MATSUI 25 M1

General Information

Chassis: EB2-A (Sanyo)
Also Covers: Matsui 28 M1

Matrix

Item	See Model	Book
IF Adjustments	Sanyo CB 5149	4
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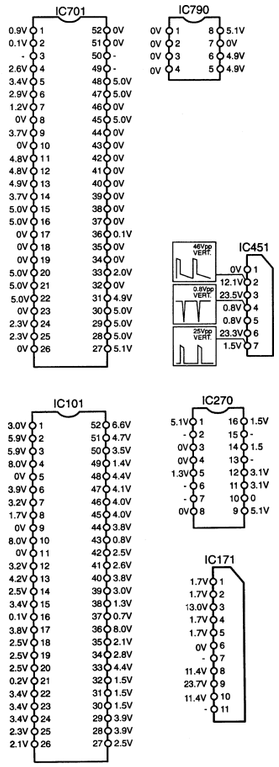
Block Diagram	Sanyo CB 5957	4
Electrical Adjustments	Sanyo CB 5957	4
IC Voltages	Sanyo CB 5959	4
Text PCB	Sanyo CB 5959	4
NICAM Diagram	Sanyo CB 5959	4

Recommended Safety Parts

Item	Part No.	Description			
Q901	414 008 6405	CRT A59ECF20X05			
L901	645 003 0031	COIL,DEGAUSSING			
	645 003 0062	COIL,DEGAUSSING			
W901	645 000 2458	CORD,POWER			
K601	610 233 7990	CRT SOCKET			
C301	404 047 3602	MT-POLYEST	0.1U	M	125V
	404 044 0901	MT-COMPO	0.1U	M	250V
C302	404 047 3602	MT-POLYEST	0.1U	M	125V
	404 044 0901	MT-COMPO	0.1U	M	250V
C331	404 060 6505	CERAMIC	2200P	M	400V
	404 060 6604	CERAMIC	2200P	M	400V
C420	404 044 1502	MT-POLYPRO	6200P	J	1.5K
	404 046 8806	MT-POLYPRO	6200P	J	1.5K
C423	404 040 8109	MT-POLYPRO	5600P	J	1.5K
	404 040 7805	MT-POLYPRO	5600P	J	1.5K
C441	403 082 7804	POLYPRO	0.18U	J	200V
C442	403 082 6906	POLYPRO	0.12U	J	200V
R301	401 008 8607	CARBON	220K	JA	1/2W
R331	402 000 8305	SOLID	5.6M	KA	1/2W
R332	402 000 8305	SOLID	5.6M	KA	1/2W
T381	610 033 3758	POWER TRANS			
	610 240 4722	POWER TRANS			
T471	645 003 3094	TRANS,FLYBACK			
L301A	610 221 6912	LINE FILTER			
D315	407 105 8700	PHOTO COUPLE	PC113B		
	408 009 8407	PHOTO COUPLE	CNY17F-30PT6		
F301	423 022 2102	FUSE	250V	4A	
PS301	408 013 3801	TH PTH 451C262BF140M270			
SW301	645 003 6811	SWITCH,PUSH POWER 2P-2T			
Q901	414 008 6306	CRT A66ECF20X05			
L901	645 003 0048	COIL, DEGAUSSING			
	645 003 0055	COIL, DEGAUSSING			
W901	645 000 2458	CORD, POWER			
C301	404 047 3602	MT-POLYEST	0.1U	M	125V
	404 044 0901	MT-COMPO	0.1U	M	250V
C302	404 047 3602	MT-POLYEST	0.1U	M	125V
	404 044 0901	MT-COMPO	0.1U	M	250V
C331	404 060 6505	CERAMIC	2200P	M	400V
	404 060 6604	CERAMIC	2200P	M	400V
C420	404 060 7809	MT-POLYPRO	6000P	J	1.5K
	404 060 7908	MT-POLYPRO	6000P	J	1.5K
C423	404 040 8109	MT-POLYPRO	5600P	J	1.5K
	404 040 7805	MT-POLYPRO	5600P	J	1.5K
C441	403 082 7804	POLYPRO	0.18U	J	200V
C442	403 082 7408	POLYPRO	0.15U	J	200V
R301	401 008 8607	CARBON	220K	JA	1/2W
R331	402 000 8305	SOLID	5.6M	KA	1/2W
R332	402 000 8305	SOLID	5.6M	KA	1/2W
T311	645 003 2998	TRANS POWER PULSE			
T471	645 003 3094	TRANS, FLYBACK			
L301A	610 221 6912	LINE FILTER			
D315	407 105 8700	PHOTO COUPLE PC113B			
	408 009 8407	PHOTO COUPLE CNY17F-30PT6			
F301	423 022 2102	FUSE	250V	4A	
PS301	408 013 3801	TM PTH451C262BF140M270			
SW301	645 003 6811	SWITCH,PUSH POWER 2P-2T			

Main Diagram IC's Voltage Charts & Waveforms (25 M1 only)



Q312	VOLT.	WAVEFORM
B	-1.4V	6.6Vp-p
C	-1.1V	5.0Vp-p
E	0V	

Q313	VOLT.	WAVEFORM
B	-1.1V	5.0Vp-p
C	-	660Vp-p
E	0V	

Q431	VOLT.	WAVEFORM
B	0.2V	1.0Vp-p HORIZ.
C	11.2V	60Vp-p HORIZ.
E	0V	

Q432	VOLT.	WAVEFORM
B	0.1V	12Vp-p HORIZ.
C	-	1100Vp-p HORIZ.
E	0V	

Q601	VOLT.	WAVEFORM
B	2.0V	2.8Vp-p HORIZ.
C	143V	91Vp-p HORIZ.
E	1.5V	

Q611	VOLT.	WAVEFORM
B	2.2V	3.4Vp-p HORIZ.
C	144V	100Vp-p HORIZ.
E	1.8V	

Q621	VOLT.	WAVEFORM
B	2.1V	3.2Vp-p HORIZ.
C	145V	94Vp-p HORIZ.
E	1.7V	

Q640	VOLT.
B	0.9V
C	0V
E	1.5V

IC191	VOLT.
1	9.6V
2	0V
3	5.0V

IC351	VOLT.
1	14.5V
2	0V
3	11.7V

IC352	VOLT.
1	10.7V
2	0V
3	8.0V

Q101	VOLT.
B	1.2V
C	5.3V
E	0.5V

Q102	VOLT.
B	5.2V
C	9.1V
E	4.7V

Q122	VOLT.
B	3.1V
C	8.1V
E	2.4V

Q124	VOLT.
B	2.4V
C	0V
E	3.1V

Q160	VOLT.
B	0.4V
C	5.4V
E	0V

Q171	VOLT.
B	0V
C	12.9V
E	0V

Q700	VOLT.
B	8.0V
C	0V
E	5.0V

Q702	VOLT.
B	0.6V
C	0V
E	0V

Q703	VOLT.
B	0.6V
C	0.1V
E	0V

Q704	VOLT.
B	0.1V
C	29.0V
E	1.8V

Q708	VOLT.
B	4.4V
C	5.0V
E	5.1V

Q711	VOLT.
B	0.5V
C	5.3V
E	0V

Q714	VOLT.
B	0V
C	5.1V
E	0.1V

Q721	VOLT.
B	0V
C	5.1V
E	0.3V

Q722	VOLT.
B	0V
C	5.1V
E	0V

Q202	VOLT.
B	0.6V
C	0.1V
E	0V

Q203	VOLT.
B	0V
C	0V
E	0V

Q311	VOLT.
B	9.5V
C	-1.4V
E	9.9V

Q353	VOLT.
B	6.8V
C	29.0V
E	6.2V

Q381	VOLT.
B	5.7V
C	15.7V
E	5.1V

Q434	VOLT.
B	0V
C	4.9V
E	0V

Q443	VOLT.
B	7.7V
C	0.7V
E	7.8V

Q461	VOLT.
B	0.5V
C	9.1V
E	0V

Q462	VOLT.
B	9.7V
C	0V
E	9.1V

Q781	VOLT.
B	3.3V
C	8.0V
E	2.8V

Q800	VOLT.
B	0.1V
C	0V
E	0V

Q801	VOLT.
B	0.9V
C	11.7V
E	0.3V

Q802	VOLT.
B	0V
C	5.1V
E	0V

Q803	VOLT.
B	0V
C	0V
E	0.6V

Q804	VOLT.
B	0.6V
C	11.7V
E	0.1V

Q805	VOLT.
B	0V
C	0.6V
E	0V

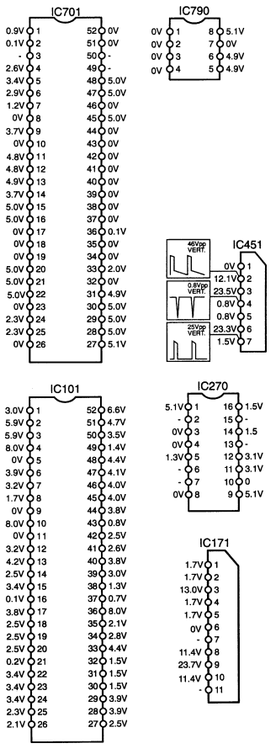
Q806	VOLT.
B	6.4V
C	11.7V
E	5.7V

Q808	VOLT.
B	7.1V
C	11.7V
E	6.6V

Q809	VOLT.
B	7.1V
C	11.7V
E	6.6V

Q810	VOLT.
B	3.9V
C	11.7V
E	3.2V

Main Diagram IC's Voltage Charts & Waveforms (28 M1 only)



IC191	VOLT.
1	9.6V
2	0V
3	5.0V

IC351	VOLT.
1	14.5V
2	0V
3	11.7V

IC352	VOLT.
1	10.7V
2	0V
3	8.0V

Q101	VOLT.
B	1.2V
C	5.3V
E	0.5V

Q102	VOLT.
B	5.2V
C	9.1V
E	4.7V

Q122	VOLT.
B	3.1V
C	8.1V
E	2.4V

Q124	VOLT.
B	2.4V
C	0V
E	3.1V

Q160	VOLT.
B	0.4V
C	5.4V
E	0V

Q171	VOLT.
B	0V
C	12.9V
E	0V

Q700	VOLT.
B	8.0V
C	0V
E	5.0V

Q702	VOLT.
B	0.6V
C	0V
E	0V

Q703	VOLT.
B	0.6V
C	0.1V
E	0V

Q704	VOLT.
B	0.1V
C	29.0V
E	1.8V

Q708	VOLT.
B	4.4V
C	5.0V
E	5.1V

Q711	VOLT.
B	0.5V
C	5.3V
E	0V

Q714	VOLT.
B	0V
C	5.1V
E	0.1V

Q721	VOLT.
B	0V
C	5.1V
E	0.3V

Q722	VOLT.
B	0V
C	5.1V
E	0V

Q202	VOLT.
B	0.6V
C	0.1V
E	0V

Q203	VOLT.
B	0V
C	0V
E	0V

Q311	VOLT.
B	9.5V
C	-1.4V
E	9.9V

Q353	VOLT.
B	6.8V
C	29.0V
E	6.2V

Q381	VOLT.
B	5.7V
C	15.7V
E	5.1V

Q434	VOLT.
B	0V
C	4.9V
E	0V

Q443	VOLT.
B	7.7V
C	0.7V
E	7.8V

Q461	VOLT.
B	0.5V
C	9.1V
E	0V

Q462	VOLT.
B	9.7V
C	0V
E	9.1V

Q781	VOLT.
B	3.3V
C	8.0V
E	2.8V

Q800	VOLT.
B	0.1V
C	0V
E	0V

Q801	VOLT.
B	0.9V
C	11.7V
E	0.3V

Q802	VOLT.
B	0V
C	5.1V
E	0V

Q803	VOLT.
B	0V
C	0V
E	0.6V

Q804	VOLT.
B	0.6V
C	11.7V
E	0.1V

Q805	VOLT.
B	0V
C	0.6V
E	0V

Q806	VOLT.
B	6.4V
C	11.7V
E	5.7V

Q808	VOLT.
B	7.1V
C	11.7V
E	6.6V

Q809	VOLT.
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E	1.7V	

Q640	VOLT.
B	0.9V
C	0V
E	1.5V

Q312	VOLT.	WAVEFORM
B	-1.4V	6.6Vp-p
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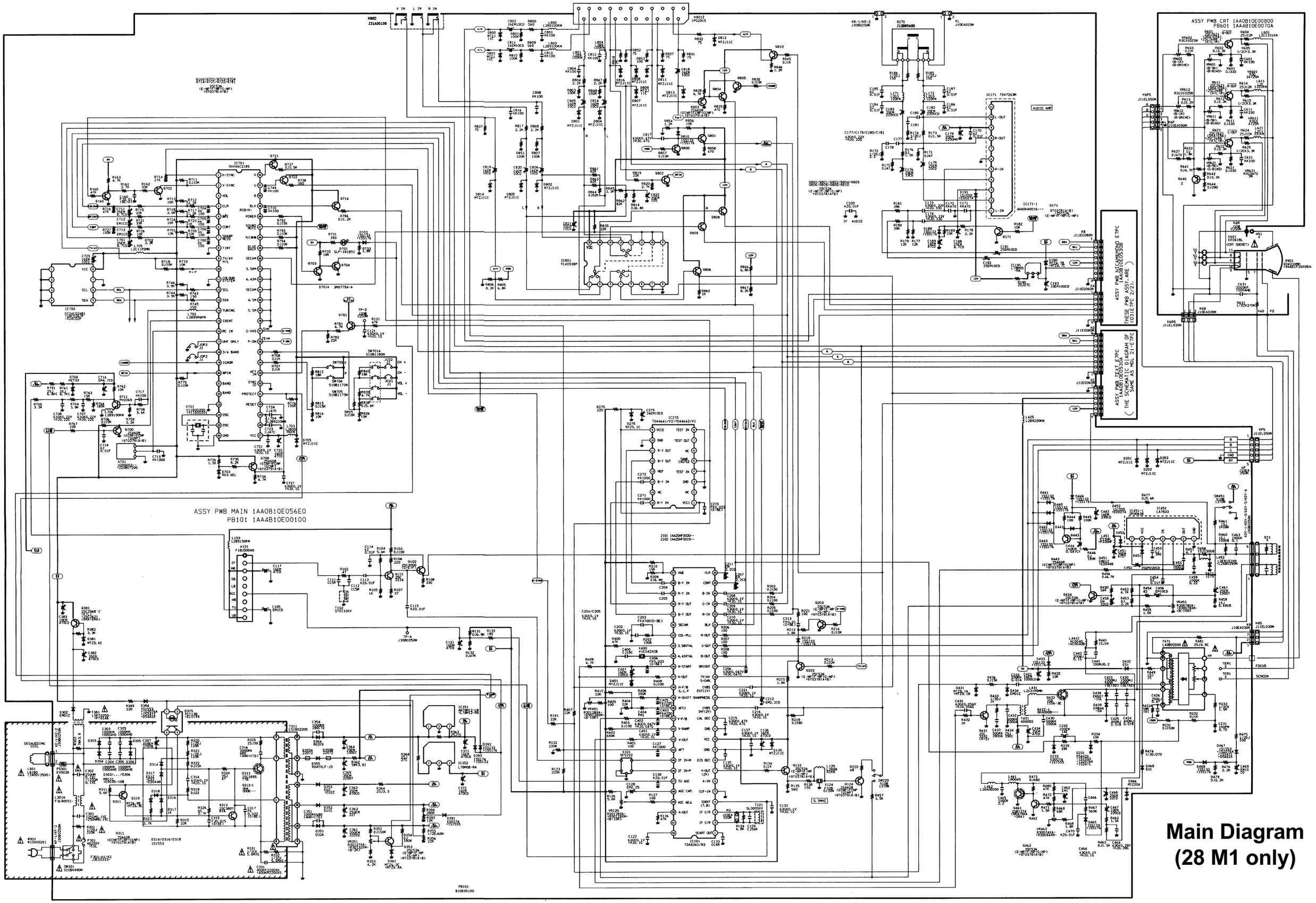
E	0V	

Q313	VOLT.	WAVEFORM
B	-1.1V	5.0Vp-p
C	-	660Vp-p
E	0V	

Q431	VOLT.	WAVEFORM
B	0.2V	1.0Vp-p HORIZ.
C	11.2V	60Vp-p HORIZ.
E	0V	

Q432	VOLT.	WAVEFORM
B	0.1V	12Vp-p HORIZ.
C	-	1100Vp-p HORIZ.
E	0V	

Main Diagram (25 M1 only)



Safety Parts / Main Diagram IC's Voltage Charts & Waveforms (25 M1 only) / (28 M1 only) / Main Diagram (25 M1 only) / (28 M1 only)

SANYO CB 5149

Circuit Alignment

VIF Alignment

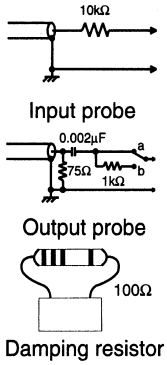
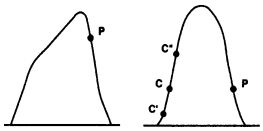


Fig 1.

Setting	Detector Adjustment	CH Trap Adjustment
DCl5V	IC351-1	IC351-1
AGO Voltage	lC101-48p	lC101-48p
Output Probe	Tuner TP (side B)	Tuner TP (side B)
Input Probe	Q124-E	124-E
Band	No	No
Damping R	No	KU1 & KU-2
System SW	I	I
Sweep ATT	25	25
Adjustment	By using T121 adjust "P' to be maximum amplitude	By using Tuner converter coil and T101, make the marker positions to: P = 30 +/- 10% C = 30 +/- 10%

VIF Waveform



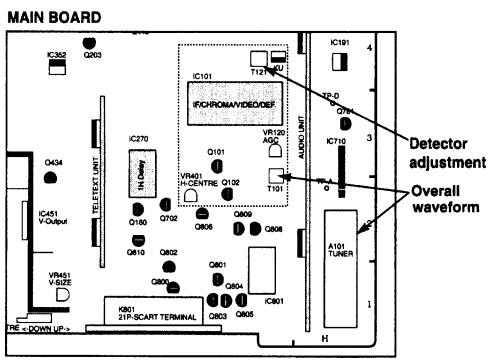


Fig 2.

SIF Alignment

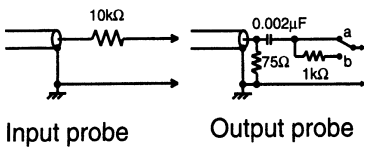
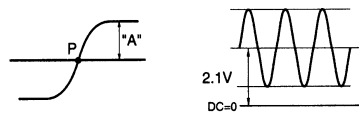


Fig 3.

Setting	Detector Adjustment	CH Trap Adjustment
DC 15V	IC901 -15 pin	IC901-15pin
AGC Voltage	IC901 -3 pin	-
Output Probe	IC901-1 pin (side B)	IC901-12pin (side B)
Input Probe	IC901-14pin	IC901-6pin
Sweep ATT	10	(Condition)
Marker Frequency	39.5 Mhz	Carrier freq.: 6.0mhz Modulation freq.: 1khz (sine w/f)
Adjustment	1: Adjust AGC voltage to be "A"=0.5Vp-p 2: By using adjust "P" to be equal centre line	By using T902 adjust DC level to be 2.1V

VIF Waveform



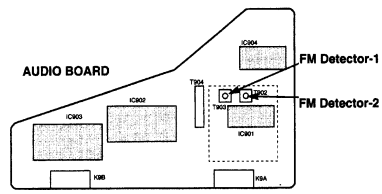


Fig 4.

Memory IC Replacement (Important Notice)

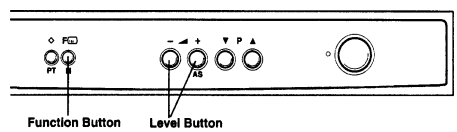


Fig 5.

When you replace a memory IC (IC790), it is necessary to initialise the IC as follows.

Initialisation of Memory IC

1: When you press and hold the Function button on the TV set and then press the Recall button on the RC transmitter, the following picture will appear on the screen. (fig. 6)

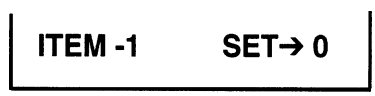


Fig 6.

2: Confirm SET number of all items is "0" by pressing the Function button.
3: If it is not "0" change to "0" by the Level (+/-) button. (Changing the SET number, automatically memorised).
4: Press the Recall button to return to normal TV mode.

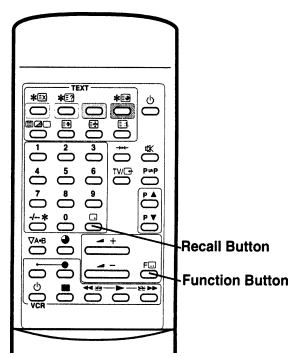


Fig 7.

SANYO CB 5957

Service Adjustments

Service Control Adjustment

B1 Power Supply Adjustment

1: Set VR351 to be mechanical centre before pressing the main switch.
2: Tune the receiver to PAL circular pattern.
3: Set brightness and contrast controls to normal.
4: Connect digital voltmeter to R791 (VR351 side).
5: By using VR351, adjust voltage to 130 ± 0.5V (for 21'). By using VR351, adjust voltage to 150 ± 0.5v (for 25" and 28").

AFT Adjustment
1: Tune the receiver to the clearest station.
2: By using T121, adjust AFT to obtain best picture.

AGC Adjustment
Note: Do not attempt this adjustment with a weak signal.
1: Tune the receiver to the clearest station.
2: Set AGC VR (VR120) in direction which causes snow noise to appear, then in the opposite direction until snow noise just disappears.

Grey Scale Adjustment

(Screen VR Adjustment)
1: Tune the receiver to white pattern.
2: Set brightness control to display centre and contrast control to normal.
3: Set SW220 to 'SERVICE" position.
4: Set VR602 and VR61 2 to be mechanical centre.
5: Turn VR601, VR611 and VR621 fully counter-clockwise.
6: Set screen VR for one colour to be just visible.
(Bias VR Adjustment)
7: By using VR601, VR611 or VR621, adjust line until white.
8: Set SW220 to "NORMAL" position.
(Drive VR Adjustment)
9: By using VR602 and VR612, adjust white balance.

High Voltage and Width Adjustment (High Voltage Adjustment)
1: Tune the receiver to PAL circular pattern.
2: Set brightness and contrast controls to maximum.
3: Connect digital voltmeter to both terminals of R232 (left side) (+)' and a high voltage meter to the CRT anode.
4: Confirm high voltage to be 25.0 ± 1 kV at beam current 1 .0, and less than 28.0 kV at 0 beam current (for 21"). Confirm high voltage to be 26.0 ± 1 kV at beam current 1.1 and less than 29.0kV at 0 beam current (for 25" and 28").
(H-Width Adjustment)
5: If H-width is too wide or narrow, connect or disconnect a lead wire J150 (for 21"). Adjust VR462 to obtain proper H-width (for 25" and 28").
6: Reconfirm high voltage.

H-Centre Adjustment

1: Tune the receiver to the circular pattern.
2: Adjust H-centre by using VR4O1.

V-Centre Adjustment

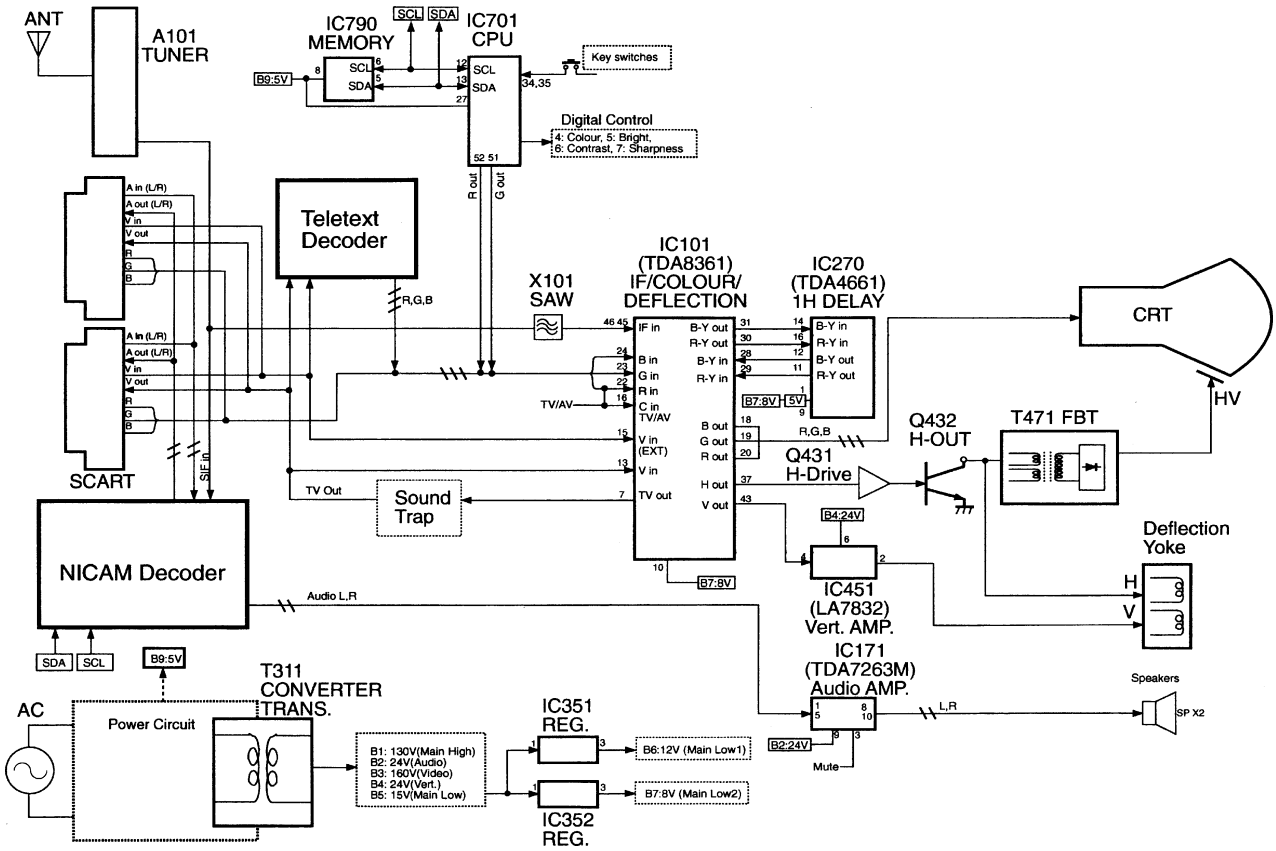
1: Tune the receiver to circular pattern.
2: Adjust V-centre by using 5W451.

V-Size Adjustment

1: Tune the receiver to the circular pattern.
2: Adjust V-size by using VR451.

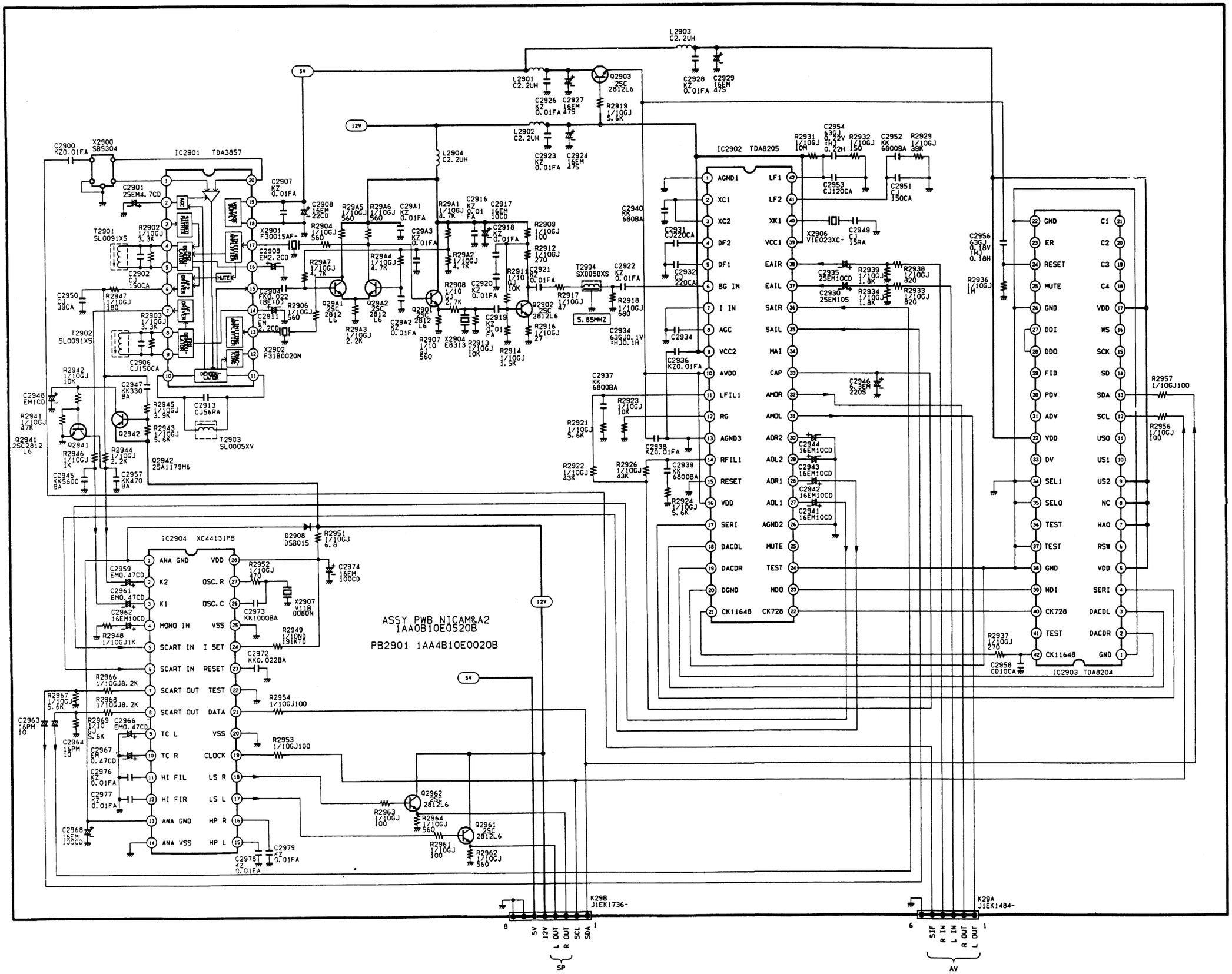
Focus Adjustment

By using FOCUS VR, adjust focus control for good scanning lines.



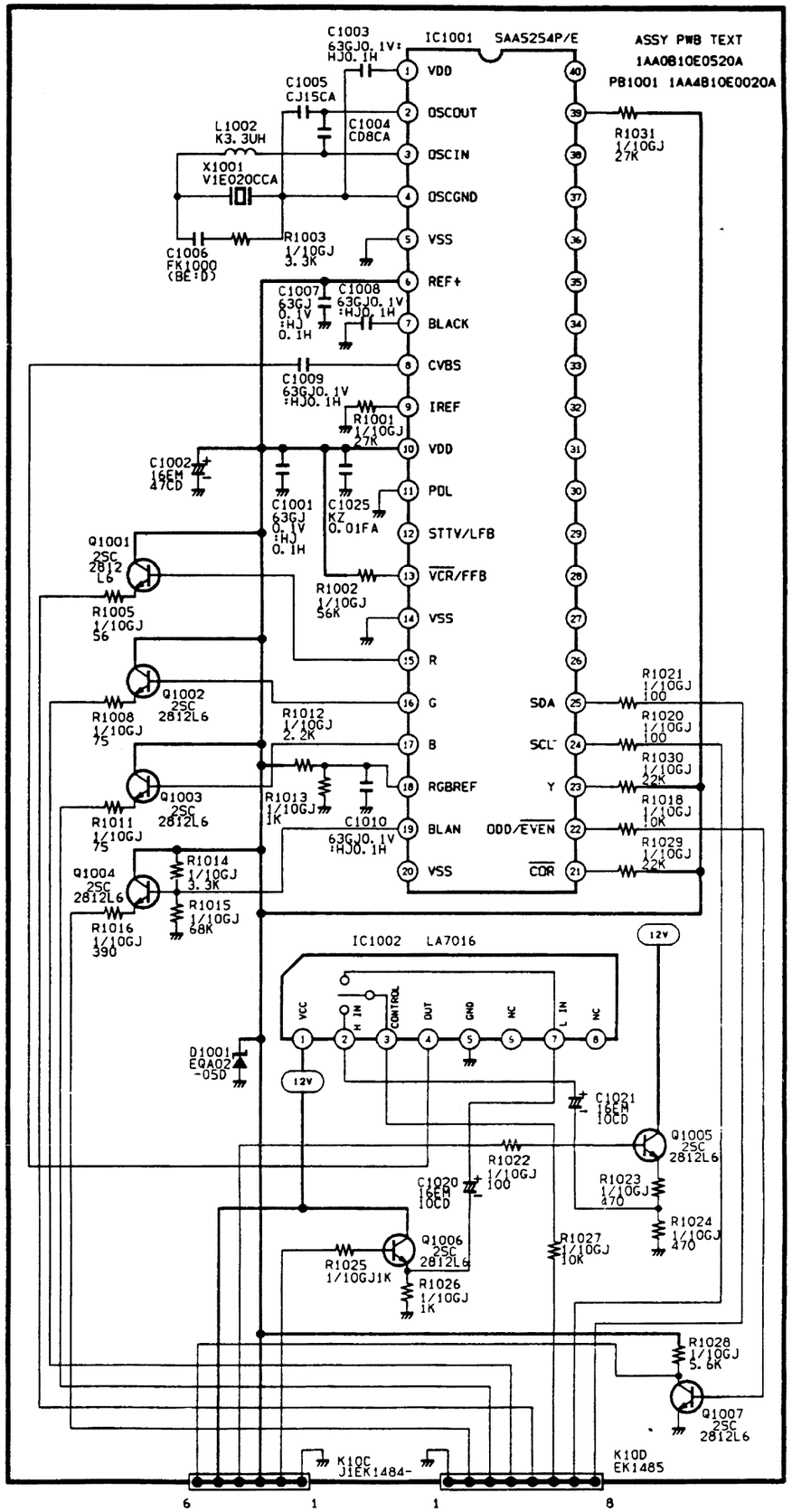
SANYO CB 5959

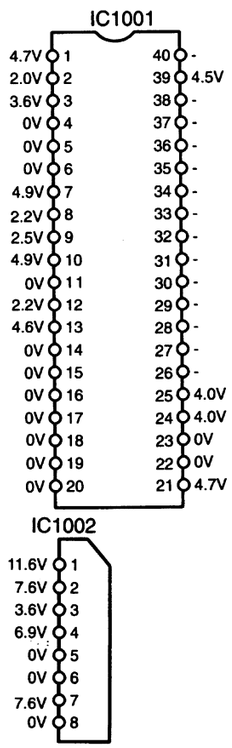
NICAM Diagram



SANYO CB 5959

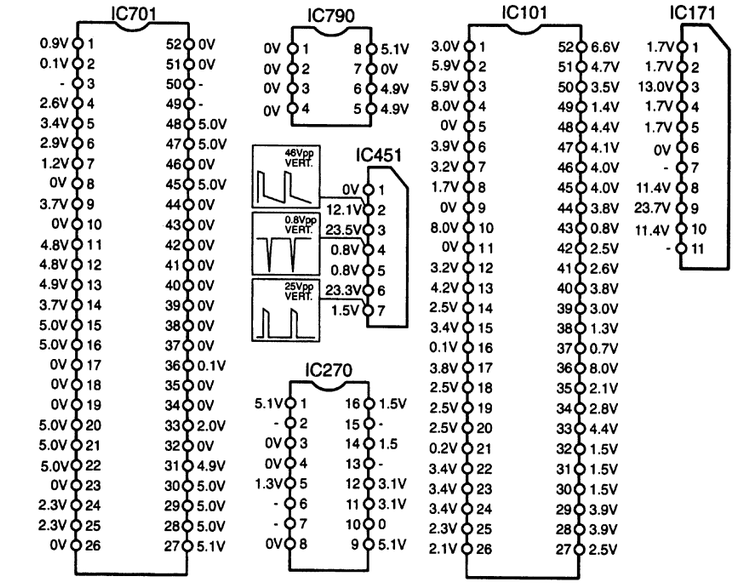
Block Diagram





IC Diagrams

Main



Audio