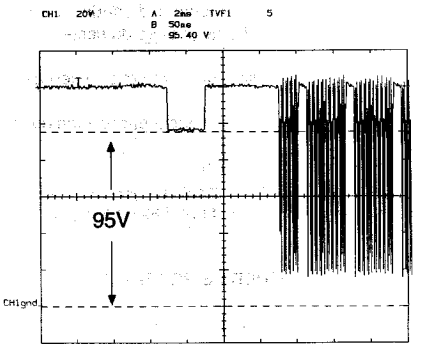
# SERVICE ADJUSTMENTS

All the adjustments required for this chasis will be done in Service Mode, except G2.

**G2 ADJUSTMENT**

1. Receive cross hatch pattern signal.
2. Connect the oscilloscope to the red cathode and adjust G2 to read 95V on the sensor pulse as in below drawing:




**NOTE:**
**Oscilloscope should be adjustated for vertical TV field trigger and synchronized with video signal.**

**In order to use the Service Mode**

-Connect Test Pattern signal to antenna terminal.
-Press main switch to OFF.
-Press $^{V}\angle$ and CH^ buttons and main switch to ON simultaneously.
-Service mode is now entered.
To exit from service mode, press main switch to off.

The required adjustments can then be made from the Remote Control Unit.
The only buttons required are the following:

^CH$^{V}$ for movement in adjustment options menu; ^$\angle$ $^{V}$ are used to carry out an adjustment and POWER button to memorize or to start a new adjustment.

**Adjustment menus are as follows:**

-SERVICE SOFTWARE
-AGC TAKE OVER POINT
-HORIZONTAL SHIFT
-EAST-WEST WIDTH
-EAST-WEST PARABOLA
-EAST-WEST CORNER
-EAST-WEST TRAPEZOID
-VERTICAL SLOPE
-VERTICAL AMPLITUDE
-S CORRECTION
-VERTICAL SHIFT
-RED REFERENCE
-GREEN REFERENCE
-BLUE REFERENCE
-ALTER NVM POS
-ALTER NVM VAL
-IF PLL ADJUSTAMENT
TELETEX MIX MODE CONTRAST
-TELETEXT CONTRAST
-OSD CONSTRAST
-AUTOINSTALLATION ON/OFF

Service Mode adjustments:

**AGC TAKE OVER POINT**

1. Receive colour bar signal (signal strength: 57dB/uV+/-1dB), the frequency should be chosen in the center of tuner band.
2. Press power button. The TV will performe an automatic adjustment.
3. To exit service mode turn off by main switch button on tv.

**IF PLL ADJUSTMENT**

1. Receive colour bar signal, CH69(855.25 MHz).
2. Press POWER button in remote control. The TV will perfom an automatic adjustment.
3. Turn off by main switch to exit from service mode.

**GEOMETRY ADJUSTMENT PROCEDURE:**

The procedure for making adjustments to Vertical Corrections is as follows:
-Adjust VERT. SLOPE.
-Adjust S CORRECTION.
-Adjust VERT. SHIFT.
-Adjust VERT. AMPLITUDE.

The procedure for making adjustments to Horizontal Corrections is as follows:
-Set E-W WIDTH to minimum.
-Adjust HORIZONTAL SHIFT.
-Adjust E-W PARABOLA.
-Adjust E-W WIDTH.
-Adjust E-W TRAPEZOID.
-Adjust E-W CORNER.

**VERTICAL SLOPE**

a) Receive center cross chart from pattern generator.
b) Adjust horizontal line of the cross figure to coincide with the edge of the black area in the center of TRC. (fig. 1).

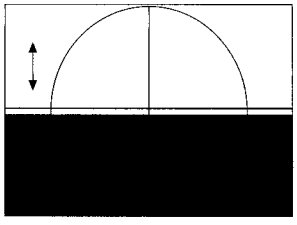


Fig. 1

**HORIZONTAL SHIFT**

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

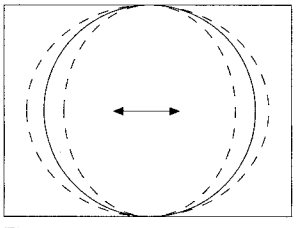


Fig. 2

**E-W WIDTH**

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

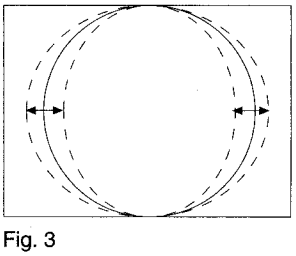


Fig. 3

**E-W PARABOLA**

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

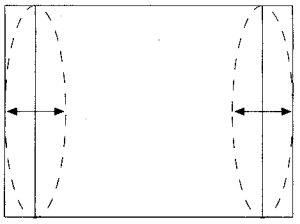


Fig. 4

**E-W CORNER**

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

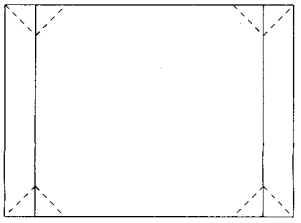


Fig. 5

**E-W TRAPEZOID**

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

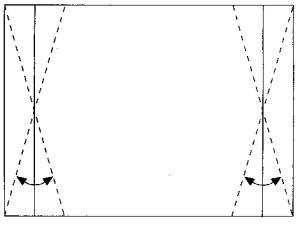


Fig. 6

**VERTICAL SHIFT**

a) Receive Philips pattern signal.
b) When volume-up button is pressed, picture moves down.
c) When volume-down button is pressed, picture move up.
d) Adjust the Vertical location to obtain picture centering (fig. 7).

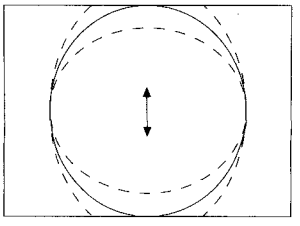


Fig. 7

**VERTICAL AMPLITUDE**

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

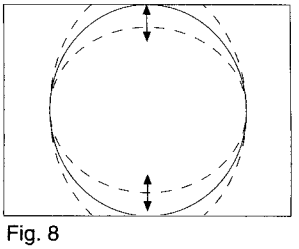


Fig. 8

**S CORRECTION**

a) Receive Philips pattern signal.
b) When volume-up button is pressed, upper and lower scanning decrease and centre scanning increases.
c) When volume-down button is pressed, upper and lower scanning increase and centre scanning decreases.
d) Adjust the S CORRECTION to obtain a balance between upper, lower and centre (fig. 9).

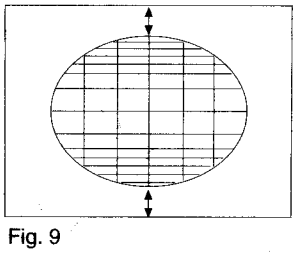


Fig. 9

**COLOUR ADJUSTMENTS**

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

1. RED REFERENCE / GREEN REFERENCE / BLUE REFERENCE
1.1 Adjusts G2.
1.2 Tune a white card.
1.3 Adjust colour to minimun.
1.4 Place colourmeter in the center of screen.
1.5 Using brightness and contrast buttons, select a luminance of 1 20NITS.
1.6 Operating in Service Mode select with ^CH^v the location RED REFERENCE, GREEN REFERENCE or BLUE REFERENCE and with ^◿v adjust to obtain the specific valve of X and Y.
1.7 Exit Service Mode by switching off the MAIN POWER.

NOTE:
Red must not be modified.
Increase of GREEN will decrease "Y".
Increase of BLUE will decrease both "X" and "Y".

**ACCESS TO NVM**

Press CH^ to move in the following secuece: "Y"
ALTER NVM POS
CH^
↓
ALTER NVM VAL
To alter a valve press ^◿v

**CONTRAST ADJUSTMENT**

^◿v is used to adjust the contrast of the following items, TELETEXT MIX MODE CONTRAST, TELETEXT CONTRAST and OSD CONTRAST.

**AUTO INSTALLATION OFF/ON**

When ON is selected the TV will perform the autoisnstallation secuence as soon as service mode is removed.

# SERVICE MANUAL

## ADITIONAL NOTES

**G2 Adjustment.**

In the event that an oscilloscope is not available the following procedure will give a satisfactory way to adjust G2.

1Tune the CTV to a broadcast.
2 Set the G2 to maximun and then reduce it just to extinguish the flyback lines .
3 Reduce the colour saturation to zero.
4 Reduce the contrast to minimun.
5 Reduce the brightness until the picture is just visable
6 Place a voltmeter on the RED cathode and adjust G2 to read 110V+/- 3 V.
7 Return the contrast , brightness and colour to normal and check the picture visually.

**Grey Scale Adjustment**

In the event that a colourmeter is not available , the following procedure will give a satisfactory grey scale adjustment.

1Adjust TINT control for centre position and reduce the colour saturation to zero before entering the SERVICE MODE .
2 Place the CTV in SERVICE MODE .Instructions for this are given on page 4 of the SERVICE MANUAL
3 Select the GREEN reference and adjust to 2C.
4 Select the BLUE reference and adjust to 2C.
5 From this starting position adjust the GREEN and BLUE reference until a satisfactory grey scale is obtained.

Note:

RED reference should not be adjusted ,it should be left at 32

6 Store the new values and exit the service mode by switching OFF