



## ARRI TECHNICAL NOTE P-1013

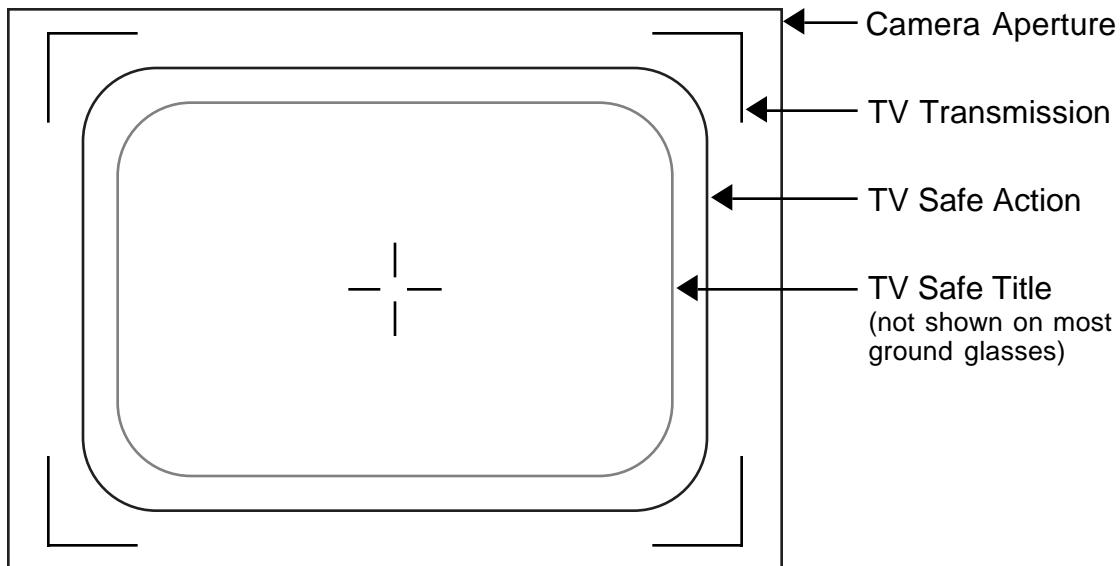
### USA TV Ground Glass Markings August 1, 2000

#### Summary

This note describes the frame outlines relevant to shooting film for television in the USA.

#### The Important Frame Outlines to Know

Both the markings on the ground glass and telecine calibration films are based on international standards that assure that an object framed in a given spot through the viewfinder will appear on that same spot in telecine. When shooting for television, one should be familiar with the following frame lines:



Please note that the frame outlines pictured above are for a Super 35 ground glass, and will be slightly different for other formats. Also note that TV Safe Title is usually not shown on most ground glasses.

**Camera Aperture** Corresponds to the full amount of negative film exposed. Caution: most ground glasses will permit viewing outside of this area, but anything outside of this area will not be recorded on film. This outline is usually found on ground glasses, but not in telecine.

**TV Transmission** The full video image that is transmitted over the air. Sometimes also called "TV Scanned".

**TV Safe Action** Since most TV sets crop part of the TV Transmission image, a marking inside of TV Transmission has been defined. Objects that are within the TV Safe Action lines will be visible on most TV sets. This marking is sometimes referred to as "The Pumpkin". Note that the rounded corners depicted have been replaced by straight corners on some ground glasses.

**TV Safe Title** To assure that critical information will be fully visible on absolutely all TV sets, another marking has been defined further inside of TV Safe Action. Please note that most modern film camera ground glasses do not have a TV Safe Title marking.

## Everything is Relative

All outlines except the Full Aperture outline are simply used as a reference point, and images are regularly resized and re-centered in telecine. Still, it is useful to start a telecine session correctly calibrated so the telecine frame outlines correspond exactly to the ground glass frame outlines. This is common practice.

## Avoiding Confusion 1: Safe Action vs. Safe Title

Confusion has often arisen from the fact that most film camera ground glasses do not show TV Safe Title, but TV Safe Title is routinely displayed in telecine. Often, the Safe Title markings in telecine are mistaken for the Safe Action markings on the ground glass, leading the customer to think that the shot in telecine is all of a sudden tighter than it was when viewed through the camera.

To avoid confusion, it is a good idea to know the precise names of the frame outlines you are working with. Rental houses can provide information about the ground glass markings, and telecine facilities should be able to tell you about the telecine markings. Camera manufacturers can also provide information about their ground glasses.

## Avoiding Confusion 2: Shooting a Calibration Take

To ensure that the composition as viewed through the camera will be precisely maintained in post production, it is a good idea to shoot some calibration film. To do so, point the camera at a white wall. Look through the camera and instruct a second person to make markings on the wall corresponding to the frame lines seen on the ground glass. It is a good idea to also label the markings on the wall. Then film these markings. The markings on this film will exactly correspond to the ground glass markings, and can be used as a reference in telecine.

## About This Technical Note

To keep this note simple, we have purposefully kept it very general. More specific information about ground glass frame outlines can be provided by:

- SMPTE, the Society of Motion Picture and Television Engineers ([www.smpte.com](http://www.smpte.com))
- DIN, The German Industrial Norm Institute ([www.din.de](http://www.din.de))
- ISO, The International Standards Organization ([www.iso.ch](http://www.iso.ch))

For more information on this issue, please contact your local ARRI representative.