

General Information

1995

CRT: 37SX110Y22-DC05

Remote Control:

Remcon 1498

Door Flap:

21997150105S

Door Catch: 70239120102

Main Power Button:

29297150101S

Specifications

System:	PAL-I
Destination:	UK
Channel Coverage:	UHF 21 - 69 CH
Frequency Range:	UHF 470 - 862Q MHz
Scanning:	
Lines:	625 lines
Horizontal:	15625Hz
Vertical:	50Hz
IF Frequency:	
Video:	39.5MHz
Sound:	33.5MHz
Chroma:	35.07MHz
Vision/Sound Separation:	6.0MHz
Sensitivity:	UHF 80dBuV
Output Power:	Max. 900mW
(Audio)	10% THD 700mW
CRT:	14" (36cm) diagonal, 22.5mm neck diameter 90° deflection angle
Speaker:	50mm x 90mm, 16 ohm
Antenna Impedance:	75 ohm
Power Consumption:	70 watts

Service

Adjustments

Colour Television Alignment Instructions

Please Read Before Attempting Service

- 1: Never disconnect any leads while receiver is in operation.
- 2: Disconnect all power before attempting any repairs.
- 3: Do not short any portion of the circuit while power is on.
- 4: For reasons of safety, all parts replaced should be identical, (for parts numbers see parts list).
- 5: Before alignment the set must be pre-heated for 30 minutes or more and erase magnetism thoroughly from CRT front chassis frame by Degaussing coil.

Test Equipment

- 1: VIF Sweep Generator
- 2: SIF Sweep Generator
- 3: Colour Bar/Dot/Cross Hatch Generator
- 4: DC Power Supply (14V)
- 5: Oscilloscope
- 6: Vacuum Tube Voltmeter
- 7: Voltage Meter
- 8: High Voltage Meter
- 9: Ampere Meter (0.5 Class, DC 3mA Max)

- 10: Demagnetising Coil
- 11: Phillips Pattern Generator
- 12: Frequency Counter
- 13: Continuous Waveform Generator

Tank Coil Alignment

Preparation Step (see fig. 2.)

- 1: Connect OUTPUT lead of VIF Sweep Generator between SA101 pin 4 and GND (80dB).
- 2: Connect lead of FROM DET between TP106 and GND.
- 3: Supply DC +14V to (+) lead of D408.
- 4: Apply a +5.2V DC dummy AGC bias voltage to TP104.

AGC BIAS SUPPLY

DC +12V (+) lead wire to D408

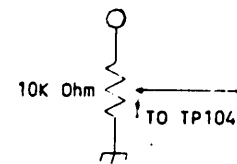


Fig 1.

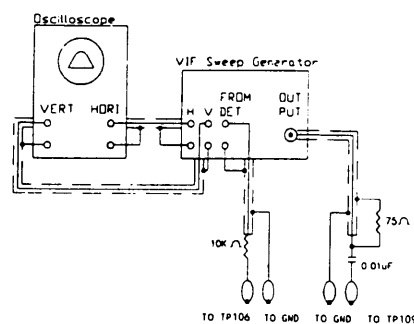


Fig 2.

Alignment Step (see fig. 3)

- 1: Set output level to 6Vp-p.
- 2: Adjust T105 to obtain maximum amplitude of response curve at 39.5MHz as in fig. 3.

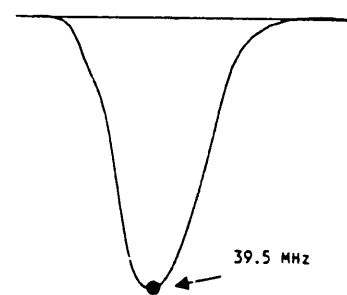


Fig 3.

VIF Alignment

Preparation Step (see fig. 2)

- 1: Connect output lead of VIF Sweep Generator between tuner test point TP and tuner case.
- 2: Connect resistor (100 Ohm) between TP101 and TP102.
- 3: Connect lead of FROM DET between TP106 and GND.

- 4: Short Q301 base to GND and set S102 to OFF mode.
- 5: Supply DC +14V to QUAS lead of D408.
- 6: Supply RF AGC bias voltage to TP104 (see fig. 1).

Alignment Step

- 1: Adjust AGC bias voltage for maximum amplitude of waveform.
- 2: Adjust level of Sweep Generator to achieve 300mV output.
- 3: Increase the output level of Sweep Generator into 20dB.
- 4: Adjust AGC bias voltage to achieve 300mV output (on Oscilloscope).
- 5: Adjust tuner converter coil to obtain the waveform as in fig. 4.

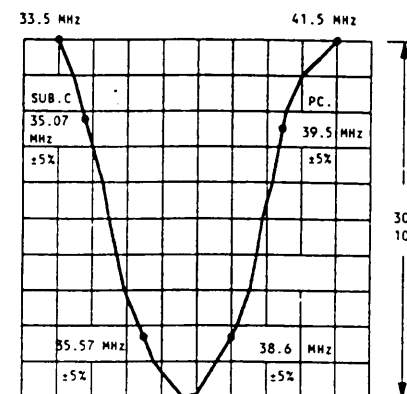


Fig 4.

AFC Alignment

Preparation Step

- 1: Connect FR AGC 5.2V bias voltage at TP104.
- 2: Remove the damping resistor (100 ohm) at TP101, TP102.
- 3: Connect output lead of Sweep Generator to the tuner point TP and tuner case, (70dB).
- 4: Increase the output level of Sweep Generator in 10dB.
- 5: Connect lead of FROM DET between TP107 and GND.
- 6: Supply DC +14V to QUAS lead of D408.

Alignment Step

- 1: Adjust the AGC bias to achieve 3Vp-p output.
- 2: Adjust T106 so that the picture carrier 39.5 MHz is as centred as in Fig. 5.

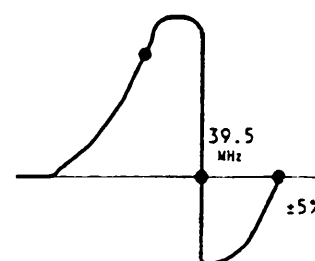


Fig 5.

SIF Alignment

Preparation Step (see fig. 6)

- 1: Connect output lead of SIF Sweep Generator between TP106 and GND.
- 2: Connect lead of FROM DET between TP105 and GND.
- 3: Supply DC +14V to QUAS lead of D408.

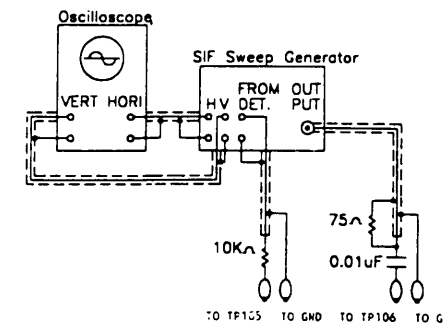


Fig 6.

Alignment Step

- 1: Adjust output of Sweep Generator to achieve 6Vp-p between markers of 100 KHz.
- 2: Adjust T104 so sound carrier is centred as in Fig. 7.

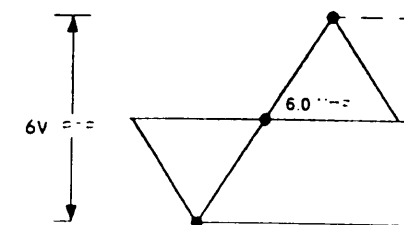


Fig 7.

Colour Demodulator Alignment, Delay Line Alignment

- 1: Receive Phillips pattern.
- 2: Set Contrast control to minimum position.
- 3: Set Colour control to maximum position.
- 4: Connect oscilloscope to TP301 (B-out).
- 5: Adjust CT301 to obtain the waveform as in fig. 8.
- 6: Adjust VR301 to obtain the waveform as in fig. 8.
- 7: Adjust T301 to obtain waveform as in fig. 8.

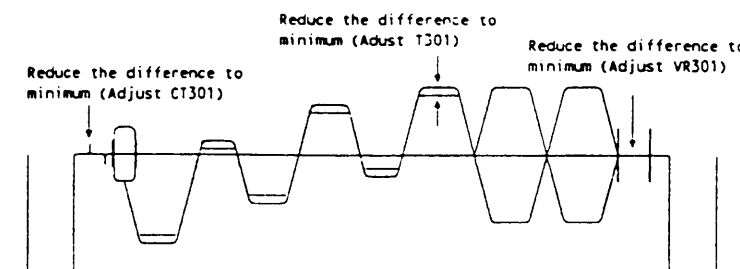


Fig 8.

B+ Adjustment

- 1: Connect the Digital Voltmeter to TP401.
- 2: Adjust semi-fixed resistor VR901 for the reading of DC 112.25V ± 0.25V.

Horizontal Circuit Adjustment

- 1: Receive Monoscope pattern input signal 80dBuV.
- 2: IC301 (pin 28, 29) short by 1K ohm resistor.
- 3: Adjust VR303 to obtain the picture running at centre.
- 4: Remove the 1K ohm resistor.

Vertical Circuit Adjustment

- 1: Receive the Monoscope pattern.
- 2: Connect the Frequency Counter between V-DEFLECTION YOLK and GROUND.
- 3: Connect the lead wire from TP106 to GND.
- 4: Adjust V-HOLD (VR304) to the reading 44Hz.
- 5: Remove the lead wire from TP106 to GND.
- 6: Adjust V-SIZE (VR401) control to obtain a normal picture.

White Balance Adjustment

- 1: Receive a black and white picture signal.
- 2: Turn the red, green and blue LOW-LIGHT (VR501, VR502, VR504) controls to middle position and turn the DRIVE (VR503, VR505) controls to the middle position.
- 3: Turn the SCREEN control on the FBT to minimum position.
- 4: Set the Sub-brightness (VR305) control to middle position, then set the Contrast, Brightness and Colour control to minimum position.
- 5: CN403 (pin 1, 2) with Join together.
- 6: Connect voltmeter between (R508) and ground, and adjust Brightness control to the reading of DC 130V (±2V). If DC 130V cannot be obtained adjust the Sub-brightness control (VR305).
- 7: Slowly turn the SCREEN control clockwise to the point where a horizontal line just illuminates.
- 8: Adjust VR501 to get a red horizontal line on CRT.
- 9: Adjust VR502 to get a yellow horizontal line on CRT.
- 10: Adjust VR504 to get a white horizontal line on CRT.
- 11: Take the Joiner out of CN403.
- 12: Adjust Drive (VR503, VR505) controls to obtain a uniform white picture.

Focus Adjustment

- 1: Set Contrast control to maximum position and Brightness control to middle position.
- 2: Adjust Focus control (on the FBT) to obtain a sharpest and clearest picture on CRT.

RF AGC Alignment

- 1: Receive the signal of BAND-II (VHF HIGH) Channel and set the AFC switch to ON position.
- 2: Set the input field strength in 62 ± 3 dB.
- 3: Adjust RF-AGC control (VR101) to the point where noise has disappeared.

Sub-Brightness Alignment

- 1: Receive Monoscope pattern.
- 2: Set controls as follows: BRIGHTNESS Control - MID position. CONTRAST Control - MID position. COLOUR Control - MID position.
- 3: Adjust the SUB-BRIGHTNESS control (VR305) to get the nine step of the grey scale in the Monoscope pattern.

Colour Purity Adjustment (see fig. 9)

Note: Before all adjustments described below are attempted, V-HOLD, H-HOLD, V-HEIGHT, B+ VOLTAGE and FOCUSING ADJUSTMENT must be completed.

- 1: Place the TV receiver facing North or South.
- 2: Plug in TV receiver and turn it on.
- 3: Operate TV receiver for over 30 minutes.
- 4: Fully degauss the TV receiver by using an external degaussing coil.
- 5: Receive a crosshatch pattern and adjust the static convergence control roughly.
- 6: Loosen the clamp screw of the deflection yoke and pull the deflection yoke towards you.
- 7: Fully turn the red and blue Drive (VR503, VR505) controls counterclockwise.
- 8: Adjust the purity magnets so that green field is obtained at the centre of the screen.
- 9: Slowly push the deflection yoke toward bell of CRT and set it where a uniform green field is obtained.
- 10: Tighten the clamp screw of the deflection yoke.

On Screen Adjustment

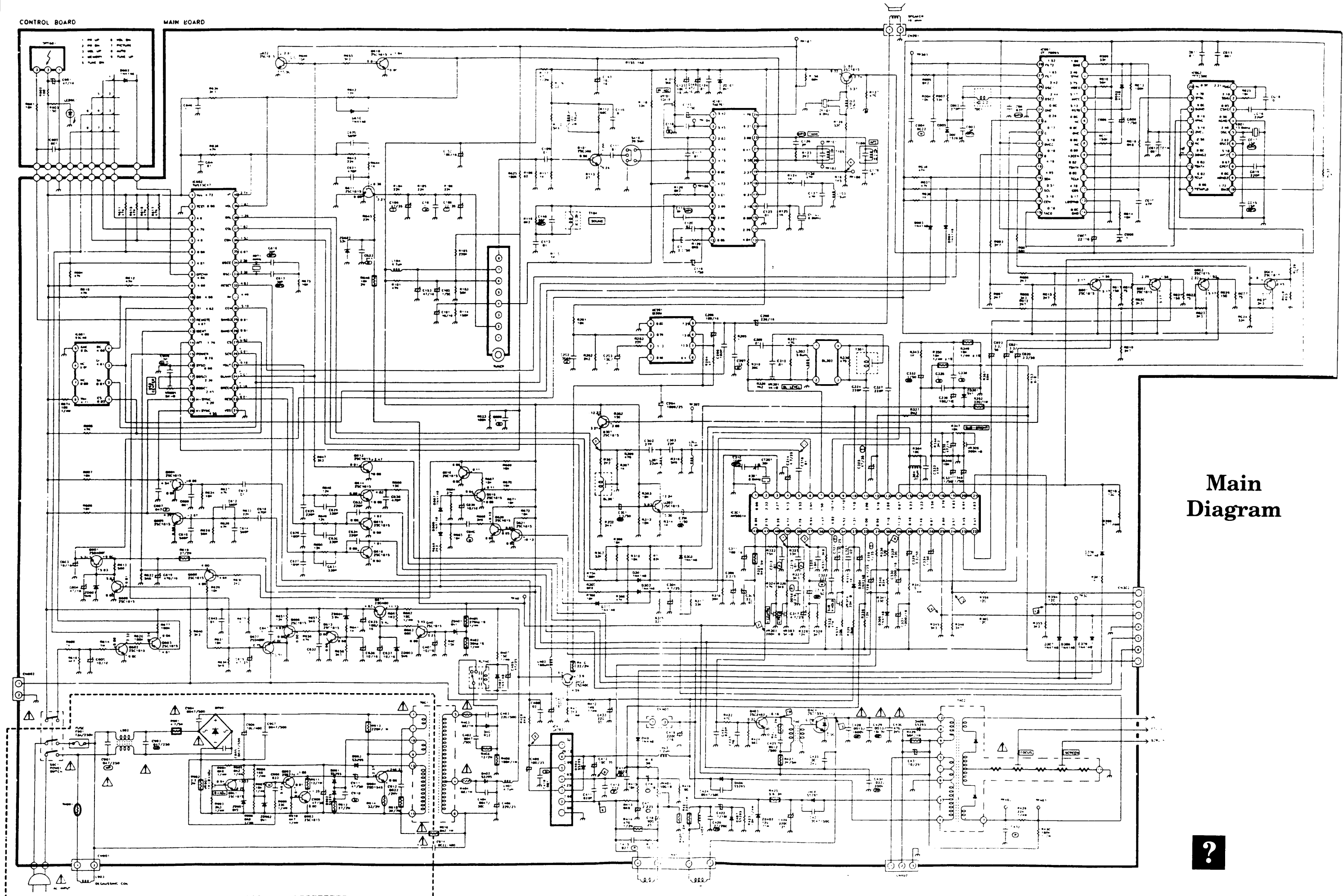
- 1: Receive the Monoscope pattern.
- 2: Adjust on SCREEN (VR601) for adjust the lettering to centre of CRT.

Teletext Picture Alignment

- 1: Receive a pattern with a Teletext signal.
- 2: Select a Teletext page.
- 3: Connect DC voltage meter to TP303 (IC001 pin 28) and GND.
- 4: Adjust T001 to obtain 2.5V ± 0.05V.

Convergence Adjustment (see fig. 9)

- 1: Receive a dotted pattern.



Main
Diagram

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