

UNDERSTANDING

FRAME ENLARGEMENTS FROM

MOTION PICTURE FILM

We are often asked to supply frame enlargements from films in the Archive, to illustrate articles in print or for people to keep in their family album.

We are always happy to help if we can; but unfortunately, motion picture film is not a good source of 'stills', and cine frame enlargements are generally of very poor quality compared with pictures taken on a conventional still camera.

There are several reasons for this.

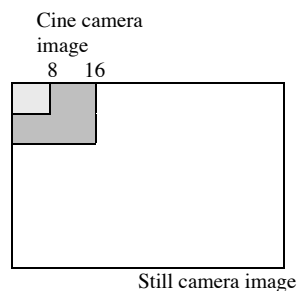
1. The individual frames of cine film are tiny. [See diagram.] The actual picture size on 8mm home movie film is about 5 x 4 mm, less than one fortieth the size of a conventional camera negative or transparency. That means that it can only contain one fortieth as much detail. Even with the larger 16mm film, the picture is less than one tenth the size of a normal still image.

Whereas you can easily make good quality A5 or even A4 enlargements from film exposed in a still camera, you cannot expect to enlarge a motion picture frame beyond the size of (say) a book of stamps.

You may have seen 8mm film projected onto a screen three feet wide, and have thought it looked perfectly sharp. But what you saw was a rapid succession of images, with the deficiencies of one made up for by the next, and so on. You only saw each individual image for a fraction of a section, and if you were to study it on its own you would soon see that it doesn't really bear close inspection. If you over-enlarge it, you simply end up with a blur, because the necessary amount of detail isn't there.

RELATIVE SIZES

of 'still' and motion picture camera images:



The outside rectangle shows the actual size of the picture taken on a traditional (pre-digital) still camera using film.

The rectangle marked 16 shows the size of the picture on 16mm (non-theatrical) motion picture film. It is less than one tenth the size of the still picture.

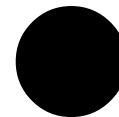
The rectangle marked 8 shows the size of the picture on 8mm (home movie) motion picture film. It is less than one fortieth the size of the still picture.

2. The exposure time of a typical still picture is seldom more than $\frac{1}{125}$ of a second, and it may even be as little as $\frac{1}{500}$. This is fast enough to ‘freeze’ the action, and thus produce a sharp image even if the subject is moving rapidly. But with motion picture film, the exposure time is generally between $\frac{1}{50}$ and $\frac{1}{30}$ of a second, and any movement – even somebody waving their hand – produces blurring of the image. When the film is run normally, this is completely undetectable, but if you look at the frames individually you notice it at once. Sometimes it is impossible to find even one individual frame of film from the required scene which is not affected by motion blur.

3. When you enlarge the original camera image, you also enlarge any blemishes such as scratch marks, specks of dust, or small imperfections in the film’s emulsion. With a still picture, these are generally so small compared with the overall picture size that you hardly notice them. But when you enlarge 8mm cine film, each tiny scratch or dust particle will be at least forty times larger in the print than in a conventional enlargement of the same finished size. Every time the film was projected, it will have suffered a few more scratches or other minor damage, and – with a dreadful inevitability – Murphy’s Law decrees that if you can manage to find a frame that is free from motion blur, it will have a blemish which makes it unsuitable for enlargement. It is also likely – especially with older films – that the grain of the photographic emulsion itself will become unpleasantly obtrusive when a single frame is enlarged beyond a very limited size.

BLEMISHES

A blemish which is only this size > •
in a conventional enlargement will appear like this →
in a similar sized enlargement from 8mm cine film.



4. A still photographer chooses his moment with care, and composes his picture so that it makes sense by itself and tells its own story. But, as a rule, the sense and meaning of a scene in a motion picture film is conveyed by the movement itself, and by the action seen as a whole: a single isolated frame – even if technically perfect – will often appear to be virtually meaningless. In this connection, it is worth remembering that the stills which used to be displayed in cinema foyers or showcases were never frame enlargements from the actual film, but carefully posed pictures taken by a stills photographer who could set the scene up precisely as he wanted it.

So for all these reasons, although it may seem a simple enough matter to enlarge a frame from a cine film and use it as a still, the results are apt to be disappointing. By all means give it a try as a last resort, and we’ll certainly do our best. But please be aware of the likely limitations, and don’t expect too much.

NOTE: For convenience, and to reduce costs, we generally supply still images on a CD (please state choice of format), which clients can print off at home as they wish, or hand to a commercial printer. For domestic use or email, the jpeg format is usually preferable, but for book publication, etc, TIF format will generally be required.