

ASPECT RATIO CHEAT SHEET

v3.0

Finding the right resolution for a specific aspect ratio can be challenging. To simplify this, we've created a cheat sheet listing resolutions you can use when exporting content for various aspect ratios and frame sizes. If you notice any errors or have suggestions for updates, please let us know.

Note: Resolutions are rounded down to the nearest even number to ensure compatibility with video encoding standards. This prevents issues like partial pixels or problems with field encoding.

The latest version of this cheat sheet is available at unravel.com.au/aspect-ratio-cheat-sheet

Cinema DCI 4K

Aspect Ratio	Resolution
Flat (1.85)	3996 x 2160
Scope (2.39)	4096 x 1716
Full Container (1.90)	4096 x 2160

Cinema DCI 2K

Aspect Ratio	Resolution
Flat (1.85)	1998 x 1080
Scope (2.39)	2048 x 858
Full Container (1.90)	2048 x 1080

8K DCI

8192 x 4320 container

Aspect Ratio	Resolution
1.33 (4:3)	5760 x 4320
1.375 (Academy)	5940 x 4320
1.5 (3:2)	6480 x 4320
1.66 (5:3)	7200 x 4320
1.78 (16:9)	7680 x 4320
1.85 (DCI Flat)	7992 x 4320
1.90	8192 x 4320
2.00	8192 x 4096
2.35	8192 x 3484
2.37	8192 x 3456
2.39 (DCI Scope)	8192 x 3432
2.40	8192 x 3412
2.55	8192 x 3212
2.66	8192 x 3078

8K UHD (4320p)

7680 x 4320 container

Aspect Ratio	Resolution
1.33 (4:3)	5760 x 4320
1.375 (Academy)	5940 x 4320
1.5 (3:2)	6480 x 4320
1.66 (5:3)	7200 x 4320
1.78 (16:9)	7680 x 4320
1.85 (DCI Flat)	7680 x 4150
1.90	7680 x 4050
2.00	7680 x 3840
2.35	7680 x 3268
2.37	7680 x 3240
2.39 (DCI Scope)	7680 x 3216
2.40	7680 x 3200
2.55	7680 x 3010
2.66	7680 x 2886

6K

6144 × 3232 Container

Aspect Ratio	Resolution
1.33 [4:3]	4308 × 3232
1.375 [Academy]	4444 × 3232
1.5 [3:2]	4848 × 3232
1.66 [5:3]	5386 × 3232
1.78 [16:9]	5744 × 3232
1.85 [DCI Flat]	5978 × 3232
1.90	6128 × 3232
2.00	6144 × 3072
2.35	6144 × 2614
2.37	6144 × 2592
2.39 [DCI Scope]	6144 × 2574
2.40	6144 × 2560
2.55	6144 × 2408
2.66	6144 × 2308

5K

5120 × 2700 Container

Aspect Ratio	Resolution
1.33 [4:3]	3600 × 2700
1.375 [Academy]	3712 × 2700
1.5 [3:2]	4050 × 2700
1.66 [5:3]	4500 × 2700
1.78 [16:9]	4800 × 2700
1.85	4994 × 2700
1.90	5120 × 2700
2.00	5120 × 2560
2.35	5120 × 2178
2.37	5120 × 2160
2.39 [DCI Scope]	5120 × 2144
2.40	5120 × 2132
2.55	5120 × 2006
2.66	5120 × 1924

4K DCI

4096 × 2160 Container

Aspect Ratio	Resolution
1.33 [4:3]	2880 × 2160
1.37 [Academy]	2970 × 2160
1.5 [3:2]	3240 × 2160
1.66 [5:3]	3600 × 2160
1.78 [16:9]	3840 × 2160
1.85 [4K DCI Flat]	3996 × 2160
1.90 [DCI Full Container]	3996 × 2160
2.00	4096 × 2048
2.35	4096 × 1742
2.37	4096 × 1728
2.39 [4K DCI Scope]	4096 × 1716
2.40	4096 × 1706
2.55	4096 × 1606
2.66	4096 × 1538

4K UHD

3840 × 2160 Container

Aspect Ratio	Resolution
1.33 [4:3]	2880 × 2160
1.37 [Academy]	2970 × 2160
1.5 [3:2]	3240 × 2160
1.66 [5:3]	3600 × 2160
1.78 [16:9]	3840 × 2160
1.85 [DCI Flat]	3840 × 2074
1.90	3840 × 2024
2.00	3840 × 1920
2.35	3840 × 1634
2.37	3840 × 1620
2.39 [DCI Scope]	3840 × 1608
2.40	3840 × 1600
2.55	3840 × 1504
2.66	3840 × 1442

3K

3072 × 1620 Container

Aspect Ratio	Resolution
1.33 [4:3]	2160 × 1620
1.375 [Academy]	2226 × 1620
1.5 [3:2]	2430 × 1620
1.66 [5:3]	2700 × 1620
1.78 [16:9]	2880 × 1620
1.85 [DCI Flat]	2996 × 1620
1.90	3072 × 1620
2.00	3072 × 1536
2.35	3072 × 1306
2.37	3072 × 1296
2.39 [DCI Scope]	3072 × 1286
2.40	3072 × 1280
2.55	3072 × 1204
2.66	3072 × 1154

2K DCI

2048 × 1080 Container

Aspect Ratio	Resolution
1.33 [4:3]	1440 × 1080
1.375 [Academy]	1484 × 1080
1.5 [3:2]	1620 × 1080
1.66 [5:3]	1800 × 1080
1.78 [16:9]	1920 × 1080
1.85 [2K DCI Flat]	1998 × 1080
1.90 [DCI Full Container]	2048 × 1080
2.00	2048 × 1024
2.35	2048 × 870
2.37	2048 × 864
2.39 [2K DCI Scope]	2048 × 858
2.40	2048 × 852
2.55	2048 × 802
2.66	2048 × 768

1080p

1920 × 1080 Container

Aspect Ratio	Resolution
1.33 [4:3]	1440 × 1080
1.37 [Academy]	1484 × 1080
1.5 [3:2]	1620 × 1080
1.66 [5:3]	1800 × 1080
1.78 [16:9]	1920 × 1080
1.85 [DCI Flat]	1920 × 1036
1.90	1920 × 1012
2.00	1920 × 960
2.35	1920 × 816
2.37	1920 × 810
2.39 [4K DCI Scope]	1920 × 804
2.40	1920 × 800
2.55	1920 × 752
2.66	1920 × 720

720p

1280 × 720 Container

Aspect Ratio	Resolution
1.33 [4:3]	960 × 720
1.37 [Academy]	990 × 720
1.5 [3:2]	1080 × 720
1.66 [5:3]	1200 × 720
1.78 [16:9]	1280 × 720
1.85 [DCI Flat]	1280 × 690
1.90	1280 × 674
2.00	1280 × 640
2.35	1280 × 544
2.37	1280 × 540
2.39 [DCI Scope]	1280 × 536
2.40	1280 × 532
2.55	1280 × 500
2.66	1280 × 480

576p (PAL Standard Definition)

Aspect Ratio	Resolution (Square Pixels 1.0)	Resolution (PAL Widescreen 1.46 Pixel Aspect Ratio)	Resolution (PAL DV 1.09 Pixel Aspect Ratio)
1.33 (4:3)	768 x 576	--	720 x 576
1.78 (16:9)	1024 x 576	720 x 576	--

480p (NTSC DV SD)

Aspect Ratio	Resolution (Square Pixels 1.0)	Resolution (PAL Widescreen 1.46 Pixel Aspect Ratio)	Resolution (PAL DV 1.09 Pixel Aspect Ratio)
1.33 (4:3)	640 x 480	--	720 x 480
1.78 (16:9)	853 x 480	720 x 480	--

480p (NTSC D1 SD)

Aspect Ratio	Resolution (Square Pixels 1.0)	Resolution (PAL Widescreen 1.46 Pixel Aspect Ratio)	Resolution (PAL DV 1.09 Pixel Aspect Ratio)
1.33 (4:3)	648 x 486	--	720 x 486
1.78 (16:9)	864 x 486	720 x 486	--

A NOTE ON SCOPE ASPECT RATIOS

You'll often hear people mention 2.35:1, 2.39:1, and 2.40:1, but today, they're usually referring to 2.39:1.

- 2.35:1 was common in films before 1970.
- 2.40:1 is just 2.39:1 rounded up incorrectly.
- 2.39:1 is the modern standard, often tied to Digital Cinema Scope (calculated as $2048:858 = 2.39$).

Sometimes, though, 2.40:1 is specifically required—like for Blu-Ray scope content (1920 x 800). Because of this, we've included all three variants in this document.

Our Advice: For anything between 2.35:1 and 2.66:1, check with your delivery destination (e.g., Blu-Ray, 2K DCP at 2048 x 858, 4K DCP at 4096 x 1716) and use their exact specs. It's better to match their expectations than to argue about what's "correct."

We base our 2.39:1 calculations in this document on the cinema-standard Scope ratio (2048/858). This keeps things practical, especially if you're targeting theatrical delivery.