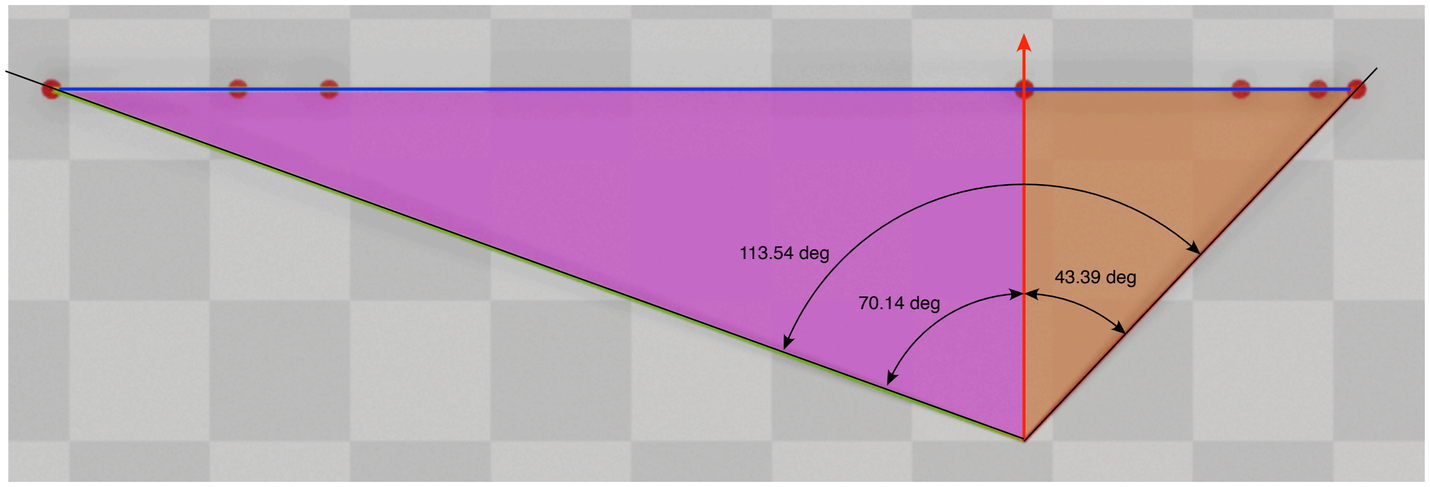
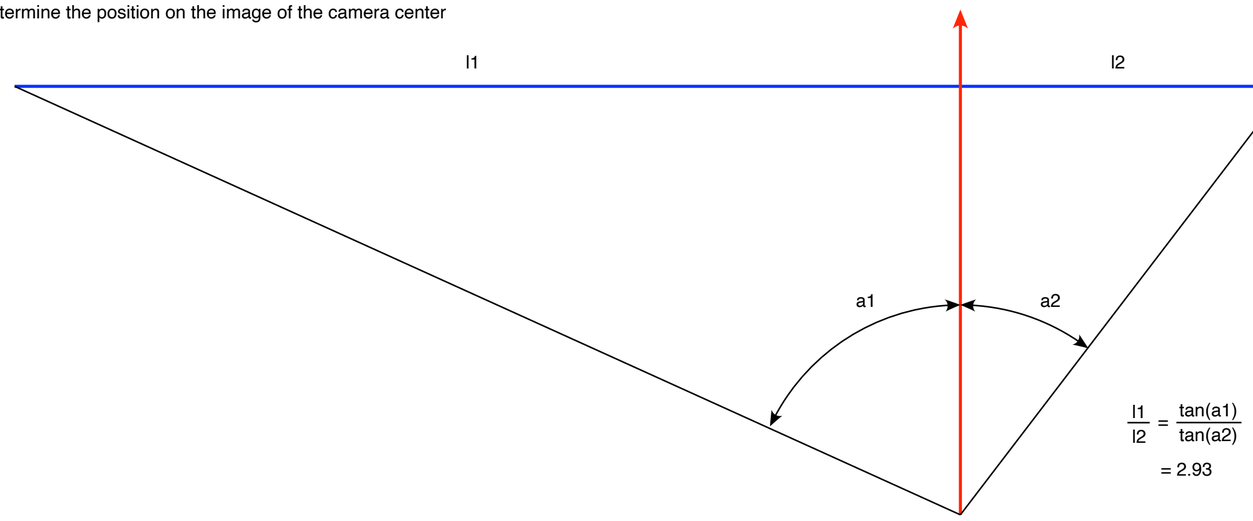
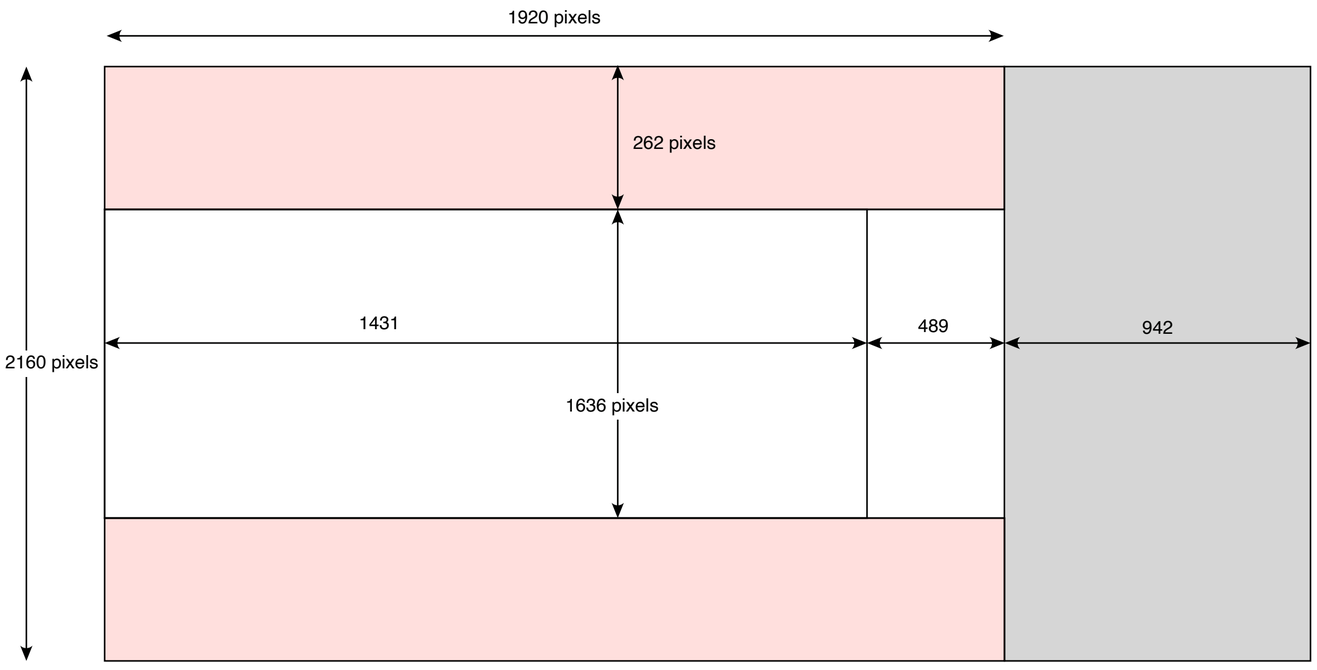
Geometry



Determine the position on the image of the camera center



Crop and pad to make symmetric



New FOV of padded symmetric view is 2*70.14 = 140.28 deg

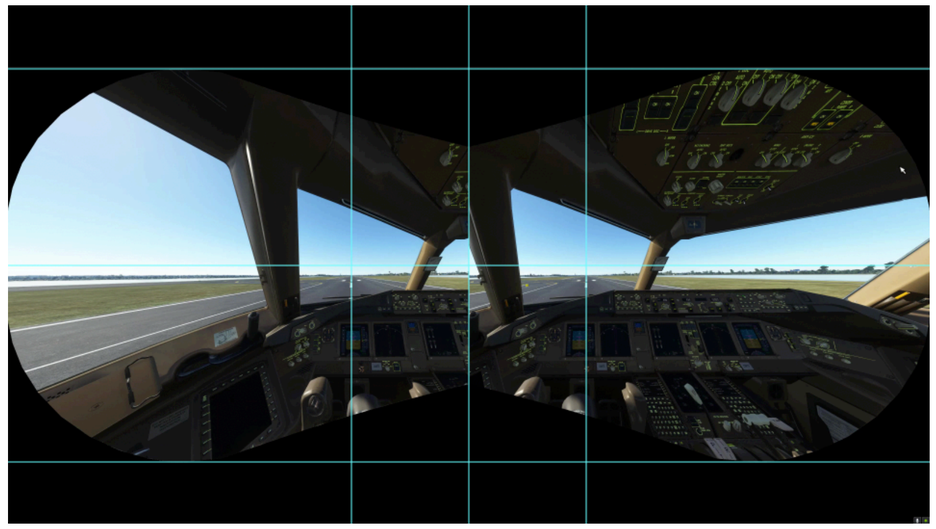
vfov = 2 atan[height tan(hfov/2) / width]

so

vfov should be 2 atan(1636 tan(140.28/2) / 2862) = 115 degrees

Note this is different to the quoted value

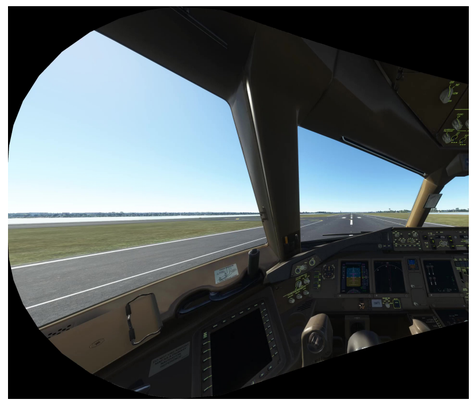
Pipeline



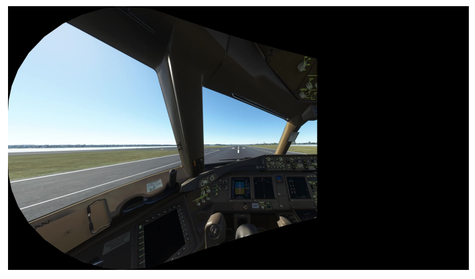
Left

Right

Crop left and right view



Pad to symmetric frustum



Map to half equirectangular
including yaw rotation.

Combine to top and bottom frame