

## Film formaten

Een woordje uitleg bij de verschillende kolommen (waar nodig)

- **Negative gauge** : afmeting van de negatieffilm, gemeten in de breedte, van rand tot rand
- **Negative aspect ratio** : verhouding breedte / hoogte van het negatief (beeld)
- **Gate dimensions** : afmetingen van de camera gate
- **Negative pulldown** : transportsysteem (perforaties)
- **Negative lenses** : normale (spherical) of anamorfe lenzen (bij opname)
- **Projection aspect ratio** : verschilt van de Negative aspect ratio in geval van anamorfoten
- **Projection lenses** : normale (spherical) of anamorfe lenzen (bij projectie)

Met dank aan Wikipedia, waar ook de meeste links naar verwijzen

[Zie ook hier](#) voor meer uitleg en illustratiemateriaal

Format	Creator	Year Created	First known work	Negative gauge	Negative aspect ratio <sup>[1]</sup>	Gate dimensions	Negative pulldown	Negative lenses	Projection gauge	Projection aspect ratio <sup>[1]</sup>	Projection dimensions	Projection lenses
<u><a href="#">Chronophotographie</a></u>	<u><a href="#">Etienne-Jules Marey</a></u>	1888		90 mm	much less than 1.00		unperforated	spherical				
<u><a href="#">Paperfilm</a></u>	<u><a href="#">Louis Le Prince</a></u>	1888	<u><a href="#">Roundhay Garden Scene</a></u>	54 mm			unperforated	spherical	54 mm			spherical
<u><a href="#">Theatre Optique</a></u>	<u><a href="#">Emile Reynaud</a></u>	1888	<u><a href="#">Pauvre Pierrot</a></u>				perforated	spherical				spherical
<u><a href="#">Chronophotographic</a></u>	<u><a href="#">William Friese-Greene</a></u>	1889		54 mm			irregular perfs	spherical				
<u><a href="#">Kinesigraph</a></u>	<u><a href="#">Wordsworth Donisthorpe</a></u>	1889	view of Trafalgar Square	68 mm	1.00?		unperforated	spherical				

<b><u>Kinetograph cylinder</u></b>	<a href="#">William Dickson</a> and <a href="#">Thomas Edison</a>	1889 or 1890	<a href="#">Monkeyshines, No. 1</a>	strip rolled around a cylinder			unperforated	spherical	strip rolled around a cylinder			spherical
<b><u>Kinetoscope horizontal</u></b>	<a href="#">William Dickson</a> and <a href="#">William Heise</a>	1891	<a href="#">Dickson Greeting</a>	19 mm			1 perf, 1 side, horizontal	spherical	19 mm, horizontal			spherical
<b><u>Silent film standard</u></b>	<a href="#">William Dickson</a> and <a href="#">Thomas Edison</a>	1892	<a href="#">Blacksmithing Scene</a>	35 mm	1.33	0.980" x 0.735"	4 perf, 2 sides	spherical	35 mm	1.33	0.931" x 0.698"	spherical
<b><u>Bioskop</u></b>	<a href="#">Max Skladanowsky</a>	1892	footage of Emil Skladanowsky	54 mm			unperforated (camera); 4 perf, 2 sides (projection)	spherical	54 mm (two strips interleaved)			spherical
<b><u>Acres 70</u></b>	<a href="#">Birt Acres</a>	1894	<a href="#">The Henley Royal Regatta of 1894</a>	70 mm	1.38	2.750" x 2.000"		spherical	70 mm			spherical
<b><u>Eidoloscope</u></b>	<a href="#">Woodville Latham</a>	1895	<a href="#">Griffo-Barnett Prize Fight</a>	51 mm	1.85	1.457" x 0.787"	4 perf, 2 sides	spherical	51 mm	1.85		spherical
<b><u>Cinematographe</u></b>	<a href="#">Lumiere Brothers</a>	1895	<a href="#">La Sortie des Usines Lumiere</a>	35 mm	1.33	0.980" x 0.735"	1 perf, 2 sides (rounded)	spherical	35 mm	1.33		spherical
<b><u>Biograph</u></b>	<a href="#">Herman Casler</a>	1895	<i>Sparring Contest at Canastota</i>	68 mm	1.35	2.625" x 1.938"	1 perf, 2 sides (punched in-camera)	spherical	68 mm			spherical
<b><u>Joly-Normandin</u></b>	<a href="#">Henri Joly</a>	1895		60 mm			5 perf, 2 sides	spherical	60 mm			spherical
<b><u>Biographe</u></b>	<a href="#">Demeny-</a>	1896		60 mm	1.40	1.750" x.	unperforated	spherical	60 mm	1.40		spherical

	<a href="#">Gaumont</a>					1.250"						
<a href="#">Chronophotraphe</a>	<a href="#">Demeny-Gaumont</a>	1896		60 mm	1.40	1.750" x. 1.250"	4 perf, 2 sides	spherical	60 mm	1.40		spherical
<a href="#">Sivan-Dalphin</a>	<a href="#">Casimir Sivan and E. Dalphin</a>	1896		38 mm				spherical	38 mm			spherical
<a href="#">Veriscope</a>	<a href="#">Enoch Rector</a>	1897	Corbett-Fitzsimmons fight	63 mm	1.66	1.875" x 1.125"	5 perf, 2 sides	spherical	63 mm			spherical
<a href="#">Viventscope</a>	<a href="#">Thomas Henry Blair</a>	1897		48 mm	1.50	1.500" x 1.000"	1 perf?	spherical	48 mm			spherical
<a href="#">Birtac</a>	<a href="#">Birt Acres</a>	1898	unknown (amateur format)	17.5 mm			2 perf, 1 side	spherical	17.5 mm			spherical
<a href="#">Biokam</a>	<a href="#">T.C. Hepworth</a>	1899	unknown (amateur format)	17.5 mm	1.60	0.630" x 0.394"	1 perf, center	spherical	17.5 mm			spherical
<a href="#">Prestwich 13 mm</a>	<a href="#">John Alfred Prestwich</a>	1899	unknown (amateur format)	13 mm				spherical	13 mm			spherical
<a href="#">Mirograph</a>	<a href="#">Reulos, Goudeau &amp; Co</a>	1900	unknown (amateur format)	21 mm			1 notch, 2 sides	spherical	21 mm			spherical
<a href="#">Lumiere Wide</a>	<a href="#">Lumiere Brothers</a>	1900		75 mm	1.33	2.362" x 1.772"	8 perf, 2 sides	spherical	75 mm	1.33		spherical
<a href="#">Cineorama</a>	<a href="#">Raoul Grimoin-Sanson</a>	1900	<a href="#">Cineorama</a>	70 mm x 10 cameras (360°)			4 perf?	spherical	70 mm x 10 projectors (360°)			spherical

<u><a href="#">La Petite (Hughes)</a></u>	<u><a href="#">W.C. Hughes</a></u>	1900	unknown (amateur format)	17.5 mm	1.60	0.630" x 0.394"	1 perf, center (smaller and less rectangular than Biokam)	spherical	17.5 mm			spherical
<u><a href="#">Pocket Chrono</a></u>	<u><a href="#">Gaumont Demeny</a></u>	1900	unknown (amateur format)	15 mm			1 perf, center	spherical	15 mm			spherical
<u><a href="#">Vitak</a></u>	<u><a href="#">William Wardell</a></u>	1902	unknown (amateur format)	no standard	no standard	no standard	1 perf, center	spherical	11 mm			spherical
<u><a href="#">Home Kinetoscope</a></u>	<u><a href="#">Edison</a></u>	1912	unknown (amateur format)	no standard	no standard	no standard	no standard	spherical	22 mm, 2 perf (on frameline between frame rows)	1.5	0.236" x 0.157" (three frames across width)	spherical
<u><a href="#">Pathe Kok</a></u>	<u><a href="#">Pathe</a></u>	1912	unknown (amateur format)	28 mm	1.36	0.748" x 0.551"	3 perf on one side, 1 perf on the other	spherical	28 mm			spherical
<u><a href="#">Duoscope</a></u>	<u><a href="#">Alexander F. Victor</a></u>	1912	unknown (amateur format)	17.5 mm			2 perfs, center	spherical	17.5 mm			spherical
<u><a href="#">Panoramico</a></u>	<u><a href="#">Filoteo Alberini</a></u>	1914	<u><a href="#">Il sacco di Roma</a></u>	70 mm	2.52		5 perf, 2 sides	spherical	70 mm			spherical
<u><a href="#">Split Duplex</a></u>	<u><a href="#">Duplex Corporation</a></u>	1915		35 mm	1.33	0.980" x 0.735"	4 perf, 2 sides (shooting)	spherical	35 mm	1.87	0.735" x 0.394"	spherical (split image 90° rotated)
<u><a href="#">11 mm</a></u>	(American)	1916	unknown (amateur format)	11 mm			1 perf, center	spherical	11 mm			spherical

<a href="#"><u>Movette</u></a>	<a href="#"><u>Movette Camera Company</u></a>	1917	unknown (amateur format)	17.5 mm			2 perfs, 2 sides (rounded)	spherical	17.5 mm			spherical
<a href="#"><u>28 mm safety standard</u></a>	<a href="#"><u>Alexander Victor</u></a>	1918	unknown (amateur format)	28 mm	1.36	0.748" x 0.551"	3 perf, 2 sides	spherical	28 mm			spherical
<a href="#"><u>Clou</u></a>	(Austrian)	1920	unknown (amateur format)	17.5 mm			2 perf, 2 sides	spherical	17.5 mm			spherical
<a href="#"><u>26 mm</u></a>	(French)	1920	unknown (amateur format)	26 mm			1 perf, 1 side	spherical	26 mm			spherical
<a href="#"><u>9.5 mm</u></a>	<a href="#"><u>Pathe</u></a>	1922	unknown (amateur format)	9.5 mm	1.31	0.335" x 0.256"	1 perf, center	spherical	9.5 mm	1.31	0.315" x 0.242"	spherical
<a href="#"><u>Widescope</u></a>	<a href="#"><u>John D. Elms and George W. Bingham</u></a>	1922		35 mm x 2 (both in same camera)	0.980" x 0.735"	1.33 x 2 negatives	4 perf, 2 sides	spherical (one lens per strip)	35 mm x 2 projectors	2.66	0.931" x 0.698"	spherical
<a href="#"><u>Cinebloc</u></a>	<a href="#"><u>Ozaphan</u></a>	1922	unknown (amateur format)	22 mm			2 perf, 2 sides	spherical	22 mm			spherical
<a href="#"><u>Tri-Ergon soundfilm</u></a>	<a href="#"><u>Tri-Ergon</u></a>	1922		35 mm	1.33	0.980" x 0.735"	4 perf, 2 sides	spherical	42 mm	1.33	0.931" x 0.698"	spherical
<a href="#"><u>16 mm</u></a>	<a href="#"><u>Eastman Kodak</u></a>	1923	unknown (amateur format)	16 mm	1.37	0.404" x 0.295"	1 perf, 1 or 2 sides	spherical	16 mm	1.37	0.378" x 0.276"	spherical
<a href="#"><u>Duplex</u></a>	<a href="#"><u>G.J. Bradley</u></a>	1923	unknown (amateur format)	11 mm			2 perf, 2 sides (rounded)	spherical	11.5 mm			spherical

<u><a href="#">Alberini-Hill</a></u>	<u><a href="#">Corrado Cerqua</a></u>	1924		35 mm	1.66	1.575" x 0.945" (curved)	10 perf, 2 sides, horizontal	spherical, on 65° revolving drum	35 mm			spherical
<u><a href="#">Cinelux</a></u>	<u><a href="#">Ozaphan</a></u>	1924	unknown (amateur format)	24 mm				spherical	24 mm			spherical
<u><a href="#">48 mm</a></u>	<u><a href="#">J.H. Powrie</a></u>	1924		48 mm	1.32	1.969" x 1.496"	horizontal	spherical	35 mm	1.33	0.931" x 0.698"	spherical
<u><a href="#">Natural Vision</a></u>	<u><a href="#">George K. Spoor</a></u> and <u><a href="#">P. John Berggren</a></u>	1925	<u><a href="#">The American</a></u>	63.5 mm	1.84	2.060" x 1.120"	6 perf, 2 sides, 20 fps	spherical	63.5 mm	2.00		spherical
<u><a href="#">13 mm</a></u>	(French)	1925	unknown (amateur format)	13 mm			4 perf, center	spherical	13 mm			spherical
<u><a href="#">18 mm</a></u>	(Russian)	1925	unknown (amateur format)	18 mm			1 perf, 2 sides	spherical	18 mm			spherical
<u><a href="#">Pathe Rural</a></u>	<u><a href="#">Pathe</a></u>	1926	unknown (amateur format)	17.5 mm	1.35 (silent); 1.30 (sound)	0.516" x 0.382" (silent); 0.445" x 0.343" (sound)	1 perf, 2 sides	spherical	17.5 mm	1.33 (silent); 1.26 (sound)	0.472" x 0.354" (silent); 0.445" x 0.343" (sound)	spherical
<u><a href="#">Widevision</a></u>	<u><a href="#">John D. Elms</a></u> and <u><a href="#">George W. Bingham</a></u>	1926	<u><a href="#">Natural Vision Pictures</a></u>	57 mm			5 perf, 2 sides	spherical	57 mm			spherical
<u><a href="#">Magnascope</a></u>	<u><a href="#">Lorenzo del Riccio</a></u>	1926	<u><a href="#">Old Ironsides</a></u>	35 mm	1.33	0.980" x 0.735"	4 perf, 2 sides	spherical	35 mm	1.33	0.931" x 0.698"	spherical (selected scenes projected using a wider lens)

												for larger picture)
<u>Movietone</u>	<u>Lee De Forest</u>	1927	<u>As We Lie</u>	35 mm	1.33?	0.980" x 0.735"?	4 perf, 2 sides	spherical	35 mm	1.17	0.826" x 0.708"	spherical
<u>Polyvision</u>	<u>Abel Gance</u>	1927	<u>Napoléon</u>	35 mm x 3 cameras	1.33 x 3 negatives	0.980" x 0.735"	4 perf, 2 sides	spherical	35 mm x 3 projectors	4.00	0.931" x 0.698"	spherical
<u>Magnafilm</u>	<u>Lorenzo del Riccio</u>	1929	<u>You're in the Army Now</u>	56 mm	2.19	1.620" x 0.740"	4 perf, 2 sides	spherical	56 mm	2.00		spherical
<u>Hypergonar</u>	<u>Henri Chretien</u>	1927	<u>Pour construire un feu</u>	35 mm	2.66	0.980" x 0.735"	4 perf, 2 sides	2x anamorphic	35 mm	2.66	0.931" x 0.698"	2x anamorphic
<u>Grandeur</u>	<u>20th Century Fox</u>	1929	<u>Fox Grandeur News</u>	70 mm	2.07	1.890" x 0.913"	4 perf, 2 sides, 20 fps (before 1930)	spherical	70 mm	2.00	1.768" x 0.885"	spherical
<u>Fearless Super Pictures</u>	<u>Ralph G. Fear</u>	1929		35 mm	2.27	1.813" x 0.800"	10 perfs, 2 sides, horizontal	spherical	35 mm, horizontal			spherical
<u>Fearless Super-Film/Magnifilm</u> <u>/Fox Vitascope</u>	<u>Ralph G. Fear</u>	1930	<u>Kismet</u>	65 mm	2.00	1.811" x 0.906"	5 perf, 2 sides	spherical	65 mm	2.05	1.772" x 0.866"	spherical
<u>Realife</u>	<u>MGM</u>	1930	<u>Billy the Kid</u>	70 mm	2.07	1.890" x 0.913"	4 perf, 2 sides	spherical	35 mm	1.75	0.904" x 0.517"	spherical
<u>50 mm</u>	<u>20th Century Fox and SMPE</u>	1930		50 mm	1.80	1.325" x 0.735"		spherical	50 mm	1.80	1.305" x 0.725"	spherical
<u>17 mm sound</u>	(French)	1930	unknown (amateur format)	17 mm			1 perf, 1 side	spherical	17 mm			spherical

<a href="#"><u>Giant Expanding Pictures</u></a>	<a href="#"><u>George Palmer</u></a>	1930		35 mm	1.33	0.980" x 0.735"	4 perf, 2 sides	spherical	35 mm	1.17	0.826" x 0.708"	spherical (with a special projection zoom lens zooming wider and opening masking for key sequences)
<a href="#"><u>Kodel Kemco Homovie</u></a>	<a href="#"><u>Clarence Ogden</u></a>	1931	unknown (amateur format)	16 mm		4 sequential images per frame	1 perf, 2 sides	spherical	16 mm			spherical
<a href="#"><u>Academy format</u></a>	<a href="#"><u>AMPAS</u></a>	1932		35 mm	1.37	0.866" x 0.630"	4 perf, 2 sides	spherical	35 mm	1.37	0.825" x 0.602"	spherical
<a href="#"><u>8 mm</u></a>	<a href="#"><u>Eastman Kodak</u></a>	1932	unknown (amateur format)	16 mm	1.32	0.192" x 0.145"	1 perf, 1 side (using 16 mm film with twice as many perfs)	spherical	8 mm	1.33	0.172" x 0.129"	spherical
<a href="#"><u>Straight 8</u></a>	<a href="#"><u>Bell and Howell</u></a>	1935	unknown (amateur format)	8 mm	1.32	0.192" x 0.145"	1 perf, 1 side	spherical	8 mm	1.33	0.172" x 0.129"	spherical
<a href="#"><u>Vitarama</u></a>	<a href="#"><u>Fred Waller</u></a>	1939		16 mm x 11 cameras	1.37 x 11 negatives	0.404" x 0.295"	1 perf, 2 sides	spherical	16 mm x 11 projectors	hemispherical view	0.378" x 0.276"	spherical
<a href="#"><u>Waller Flexible Gunnery Trainer</u></a>	<a href="#"><u>Fred Waller</u></a>	1943	US Air Force interactive training exercise	35 mm x 5 cameras	1.37 x 5 negatives	0.866" x 0.630"	4 perf, 2 sides	spherical	35 mm x 5 projectors	hemispherical view	0.825" x 0.602"	spherical
<a href="#"><u>Cinerama</u></a>	<a href="#"><u>Fred Waller</u></a>	1952	<a href="#"><u>This Is Cinerama</u></a>	35 mm x 3	0.89 x 3 negatives	0.996" x 1.116"	6 perf, 2 sides at 26	spherical	35 mm x 3 projectors, with 6 perf	2.59, with 146° curved	0.985" x 1.088"	spherical



				cameras			fps		pulldown	screen		
<u><a href="#">Matted 1.66</a></u>	<u><a href="#">Paramount</a></u>	1953	<u><a href="#">Shane</a></u>	35 mm	1.37	0.866" x 0.630"	4 perf, 2 sides	spherical	35 mm	1.66	0.825" x 0.497"	spherical
<u><a href="#">Matted 1.85</a></u>	<u><a href="#">Universal</a></u>	1953	<u><a href="#">Thunder Bay</a></u>	35 mm	1.37	0.866" x 0.630"	4 perf, 2 sides	spherical	35 mm	1.85	0.825" x 0.446"	spherical
<u><a href="#">Matted 1.75</a></u>	<u><a href="#">MGM</a></u>	1953	<u><a href="#">Arena</a></u>	35 mm	1.37	0.866" x 0.630"	4 perf, 2 sides	spherical	35 mm	1.75	0.825" x 0.471"	spherical
<u><a href="#">Cinemascope</a></u>	<u><a href="#">20th Century Fox</a></u>	1953	<u><a href="#">The Robe</a></u>	35 mm	2.55 (1953-1957); 2.37 (1957-1967)	0.937" x 0.735" (1953-1957); 0.866" x 0.732" (1957-1967)	4 perf, 2 sides	2x anamorphic	35 mm	2.55 (1953-1957); 2.35 (1957-1967)	0.912" x 0.715" (1953-1957); 0.839" x 0.715" (1957-1967)	2x anamorphic
<u><a href="#">Arnoldscope</a></u>	<u><a href="#">John Arnold</a></u>	1953		35 mm			10 perf, 2 sides, horizontal	spherical				
<u><a href="#">Vista Vision</a></u>	<u><a href="#">Paramount</a></u>	1954	<u><a href="#">White Christmas</a></u>	35 mm	1.51	1.495" x 0.991"	8 perf, 2 sides, horizontal	spherical	35 mm, 4 perf, vertical	1.85	0.825" x 0.446"	spherical
<u><a href="#">Superscope</a></u>	<u><a href="#">Tushinsky Brothers</a></u>	1954	<u><a href="#">Vera Cruz</a></u>	35 mm	1.33	0.980" x 0.735"	4 perf, 2 sides	spherical	35 mm	2.00	0.715" x 0.715"	2x anamorphic
<u><a href="#">VistaVision Large Area</a></u>	<u><a href="#">Paramount</a></u>	1955	<u><a href="#">Strategic Air Command</a></u>	35 mm	1.51	1.495" x 0.991"	8 perf, 2 sides, horizontal	spherical	35 mm, 8 perf, horizontal	1.96	1.418" x 0.723"	spherical
<u><a href="#">Circarama</a></u>	<u><a href="#">Disney</a></u>	1955	<u><a href="#">A Tour of the West</a></u>	16 mm x 11 cameras	1.37 x 11 negatives	0.404" x 0.295"	1 perf, 2 sides	spherical	16 mm x 11 projectors	360°	0.378" x 0.276"	spherical

<a href="#"><u>Todd A.O.</u></a> <sup>[2]</sup>	<a href="#"><u>Michael Todd</u></a>	1955	<a href="#"><u>Oklahoma!</u></a>	65 mm	2.29	2.072" x 0.906"	5 perfs, 2 sides, at 30 fps	spherical	70 mm	2.21, with 120° curved screen	1.912" x 0.870"	spherical
<a href="#"><u>Cinemascope 55</u></a>	<a href="#"><u>20th Century Fox</u></a>	1955	<a href="#"><u>Carousel</u></a>	55 mm	2.55	1.824" x 1.430"	8 perfs, 2 sides	2x anamorphic	35 mm	2.55	0.912" x 0.715"	2x anamorphic
<a href="#"><u>4.75 mm</u></a>	<a href="#"><u>Pathe</u></a>	1955	unknown (amateur format)	9.5 mm			2 perf, 1 side (using 9.5 mm film with twice as many perfs)	spherical	4.75 mm			spherical, rotated 90°
<a href="#"><u>Technirama</u></a>	<a href="#"><u>Technicolor</u></a>	1956	<a href="#"><u>The Monte Carlo Story</u></a>	35 mm	2.26	1.496" x 0.992"	8 perf, 2 sides, horizontally	1.5x anamorphic	35 mm, 4 perf vertical	2.35	0.839" x 0.715"	2x anamorphic
<a href="#"><u>Technirama Large Area</u></a>	<a href="#"><u>Technicolor</u></a>	1956	<a href="#"><u>The Monte Carlo Story</u></a>	35 mm	2.26	1.496" x 0.992"	8 perf, 2 sides, horizontally	1.5x anamorphic	35 mm, 8 perf horizontal	1.421" x 0.881"	2.42	1.5x anamorphic
<a href="#"><u>Dynamic Frame</u></a>	<a href="#"><u>Glenn Alvey</u></a>	1956	<a href="#"><u>The Door in the Wall</u></a>	35 mm	1.3, 1.6, and 2.5	variable aperture plates	8 perf, 2 sides, horizontally	spherical	35 mm, 4 perf, vertical	1.3, 1.5, and 2.5		spherical
<a href="#"><u>Superscope 235</u></a>	<a href="#"><u>Superscope Inc.</u></a>	1956	<a href="#"><u>Run for the Sun</u></a>	35 mm	1.33	0.980" x 0.735"	4 perf, 2 sides	spherical	35 mm	2.35	0.839" x 0.715"	2x anamorphic
<a href="#"><u>Thrillarama</u></a>	Albert H. Reynolds	1956	<a href="#"><u>Thrillarama Adventure</u></a>	35 mm x 2 cameras	1.78 x 2 negatives		3 perf, 2 sides?	spherical	35 mm x 2 projectors	3.55, with a curved screen		spherical
<a href="#"><u>Magirama</u></a>	<a href="#"><u>Abel Gance</u></a>	1956	<a href="#"><u>Magirama</u></a>	35 mm x 3 cameras (sides bounced off of mirrors)	1.33 x 3 negatives	0.980" x 0.735"	4 perf, 2 sides	spherical	35 mm x 3 projectors (sides bounced off of mirrors)	4.00	0.931" x 0.698"	spherical

<a href="#"><u>Ultra Panavision</u></a>	<a href="#"><u>Panavision</u></a>	1957	<a href="#"><u>Raintree County</u></a>	65 mm	2.86	2.072" x 0.906"	5 perf, 2 sides	1.25x anamorphic	70 mm	2.76	1.912" x 0.870"	1.25x anamorphic
<a href="#"><u>Modern anamorphic</u></a>	<a href="#"><u>Panavision</u></a>	1957	<a href="#"><u>Silk Stockings</u></a>	35 mm	2.37	0.866" x 0.732"	4 perf, 2 sides	2x anamorphic	35 mm	2.35 (1957-1970); 2.39 (1970-present)	0.839" x 0.715" (1957-1970); 0.838" x 0.7" (1970-1993); 0.825" x 0.690" (1993-present)	2x anamorphic
<a href="#"><u>Cinestage</u></a>	<a href="#"><u>Mike Todd</u></a>	1957	<a href="#"><u>Around the World in Eighty Days</u></a>	65 mm	2.29	2.072" x 0.906"	5 perfs, 2 sides	spherical	35 mm (1 mm shaved off for UK prints)	2.12	0.912" x 0.675"	1.567x anamorphic
<a href="#"><u>Rank VistaVision</u></a>	<a href="#"><u>J. Arthur Rank Organization</u></a>	1957		35 mm	1.51	1.495" x 0.991"	8 perf, 2 sides, horizontally	spherical	35 mm, 4 perf, vertical	1.82	0.825" x 0.602"	1.33x anamorphic
<a href="#"><u>Kinopanorama</u></a>	<a href="#"><u>NIKEI</u></a>	1958	<a href="#"><u>Great Is My Country</u></a>	35 mm x 3 cameras	0.91 x 3 negatives	1.014" x 1.116"	6 perf, 2 sides, at 25 fps	spherical	35 mm x 3 projectors	2.72	0.985" x 1.088"	spherical
<a href="#"><u>70 mm</u></a> <sup>[2]</sup>	<a href="#"><u>American Optical Company</u></a>	1958	<a href="#"><u>South Pacific</u></a>	65 mm	2.28	2.066" x 0.906"	5 perfs, 2 sides	spherical	70 mm	2.21	1.912" x 0.87"	spherical
<a href="#"><u>Cinemiracle</u></a>	<a href="#"><u>National Theatres</u></a>	1958	<a href="#"><u>Windjammer</u></a>	35 mm x 3 cameras (sides bounced off of mirrors)	0.89 x 3 negatives	0.996" x 1.116"	6 perf, 2 sides at 26 fps	spherical	35 mm x 3 projectors (sides bounced off of mirrors), with 6 perf pulldown	2.59, with 120° curved screen	0.985" x 1.088"	spherical
<a href="#"><u>Super Technirama</u></a>	<a href="#"><u>Technicolor</u></a>	1959	<a href="#"><u>Sleeping Beauty</u></a>	35 mm	2.26	1.496" x 0.992"	8 perf, 2 sides,	1.5x anamorphic	70 mm	2.21	1.912" x 0.816"	spherical

							horizontally					
<b><u>Smith-Carney System</u></b>	Rowe E. Carney Jr. and Tom F. Smith	1959	Missouri travelogue	35 mm	4.69	0.839" x 0.370" (bottom half) and 0.449" x 0.370" (top quarters)	4 perf, 2 sides	spherical x 3	35 mm	4.69	three sub-frames projected to one 180° image	spherical x 3
<b><u>Circular Kinopanorama/Circlorama</u></b>	<a href="#">E. Goldovsky</a>	1959	<a href="#">The Path of Spring</a>	35 mm x 11 cameras	1.37 x 11 negatives	0.866" x 0.630"	4 perf, 2 sides	spherical	35 mm x 11 projectors	360°	0.825" x 0.602"	spherical
<b><u>Varioscope</u></b>	<a href="#">Jan Jacobsen</a>	1959		65 mm	2.28	2.066" x 0.906"	5 perfs, 2 sides	spherical	70 mm	variable framing run through control signal	1.912" x 0.87"	spherical
<b><u>Techniscope</u></b>	<a href="#">Technicolor</a>	1960	<a href="#">The Pharaoh's Woman</a>	35 mm	2.33	0.868" x 0.373"	2 perf, 2 sides	spherical	35 mm	2.39	0.838" x 0.7"	2x anamorphic
<b><u>Wonderama (Arc 120)</u></b>	Leon W. Wells	1960	<a href="#">Honeymoon</a>	no standard	no standard	no standard	no standard	no standard	35 mm	2.50 with a 120° curved screen	0.931" x 0.698", with two half-images turned 90° and placed side-by-side	spherical x 2
<b><u>Cine System 3</u></b>	<a href="#">Eric Berndt</a>	1960	USAF and NASA usage	3 mm			1 perf, centered	spherical				
<b><u>Grandeur 70</u></b>	<a href="#">20th Century Fox</a>	1961	<a href="#">The King and I</a> (re-release)	55 mm	2.55	1.824" x 1.430"	8 perfs, 2 sides	2x anamorphic	70 mm	2.21	1.912" x 0.87"	spherical
<b><u>Cinerama 360</u></b>	<a href="#">Cinerama Corporation</a>	1962	<a href="#">Journey to the Stars</a>	65 mm	1.00 (circle)	2.25" diameter circular image	10 perf, 2 sides	spherical	70 mm	1.00 (circle)	2.25" diameter circular image	spherical

<a href="#"><u>Super 8</u></a>	<a href="#"><u>Eastman Kodak</u></a>	1965	unknown (amateur format)	8 mm	1.48	0.245" x 0.166"	1 perf, 1 side	spherical	8 mm	1.36	0.215" x 0.158"	spherical
<a href="#"><u>Single-8</u></a>	<a href="#"><u>Fujifilm</u></a>	1965	unknown (amateur format)	8 mm	1.36	0.224" x 0.164"	1 perf, 1 side	spherical	8 mm	1.35	0.213" x 0.157"	spherical
<a href="#"><u>Real Sound</u></a>	<a href="#"><u>Kenner</u></a>	1965		no standard	no standard	no standard	1 perf, 1 side	spherical	11.5 mm	1.33	0.172" x 0.129"	spherical
<a href="#"><u>Double Super 8</u></a>	<a href="#"><u>Eastman Kodak</u></a>	1965	unknown (amateur format)	16 mm	1.48	0.245" x 0.166"	1 perf, 1 side (using 16 mm film with twice as many perfs)	spherical	8 mm	1.36	0.215" x 0.158"	spherical
<a href="#"><u>Dimension 150</u></a>	<a href="#"><u>American Optical Company</u></a>	1966	<a href="#"><u>The Bible</u></a>	65 mm	2.28	2.066" x 0.906"	5 perfs, 2 sides	spherical	70 mm	2.21, with 150° curved screen	1.912" x 0.87", optically curved to compensate for the screen	spherical
<a href="#"><u>Circle Vision 360</u></a>	<a href="#"><u>Disney</u></a>	1967	<a href="#"><u>America the Beautiful</u></a>	35 mm x 9 cameras	1.37 x 9 negatives	0.866" x 0.630"	4 perf, 2 sides	spherical	35 mm x 9 projectors	360°	0.825" x 0.602"	spherical
<a href="#"><u>Pik-a-Movie</u></a>	<a href="#"><u>Leon W. Wells</u></a>	1972		no standard	no standard	no standard	no standard	no standard	70 mm, horizontal, 1 perf, 2 sides	1.48	0.245" x 0.166", 12 rows high, underneath 12 rows of optical sound	spherical
<a href="#"><u>Astrovision</u></a>	<a href="#"><u>Goto Optical</u></a>	1969		65 mm			10 perf, 2 sides	spherical or fish-eye	70 mm			fish-eye (dome projection)
<a href="#"><u>IMAX</u></a>	<a href="#"><u>IMAX</u></a>	1970	<a href="#"><u>Tiger Child</u></a>	70 mm	1.34	2.772" x	15 perf, 2 sides,	spherical	70 mm,	1.31	2.692" x	spherical

	<a href="#">Corporation</a>					2.072"	horizontally		horizontal		2.056"	
<a href="#">Super 16 mm film</a>	<a href="#">Rune Ericson</a>	1970	<a href="#">Blushing Charlie</a>	16 mm	1.66	0.493" x 0.292"	1 perf, 1 side	spherical	no standard, but often blown up to 35 mm	no standard	0.463" x 0.279" (full frame); 0.463" x 0.251" (framed for 1.85)	spherical
<a href="#">8.75 mm</a>	Chinese	1970?	unknown (amateur format)	8.75 mm			1 perf?	spherical	8.75 mm			spherical
<a href="#">OMNIMAX</a>	<a href="#">IMAX Corporation</a>	1973	<a href="#">Garden Isle</a>	70 mm	1.34	2.772" x 2.072"	15 perf, 2 sides, horizontally	special fish-eye lenses optically centered 0.37" above film horizontal center line	70 mm, horizontal	1.31	2.692" x 2.056"	spherical, projected elliptically on a dome screen, 20 degrees below and 110 degrees above perfectly centered viewers
<a href="#">8/70 (Dynavision, Iwerks 870)</a>	<a href="#">Dynavision</a>	1973?		65 mm	1.37	2.031" x 1.484"	8 perf, 2 sides, 24 or 30 fps	spherical	70 mm	1.34	1.913" x 1.431"	spherical
<a href="#">Showscan</a>	<a href="#">Douglas Trumbull</a>	1978	<a href="#">Night of Dreams</a>	65 mm	2.28	2.066" x 0.906"	5 perfs, 2 sides, at 60 fps	spherical	70 mm, at 60 fps	2.21	1.912" x 0.87"	spherical
<a href="#">Polavision</a>	<a href="#">Polaroid</a>	1978	unknown (amateur format)	8 mm	1.48	0.245" x 0.166"	1 perf, 1 side	spherical	8 mm	1.36	0.215" x 0.158"	spherical
<a href="#">Omnivision Cinema 180</a>	<a href="#">Omni Films</a>	1979	<a href="#">Crazy Wheels</a>	65 mm	2.28	2.066" x	5 perfs, 2	fish-eye	70 mm	180°, on a	1.912" x	fish-eye

						0.906"	sides, 30 fps			dome	0.87"	
<a href="#"><u>Super 35</u></a>	<a href="#"><u>Joe Dunton</u></a>	1982	<a href="#"><u>Dance Craze</u></a>	35 mm	1.33	0.980" x 0.735"	4 perf, 2 sides	spherical	35 mm	no standard	no standard	no standard
<a href="#"><u>Circle Vision 200</u></a>	<a href="#"><u>Disney</u></a>	1982	<a href="#"><u>Impressions de France</u></a>	35 mm x 5 cameras	1.37 x 5 negatives	0.866" x 0.630"	4 perf, 2 sides	spherical	35 mm x 5 projectors	6.85, on a 200° screen	0.825" x 0.602"	spherical
<a href="#"><u>Swissorama 360/Imagine 360</u></a>	<a href="#"><u>Ernst A. Heiniger</u></a>	1984	<a href="#"><u>Impressions of Switzerland</u></a>	65 mm	360°	1.91" (outer edge), 1.20" (inner edge)	10 perf, 2 sides	360° x 35° extreme fisheye	70 mm	360°		360° x 35° extreme fisheye
<a href="#"><u>3-perf</u></a>	<a href="#"><u>Rune Ericson</u></a>	1987	<a href="#"><u>Pirates of the Lake</u></a>	35 mm	1.79	0.980" x 0.546"	3 perf, 2 sides	spherical	35 mm	no standard	no standard	no standard
<a href="#"><u>Super VistaVision</u></a>	<a href="#"><u>Paramount</u></a>	1989	<a href="#"><u>The Ten Commandments</u></a> (re-release)	35 mm	1.51	1.495" x 0.991"	8 perf, 2 sides, horizontal	spherical	70 mm	2.21	1.912" x 0.87"	spherical
<a href="#"><u>Kinoton HDFS</u></a>	<a href="#"><u>Kinoton</u></a>	1990		no standard	no standard	no standard	no standard	no standard	35 mm	2.00	0.931" x 0.698"	1.5x anamorphic
<a href="#"><u>IMAX Magic Carpet</u></a>	<a href="#"><u>IMAX Corporation</u></a>	1990	<a href="#"><u>Flowers in the Sky</u></a>	70 mm x 2 cameras	1.34	2.772" x 2.072"	15 perf, 2 sides, horizontally	spherical	70 mm, horizontal x 2 projectors	1.31 x 2 screens (one in front, one below)	2.692" x 2.056"	spherical
<a href="#"><u>Iwerksphere</u></a>	<a href="#"><u>Iwerks</u></a>	1991		65 mm	1.37	2.031" x 1.484"	8 perf, 2 sides, 24 or 30 fps	fisheye	70 mm	1.34	1.913" x 1.431"	fisheye
<a href="#"><u>IMAX HD</u></a>	<a href="#"><u>IMAX Corporation</u></a>	1992	<a href="#"><u>Asteroid Adventure</u></a>	70 mm	1.34	2.772" x 2.072"	15 perf, 2 sides, horizontally, 48 fps	spherical	70 mm, horizontal	1.31	2.692" x 2.056"	spherical
<a href="#"><u>Hexiplex</u></a>	(Australian)	1992	Expo '92 demo	35 mm x 6	1.37 x 6 negatives	0.866" x 0.630"	4 perf, 2 sides	spherical	35 mm x 6 projectors	360°, with rotating screens and	0.825" x 0.602"	spherical

				cameras						projectors		
<b><u>Imagination FX 7012</u></b>	<u>Geo-Odyssey</u>	1992?		35 mm	2.08	2.040" x 0.980"	12 perf, 2 sides, horizontal	spherical	70 mm	2.21	1.912" x 0.87"	spherical
<b><u>Univisium</u></b>	<u>Vittorio Storaro</u>	1998	<u>Tango</u>	35 mm	2.00	0.945" x 0.472"	3 perf, 2 sides at 25 fps	spherical	35 mm	2.00		spherical
<b><u>Maxivision</u></b>	<u>Dean Goodhill</u>	1999		35 mm	1.79	0.980" x 0.546"	3 perf, 2 sides	spherical	35 mm, 3 perf	1.85		spherical
<b><u>Maxivision 48</u></b>	<u>Dean Goodhill</u>	1999		35 mm	1.79	0.980" x 0.546"	3 perf, 2 sides, 48 fps	spherical	35 mm, 3 perf, 48 fps	1.85		spherical
<b><u>Super Duper 8/Max 8/Super 8B</u></b>	<u>Mitch Perkins</u>	2002	<u>Sleep Always</u>	8 mm	1.51	0.250" x 0.166"	1 perf, 1 side	spherical	8 mm	no standard	no standard	spherical
<b><u>Super Dimension 70</u></b>	<u>Robert Weisgerber</u>	2002		65 mm	2.28	2.066" x 0.906"	5 perfs, 2 sides, at 48 fps	spherical	70 mm, at 48 fps	2.21	1.912" x 0.87"	spherical
<b><u>Futurevision 360</u></b>				65 mm	1.52	2.066" x 0.906"	5 perfs, 2 sides, 30 fps	1.5x vertical anamorphic	70 mm	1.47	1.912" x 0.87"	1.5x vertical anamorphic
<b><u>Mini-Max</u></b>	<u>Vistascope</u>			35 mm	2.66		2 perf, 2 sides, 30 fps	spherical	35 mm	2.66		spherical
<b><u>MotionMaster</u></b>	<u>Omni Films</u>			65 mm	2.28	2.066" x 0.906"	5 perfs, 2 sides, 30 fps	spherical	70 mm	2.21, on a curved screen	1.912" x 0.87"	spherical
<b><u>Quadravision</u></b>				? mm x 4 cameras	? x 4 negatives			spherical	? mm x 4 projectors	? (4 images in 2x2 configuration)		spherical
<b><u>Row-film</u></b>	<u>R. Thun</u>			35 mm		20 rows of images		spherical				spherical



						wide						
<u>Septorama</u>				? mm x 7 cameras	1.33 x 7 negatives			spherical	? mm x 7 projectors	hemispherical view		spherical
<u>Single Cinerama</u>	<u>Fred Waller</u>			35 mm		curved gate	16 perf, 2 sides, horizontal	spherical	35 mm, horizontal	curved screen		spherical
<u>Soviet 10</u>				65 mm			10 perf, 2 sides	2x anamorphic	70 mm	2.09	1.890" x 1.811"	2x anamorphic
<u>Ultra Toruscope</u>				35 mm x 3 cameras	1.37 x 3 negatives	0.866" x 0.630"	4 perf, 2 sides, at 30 fps	spherical	70 mm x 3 projectors, at 30 fps	360°	1.912" x 0.87"	spherical
<u>Vario-35</u>				35 mm				spherical	35 mm	variable framing run through control signal	0.835" x 0.713" (full); 0.835" x 0.453" (1.84); 0.709" x 0.524" (1.35); 0.614" x 0.614" (1.00); 0.535" x 0.713" (0.75)	spherical
<u>Vario-35A</u>				35 mm					35 mm	variable framing run through control signal	0.835" x 0.713"	variable anamorphic (2x for 2.35; 1.57x for 1.85; 1.17x for 1.37; 0.85x for 1.00; 0.64x for 0.75; 0.5x for

												0.59)
<b><u>Vario-70</u></b>				65 mm			10 perfs, 2 sides	spherical	70 mm	variable framing run through control signal	1.890" x 1.811" (full); 1.890" x 0.803" (2.35); 1.673" x 0.906" (1.85); 1.441" x 1.051" (1.37); 1.232" x 1.232" (1.00); 1.063" x 1.429" (0.74); 0.945" x 1.604" (0.59); 0.839" x 1.811" (0.46)	spherical