

BLACK COMPENSATION CIRCUIT FOR A VIDEO DISPLAY SYSTEM

ABSTRACT

A driver (12) for a cathode ray tube (14) includes a black level compensation circuit (22) which generates an offset voltage (EREF) which tracks the current flowing to the output of the driver and therefore the average picture level (APL). The offset voltage is added as a component of the output voltage (EOUT) so as to increasingly shift the output voltage toward black as the APL increases. This compensates for CRT gamma non-linearities and for light scattering effects which might otherwise cause the loss of perceived detail and sharpness in dark areas of a high APL image. In the disclosed embodiment, the driver comprises a cascode amplifier (Q2, Q3) and the offset voltage generating element includes a capacitively bypassed (C) resistor (R8) connected in a reference voltage network (R7, R8, Z) connected (via R4) to the emitter circuit of the lower (common emitter configured) transistor (Q2) of the cascode amplifier.

FIGURE 1