Definitions

DAR : Display Aspect Ratio. This is the ratio between the width and the
height of the end display (monitor, TV, projector, etc).

PAR : Pixel Aspect Ratio. This is the ratio between the width and the
height of a pixel. This information is stored in the encoded
stream. A PAR of 1:1 means the pixel is square.

DAR and PAR are linked together by the following formula :

W
--- * PAR = DAR (1)
H

Where 'W' and 'H' are the frame resolution in pixels.

Assumptions

I consider that the pixels of the display device (monitor, TV, projector)
are square. In reality TV pixels are slightly stretched.

How to compute the PAR to be encoded

The target is to calculate the correct PAR to be stored in the encoded
stream data. This can be done in 4 steps :

1. Get the source PAR 'PAR(src)'

In a vast majority cases, the PAR of a video source is 1:1 since this
is the default and natural PAR. The only exception I know is anamorphic
DVD source (widescreen) where the PAR is 64:45 for PAL and 32:27 for
NTSC.

Those values are computed using the relation (1) with a DAR of 16:9.
720:576 * X:Y = 16:9 -> X:Y = 64:45
720:480 * X:Y = 16:9 -> X:Y = 32:27

So finally we have :

PAR(src) = 64:45 for PAL DVD
PAR(src) = 32:27 for NTSC DVD

2. Compute the new DAR after cropping 'DAR(crop)'

The cropping doesn't affect the PAR since the pixel shape is not
changed. However with cropping, the DAR changes since the display
shape can change.