

COLOR PICTURE TUBE HAVING IMPROVED
SHADOW MASK APERTURE PATTERN

Abstract

A color picture tube (10) has a rectangular shadow mask (24) mounted therein in spaced relation to a viewing screen (22). A major axis (X) passes through the center of the mask and
5 parallels the long sides thereof, and a minor axis (Y) passes through the center of the mask and parallels the short sides thereof. The mask has an aperture array that includes slit-shaped apertures (36) aligned in columns that essentially parallel the
10 minor axis and end at a border of the aperture array. Adjacent apertures in each column are separated by tie bars (38) in the mask that are longitudinally offset from column to adjacent column. The spacing from tie bar to tie bar in a column is the tie bar pitch (a_v) at a location on the mask. A first set (40) of the
15 aperture columns, comprising every other column, has full length ultimate apertures (42) at least at one end thereof, and a second set (44) of the aperture columns, comprising every other column not in the first set, has partial length ultimate apertures (46) at least at one end thereof. The ultimate apertures of all of the
20 aperture columns end on smooth curved border lines (48). The tie bar pitch of the columns decreases from the center of the mask to the short sides thereof, and the tie bar pitch along each column varies from the center of the mask to the long sides of the mask.

Figure 4