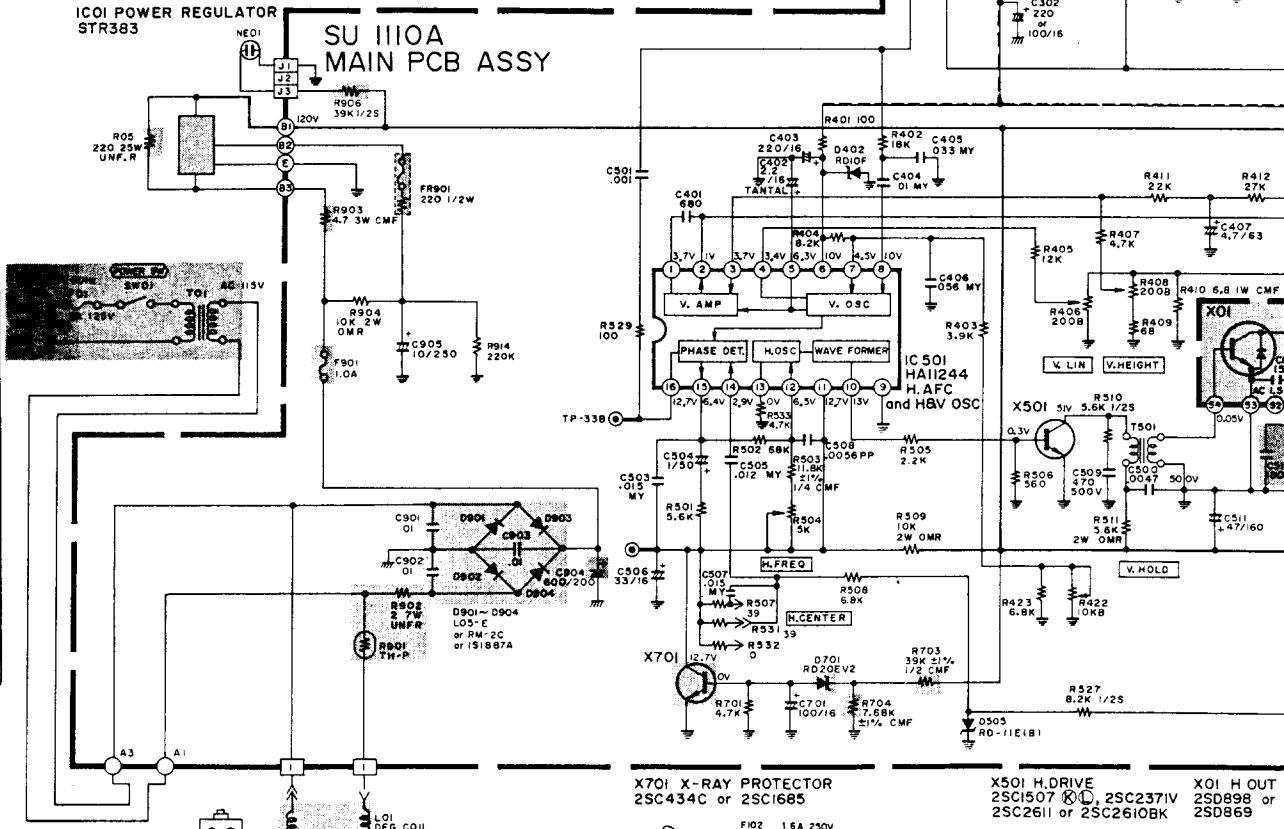


- 38-G12102/60.
- ECM-1302-1(G12-002).
- ECM-1302-1.
- ECM-1302-2(G12-003).
- ECM-1302-2.
- ECM-1302-2X.
- ECM-1302.
- ECM-13021.
- ECM-13021X.
- ECM-13022.
- ECM-13022X.
- G-12 SERIES.
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- G-12-003.
- G-12-102.
- G-12-103.
- G-12003.
- G-12102.
- G-12103.
- G12-002.
- G12-003.
- G12-102.
- G12-103.

IC01 POWER REGULATOR  
STR383

SU 110A  
MAIN PCB ASSY

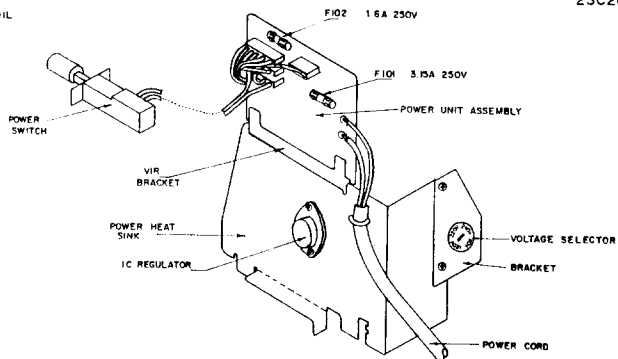


X701 X-RAY PROTECTOR  
2SC434C or 2SC1685

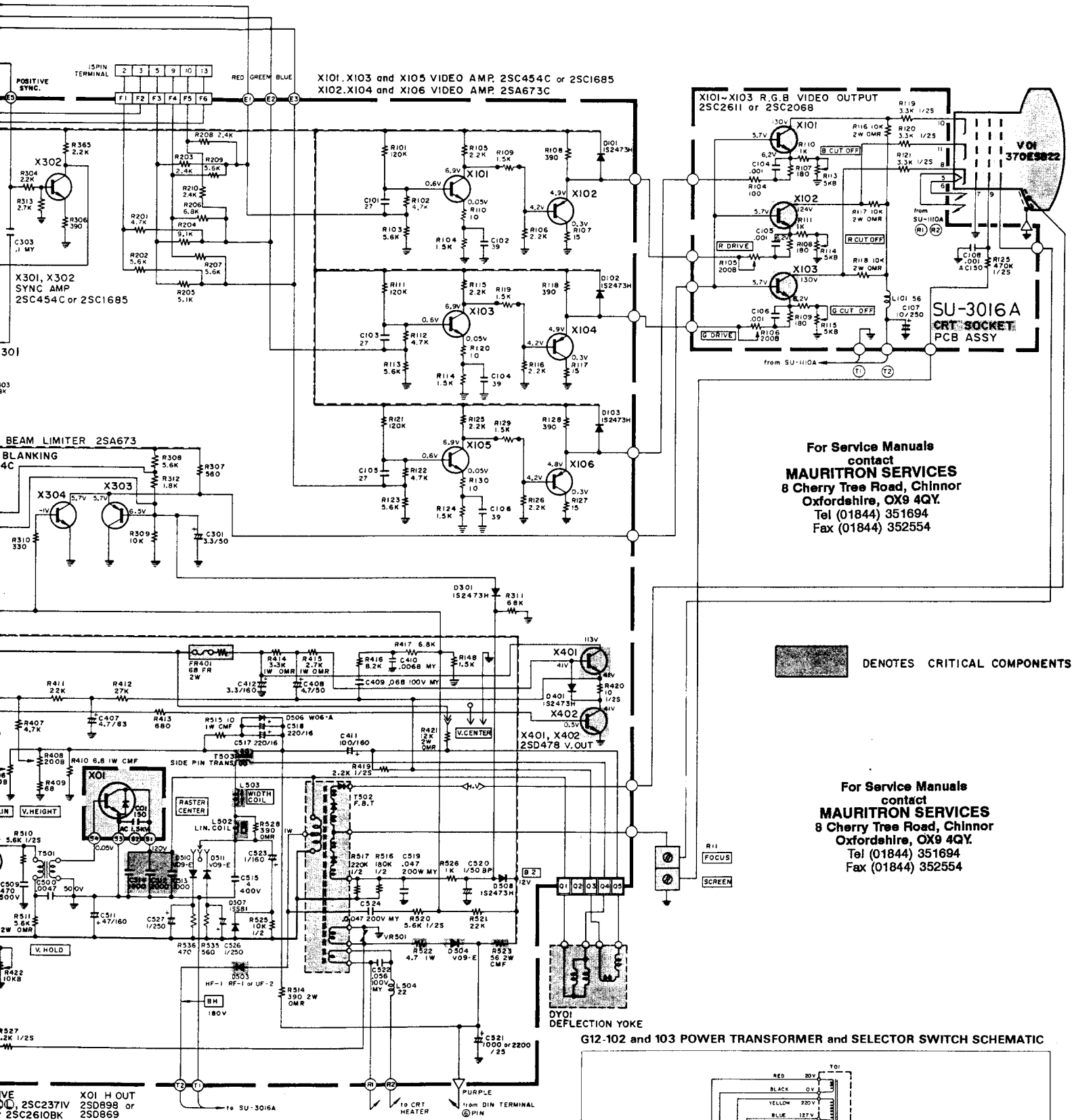
X501 H.DRIVE  
2SC1507, 2SC237V  
2SC2611 or 2SC2610BK

X01 H OUT  
2SD898 or  
2SD869

AC120V 60Hz/50Hz  
±10%



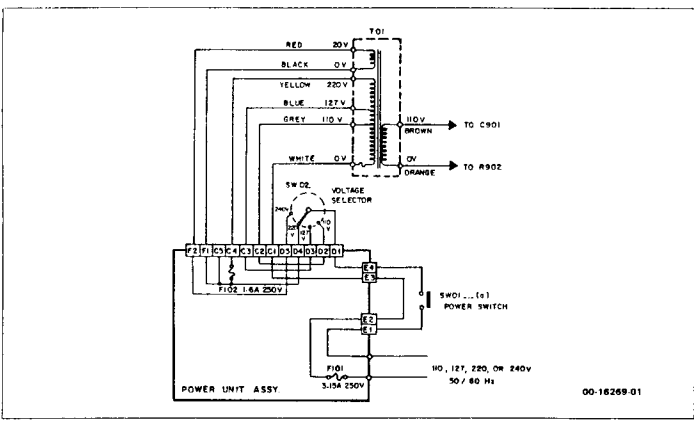
# CRT HOME



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 Tel (01844) 351694  
 Fax (01844) 352554

DENOTES CRITICAL COMPONENTS

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## 6.0 SERVICE SET-UP PROCEDURE

**NOTE:** All monitors are equipped with automatic degaussing coils which effectively demagnetize the picture tube each time the monitor is turned on. The degaussing coils will operate any time the set is turned on after having been off for at least five minutes.

The degaussing effect is confined to the picture tube since the coils are mounted on the ferrous tube shield. Should any part of the chassis or cabinet become demagnetized, it will be necessary to degauss the affected area by means of a manual degaussing coil. Move the coil slowly around the CRT face area, then slowly withdraw for a distance of six feet before disconnecting the coil from the AC power supply.

Normally little, if any adjustment should be necessary. However, when a picture tube, yoke or similar component is replaced, preliminary static convergence should be done before attempting purity adjustment, and so on.

Set up should be done in a north/south direction. Horizontal and vertical centering taps should be set to the centre position if a major component has been changed.

### 6.1 Purity

Loosen yoke retaining clamp (figure 2) Remove adhesive material fixing wedges to CRT. Remove wedges completely and clean off dried adhesive from picture tube and wedges.

6.2 A small quantity of "nail polish" has been used to lock the purity convergence rings in place. This seal must be broken with a sharp tipped instrument before any adjustments are attempted. Some models also use a locking ring at either end of the purity and convergence rings. This must be loosened before adjustments are made. It goes without saying that upon completion of all adjustments, lock must be reset and/or a dab of paint or nail polish must be reapplied to edge of rings to prevent movement.

6.3 Connect an appropriate signal source, eg: Electrohome RGB generator producing a white field plus individual red, green and blue fields.

6.4 Bring the long and short purity tab protrusions in line with each other to obtain near-zero magnetic field (figure 4) (In some cases bring the flat and indented tabs together to obtain zero field). Protrusions can then be vertical, horizontal or at any convenient angle to start.

6.5 Turn off the green and blue fields and adjust setup controls to produce a red field. (See fig. 3)

If the CRT has to be replaced proceed as follows:

- Disconnect the following:

(a) Printed circuit board from CRT.

(b) Yoke plug (located behind the flyback transformer)

- Place the CRT face down on a felt pad

- Remove the four screws holding the CRT to the mask.

Remove the aquadac strap and lift out the CRT.

To install a new CRT reverse the process. Be careful to install and dress the aquadac strap as it was on the original CRT.

**NOTE:** The CRT has the yoke and convergence magnets assembled to it. The whole assembly is preconverged. No further adjustments are normally required. If, however, some touch-up is desired refer to the set-up procedure.

For ordering information see the parts list.

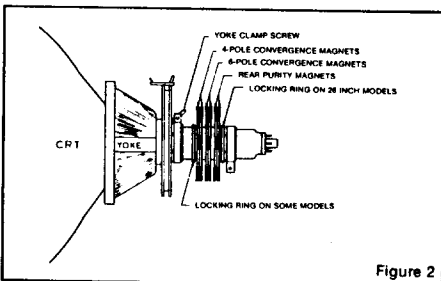


Figure 2

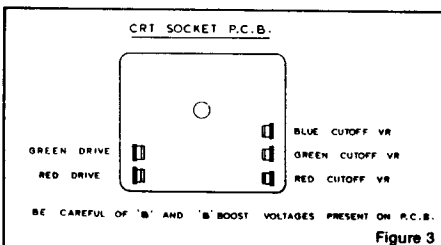


Figure 3

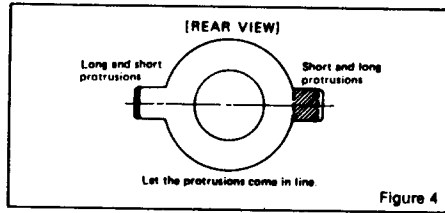


Figure 4

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6.6 Pull the deflection yoke back so that a red band appears in the centre of the screen.

6.7 Spread the tabs apart as little as necessary and rotate both rings together to center the red band horizontally on the face of the CRT (approximate). (See fig. 5)

6.8 Slide the yoke towards the bell of the picture tube slowly to obtain a uniform red field (pure in color) across the entire tube face. Juggle back and forth slightly as necessary. Lightly tighten yoke retaining clamp.

6.9 Momentarily switch on a cross-hatch signal and rotate yoke to level the pattern on the face of CRT.

6.10 Return generator to regain red raster.

6.11 Turn off red field and check for pure field for each of the green and blue fields. Reposition yoke if necessary to obtain optimum purity on all fields.

6.12 Tighten yoke retaining clamp to prevent yoke shift or rotation. (Do not install wedges at this time.)

## 7.0 Static and Dynamic Convergence

**NOTE:** Static convergence is achieved by four magnets located on the neck, nearest the base of the picture tube, Fig. 2. The middle pair of magnetic rings are adjusted to converge the blue and red crosshatch lines. The rear pair of convergence rings (closest to the base of the picture tube) are adjusted to converge the magenta (blue/red) to the green crosshatch lines. Dynamic convergence is achieved by tilting the deflection yoke up-down and left-right.

7.1 Ensure that the controls misadjusted during purity setup (screen, cut-off, etc.) are set to give white balance. See 3.0 below.

7.2 Switch generator to the crosshatch pattern.

7.3 Adjust convergence around the edges of the picture tube by tilting the yoke up-down and left-right, and temporarily install one wedge at the top of the yoke or in a more optimum position. (Figures 8, 9, 10)

7.4 Turn off green input and turn on the red and blue input.

7.5 Rotate the 4-pole (middle) pair of magnets as a unit to minimize separation of the red and blue crosshatch lines around the center of the screen (Figure 6). Variation of the angle between the tabs adjusts convergence of red and blue. (Tilt yoke as required to converge red and blue at the edges as in 7.3 above.)

7.6 Turn on green input to obtain magenta (red/blue) and green crosshatch lines. Rotate the 6-pole (rear) pair of magnets as a unit to minimize separation of the magenta and green lines (figure 7). Vary angle between the two tabs and further rotate as a unit to finalize.

7.7 When convergence of 3 colors is optimized (static in center and dynamic around edges) apply stripe of paint or nail polish to convergence magnet rings to prevent movement. If applicable, tighten locking ring carefully.

7.8 Remove temporary wedge from yoke. Tilt yoke in up-down and left-right direction for best circumference convergence and install 3 wedges. (It is best to use 3 new wedges since they have adhesive backing. Simply pull off tape, slide wedge in place and press outer flap down firmly. For more

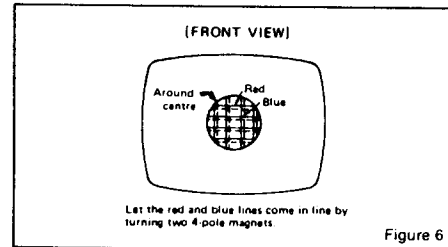


Figure 6

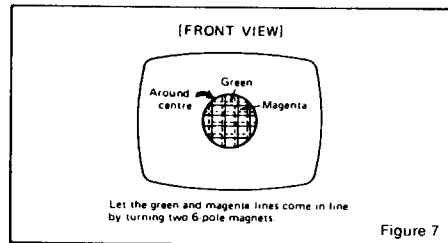


Figure 7

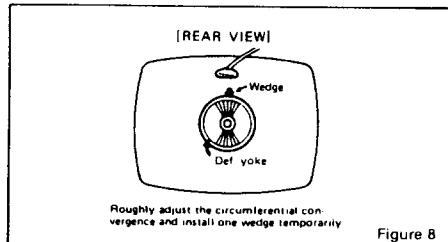


Figure 8

permanency apply small quantity of silasite or similar material at junction of wedges and picture tube. Do not disturb while material is setting. (Order wedges by part number 39-1233-01).

## 8.0 White Balance (Grey Scale Tracking)

Refer to figure 3. Do the following in subdued light.

8.1 Note this adjustment can be accomplished with no signal connected; eg: input connector open or if a signal generator is connected, switch off all 3 inputs at the generator.

8.2 Set red and green drive controls to their mechanical center and turn the common G2 screen control and 3 cut-off controls to minimum (fully clockwise).

8.3 Slowly turn up G2 screen control until the first faint color appears, then back off to edge of visibility. Do not touch associated cut-off control - it should stay fully CCW for remaining set-up.

8.4 Slowly turn up the other two color cut-off controls in turn to match the first. This should result in the faintest grey.

8.5 Turn on the signal generator with all 3 inputs on. crosshatch pattern would be appropriate).

8.6 Adjust the red and green drive controls for "neutral white" on high white picture areas. Generally these controls will be left at mech. centre.

8.7 Note: When monitor is re-connected with the terminal screen control (G2) may require a slight adjustment to obtain proper black level. (the black portion of picture just extinguished).

## 9.0 Focus

Adjust focus control for best overall definition and picture detail on average signal applied. (Highlights should be favoured.)

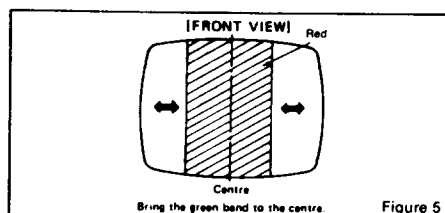


Figure 5

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Figure 6

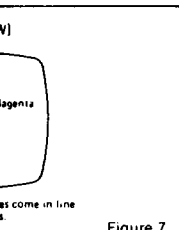


Figure 7

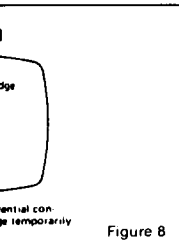
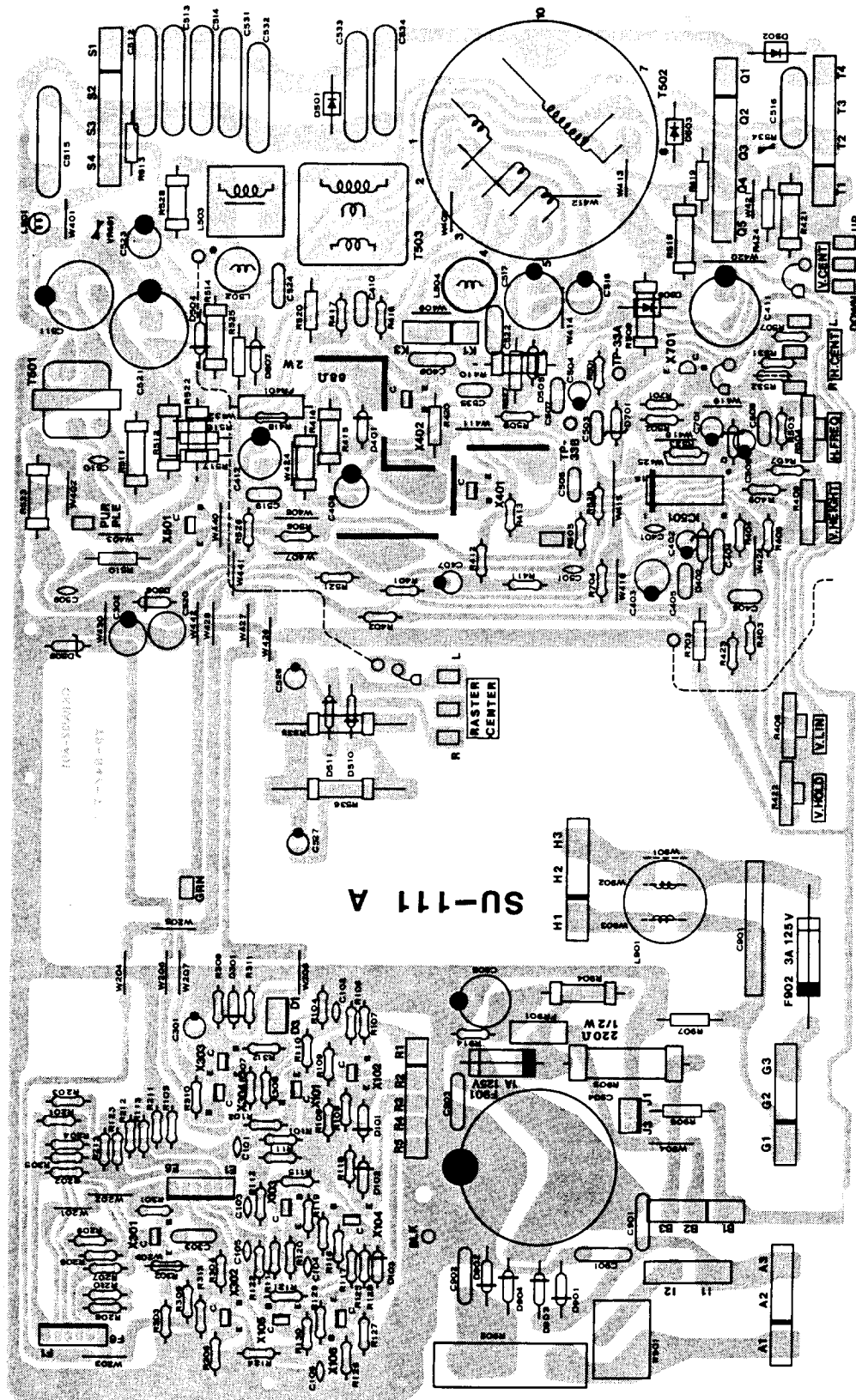


Figure 8

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### Tracking)

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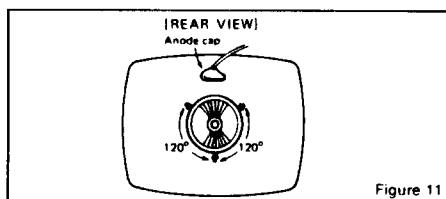


Figure 11

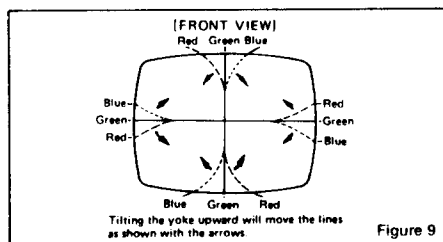


Figure 9

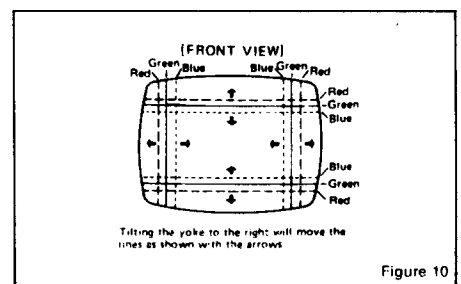


Figure 10