



SERVICE MANUAL

CTM805SV

80 cm CTV

SPECIFICATION

SUPPLY VOLTAGE : AC220V 50Hz $\geq + 10\%$ / -20%

SYSTEM :	PAL - I / I	PAL - BG	PAL - I (UK)	PAL - SECAM - BG / DK	PAL - SECAM - BG / DK (HYPER)	PAL - BG (HYPER)	PAL - BG (CATV)	SECAM - L	L'	
CHANNEL L - VHF : H - VHF : UHF :	4 - 13 21 - 69	2 - 4 5 - 12 21 - 69	21 - 69	1 - 5 6 - 12 21 - 69	1 - 5 6 - 12 21 - 69	E2 - S10 E5 - S41 E21 - E69	E2 - S2 E5 - S20 E21 - E69	1 - Q 21 - 69	FB - FC	CH CH CH
VIF FREQUENCY :	38.9	38.9	39.5	38.0	38.9	38.9	38.9	38.9	32.7	MHz
SIF FREQUENCY :	32.9	33.4	33.5	31.5 32.5	32.4 33.4	33.4	33.4	32.4	39.2	MHz
CHROMA IF FREQUENCY :	34.47	34.47	35.07	33.57 33.57	34.47 34.47	34.47	34.47	34.47		MHz
INTER-CARRIER FREQUENCY :	6.0	5.5	6	6.5 5.5	5.5 6.5	5.5	5.5	6.5	6.5	MHz
SCANNING HORIZONTAL : VERTICAL :	15625 LINE 50 Hz									
ANTENNA INPUT IMPEDANCE :	75 OHM									
CRT :	25" 28" 29" 34"									

<u>ITEMS OF MEASUREMENT</u>	<u>STANDARD</u>	<u>UNIT</u>
VIDEO SENS. AT S/N 30db L - VHF	≤ 57	dbuv
H - VHF	≤ 57	dbuv
UHF	≤ 60	dbuv
SOUND SENS. AT S/N 30db L - VHF	≤ 42	dbuv
H - VHF	≤ 42	dbuv
UHF	≤ 48	dbuv
AGC CHARACTER	≥ 60	db
SELECTIVITY -1.5 MHz	≥ 35	db
+ 8 MHz	≥ 40	db
COLOR SENS.	≤ 45	dbuv
COLOR LOCK - IN RANGE	$\geq \pm 300$	Hz
VERTICAL LOCK - IN RANGE	≥ 6	Hz
HORIZONTAL LOCK - IN RANGE	≥ 400	Hz
MAX BRIGHTNESS	≥ 100	cd/m ²
MAX OUTPUT POWER	≥ 4.5	W
OUTPUT POWER AT 10% THD	≥ 3.5	W
BUZZ	≤ -40	db
AFC RANGE	$\geq +1$	MHz
	≥ -0.5	MHz
MIN. VOL HUM	≤ 20	mV
RESOLUTION HORIZONTAL	≥ 300	LINES
VERTICAL	≥ 400	LINES
LINEARITY DISTORTION VERTICAL	≤ 10	%
HORIZONTAL	≤ 10	%
RASTER DISTORTION	≤ 5	%
REMOTE CONTROL DISTANCE	≥ 5	METER
ANGLE	$\geq \pm 15$	DEGREE
POWER CONSUMPTION (AT NORMAL CONDITION)	≤ 120	WATTS
POWER CONSUMPTION (AT MAX. CONDITION)	≤ 150	WATTS
CONVERGENCE DISLOCATION AT AREA "A"	≤ 0.4	%
AREA "B"	≤ 0.8	%
(see fig.1)		

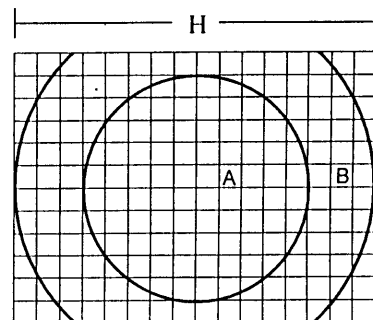


Fig.1

VIDEO INPUT LEVEL : 1.0V P-P \pm 3dB
 AUDIO INPUT LEVEL : 0.5V RMS \pm 3dB

ALIGNMENT INSTRUCTION

I. 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 safety reasons, all parts replaced should be identical, (for parts and part 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 erase coil. (Except IF, SYNC, COLOR, SECAM, B+, SOUND)

II. TEST EQUIPMENT

- | | |
|---|---|
| 1. VIF Sweep Generator | 7. Volt Ohmmeter |
| 2. SIF Sweep Generator | 8. High Voltage Meter |
| 3. Colour Bar, Dot, Cross Hatch Generator | 9. Ampere Meter (0.5 Class, DC 3mA Max) |
| 4. DC Power Supply | 10. Demagnetizing Coil |
| 5. Oscilloscope | 11. Philips Pattern Generator |
| 6. Vacuum Tube Voltmeter | 12. High Pot Tester |

III. VIF ALIGNMENT

- A. Preparation step. (see fig.2a)
1. Connect Sweep Generator to tuner test point and Ground.
 2. Connect 16V \pm 1V Bias Voltage to C429 (+) and Ground, CN904 PIN3 (PIN4 or CN905) and Ground.
 3. Connect A.G.C. Bias Voltage to IC201 PIN48 and Ground.
*A.G.C. Bias Voltage can't over 5V. (see fig.2b)
 4. Disconnect the soldering pads 'H'.

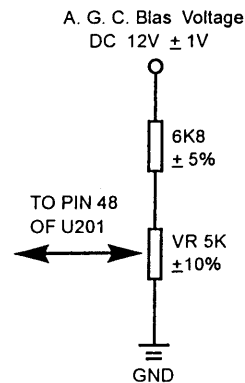
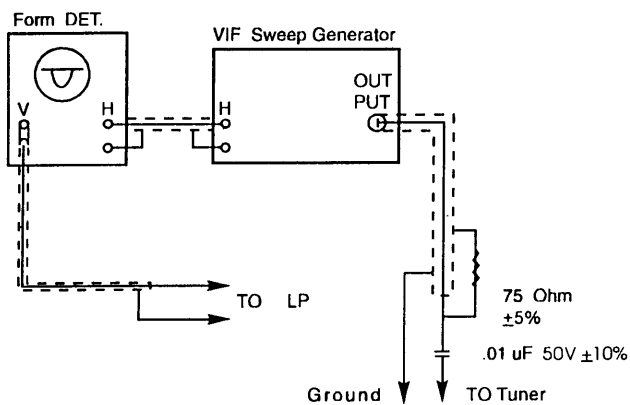


Fig. 2b

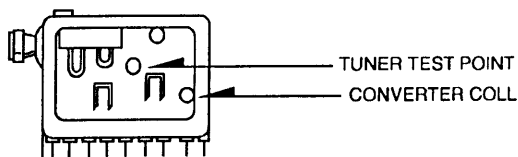


Fig. 2a

B. Alignment Step

1. Calibrate the division of Sweep Generator equal to 100mV per div.
2. The output of Sweep Generator should be $-50\text{dB} \pm 10\text{dB}$.
3. Connect the Waveform Detector to Pin7 of IC201 and Ground.
4. Connect 100ohm ($\pm 5\%$) resistor between Q206 PINB and IC201 PIN10 (only for secam L / L' version).
5. Adjust A.G.C. Bias to maintain the waveform achieve 1V p-p $\pm 10\%$.
6. Adjust T204 to obtain maximum amplitude of response cause at PC (BG = 38.9MHz, I = 39.5MHz, BG / DK = 38.0MHz).
7. Connect 100ohm ($\pm 5\%$) resistor between TP201 and TP202.
8. Adjust tuner converter coil to obtain waveform as Fig.3.
9. Soldering the pads 'H' and disconnect the 100ohm resistors.

REMARK: No need to proceed step 7 and 8, when using Samsung or Telefunken Tuner.
Point (C.C) and point (P.C) have $\pm 0.5\text{div}$ tolerance.

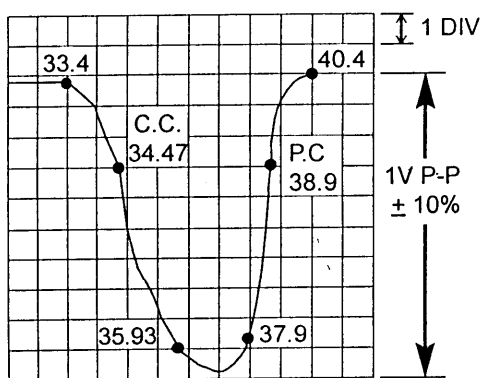


Fig.3

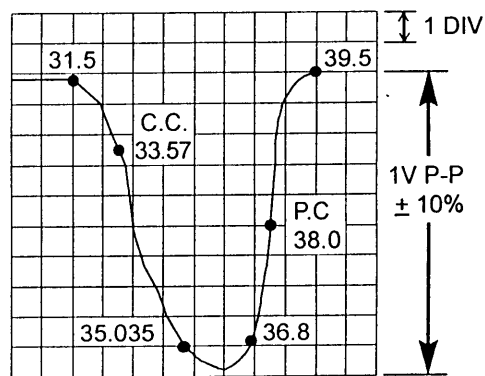


Fig.3

SYSTEM: PAL - BG
PAL - BG / DK
(W/HYPER BAND)

SYSTEM: PAL - BG / DK
(W/O HYPER BAND)

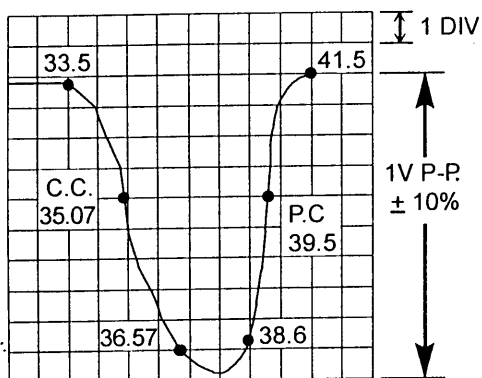


Fig.3

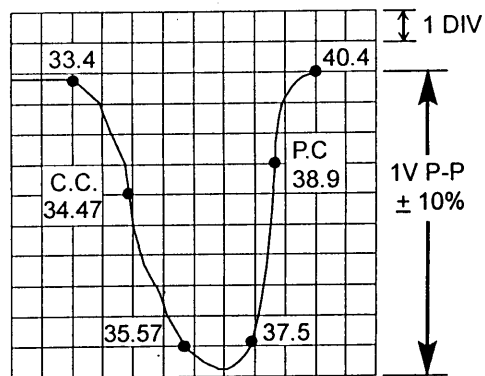


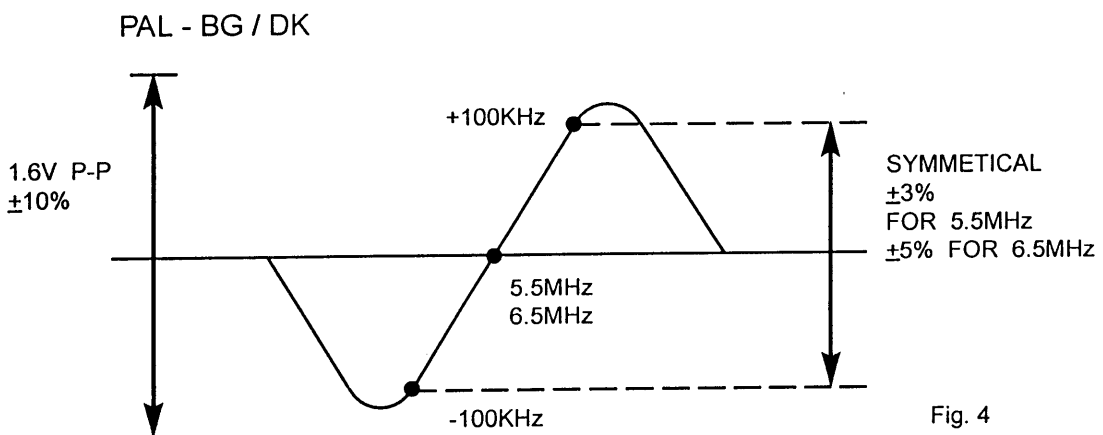
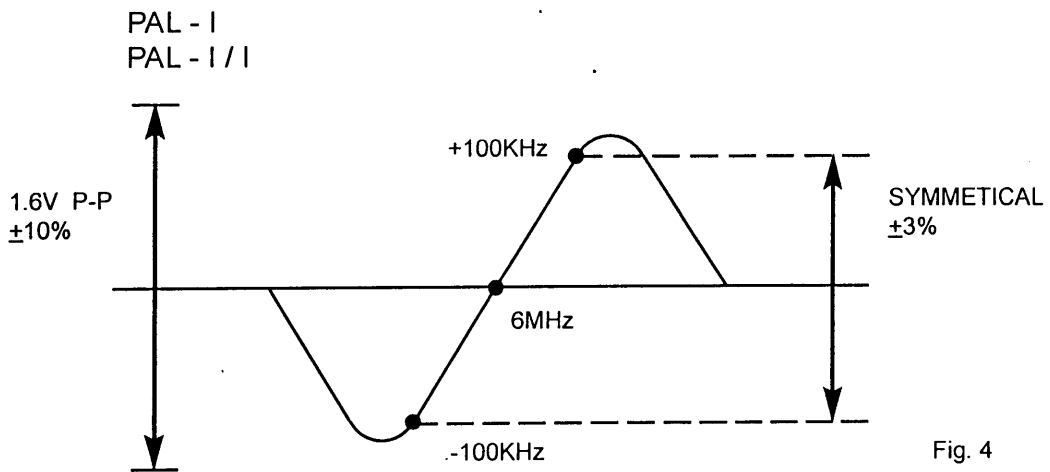
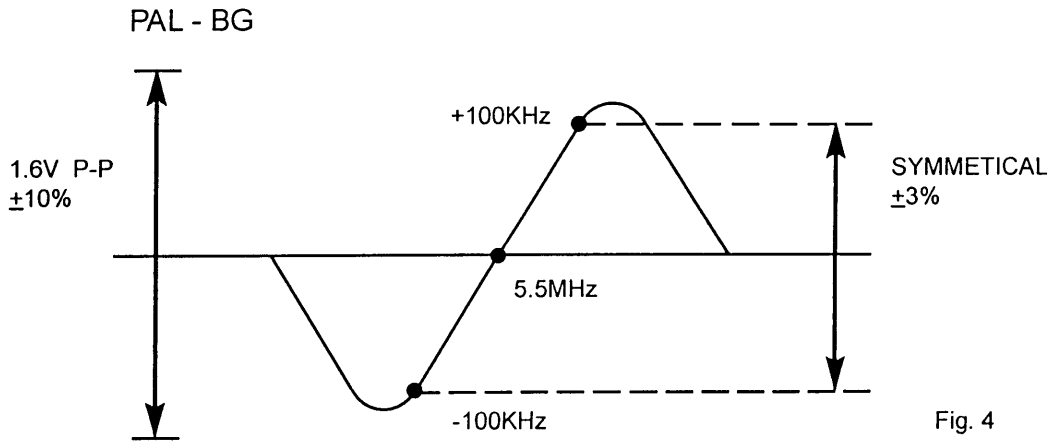
Fig.3

SYSTEM: PAL - I

SYSTEM: PAL - I / I

IV. SIF ALIGNMENT

1. Connect the Sweep Generator to IC208 Pin17 and Ground.
2. Connect Waveform Detector to Pin9 of IC208 and Ground.
3. The output of Sweep Generator should be $-10\text{dB} \pm 5\text{dB}$.
4. Adjust T202 to obtain the waveform as Fig.4.



V. SIF ALIGNMENT (FOR G.STEREO)

1. Connect the Sweep Generator to IC208 Pin17 and Ground.
2. Connect Waveform Detector to Pin8 of IC208 and Ground.
3. The output of Sweep Generator should be $-10\text{dB} \pm 5\text{dB}$.
4. Adjust T203 to obtain the waveform as Fig.5.
(If haven't Waveform. Set the TACT - SWITCH S609 to SYS - 1 position)

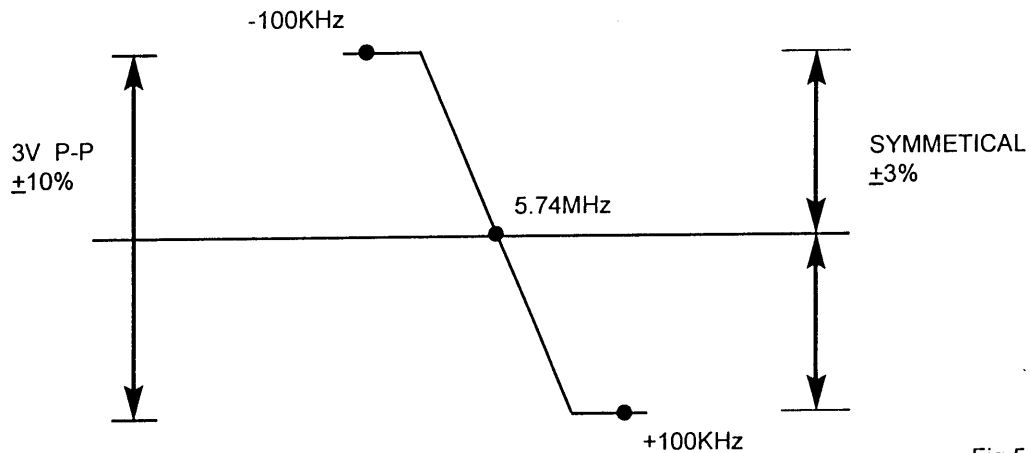


Fig.5

VI. AFC ALIGNMENT

1. Apply Pal IF signal modulated with a colour bar pattern to Tuner IF out and Ground.
(Field strength = $80 \pm 3\text{dB}$)
2. Connect digital voltmeter to Pin44 of IC201 and Ground.
3. Adjust T204 to obtain a reading of $3.75\text{V} \pm 0.25\text{V}$.

VII. SOUND TRACKING ALIGNMENT

1. Receive a gray scale pattern.
2. Connect a oscilloscope and monitor IC208 Pin17 and Ground.
3. Adjust T201 to obtain the waveform Fig.6.

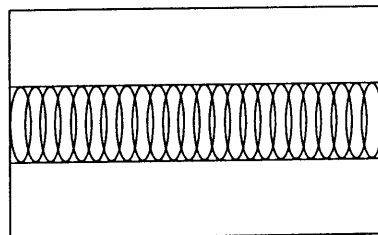


Fig.6

Remark: All frequency of Marker points are $\pm 0.2\%$ tolerance.

VIII. SEPARATION ALIGNMENT (FOR G.STEREO)

1. Receive color bar pattern (with stereo sound L 3KHz, R 1KHz)
2. Connect digital multimeter to PIN1 at CN302 and GND.
3. Adjust volume control to obtain a 0.89Vrms .
4. Switch off the left channel signal (3KHz) from the Signal Generator.
5. Adjust VR001 to make a minimum output level.

B+ ADJUSTMENT

1. Connect a digital voltmeter to B+ and Ground.
2. Set Brightness, Contrast and colour to minimum.
3. Adjust Screen Volume on FBT and VR101 until the picture can just be seen.
4. Adjust VR901 and obtain a reading of $140V \pm 1V$. ($143V$ For 28" THOMSON CRT)
($145V$ For 34" VIDEO COLOR CRT)

AGC ALIGNMENT

1. Receive CH69 (UHF) and input field strength. (see Fig.7)
2. Connect a digital voltmeter between the TUNER AGC TERMINAL and Ground.
3. Adjust the AGC variable resistor (VR201) to maximum position, and then adjust the VR until the AGC voltage drop down $0.4V$.
(1/ The drop down voltage should be more than and tends to $0.4V$)
(2/ No observable noise can be seen)

TUNER MODEL NO.	RF INPUT SIGNAL(dB)	TUNER MODEL NO.	RF INPUT SIGNAL(dB)
ENV598B7F2	62 ± 2 dB	OSCAR 2900KKC	60 ± 2 dB
UVC6201-RC	57 ± 2 dB	HBC3300KHC	60 ± 2 dB
UVC8303-RW	57 ± 2 dB	TBD1CAB14	60 ± 2 dB
UVL1812-AW	57 ± 2 dB	TECC1986VA0618	60 ± 2 dB
UVC1401-EW	57 ± 2 dB	TBD1-HYPV15A	60 ± 2 dB
TBQ-5-32	57 ± 3 dB	UVE33-W24/R16-8649	60 ± 2 dB
TBQ 8-12	57 ± 3 dB	UVE50-AW04D	60 ± 2 dB
VISHZUZ51	60 ± 2 dB		

Fig.7

HORIZONTAL CIRCUIT ADJUSTMENT

1. Receive Monoscope Pattern input signal $70dB \pm 10dB$.
2. Adjust VR202 to obtain the picture at center $\pm 2mm$.
(Specification show in Fig.8)

VERTICAL CIRCUIT ADJUSTMENT

1. Receive the Monoscope Pattern.
2. Adjust VR401 to obtain a normal picture.

WHITE BALANCE ALIGNMENT STEP

(Degauss the picture by degaussing coil if necessary)

1. Turn the Brightness, Contrast and Screen Volume to minimum value.
2. Turn VR603 to middle position. Turn VR601, 602, 604, and 605 to minimum position.
3. Receive a black and white pattern.
4. Connect a digital meter between Red Gun and Ground on the CRT Board.
5. Adjust VR101 to obtain a CRT cut off voltage. ($170V \pm 3V$) / ($180V$ For 34" $\pm 3V$)
6. Adjust Screen volume on FBT until the brightness bar can just be seen.
7. Adjust VR601, 602, 604 and 605 to obtain a uniform white picture ($9300^{\circ}K + 27M.P.C.D$) ($X = 0.281$, $Y = 0.311$).

SUB - BRIGHTNESS ALIGNMENT

1. Receive a colour bar pattern.
2. Turn the brightness, contrast and colour to minimum.
3. Adjust VR101 until the brightness bar can just be seen.

FOCUS ALIGNMENT

- 1) Set the Brightness and Contrast to middle position.
- 2) Receive a monoscope pattern.
- 3) Adjust focus control to obtain sharpest picture.

EAST - WEST CORRECTION ADJUSTMENT

- 1) Receive a crosshatch and centre cross pattern.
- 2) Turn the Brightness, Contrast to middle position.
- 3) Adjust VR402 to get normal regular picture.
- 4) Adjust VR403 to get a proper horizontal width. (90% +2%)

NTSC EAST WEST CORRECT ADJUSTMENT

- 1) Receive crosshatch pattern and center cross pattern, input signal.
- 2) Turn the brightness, contrast to middle position.
- 3) Adjust VR404 to get a normal regular picture.

HIGH POT TESTING

- 1) Short the L - pole and N - pole of AC line cord.
- 2) Switch on the power switch of the TV Set.
- 3) Connect The High Pot Tester (-) to L and N pole, (+) to the METAL PART of CABINET.

SAFETY STD. / CONDITION	TEST SYANDARD	TEST STANDARN FOR PRODUCTION
VDE, SAA	3.0KV 10mA / 1MIN	≥ 3.5 KV ≤ 10 mA / ≥ 10 SEC.
BS	4.0KV 10mA / 1MIN	≥ 4.0 KV ≤ 10 mA / ≥ 10 SEC.
CHINA STANDARD	3.0KV 10mA / 1MIN	≥ 3.3 KV ≤ 5 mA / ≥ 6 SEC.
UL	1.0KV 5mA / 1MIN	≥ 1.25 KV ≤ 5 mA / ≥ 1 SEC.

Remark:

- 1) If no other specify, the strength of input signal should be 70dB ± 10 dB.
- 2) The High Pot Tester can have $\leq \pm 5\%$ tolerance.

DISTRICT	CENTRE (mm) POSITION	LIMIT (mm)	SCANNING SIZE (%)	SCANNING SIZE LIMIT (%)
THAILAND	-1	0 ~ -2	90	88 ~ 92
FRANCE	+3	0 ~ +5	90	88 ~ 94
GERMANY	+3	0 ~ +5	90	90 ~ 95
*GROUP A	-2	-5 ~ -1	90	88 ~ 94
*GROUP B	0	-2 ~ +2	90	88 ~ 94
*GROUP C	+3	0 ~ +5	90	88 ~ 94

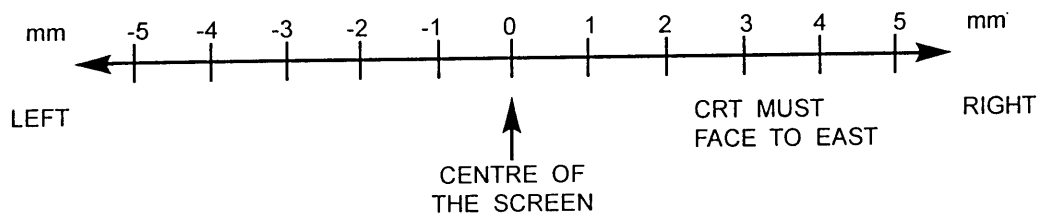


FIG. 8

- REMARK :
1. SUITABLE FOR 14" OR ABOVE TV.
 2. Adjust the centre position must take the upper side of monoscope pattern for standard.
 3. Group A : AUSTRALIA, NEW ZEALAND, TAHITI.
 4. Group B : HONG KONG, CHINA, AMERICA, CANADA, MALAYSIA, MEXICO.
 5. Group C : ENGLAND, ITALY, GERMANY, RUSSIA, SWITZERLAND, JUGOSLAVIA, SPANISH.
- If the above countries are not include, please consult to Engineering Dept.

VOLTAGE TABLE FOR IC (ONLY FOR REFERENCES)							
PIN NO.	SYMBOL	IC 201 TDA 8362	IC 101 CTV 350	IC001 SAA7282ZP	IC208 TDA3866	IC002 TDA8732	IC103 PC74HCT241P
1		3	4.3	2.5	0	0.3	0.085
2		5.8	0.1	5.1	0	GND	0.010
3		5.8	4.7	5	2.3	2.2	0.012
4		5.5	2.4	5	0.1	5.3	0.010
5		0	4.9	5	3	4	0.011
6		3.8	2.5	5.1	1.8	4.1	0.012
7		3	0	4.9	1.8	4.1	0.012
8		1.7	4.5	4.7	2.1	3.9	0.012
9		GND	1.6	GND	2.1	3	0.012
10		7.8	5	2.3	1.8	2.2	0.012
11		GND	0	2.3	1.8	4.4	0.085
12		3.1	5.6	2.3	5.7	5.3	0.012
13		4.3	5	2.3	5.7	4.5	0.012
14		3.3	5	2.3	1.9	GND	0.089
15		3.4	5	2.3	0	1.1	0.012
16		0	5	2.3	2.1	2.5	0.09
17		4.2	5	2.3	2.1	0.2	0.012
18		2.8	0.1	GND	1.8	4.6	0.095
19		2.8	5	2.3	0	GND	0.012
20		0	5	2.4	GND	3.3	0.085
21		0.3	0	2.3	6.7		
22		3.4	0	0.4	4.3		
23		3.4	0	2.3	1.7		
24		3.4	0	GND	1.7		
25		2.6	0	4.9			
26		1.7	0.3	4.9			
27		2.4	-0.3	5			
28		3.9	5	2.5			
29		3.8	5	GND			
30		1.4	0	2.1			
31		1.4	2.6	1.6			
32		1.6	2.1	1			
33		5.1	5				
34		1.3	5.4				
35		2	4.8				
36		7.7	0				
37		0.5	0				
38		0.6	0				
39		2.4	3				
40		3.7	2.7				
41		2.3	0				
42		2.8	5				
43		5					
44		3.9					
45		4					
46		4					
47		8.1					
48		4.5					
49		0.8					
50		3.3					
51		4.3					
52		6.5					

NOTE : VOLTAGE ARE TAKEN UNDER TUNED CONDITION WITH

CONTRAST : Maximum Position
 BRIGHTNESS : Maximum Position
 COLOR : Maximum Position
 SIGNAL INPUT : 70dB \pm 10dB
 CHANNEL SETTING : The Last Channel of UHF High
 SIGNAL PATTERN : Colour Bar

VOLTAGE TABLE FOR TRANSISTOR (ONLY FOR REFERENCE)				VOLTAGE TABLE FOR IC				
SYMBOL	B (V)	C (V)	E (V)	SYMBOL PIN NO.	IC402 HEF4538BP	IC204 TDA8395	IC205 TDA4661	IC203 TDA8440
Q108	11.7	0	11.8	1	0	4.4	5.2	2.7
Q107	11	11.7	11.8	2	4.9	1.3	0	GND
Q111	9.9	11.8	10.6	3	11.9	7.9	0	2.8
Q112	2.7	11.1	10.6	4	1	0	0	GND
Q113	0.2	2.7	0	5	11.9	0	1.4	5.6
Q101	0.7	1.5	0	6	11.5	0	0	11.9
Q104	0	11.7	0	7	0.3	3.3	0	5.6
Q105	0.6	0	0	8	GND	4.2	0	5.6
Q103	0.02	4.6	0.02	9	0	3	5.2	5.6
Q208	3.3	8	2.7	10	11.9	3	0	5.6
Q201	2.3	11.6	1.7	11	11.9	0	2.9	11.9
Q206	8.5	3	8	12	0.3	0	2.9	5.7
Q205	2.1	7.8	1.5	13	11.9	0	0	11.9
Q204	3	7.4	2.3	14	3.4	0	1.3	5.7
Q117	5	0	0	15	0	1.2	0	11.9
Q116	0.6	0	0	16	11.9	0.6	1.3	2.5
Q002	2	3	1.3	17				0
Q001	2	5.3	2.6	18				0
Q003	0.3	11.8	0					
Q118	0.6	0	0					
Q331	2.3	5.3	1.7					
Q332	2.3	5.3	1.7					
Q401	0.4	38.2	0					
Q114	0.7	2.7	0					
Q404	11.2	0.5	11.7					
Q405	0.5	14.2	0					
Q410	2	10.1	1.4					
Q406	0	2	1.6					
Q402	0	113.6	0					
Q106	11.5	0.4	11.8					
Q151	0.02	10.6	0					
Q601	3.1	118.3	2.5					
Q602	3	119.7	2.5					
Q603	3.2	113	2.6					
Q604	3.7	0	4.1					
Q605	0	173.8	0.15					
Q606	0.1	11.2	0					

SYMBOL PIN NO.	IC401 TDA3654	IC202 TA7347P	IC104 24C01B2	IC901 ST6309
1	1.1	8.3	0	0.7
2	0	GND	5	0.2
3	1.2	8.3	0	0.1
4	0	GND	0	0.3
5	15.6	0	2.6	0.7
6	25.6	7.5	3	0.1
7	1.2	11.9	5	0.2
8	5.8		5	0.5
9	25.4			10

SYMBOL PIN NO.	IC102 L7805	IC403 L7812	IC404 L7808
1	10	14	12
2	GND	GND	GND
3	5	12	8

NOTE : VOLTAGE ARE TAKEN UNDER TUNED CONDITION WITH

CONTRAST : Maximum Position
 BRIGHNESS : Maximum Position
 COLOR : Maximum Position
 SIGNAL INPUT : 70dB \pm 10dB
 CHANNEL SETTING : The Last Channel of UHF High
 SIGNAL PATTERN : Colour Bar

VOLTAGE TABLE FOR TRANSISTOR (ONLY FOR REFERENCE)								
LOCATION \ TR	B (V)	C (V)	E (V)	LOCATION \ TR	B (V)	C (V)	E (V)	
Q108	11.7	0	11.8	Q332	2.3	5.3	1.7	
Q107	11	11.7	11.8	Q401	0.4	38.2	0	
Q111	9.9	11.8	10.6	Q114	0.7	2.7	0	
Q112	2.7	11.1	10.6	Q404	11.2	0.5	11.7	
Q113	0.2	2.7	0	Q405	0.5	14.2	0	
Q101	0.7	1.5	0	Q410	2	10.1	1.4	
Q104	0	11.7	0	Q406	0	2	1.6	
Q105	0.6	0	0	Q402	0	113.6	0	
Q103	0.02	4.6	0.02	Q106	11.5	0.4	11.8	
Q208	3.3	8	2.7	Q151	0.02	10.6	0	
Q201	2.3	11.6	1.7	Q601	3.1	118.3	2.5	
Q206	8.5	3	8	Q602	3	119.7	2.5	
Q205	2.1	7.8	1.5	Q603	3.2	113	2.6	
Q204	3	7.4	2.3	Q604	3.7	0	4.1	
Q117	5	0	0	Q605	0	173.8	0.15	
Q116	0.6	0	0	Q606	0.1	11.2	0	
Q002	2	3	1.3					
Q001	2	5.3	2.6					
Q003	0.3	11.8	0					
Q118	0.6	0	0					
Q331	2.3	5.3	1.7					

NOTE : VOLTAGE ARE TAKEN UNDER TUNED CONDITION WITH

CONTRAST : Maximum Position
 BRIGHTNESS : Maximum Position
 COLOR : Maximum Position
 SIGNAL INPUT : 70dB \pm 10dB
 CHANNEL SETTING : The Last Channel of UHF High
 SIGNAL PATTERN : Colour Bar

VOLTAGE TABLE FOR IC (ONLY FOR REFERENCES) (FOR TEXT. IC VOLTAGE)						
PIN NO.	SYMBOL	IC 801 SAA5246	IC 801 SAA5254PT	IC 802 GM76C88AL-15		
1		5.1	5.1	0		
2		2.17	2.2	4.38		
3		3.64	3.7	2.5		
4		0.04	0.044	2.2		
5		GND	GND	4.24		
6		5.09	5.1	1.4		
7		2.1	2.2	1.07		
8		2.09	2.4	3.65		
9		2.55	2.56	3.63		
10		5.1	5.1	3.74		
11		GND	GND	0.03		
12		2.18	2.4	0.82		
13		5.1	5.1	2.5		
14		GND	GND	GND		
15		0.28	0.12	1.2		
16		0.2	0.12	1.5		
17		0.28	0.11	1.6		
18		3.92	3.93	1.3		
19		4.85	0.11	1.08		
20		0.048	GND	GND		
21		2.56	0.08	4.32		
22		0.045	0.05	2.55		
23		2.87	0.05	0.85		
24		2.56	3.11	0.87		
25		GND	2.84	0.83		
26		1.2	5.09	5.1		
27		1.62	5.09	5.07		
28		1.7	5.09	5.1		
29		1.5	5.09			
30		1.1	5.09			
31		2.5	5.09			
32		0.8	0.058			
33		0.036	5.09			
34		3.74	5.09			
35		3.63	5.09			
36		3.65	0.057			
37		1.07	5.09			
38		1.4	5.09			
39		4.24	0.056			
40		2.1	0.06			
41		2.5				
42		4.38				
43		4.33				
44		0.8				
45		0.88				
46		0.83				
47		2.55				
48		5.07				
49						
50						

NOTE : VOLTAGE ARE TAKEN UNDER TUNED CONDITION WITH

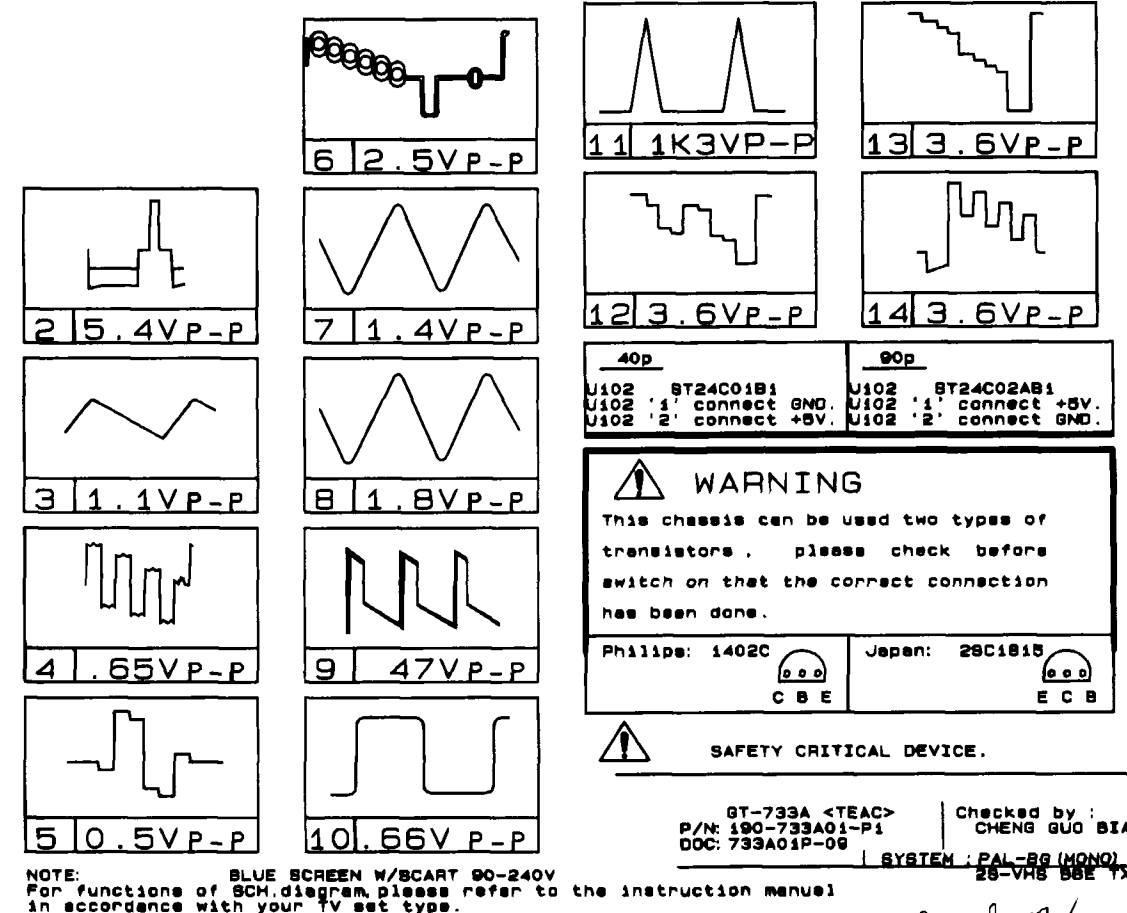
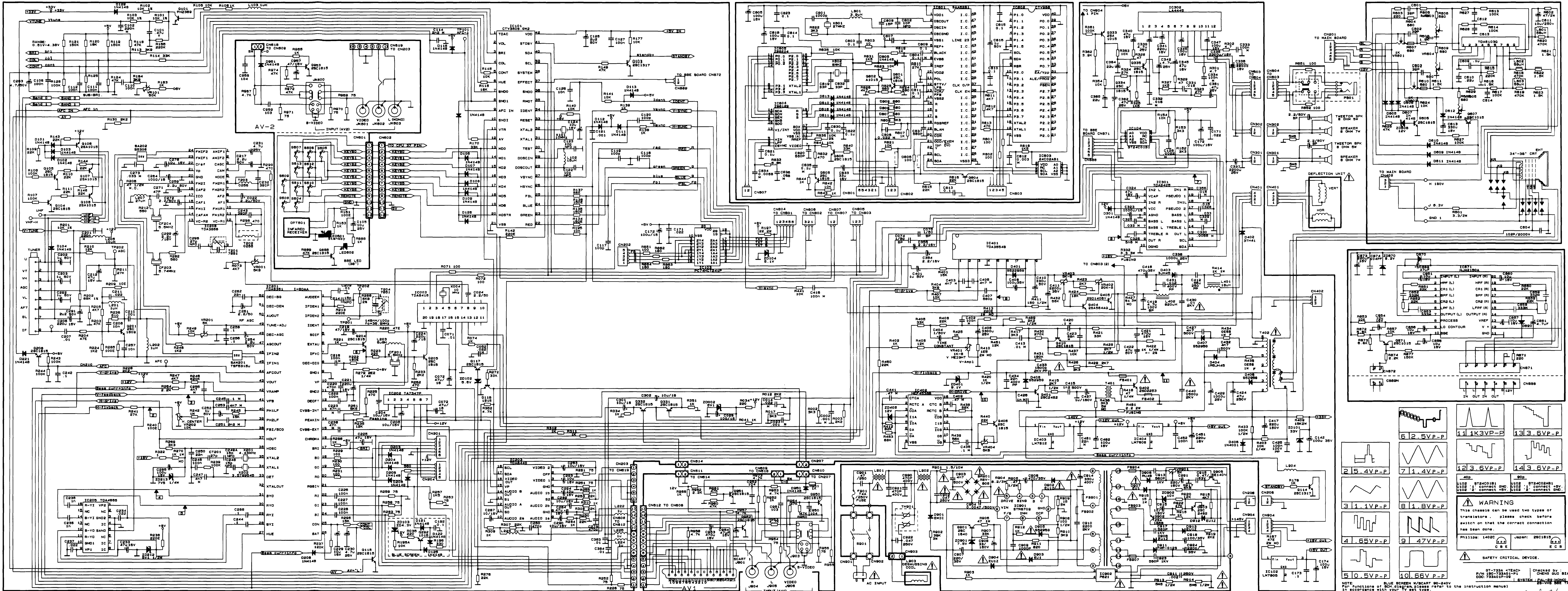
CONTRAST	:	Maximum Position
BRIGHTNESS	:	Maximum Position
COLOR	:	Maximum Position
SIGNAL INPUT	:	70dB ±10dB
CHANNEL SETTING	:	The Last Channel of UHF High
SIGNAL PATTERN	:	Colour Bar

PART NUMBER DESC QTY DESTINATION

113-273005-17	CARBON FILM RESISTOR 27K OHM 1/16W +-5%	5	R211,241,116,323, 324
113-274005-17	CARBON FILM RESISTOR 270K OHM 1/16W +-5%	1	R430
113-279405-42	FUSING RESISTOR 2.7 OHM 2W +-5%	1	R576
113-331005-17	CARBON FILM RESISTOR 330 OHM 1/16W +-5%	3	R862,863,864
113-332005-17	CARBON FILM RESISTOR 3.3K OHM 1/16W +-5%	7	R417,152,153,269, 426,002,017
113-332101-67	METAL FILM RESISTOR 3.3K OHM 1/4W +-1%	3	R582,583,584
113-332905-50	CEMENT FILM RESISTOR 3.3K OHM 10W +-5% H=39MM	1	R436
113-333005-17	CARBON FILM RESISTOR 33K OHM 1/16W +-5%	5	R421,170,114,907, 272
113-339505-42	NON-FLAMMABLE FUSE RESISTOR 3.3 OHM 3W +-5%	1	R332
113-363005-17	CARBON FILM RESISTOR 36K OHM 1/16W +-5%	1	R124
113-391005-17	CARBON FILM RESISTOR 390 OHM 1/16W +-5%	3	R557,558,559
113-392005-17	CARBON FILM RESISTOR 3.9K OHM 1/16W +-5%	5	R404,184,910,113, 362
113-393505-75	METAL OXIDE FILM RESISTOR 39K OHM 3W +-5%	1	R902
113-470005-17	CARBON FILM RESISTOR 47 OHM 1/16W +-5%	5	R204,220,326,329, 418
113-470205-75	METAL OXIDE FILM RESISTOR 47 OHM 1/2W +-5%	1	R206
113-470305-75	METAL OXIDE FILM RESISTOR 47 OHM 1W +-5%	1	R906
113-470405-75	METAL OXIDE FILM RESISTOR 47 OHM 2W +-5%	1	R187
113-471005-17	CARBON FILM RESISTOR 470 OHM 1/16W +-5%	5	R225,298,262,299, 034
113-472005-17	CARBON FILM RESISTOR 4.7K OHM 1/16W +-5%	12	R247,205,918,073, 352,967,953,963,9 73,957,044,043A
113-473005-17	CARBON FILM RESISTOR 47K OHM 1/16W +-5%	10	R149,203,118,922, 405,972,974,950,9 64,961
113-478205-75	METAL OXIDE FILM RESISTOR 0.47 OHM 1/2W +-5%	1	R905
113-479005-17	CARBON FILM RESISTOR 4.7 OHM 1/16W +-5%	3	R390,301,302
113-511005-17	CARBON FILM RESISTOR 510 OHM 1/16W +-5%	2	R236,563

PART NUMBER DESC QTY DESTINATION

191-401014-10	4 PIN SOCKET ASS'Y L=350MM	0	`3' TO `18V', `4' TO `5V'
191-401219-10	4 PIN FLAT CABLE L=240MM (1 SIDE SOCKET, 1 SIDE PLUG)	2	CN607 `1' TO CN612A PIN `1', `2' TO `2', `3' TO `3'
191-401219-10	4 PIN FLAT CABLE L=240MM (1 SIDE SOCKET, 1 SIDE PLUG)	0	`4' TO `4'
191-501218-10	5 PIN FLAT CABLE L=250MM (1 SIDE SOCKET, 1 SIDE PLUG)	1	CN603 TO CN604
191-601004-07	6 PINS SOCKET ASS'Y L=540MM	1	CN201 `1' TO CRT BOARD `6', `2' TO `4', `3' TO `5',
191-601004-07	6 PINS SOCKET ASS'Y L=540MM	0	`4' TO `3', `5' TO `2', `6' TO `1'
191-601018-10	6 PIN (PIN 1 W/O WIRE, PIN 2-6 RESISTOR 1K OHM 1/4W)	1	FOR CN804
191-601237-10	6 PIN FLAT CABLE	1	FOR CN619 TO CN203
191-901204-07	9 PIN SOCKET ASS'Y L=220MM (FLAT CABLE) UL2468 #26 2.5MM	1	CN608 `1' TO CN612 PIN `1', `2' TO `2', `3' TO `3'
191-901204-07	9 PIN SOCKET ASS'Y L=220MM (FLAT CABLE) UL2468 #26 2.5MM	0	`4' TO `4', `5' TO `5', `6' TO `6', `7' TO `7', `8' TO `8'
191-901204-07	9 PIN SOCKET ASS'Y L=220MM (FLAT CABLE) UL2468 #26 2.5MM	0	`9' TO `9'
402-522001-11	COAXIAL CABLE W/DIN, RCA 250MM W/3 SOLDERING POINT "MIKI"	1	FOR TUNER TO RF CONNECTOR
504-305006-10	MACHINE SCREW 3 X 6 B/M (WHITE)	5	1-IC102, 1-IC403, 1-IC404, 2-IC302
504-305006-10	MACHINE SCREW 3 X 6 B/M (WHITE)	2	2 FOR 779-932904-02
514-300410-00	SELF-TAPPING SCREW 3 X 10 B/T (HARDEN) {BLACK}	1	J903
514-400312-10	SELF-TAPPING SCREW 4 X 12 B/A (HARDEN)	1	FOR HEAT SINK TO FBT
515-303410-10	SELF-TAPPING SCREW 3 X 10 W/B/T (HARDEN)	35	13-MAIN PCB, 9-POWER BOARD, 5-CHANNEL BOARD
515-303410-10	SELF-TAPPING SCREW 3 X 10 W/B/T (HARDEN)	0	2-JACK PLATE, 3-JACK BOARD, 1-GEAR HOLDER



WARNING
 This chassis can be used two types of transformers. Please check before switch on that the correct connection has been done.

Philips: 1402C Japan: 28C1810
 C B E C B E

SAFETY CRITICAL DEVICE.

NOTE: BLUE SCREEN W/CART 90-240V FOR FUNCTIONS OF BCL GLASS, PLEASE REFER TO THE INSTRUCTION MANUAL IN ACCORDANCE WITH YOUR TV SET TYPE.

Checked by: *cmj85v*