Braunova elektronka:

$$a_y = \frac{e}{md} u_y$$

$$v_y = \frac{e\Delta t}{md} \overline{U}_y(t) \approx \frac{e\Delta t}{md} u_t$$

$$L - \frac{l}{2} = v_z t_0$$

$$y - y_i = v_y t_0$$

$$y - y_i = \frac{v_y}{v_z}\left(L - \frac{l}{2}\right)$$

$$y = \frac{lL}{2dU_a} u_y$$

$$S = \frac{dy}{du_y} = \frac{lL}{2dU_a}$$

$\uparrow Staticna\ obcut.$

Dvokanalni osciloskop:

$$R_S C_S = R_V C_V$$

Vzorčevalni osciloskop:

$$N = \frac{T}{\Delta t}$$

$$T' = N T_S = N(MT + \Delta t)$$

$$f' = f\frac{1}{MN+1}$$

Digitalni spominski osciloskop:

$$\frac{1}{f_s'} = T_s = \frac{k_t x_m}{Z_m}$$

$$B_{pt} = \frac{f_s}{25}$$

$$B_{lin} = \frac{f_s}{10}$$

$$B_{si} = \frac{f_s}{2,5}$$

$$T_{r,lin} = 1,6 T_s$$

$$T_s \leq \frac{1}{8} T_r$$

UNIVERZALNI ELEKTRONSKI ŠTEVEC
Merjenje frekvence:

$$T_M = KT_0 = \frac{K}{f_0}$$

$$\overline{Z} = f_x T_M$$

$$f_x = \frac{Z}{T_M} \pm \frac{1}{T_M}$$

$Abs\ mejn\ kv\ pogr.$

$$E_f = \pm\frac{1}{T_M} = \pm\frac{1}{KT_0}$$

$relat.\ mej\ pogr.$

$$e_f = m_f = \frac{E_f}{f_x} = \pm\frac{1}{f_x T_M} = \pm\frac{1}{Z}$$

Merjenje časa:

$$\overline{Z} = \frac{f_0}{K} T_x = \frac{T_x}{KT_0}$$

$$T_x = ZKT_0 \pm KT_0$$

$$E_T = \pm KT_0$$

$$e_T = \frac{E_T}{T_x} = \pm\frac{KT_0}{T_x} = \pm\frac{1}{Z}$$

Merjenje fazne razlike:

$$\overline{Z} = \frac{f_0}{K}\Delta t_x$$

$$\varphi_x = \omega\Delta t_x = 2\pi\frac{\Delta t_x}{T_x} = 2\pi f_x \Delta t_x$$

ELEKTRONSKI MERILNI PRETVORNIKI

$$y = a + Kx + N(x)$$

$$y = a + Kx + N(x) + K_D \Delta z_D x + K_S \Delta z_S$$

$$I_{izh} = I\frac{R_n}{R_n + R_b}$$

$$U_v = U_{izh}\frac{R_i}{R_i + R_v}$$