



## NEW COLOUR PICTURE TUBE

A new 110° colour display system to be known as 30AX is introduced by Philips Electronic Components and Materials. Comprising only a colour picture tube and a push-on deflection unit, the new system features true self-alignment as well as self-coverage.

The colour picture tube of the 30AX system displays a noticeably sharper picture over the entire screen surface. This will be particularly noticeable when data transmissions such as Viewdata and Teletext are displayed. This has been achieved by a reduction in the size of the beam spot by about 30%. Absence of coma and the retention of the 36.5 mm neck diameter have both contributed to increased picture sharpness.

Coma has been eliminated by means of corrective field shapers embedded in the deflection coils which are sectionally wound saddle types. The new deflection unit has no rear flanges, enabling uniform self-convergence to be obtained for all screen sizes, without special corrections, adjustments, or tolerance compensations. Horizontal raster distortion is reduced and no vertical correction is required.

One of the inventions in 30AX is an internal magnetic correction system which obviates static convergence and colour purity errors. This enables the usual multiple unit to be dispensed with, together with the need for its adjustment.

Deflection sensitivity of the 30AX system has been increased by using longer deflection coils and employing more copper wire on the field coil.

New techniques have been employed to achieve close tolerance construction of the glass envelope. In addition, the 30AX picture tube incorporates two features whereby it can be accurately adjusted during the last stages of manufacture. One is the internal magnetic correction system. The other is an array of bosses on the cone that establish a precise reference for the axial purity positioning of the deflection unit on the tube axis and for raster orientation.

During its manufacture, each deflection unit is individually adjusted for optimum convergence. The coil carrier also incorporates reference bosses that co-operate with those on the cone of the tube.

Since every picture tube and every deflection unit is individually pre-aligned, any deflection unit automatically matches with any picture tube of the appropriate size. The deflection unit has only to be pushed onto the neck of the tube unit it seats. Once the reference bosses are engaged, the combination is accurately aligned and requires no adjustment for convergence, colour purity or raster orientation.

With no multiple unit and a flangeless deflection unit, there is more space in the receiver cabinet. Higher deflection sensitivity means that less current is consumed, and consequently less heat is produced. This increases the reliability of the TV receiver again.

30AX means simple assembly. Any picture tube is compatible with any deflection unit of the appropriate size and is automatically self-aligning as well as being self-convergent. The well-known 20AX features of Hi-Bri, Soft-Flash and Quick-vision are maintained in the new 30AX system.