

General Information

1991

Chassis: BX II

CRT: A51EAL55X01-J2

Remote Control:

RM-C620-KD

Door Flap: CM21742-012-E

Main Power Button:

AEM3025-001-E

Matrix

Item	See Model
Safety Notes	JVC AV-21H1EK

Specifications

TV RF System:	CCIR (1)
Colour System:	PAL, NTSC play back
Receiving Channel & Frequency UHF Band:	(21ch - 69 Ch)
470 MHz - 862 MHz	
Intermediate Frequency	
V IF Carrier:	39.5 MHz
S IF Carrier:	33.5 MHz (6.0 MHz)
Colour Sub Carrier:	4.43 MHz
ANT Input Impedance:	75W unbalanced
Power Input:	220 - 240V AC 50Hz
Power Consumption:	100W (max.) / 70W (avg.)
Picture Tube:	51cm in-line type, flat square tube
Viewable Picture size:	30.5cm (H) x 40.7cm (W)
High Voltage:	28kV \pm 1kV (at zero beam current)
Speaker:	5 x 9 cm Oval type, 4W
Audio Power Output:	5W
Music Power:	7W
21 pin PERI socket (Euro Connector)	
Video Input:	1Vp-p, 75W
Audio Input:	500mV rms high impedance
Video Output:	1Vp-p, 75W
Audio Output:	500mV rms, low impedance
R/G/B Input:	700Vp-p, 75W
S-Video Input (4 pin):	Y: 1Vp-p, 75W positive (negative sync. provided)
Audio Input (RCA pin Jack type):	500mV (-4dBs), high impedance

Recommended Safety Parts

Item	Part No.	Description
R1522, R1534	QRD161J-683Y	C R 68k Ω 1/6W J
R1532	QRD161J-223Y	C R 22k Ω 1/6W J
R1533	QRD143J-6R8SX	C R 6.8k Ω 1/4W J
R1572	QRV141F-7151AY	MF R 7.15k Ω 1/4W F
R1573	QRV141F-2741AY	MF R 2.7k Ω 1/4W F
R1961	QRZ0057-825	C R 8.2M Ω 1W J
C1513	QETC0JM-477Z	E CAP. 470 μ F 6.3V M
C1551	QFZ0081-2801S	M. P. P. CAP. 2800pF 1600V \pm 3%
C1558	QFZ0089-354S	M. P. P. CAP. 0.35 μ F 200V J
C1901, C1902	QFZ9022-473M	M. F. CAP. 0.047 μ F AC 250V M
C1904	QCZ9041-471A	C. CAP. 470pF AC 400V K
C1905, C1906, C1907	QCZ9041-472A	C. CAP. 4700pF AC 400V P
C1961	QCZ9034-102A	C. CAP. 1000pF AC 400V M
C1962	QCZ9041-471A	C. CAP. 470pF AC 400V M

Service Adjustments

Main Circuit

1: B1 Power Supply

Measuring Instrument:

DC Voltmeter

Test Point:

TP-91

Adjustment Part:

B1 ADJ. VR

Description:

- 1: Connect a tester to TP-91 and TP-E (h) to check that the voltage is DC 115V.

* The tester must have an internal resistance of 20kW /V or above.

2: Sub Bright, Sub Contrast

Adjustment Part:

Sub Bright, Sub Contrast

Description:

- 1: Obtain optimum pictures by adjusting Sub Bright VR and Sub Contrast VR.

* Avoid excessive brightness.

3: Noise (RF AGC)

Adjustment Part:

Noise VR

Description:

- 1: Turn the noise VR fully counter-clockwise (or clockwise) so that the noise is synchronised with the pictures. Then slowly turn the Noise VR clockwise (or counter-clockwise) and stop it when the noise disappears.
- 2: Change the channel, and check that no trouble is encountered.

* This adjustment should be made when noise is annoying, when such symptoms are detected as stripe-pattern interference in weak field areas, inter-modulation noise in strong field areas, and horizontal stretching of pictures.

4: V. Height

Adjustment Part:

V. Height VR

Description:

- 1: Receive a picture that enables vertical symmetry to be checked.
- 2: Using the V Height VR reduce the picture vertically.
- 3: Upon adjusting with the V Height VR, return the picture to normal vertically.

* Pictures that enable vertical symmetry to be checked should be circles and crosshatches.

4: Focus

Adjustment Part:

Focus VR

Description:

- 1: Adjust the Focus VR to obtain clear pictures.
- 2: Check that pictures have been adjusted to optimum appearance in both central and peripheral areas of the screen.

5: Chroma Circuit

Measuring Instrument:

Oscilloscope, Pattern Generator (PAL)

Test Point

TP-48 (Y-axis)

TP-49 (X-axis)

Adjustment Part:

DL Amp, DL P Transf., Discri transf.

Description:

PAL

- 1: Receive a PAL colour bar signal and set the oscilloscope at the X-Y mode and then connect CH-1 (X-axis) to TP-49 and CH 2 (Y-axis) to TP-48 respectively.
- 2: Short the C317 capacitor with a jumper wire and connect pin 24 and 26 of IC201 with 5.6kW resistor. See Lissajous' fig. 1.
- 3: Adjust the colour control knob so that the figure is not saturated.
- 4: adjust the DL Amp VR so that the figure is altered to (B) from (A).
- 5: Adjust the DL P Transf (T303) so that the figure is altered to (C) from (B).
- 6: Repeat adjustments 4 and 5 more than twice.
- 7: Remove the shorted jumper wire and 5.6kW resistor from pin 24 and 26 of IC201.
- 8: Then adjust the Discri Transf (T302A: Burst cleaning) so that the figure is minimised to (E) from (D).

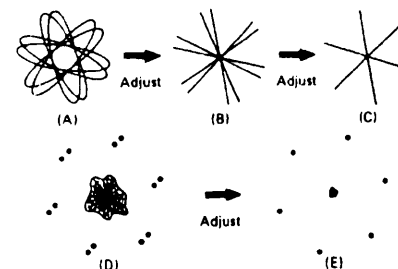


Fig 1.

Auto Search Circuit

1: Search Adjustment

Measuring Instrument:

DC Voltmeter

Test Point

Pin 12 of IC01 Anode side of D002

Adjustment Part:

Search Adj. 1 VR, Search Adj. 2 VR

Description:

* Carry out these adjustments in a non signal state.

- 1: Connect a voltage meter to pin 12 of IC01 on the Auto Search PC Board and adjust Search Adj. 1VR until the voltage is DC 3V \pm 0/2v.
- 2: Then connect the voltage meter to D002 (anode side) and adjust Search Adj. 2VR until voltage is DC 8.2V \pm 0.1V.

Peri Module Circuit

1: Peri Sub Bright

Adjustment Part:

Peri Sub Bright VR

Description:

* While connecting Peri input the A/V Terminal.

- 1: Set the contrast and brightness control knobs to central position.
- 2: Then align the Peri Sub Bright VR until an ideal picture is obtained.

2: G. Gain and B. Gain

Adjustment Part:

Green Gain VR, Blue Gain VR

Description:

While connecting Peri input, adjust Green Gain VR and Blue Gain VR in the Peri circuit until a best White picture is obtained.

CRT Socket Circuit

1: White Balance (Black and White Tracking)

Adjustment Part:

R. Drive VR, G. Drive VR, R. Cut Off VR, G Cut Off VR, B Cut Off VR, Screen VR (HTV)

Description:

- 1: Display a monochrome pattern.
- 2: Set the Red and Green Drive VRs for their mechanical centre.
- 3: Turn the Red, Green and Blue Cut Off VRs and the Screen VR fully counter-clockwise.
- 4: Display a horizontal line. (Select the Cut Off Service Switch from N to S and a horizontal line will appear).
- 5: Turn Screen VR slowly clockwise until a very faint horizontal line appears.
- 6: Turn the Cut Off VR of the colour which has appeared first, clockwise by about 10° and then adjust the Screen VR again so that the colour may shine faintly.
- 7: Turn the other colour Cut Off VRs slowly clockwise until a reasonable white line appears.
- 8: Return the monochrome pattern. (When returning a monochrome pattern select the Cut Off Service Switch from S to N and a monochrome pattern will appear).
- 9: Adjust the Red and Green Drive VRs for best white highlights.

* Horizontal Line
How to use the Cut Off Service Switch.

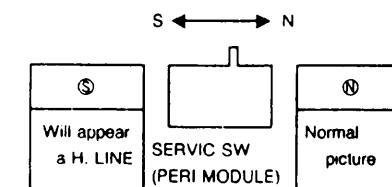


Fig 2.

Purity, Convergence & White Balance

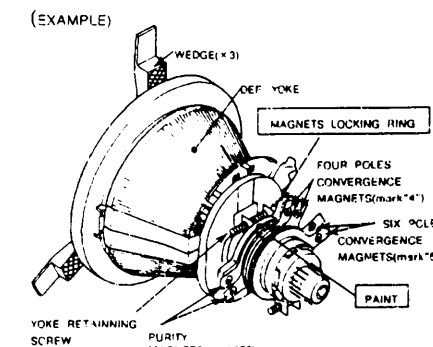
The locations of Service Switch, Screen VR, Cut Off VR and Drive VR are described in the Alignment Location of Service Adjustment on the Schematic Diagram.

Picture Tube

The picture tube is a precision in-line gun type. For this picture tube, dynamic convergence is carried out by a precision deflection yoke which eliminated the use of convergence yoke and convergence circuit. The adjustment of picture tube is therefore made easier as only the adjustment of static convergence by using a magnetic is enough. The deflection yoke and purity/convergence magnets assembly has been set at the factory and requires no field adjustments. However, should line assembly be accidentally jarred or tampered with, some or all adjustments may be necessary.

Colour Purity & Vertical Centre

Loosen yoke retaining screw (fig. 3). With a sharp knife cut between the picture tube and the wedge. Remove wedges completely and clean off dried adhesive from the picture tube. PAINT is used to lock the tabs of the purity/convergence magnet assembly in place (fig. 3). The paint must be removed with the end of a screwdriver before any adjustments are attempted.



* Fig 3
For models equipped with a magnet locking ring, beforehand loosen it.

- 1: Select no signal UHF channel. (or display a monochrome pattern).
- 2: Let the purity tabs come in line horizontally as is shown in fig. 4. A long tab should be in the same direction as the other short tab.

(REAR VIEW)

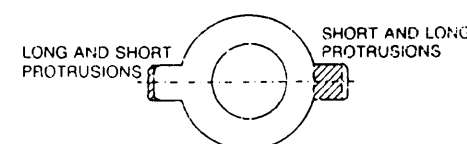


Fig 4. Let the protrusions come in line

Service Adjustments Cont'd.

- 3: Move the yoke slowly backward.
- 4: Turn the Green Cut Off VR to maximum and the Red and Blue Cut Off VRs to minimum. Then adjust the Screen VRs that the green band can be seen best (fig. 5).

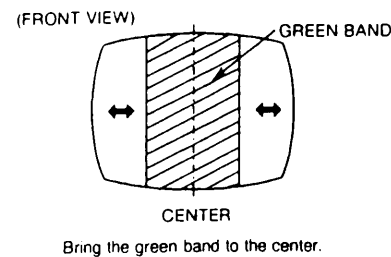
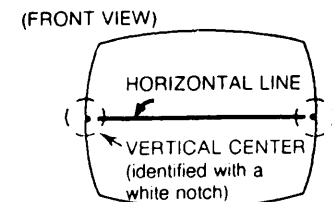


Fig 5.

- 5: Rotate the two tabs in opposite directions and with them kept at an angle, together in either direction so that the green band is centred on the picture tube.
- 6: Check the vertical centre position by displaying a horizontal line. (Select the Cut Off Service Switch from N to S and a horizontal line will appear). Unless correct, bring it to the nearest centre by rotating the two tabs, kept at an angle, together in either direction (fig 6).



Bring the horizontal line nearest to the white notches shown in the dotted circles.

Fig 6.

- 7: Repeat steps 5 and 6 alternately until the green band and the vertical centre come to the centre.
- 8: Move the yoke slowly towards the bell of the tube so that the whole surface of the picture tube is filled with a green pure raster.
- 9: Turning Red or Blue Cut Off VR to maximum and Green Cut Off VR to minimum, make sure of a red or blue pure raster.
- 10: Secure yoke retaining screw (do not secure wedges at this time).

* As to models equipped with a magnet locking ring, secure it and keep 6 magnets from moving even if it is touched slightly.

Static Convergence & Dynamic Convergence

- 1: Connect a crosshatch generator to the input terminals and adjust brightness and contrast control for a distinct pattern.
- 2: Adjust the 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 (figs. 7, 8 & 9).
- 3: Rotate the front pair of tabs (four pole convergence magnet) as a unit to minimise the separation of the red and blue lines around the centre of the screen. To adjust the convergence of red and blue, vary the angle between the tabs (fig. 7).

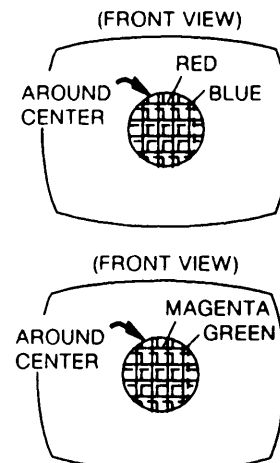


Fig 7.

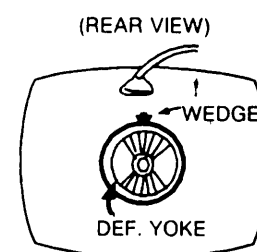
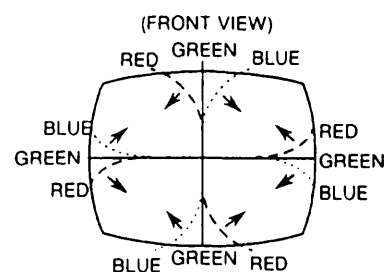


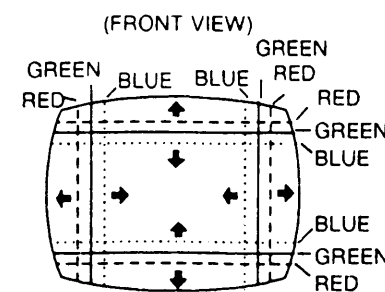
Fig 8.



Tilting the yoke upward will move the lines as shown with the arrows.

Fig 9.

- 4: Rotate the rear pair of tabs (six pole convergence magnets) as a unit to minimise the separation of the magenta (R/B) and green lines (fig. 7).
- 5: Adjust the spacing of the rear tabs to converge the magenta and green lines.
- 6: Apply paint to fix six magnets. (As to models equipped with a magnet locking ring, tighten it).
- 7: Remove the wedge installed temporarily on the yoke.
- 8: Tilting the angle of the yoke, up, down and sideways, and adjusting the yoke so as to obtain the circumference convergence (fig. 9 and 10).



Tilting the yoke to the right will move the lines as shown with the arrows.

Fig 10.

- 9: Insert wedges into the position as shown in fig. 11 to obtain the best circumference convergence.

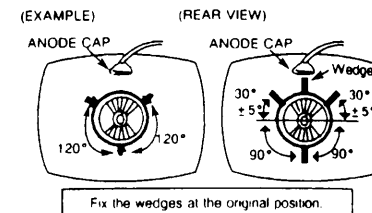


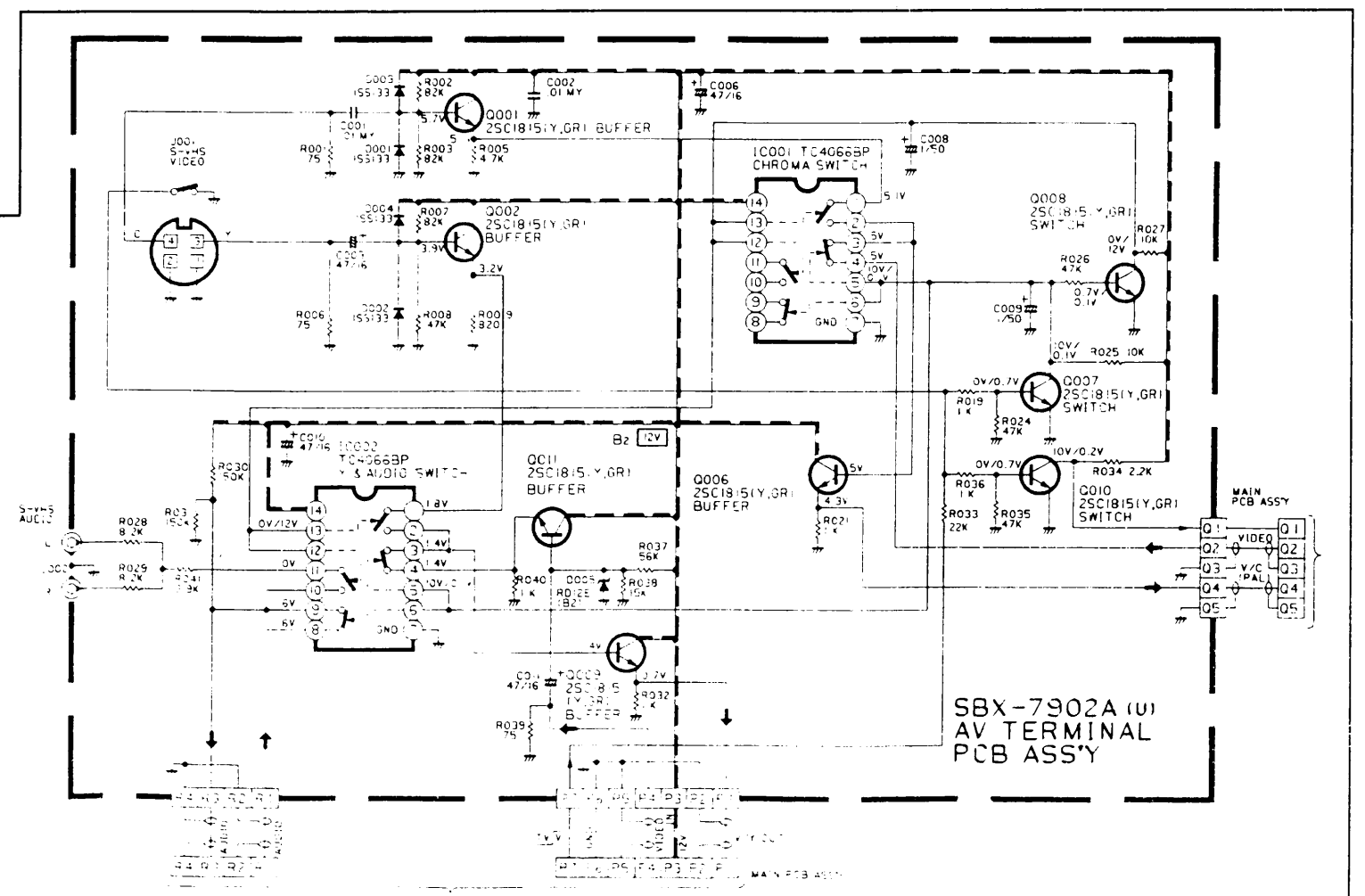
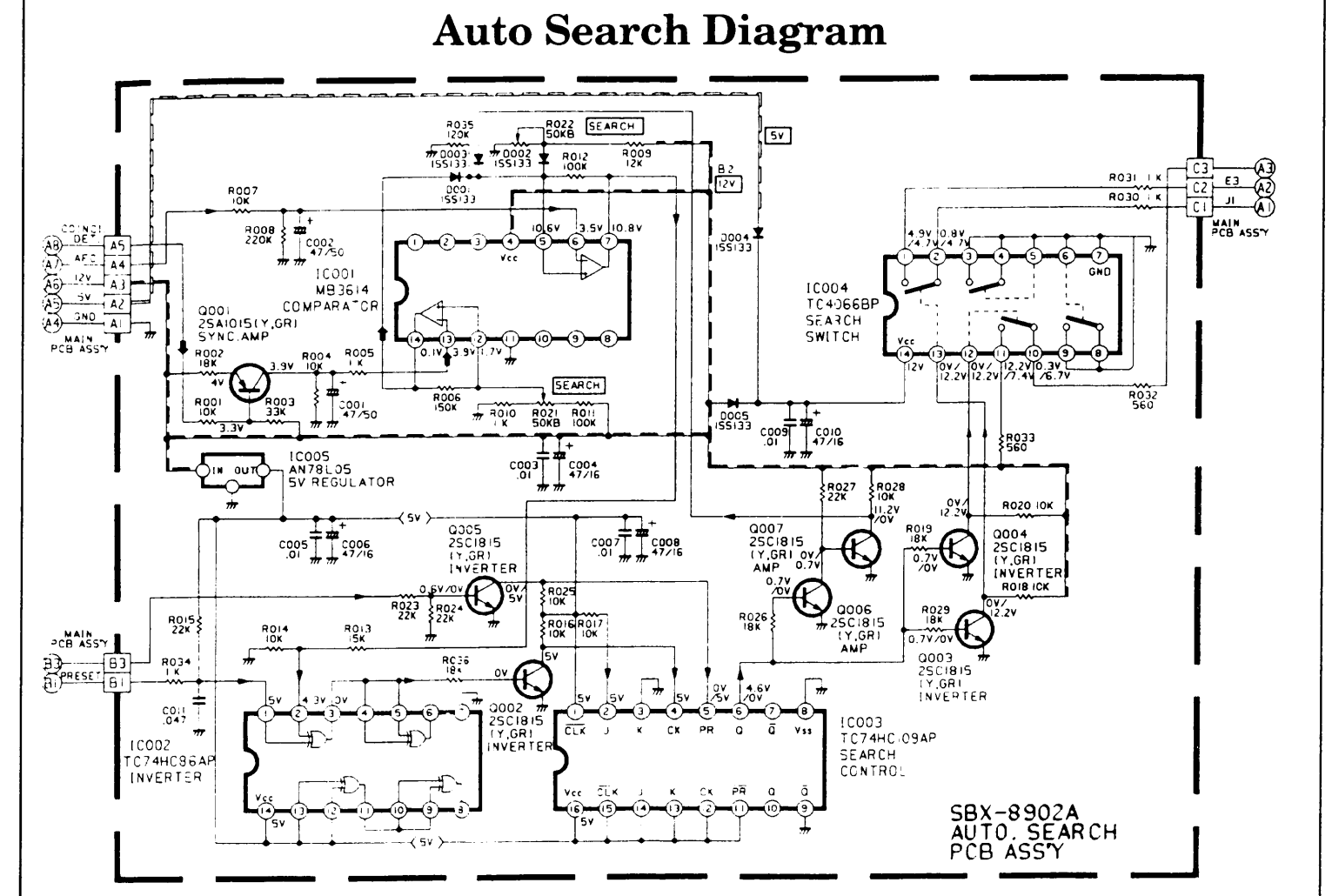
Fig 11.

- 10: Wedge has a backing of double sided adhesive tape. Therefore, tear off one side of adhesive tape and fix the wedges.
- 11: White balance adjustment (black and white tracking) can now be performed.

White Balance Adjustment (Black & White Tracking)

- 1: Display a monochrome pattern.
- 2: Set the Red and Green Drive VRs for their mechanical centre.
- 3: Turn the Red, Green and Blue Cut Off VRs and the Screen VR fully counter-clockwise.
- 4: Display a horizontal line (Select the Cut Off Service Switch from N to S and a horizontal line will appear).
- 5: Turn Screen VR slowly clockwise until a very faint horizontal line appears.
- 6: Turn the Cut Off VR of the colour which has appeared first, clockwise by about 10° and then adjust the Screen VR again so that the colour may shine faintly.
- 7: Turn the other colour Cut Off VRs slowly clockwise until a reasonable white line appears.
- 8: Return the monochrome pattern (When returning a monochrome pattern select the Cut Off Service Switch from S to N and a monochrome pattern will appear).
- 9: Adjust the Red and Green Drive VRs for best white highlights.

AV Terminal Diagram



Main
Diagram

