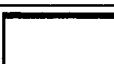
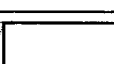
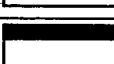
NOTE 4 – The television display will show the film image with areas on each side cropped.

NOTE 5 – The television display will show black areas at top and bottom of the film image.

TABLE 2

Film shot and framed for projection and scanned for 16:9 television

(Scanned area dimensions from images on film intended for contact printing and projection. The film material can be a print, an intermediate or camera original)

	Image aspect ratio		Scanned area dimensions				
	framed for	displayed on TV	width	height	centre	appearance	notes
2.1	16 mm: Standard aperture						
2.1.1	1.33:1	1.33:1 letterbox	9.65	7.26	7.98		1
2.2	35 mm: Academy aperture						
2.2.1	1.37:1	1.37:1 letterbox	20.95	15.29	18.75		1
2.2.2	1.66:1	16:9 full screen	20.95	11.78	18.75		2
2.2.3	1.66:1	1.66:1 letterbox	20.95	12.62	18.75		1
2.2.4	16:9	16:9 full screen	20.95	11.78	18.75		
2.2.5	1.85:1	16:9 full screen	20.12	11.32	18.75		3
2.2.6	1.85:1	1.85:1 letterbox	20.95	11.32	18.75		4
2.2.7	2.39:1	16:9 full screen	15.58	17.53	18.75		3
2.2.8	2.39:1	2.39:1 letterbox	20.95	17.53	18.75		4



Cropped area on the film image



Black area on the television display

NOTE 1 – The television display will show black areas on each side of the film area.

NOTE 2 – The television display will show the film image with areas top and bottom cropped.

NOTE 3 – The television display will show the film image with areas on each side cropped.

NOTE 4 – The television display will show black areas at top and bottom of the film area.

TABLE 3

Film specially shot and framed for television and scanned for 4:3 television

(Scanned area dimensions from images on film not intended for contact printing and projection. The film material will normally be a camera original)

	Image aspect ratio		Scanned area dimensions				
	<i>framed for</i>	<i>displayed on TV</i>	<i>width</i>	<i>height</i>	<i>centre</i>	<i>appearance</i>	<i>notes</i>
3.1 <i>Super 16 mm aperture</i>							
3.1.1	1.66:1	4:3 full screen	9.80	7.35	9.00		1, 6
3.1.2 ^{alt.}	1.66:1	1.66:1 letterbox	12.20	7.35	9.00		2, 6
3.1.3	16:9	4:3 full screen	9.15	6.86	9.00		1, 6
3.1.4	16:9	16:9 letterbox	12.20	6.86	9.00		2, 6
3.2 <i>Super 35 mm: 4-perf. aperture</i>							
3.2.1	4:3	4:3 full screen	24.00	18.00	17.48		3, 6
3.2.2	4:3	4:3 full screen	23.50	17.63	17.48		4
3.3 <i>Super 35 mm: 3-perf. aperture</i>							
3.3.1	4:3	4:3 full screen	18.00	13.50	17.48		5, 6



Cropped area on the film image



Black area on the television display

NOTE 1 – The television display will show the film image with areas on each side cropped.

NOTE 2 – The television display will show black areas at the top and bottom of the film area.

NOTE 3 – These dimensions are derived from the camera aperture dimensions in standard ANSI/SMPTE 59 – “35 mm Camera Aperture Images and Usage”.

NOTE 4 – These dimensions are derived from the camera aperture dimensions in DIN Standard 15502 – 6 Film 35 mm; Image produced by camera aperture and projected image area 1.33:1.

NOTE 5 – These scanned area dimensions are based on current production practice since no standard yet exists.

NOTE 6 – These dimensions are calculated for unspliced film.