

SERVICE ADJUSTMENT

PIF/AFT/AGC/ + B ADJUSTMENT

1. +B 15 V Adjustment R755

1. Receive monoscope pattern signal.
2. Set contrast control to maximum (100%) position, and brightness control to centre position 50%.
3. Connect DC voltmeter to jumper J130.
4. Adjust R755 to obtain a voltage of: $12\text{ V} \pm 0.05\text{ V}$.

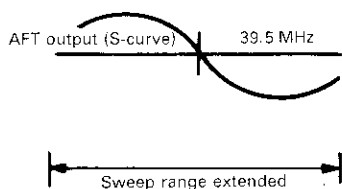
2. VCO T204 for Picture

1. Apply 3V DC to pin ⑥ of IC200.
2. Measure and record voltage at pin 25 of IC200.
3. Apply carrier frequency of 39.5 MHz to pins ⑧ and 9 of IC200.
4. Adjust T204 to obtain same voltage value as step 2.

3. AFT Adjust T205

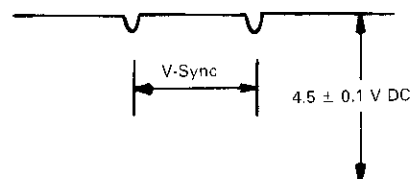
Coarse Adjustment

1. Connect sweep generator output to Tuner Test Point.
2. Apply 3V DC to pin ⑥ of IC200.
3. Connect response lead (containing 10k ohm resistor in series) to pin ⑯ of IC200.
4. Adjust T205 to align Picture marker (39.5 MHz) of S-curve with base line.



Fine Adjustment

1. Receive CH69 (Real CH mode).
2. Set AFT mode to OFF.
3. Connect DC voltmeter to pin ⑦ of FA.
4. Adjust T205 to obtain $4.5\text{ V DC} \pm 0.1\text{ V}$.



4. 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 a voltage of 0.1 V below maximum voltage (step 3).

5. G 2:

1. Apply mains voltage of 240 V AC/50 Hz to TV.
2. Receive colour bar signal to a level between 60 and 80 dB.
3. Set contrast to 10/10, brightness to 5/10 and colour 0/10.
4. Adjust screen potentiometer so that the black bar is at Cutoff level.

SERVICE MODE

Most of the adjustment required by this TV set can be made through the Remote Control Unit or by means of the push buttons on the television itself.

The first step is to remove the rear cover and connect a jump wire between terminals 2 and 6 (CN 1) of the Video Unit (PWB-B).

When in Service Mode "SHARP Software Service Ver" will appear on the screen.

The required adjustments can then be made from the Remote Control Unit. Having finalized the adjustments, the service button should be pressed again to restore the television to its normal function.

In Service Mode the Remote Control buttons change their function. The only buttons required are the following: +CH/-CH for movement in adjustment options menu; +V/-V are used to carry out an adjustment in said menu; ON/OFF is used to memorize a new adjustment.

Adjustment menu is as follows:

- | | | |
|---------------------------|----------------------|---------------------|
| 1. Horizontal Phase Shift | 8. Chroma-Luma Delay | } Colour adjustment |
| 2. Blanking Phase Shift | 9. VCO adjust | |
| 3. Vertical Phase | 10. Cutoff Red | |
| 4. Vertical Size | 11. Cutoff Green | |
| 5. S-Correction | 12. Cutoff Blue | |
| 6. Vertical Symmetry | 13. Drive Red | |
| 7. NVM Value | 14. Drive Green | |
| | 15. Drive Blue | |

1. Horizontal Phase Shift

- Receive Philips pattern signal.
- When volume-up button is pressed, picture moves to the right, and horizontal blanking appears on r.h.s.
- When volume-down button is pressed, picture moves to the left, and horizontal blanking appears on l.h.s.
- Adjust the horizontal phase to obtain a position where no horizontal blanking appears on either side (Fig. 1).

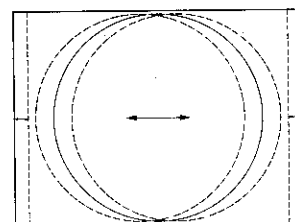


fig. 1

2. Horizontal Blanking Phase 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).

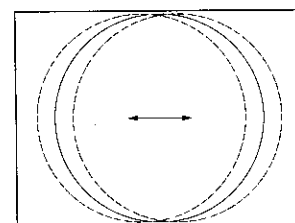


fig. 2

3. Vertical Phase

No adjustment required.

4. Vertical Size

- 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. 3).

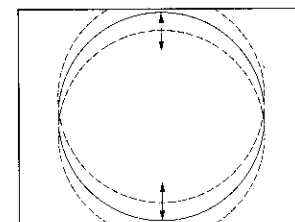


fig. 3

5. 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. 4).

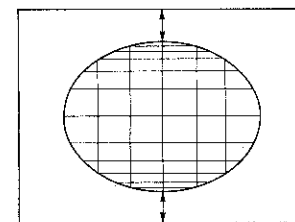


fig. 4

6. Vertical Symmetry

- Receive Philips pattern signal.
- When volume-up button is pressed, upper picture scanning decreases and lower picture scanning increases.
- When volume-down button is pressed, upper picture scanning increases, and lower picture scanning decreases.
- Adjust the Vertical Symmetry to obtain symmetrical scanning between upper and lower picture (Fig. 5).

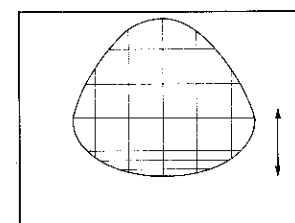
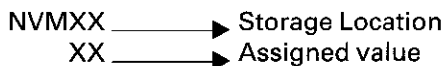


fig. 5

7. NVM storage location settings variants



In order to have access to the desired storage location, buttons NICAM/MONO and TV/Video should be pressed, as required, to obtain a higher or lower location, respectively. Bear in mind that, for storage location indication a hexadecimal numerical system is used, instead of a decimal system.

0, 1, 2, 3, 4, 5, 6, 7, 8, 9, A, B, C, D, E, F, 10, 11, 19, 1A, 1B, 1C, 1D, 1E, 1F, 20, 21,, 99, 9A, 9B, 9C, 9D, 9E, 9F, A0, A1,, B0,, C0,, D0,, E0,, F0, F1, F2, F3, F4, F5, F6, F7, F8, F9, FA, FB, FC, FD, FE, FF.

To increase press and to decrease press

The changes introduced can be memorized by pressing button . The screen will display STORED. If a new adjustment is required, repeat previous instruction paragraphs.

8. Chroma-Luma Delay

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

9. VCO Adjustment

- a) Receive Philips pattern signal.
- b) When volume-up button is pressed, VCO changes to high frequency.
- c) When volume-down button is pressed, VCO changes to low frequency.
- d) Adjust VCO to 4.43 MHz.

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

COLOUR ADJUSTMENT

10-15. "CUT R", "CUT G", "CUT B", "GAIN R", "GAIN G", "GAIN B".

- a. Adjust G2.
- b. Tune in white card.
- c. Adjust colour to minimum.
- d. Position colourimeter in the center of screen.
- e. Adjust brightness and contrast to obtain a luminance of ≈ 20 NITS.
- f. Operate in Service Mode and select location CUT R, CUT G, CUTG B, to obtain colour coordinates:

$$X = 0.290 \pm 0.015$$

$$Y = 0.284 \pm 0.015$$
- g. After step "f", exit Service Mode linking 2 and 6 (CN 1) of the Video Unit.
- h. Using brightness and contrast buttons, select a luminance of ≈ 120 NITS.
- i. Operate again in Service Mode and select location GAIN G, GAIN B to obtain colour coordinates:

$$X = 0.290 \pm 0.015$$

$$Y = 0.284 \pm 0.015$$
- j. Exit Service Mode and check colour coordinates 'X' and 'Y' at 20 and 120 NITS. It may be necessary to repeat procedure.

NOTE:

Locations: CUT R / GAIN R alter 'X' coordinate; CUT G / GAIN G alter the 'Y' coordinates: CUT B / GAIN B alter the 'X' and 'Y' coordinates.

The new coordinates settings should be memorized after each step.