



$$R2 \parallel R3 = 1 / (1/R2 + 1/R3) = 1 / (255/256R + 1/256R) = 1 / (1/R) = R = R1$$

$$(U_{in} - VCC/2)/R = (VCC/2 - U_x)/(256R/255) + (VCC/2 - U_y)/(256R)$$

$$U_{in} - VCC/2 = (VCC/2 - U_x)/(256/255) + (VCC/2 - U_y)/256$$

$$U_{in} - VCC/2 = 255 \cdot (VCC/2 - U_x)/256 + (VCC/2 - U_y)/256$$

$$U_{in} - VCC/2 = VCC/2 - (255 \cdot U_x + U_y)/256$$

$$U_{in} = VCC - (255 \cdot U_x + U_y)/256$$

$$U_{in} = VCC - VCC \cdot (N_x + N_y/255)/256$$

$$U_{in} = VCC - VCC \cdot (256 \cdot N_x + N_y + N_y/255)/65536 = (1 - K/65536) \cdot VCC$$

$$K = 256 \cdot N_x + N_y$$

if $N_y \geq 128$ then $K = K+1$ (rounding)