

### Abstract

A circuit (10) provides North-South pincushion correction and gullwing compensation in a raster display of a television apparatus. A correction circuit (52,60,62,66) generates a  
5 generally parabolic, horizontal rate correction signal to correct for North-South pincushion distortion. A gullwing compensation circuit (72) is coupled to the correction circuit and forms a feedback path therein for amplitude modifying the correction  
10 signal to further correct for gullwing distortion. The gullwing compensation circuit amplitude modifies the generally parabolic signal ( $V_{OUT}$ ) as a function of itself, achieving an equilibrium condition. A vertical deflection circuit drives a vertical  
15 deflection coil with the gullwing compensated correction signal. The correction circuit comprises a ramp waveform generator (60,62) having a controllable current source (52,54,56) generating a constant component of current ( $I_{DC}$ ) for pincushion  
20 correction and a variable component of current ( $I_{AC}$ ) responsive to the feedback signal for gullwing compensation. The variable component of current ( $I_{AC}$ ) varies inversely to the feedback  
25 signal, which is coupled in the feedback path to the controllable current source through an inverting amplifier (72). The output of the inverting amplifier modulates the current supply (54) to modify the resulting shape of the parabolic signal to compensate for gullwing distortion by increasing the slope of the parabola on both lateral sides.

Reference Indicia Are From Fig. 6

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