

# SERVICE ADJUSTMENT

## PIF/AFT/SIF/AGC/G2

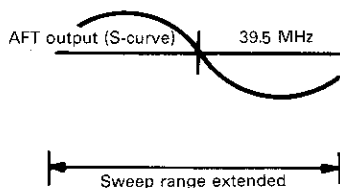
### 1. VCO T204 for Picture

1. Apply 3V DC to pin ④ of IC200.
2. Measure and record voltage at pin 25 of IC200.
3. Apply carrier frequency of 39.5 MHz to pin ⑧ and ⑨ of IC200.
4. Adjust T204 to obtain same voltage value as step 2.

### 2. AFT Adjust T205

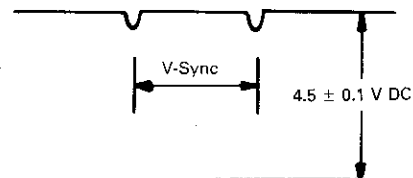
#### Coarse Adjustment

1. Connect sweep generator output to TUNER Test Point (T.P.).
2. Apply 3V DC to pin ④ of IC200.
3. Connect response lead (containing 10k ohm resistor in series) to pin ⑩ of IC200.
4. Adjust T205 to align Picture marker (39.5 MHz) of S-curve with base line.



#### Fine Adjustment

1. Short pins ④ and ⑤ of VC to ground.
2. Receive CH69 (Real CH mode).
3. Connect DC voltmeter to pin ⑦ of FA.
4. Adjust T205 to obtain 4.5 V DC  $\pm$  0.1 V.



### 3. RF AGC R219

1. Receive colour bar signal (signal strength: 53 dB).
2. Connect DC voltmeter to Test Point 201 (RF AGC).
3. Set AGC-VR (R219) to maximum position (memory).
4. Adjust R219 to obtain voltage of 0.1 V below maximum voltage (step 3).

### G2 Adjustment

- a) Receive monoscope pattern signal.
- b) Connect DC voltmeter with Test probe attenuator ( $\div 1000$ ) to HH1 Test point on PWB-C.
- c) Adjust G2 to obtain 820 V on HH1.

## SERVICE MODE FUNCTION

This mode function is provided to assist with the settings of those adjustments that may vary from one Picture Tube to another, or between models.

### In order to use the Service Mode

1. Connect Test Pattern signal to antenna terminal.
2. Connect a jump wire between terminals ② (GND) and ⑥ of the service slot situated in the Video Unit.
3. — SERVICE SOFTWARE — will appear on screen.
4. Remove a jump wire of the service slot.

The required adjustments can then be made from the Remote Control Unit.

The only buttons required are the following:

∨ CH ∧ for movement in adjustment options menu; ∨ ◁ ∧ are used to carry out an adjustment in said menu; ON/OFF is used to memorize a new adjustment.

Adjustment menu is as follows:

- SERVICE SOFTWARE
- CROMA-LUMA DELAY
- VERT. SHIFT
- HOR. SHIFT
- E-W WIDTH
- E-W PARABOLA
- E-W CORNER
- E-W TRAPEZOID
- VERT. SLOPE
- VERT. AMPLITUDE
- S CORRECTION
- RED REFERENCE
- GREEN REFERENCE
- BLUE REFERENCE
- ALTER NVM POS 00 00
- ALTER NVM VAL 00 00

Having finalized adjustments, connect a jump wire again, between terminals ② and ⑥ of the service slot to exit Service Mode.

Adjustment Note:

The procedure for making adjustments to Horizontal Corrections is as follows:

- Set E-W WIDTH to minimum
- Adjust HOR. SHIFT
- Adjust E-W PARABOLA
- Adjust E-W WIDTH
- Adjust E-W TRAPEZOID
- Adjust E-W CORNER

The procedure for making adjustments to Vertical Corrections is as follows:

- Adjust S CORRECTION
- Adjust VERT. SHIFT
- Adjust VERT. AMPLITUDE
- Adjust VERT. SLOPE

**CROMA-LUMA DELAY**

- Receive Philips pattern signal.
- When volume-up button is pressed, luma phase delays.
- When volume-down button is pressed, chroma phase delays.
- Adjust the Chroma-Luma delay.

**VERT. SHIFT**

- Receive Philips pattern signal.
- When volume-down button is pressed, picture moves up.
- When volume-up button is pressed, picture moves down.
- Adjust the Vertical location to obtain picture centering (fig. 1).

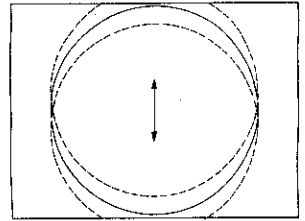


fig. 1

**HOR. SHIFT**

- Receive Philips pattern signal.
- When volume-up button is pressed, picture moves to the left.
- When volume-down button is pressed, picture moves to the right.
- Adjust the horizontal location to obtain picture centering (fig. 2).

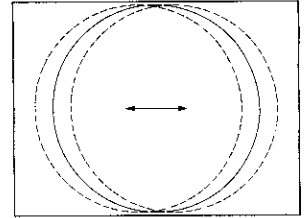


fig. 2

**E-W WIDTH**

- Receive Philips pattern signal.
- When volume-up button is pressed, horizontal scanning increases.
- When volume-down button is pressed, horizontal scanning decreases.
- Adjust the horizontal amplitude to obtain 9% overscan (fig. 3).

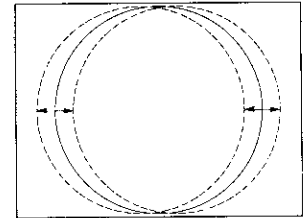


fig. 3

**E-W PARABOLA**

- Receive Philips pattern signal.
- When volume-up button is pressed, side pincushion changes from pincushion to barrel shape.
- When volume-down button is pressed, side pincushion changes from barrel to pincushion shape.
- Adjust the E-W PARABOLA to obtain condition as in fig. 4.

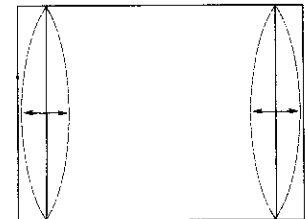


fig. 4

**E-W CORNER**

- Receive Philips pattern signal.
- When volume-down button is pressed, side pincushion changes from pincushion to barrel shape.
- When volume-up button is pressed, side pincushion changes from barrel to pincushion shape.
- Adjust the E-W CORNER to obtain condition as in fig. 5.

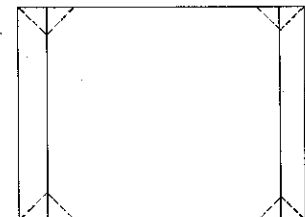


fig. 5

**E-W TRAPEZOID**

- Receive Philips pattern signal.
- When volume-up button is pressed, side pincushion changes.
- When volume-down button is pressed, side pincushion changes.
- Adjust the E-W TRAPEZOID to obtain condition as in fig. 6.

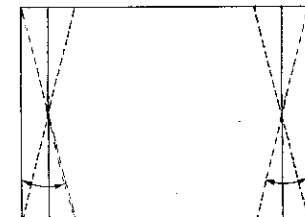


fig. 6

**VERT. SLOPE**

- Receive Philips pattern signal.
- When volume-up button is pressed, vertical size of picture increases (down).
- When volume-down button is pressed, vertical size of picture decreases (down).
- Adjust the vertical size to obtain a simetrical picture up-down (fig. 7).

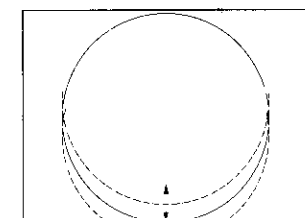


fig. 7

**VERT. AMPLITUDE**

- Receive Philips pattern signal.
- When volume-up button is pressed, vertical size of picture increases.
- When volume-down button is pressed, vertical size of picture decreases.
- Adjust the vertical size to obtain overscan (fig. 8).

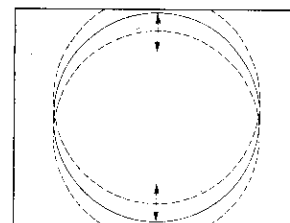


fig. 8

**S CORRECTION**

- Receive Philips pattern signal.
- When volume-up button is pressed, upper and lower scanning decreases and center scanning increases.
- When volume-down button is pressed, upper and lower scanning increases, and center scanning decreases.
- Adjust the S-correction to obtain a balance between upper, lower and center (fig. 9).

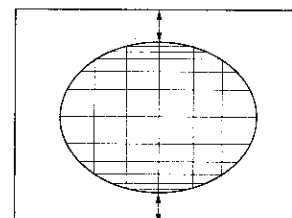


fig. 9

The following adjustments are only required when the Picture Tube is changed.

**RED REFERENCE / GREEN REFERENCE / BLUE REFERENCE**

- Adjust G2.
- Tune in white card.
- Adjust colour to minimum.
- Position colourimeter in the center of screen.
- Using brightness and contrast buttons, select a luminance of  $\approx 120$  NITS.
- Operate again in Service Mode and select location RED REFERENCE / GREEN REFERENCE / BLUE REFERENCE to obtain colour coordinates:

$$X = 0.290 \pm 0.015$$

$$Y = 0.284 \pm 0.015^*$$

- Exit Service Mode and check colour coordinates "X" and "Y" at 20 and 120 NITS. It may be necessary to repeat procedure.

**NOTE:**

Locations: RED REFERENCE alter "X" coordinate; GREEN REFERENCE alter the "Y" coordinates; BLUE REFERENCE alter the "X" and "Y" coordinates.

ALTER NVM POS    XX        XX  
                           ↓        ↓  
                           ▼        Assigned value  
                           Storage Location

When  $\nabla$   $\triangleleft$   $\triangle$  buttons are pressed, alter Storage Location.

ALTER NVM VAL    XX        XX  
                           ↓        ↓  
                           ▼        Assigned value  
                           Storage Location

When  $\nabla$   $\triangleleft$   $\triangle$  buttons are pressed, alter Assigned value.