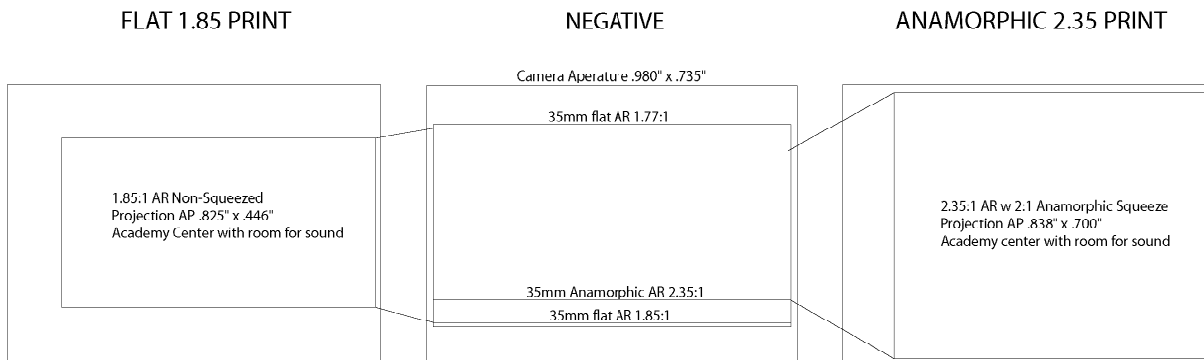


# The Pros and Cons of Super 35 Origination for both 1.85 release and 2.35 Anamorphic release. And how it relates to Visual Effects.

by Jon Farhat

## Super 35mm Full Aperature / common center Spherical Lens for Partial Frame Extraction



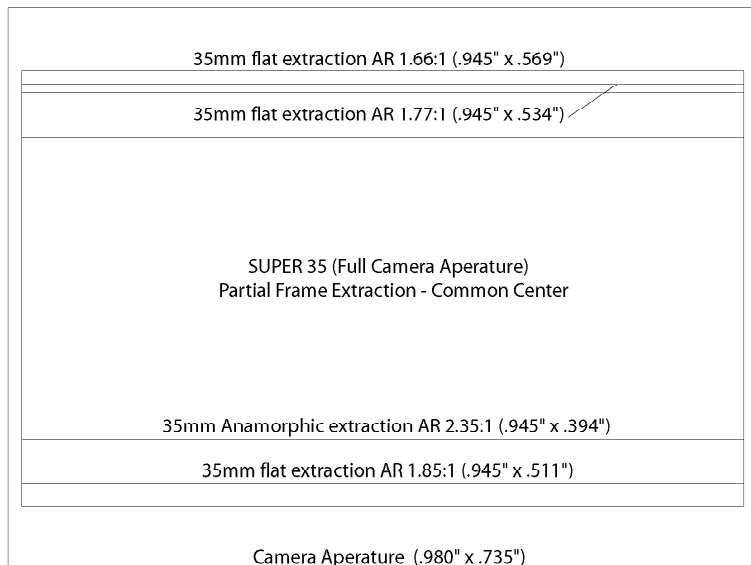
All the Super 35 film formats, (Super 1.85, Super 2.35, Super Techniscope) require an optical step when making the dupe negative. Except in the case of Digital Intermediate which retains the image as data until the digital negative is recorded out. However, in the case of 2048 x 1536 pixel scanning, there is loss due to this minimum standard resolution.

Unlike Academy aperture, Super 35, (known as full neg) exposes the entire aperture or perf to perf.

Unlike Anamorphic which uses special lenses that squeeze the wide image to fit within the Academy aperture, Super 2.35 uses standard, (Flat or Spherical) lenses and extends the width of the frame into the left side area of the negative reserved for the the soundtrack. Most cameras expose into this area anyway, yet it is cropped off as the viewfinder markings side-step it.

It used to be suggested that Super 35 composed for 1.85 would yield a finer grained image since the optical process reduced the full neg into the Academy aperture. However the added dupe stage using an Interpositive and Internegative nixed those benefits. However, there is a slight benefit when shooting a full neg, (Super 35) if the image is to be scanned for Visual Effects as the full frame is scanned digitally and output into the Academy frame. If 2k were scanned, then it must be scanned full frame and reduced into Academy when output, rather than simply cropping the soundtrack out as is often the case. This would yield absolutely no benefits to increased resolution, yet might show some benefits by avoiding the optical dupe stage. Visual Effects and Digital Intermediate scanning and recording are best at 4k.

Since standard 1.85 photography produces all dupe negatives and print with contact printing it produces a better result than Super 1.85 which requires an optical step to reduce the image into the Academy 1.85 area. Unless of course the optical step is avoided in favor of a Digital Intermediate negative when scanned at 4k at a color depth at or above the standard 10 bit log.



### Advantages of Super 35 for 2.35 extraction.

1. Greater Depth of field over normal Anamorphic photography. However if DP's choose to use small amounts of light forcing them to shoot wide open, then there is little gain in depth of field.
  2. Smaller camera package and lighting yet the cost of dupe negs or Digital Intermediate requirements for release negates this financial advantage.
  3. The only advantage to Super 35 in the case of an Anamorphic extracted release is that it makes the TV and DVD executives happy as a 1.85, 1.77 or 1.66 aspect ratio delivery possible by expanding into the top and bottom of the frame. This however is done at a great loss to the composition of the film.
- NOTE: If a Director and DP choose to protect their wide screen framing, then they should shoot Anamorphic using anamorphic lenses. Assuming that letterboxing is the only option. Panning and scanning for 4:3 video is equally as objectionable.

### Disadvantages to Super 35 for 2.35 extraction.

1. Even though it is claimed that Super 35 is a simpler video extraction thus yielding an increase in top and bottom image area, it produces such a distorted view of the original composition that a panned and scanned solution is done anyway, with a few full frame extractions being done.
2. The 2.35 extraction area of the Super 35 negative must be enlarged and squeezed, creating a much grainer image. Even in the case of Digital Intermediate release negatives, this can't be avoided. Add to that the use of 2K scanning and recording resolutions the final neg hardly has the impact of original 2.35 Anamorphic photography.
3. More difficult to preview because of a special projection mask required for the full aperture work print. Many theaters cannot be adapted to project the format, which includes the soundtrack area.
4. Visual Effects become much more expensive if the decision is made to have coverage beyond the 2.35 composition allowing for full frame video transfers. 1.66 safety, usually adopted as a safety for standard Academy 1.85 release is totally destructive to the original composition. 1.77 is a working compromise as a safe aspect ratio as most Hi-Def televisions use a 16:9 format (1.77 AR). The added considerations of creating Visual Effects for Anamorphic origination have much less financial and creative impact as the added cost of creating effects work into the areas above and below the 2.35 extraction area to be released.

Many visual effects shots simply can't be composed properly for both formats of 2.35 and 1.66 or 1.77.

2.35:1 is often referred as 2.4:1. Since the finder markings of the wide screen extraction using Super 35 are .945" x .394" this is an aspect ratio of 2.3985 which is actually closer to 2.4 AR. 2.35 got its name from the Original Camera Aperature of anamorphic (squeezed original) photography. This aperture was .864" x .732". When considering the 2:1 squeeze this resulted in a unsqueezed AR of 2.36 rounded of to 2.35. However the projector outline of .838 x 700 unsqueezed produced a 2.3942... AR rounded off to 2.40. Depends on who you ask.