

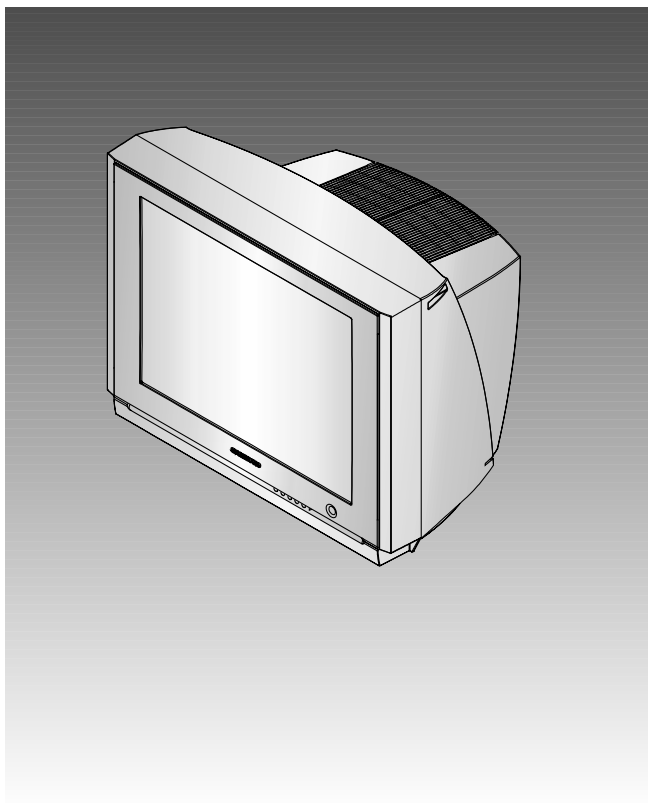
SAMSUNG

COLOR TELEVISION RECEIVER

Chassis : KS9A(P)
Model : CS21M20MQZXBWT

SERVICE Manual

COLOR TELEVISION RECEIVER



CONTENTS

1. Precautions
2. Specifications and IC Data
3. Disassembly and Reassembly
4. Alignment and Adjustment
5. Troubleshooting
6. Exploded View and Parts List
7. Electrical Parts List
8. Block Diagram
9. Wiring Diagram
10. Schematic Diagrams



This Service Manual is a property of Samsung Electronics Co., Ltd.
Any unauthorized use of Manual can be punished under applicable
International and/or domestic law.

© Samsung Electronics Co., Ltd. **Apr. 2004**
Printed in Korea
AA82-01550A

1. Precautions

Follow these safety, servicing and ESD precautions to prevent damage and protect against potential hazards such as electrical shock and X-rays.

1-1 Safety Precautions

1. Be sure that all of the built-in protective devices are replaced. Restore any missing protective shields.
2. When reinstalling the chassis and its assemblies, be sure to restore all protective devices, including: nonmetallic control knobs and compartment covers.
3. Make sure that there are no cabinet openings through which people—particularly children—might insert fingers and contact dangerous voltages. Such openings include the spacing between the picture tube and the cabinet mask, excessively wide cabinet ventilation slots, and improperly fitted back covers.

If the measured resistance is less than 1.0 megohm or greater than 5.2 megohms, an abnormality exists that must be corrected before the unit is returned to the customer.

4. Leakage Current Hot Check (Figure 1-1):
Warning: Do not use an isolation transformer during this test. Use a leakage-current tester or a metering system that complies with American National Standards Institute (ANIS C101.1, Leakage Current for Appliances), and Underwriters Laboratories (UL Publication UL1410, 59.7).
5. With the unit completely reassembled, plug the AC line cord directly into the power outlet. With the unit's AC switch first in the ON position and then OFF, measure the current between a known earth ground (metal water pipe, conduit, etc.) and all exposed metal parts, including: antennas, handle brackets, metal cabinets, screwheads and control shafts. The current measured should not exceed 0.5 milliamp. Reverse the power-plug prongs in the AC outlet and repeat the test.

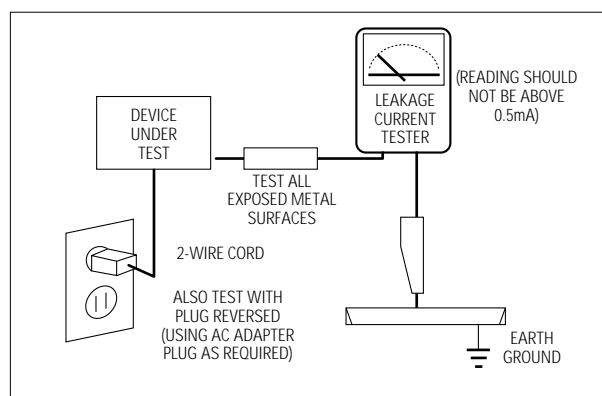


Fig. 1-1 AC Leakage Test



6. Antenna Cold Check:
With the unit's AC plug disconnected from the AC source, connect an electrical jumper across the two AC prongs. Connect one lead of the ohmmeter to an AC prong. Connect the other lead to the coaxial connector.
7. X-ray Limits:
The picture tube is especially designed to prohibit X-ray emissions. To ensure continued X-ray protection, replace the picture tube only with one that is the same type as the original. Carefully reinstall the picture tube shields and mounting hardware; these also provide X-ray protection.
8. High Voltage Limits:
High voltage must be measured each time servicing is done on the B+, horizontal deflection or high voltage circuits. Correct operation of the X-ray protection circuits must be reconfirmed whenever they are serviced.
(X-ray protection circuits also may be called "horizontal disable" or "hold-down".)

Heed the high voltage limits. These include the X-ray Protection Specifications Label, and the Product Safety and X-ray Warning Note on the service data schematic.

1-1 Safety Precautions (Continued)

9. High voltage is maintained within specified limits by close-tolerance, safety-related components and adjustments. If the high voltage exceeds the specified limits, check each of the special components.
10. Design Alteration Warning:
Never alter or add to the mechanical or electrical design of this unit. Example: Do not add auxiliary audio or video connectors. Such alterations might create a safety hazard. Also, any design changes or additions will void the manufacturer's warranty.
11. Hot Chassis Warning:
Some TV receiver chassis are electrically connected directly to one conductor of the AC power cord. If an isolation transformer is not used, these units may be safely serviced only if the AC power plug is inserted so that the chassis is connected to the ground side of the AC source.

To confirm that the AC power plug is inserted correctly, do the following: Using an AC voltmeter, measure the voltage between the chassis and a known earth ground. If the reading is greater than 1.0V, remove the AC power plug, reverse its polarity and reinsert. Re-measure the voltage between the chassis and ground.
12. Some TV chassis are designed to operate with 85 volts AC between chassis and ground, regardless of the AC plug polarity. These units can be safely serviced only if an isolation transformer inserted between the receiver and the power source.
13. Some TV chassis have a secondary ground system in addition to the main chassis ground. This secondary ground system is not isolated from the AC power line. The two ground systems are electrically separated by insulating material that must not be defeated or altered.
14. Components, parts and wiring that appear to have overheated or that are otherwise damaged should be replaced with parts that meet the original specifications. Always determine the cause of damage or overheating, and correct any potential hazards.
15. Observe the original lead dress, especially near the following areas: Antenna wiring, sharp edges, and especially the AC and high voltage power supplies. Always inspect for pinched, out-of-place, or frayed wiring. Do not change the spacing between components and the printed circuit board. Check the AC power cord for damage. Make sure that leads and components do not touch thermally hot parts.
16. Picture Tube Implosion Warning:
The picture tube in this receiver employs "integral implosion" protection. To ensure continued implosion protection, make sure that the replacement picture tube is the same as the original.
17. Do not remove, install or handle the picture tube without first putting on shatterproof goggles equipped with side shields. Never handle the picture tube by its neck. Some "in-line" picture tubes are equipped with a permanently attached deflection yoke; do not try to remove such "permanently attached" yokes from the picture tube.
18. Product Safety Notice:
Some electrical and mechanical parts have special safety-related characteristics which might not be obvious from visual inspection. These safety features and the protection they give might be lost if the replacement component differs from the original—even if the replacement is rated for higher voltage, wattage, etc.

Components that are critical for safety are indicated in the circuit diagram by shading, () or ().
Use replacement components that have the same ratings, especially for flame resistance and dielectric strength specifications. A replacement part that does not have the same safety characteristics as the original might create shock, fire or other hazards.

1-2 Servicing Precautions

Warning1: First read the "Safety Precautions" section of this manual. If some unforeseen circumstance creates a conflict between the servicing and safety precautions, always follow the safety precautions.

Warning2: An electrolytic capacitor installed with the wrong polarity might explode.

1. Servicing precautions are printed on the cabinet. Follow them.
2. Always unplug the unit's AC power cord from the AC power source before attempting to: (a) Remove or reinstall any component or assembly, (b) Disconnect an electrical plug or connector, (c) Connect a test component in parallel with an electrolytic capacitor.
3. Some components are raised above the printed circuit board for safety. An insulation tube or tape is sometimes used. The internal wiring is sometimes clamped to prevent contact with thermally hot components. Reinstall all such elements to their original position.
4. After servicing, always check that the screws, components and wiring have been correctly reinstalled. Make sure that the portion around the serviced part has not been damaged.
5. Check the insulation between the blades of the AC plug and accessible conductive parts (examples: metal panels, input terminals and earphone jacks).
6. Insulation Checking Procedure: Disconnect the power cord from the AC source and turn the power switch ON. Connect an insulation resistance meter (500V) to the blades of the AC plug.

The insulation resistance between each blade of the AC plug and accessible conductive parts (see above) should be greater than 1 megohm.
7. Never defeat any of the B+ voltage interlocks. Do not apply AC power to the unit (or any of its assemblies) unless all solid-state heat sinks are correctly installed.
8. Always connect a test instrument's ground lead to the instrument chassis ground before connecting the positive lead; always remove the instrument's ground lead last.

1-3 Precautions for Electrostatically Sensitive Devices (ESDs)

1. Some semiconductor (“solid state”) devices are easily damaged by static electricity. Such components are called Electrostatically Sensitive Devices (ESDs); examples include integrated circuits and some field-effect transistors. The following techniques will reduce the occurrence of component damage caused by static electricity.
2. Immediately before handling any semiconductor components or assemblies, drain the electrostatic charge from your body by touching a known earth ground. Alternatively, wear a discharging wrist-strap device. (Be sure to remove it prior to applying power—this is an electric shock precaution.)
3. After removing an ESD-equipped assembly, place it on a conductive surface such as aluminum foil to prevent accumulation of electrostatic charge.
4. Do not use freon-propelled chemicals. These can generate electrical charges that damage ESDs.
5. Use only a grounded-tip soldering iron when soldering or unsoldering ESDs.
6. Use only an anti-static solder removal device. Many solder removal devices are not rated as “anti-static”; these can accumulate sufficient electrical charge to damage ESDs.
7. Do not remove a replacement ESD from its protective package until you are ready to install it. Most replacement ESDs are packaged with leads that are electrically shorted together by conductive foam, aluminum foil or other conductive materials.
8. Immediately before removing the protective material from the leads of a replacement ESD, touch the protective material to the chassis or circuit assembly into which the device will be installed.
9. Minimize body motions when handling unpackaged replacement ESDs. Motions such as brushing clothes together, or lifting a foot from a carpeted floor can generate enough static electricity to damage an ESD.

2. Specifications and IC Data

2-1 Specifications

Television System:

MODEL	SYSTEM
CI	PAL-I (UHF)
CII	PAL-I (VHF/UHF)
CX	PAL-B/G, SECAM-B/G
CK	PAL-B/G, D/K, SECAM-B/G, D/K
CW	PAL-B/G, D/K, SECAM-B/G, D/K, NT 4.43
CS	PAL-B/G, D/K, SECAM-B/G, D/K, NT4.43, NT3.58

Channels:

System Band	PAL/SECAM-B/G,I	PAL, SECAM- D/K	SECAM-K1, PAL-D	NTSC - M
VHF	2 - 12	1 - 13	2 - 9	2 - 13
UHF	21 - 69	21 - 69	13 - 57	14-69

Intermediate Frequencies (MHz) :

SYSTEM IF Carrier Frequency	PAL/ SECAM- B/G	PAL/SECAM-D/K, SECAM-K1	PAL - I	NTSC - M
Picture IF Carrier	38.90	38.90	38.90	38.90
Sound IF Carrier	33.40	32.40	32.90	34.40
Color Sub Carrier	34.47	34.47	34.47	35.32

Picture Tube:

14 Inch	A34KQV42X	Quick start, in-line-gun, Black stripe, 90 degree deflection
20 Inch	A48KRD82X(H)	
21 Inch	A51KQJ63X	
21 Flat	A51QDX993X	

Power Requirements:

AC 160~300V, 50/60Hz

Antenna Input Impedance:

VHF, UHF : Telescopic dipole antenna (75 ohm unbalanced type)

Speaker Impedance

8 ohm, 7W+7W (MAX)

2-2 IC Line Up

Table 2-1 IC Line-Up			
Loc. No	Specification	Description	Remark
HC101	PAP103	IF PRE-AMP	
IC201S	SPM802ER	TTX, English/Croatian/Romanian/Hungarian/Polish/Czech/ Bulgarian/Russian/Portugal	Philips
	SPM802ERN	W/O TTX, English/Croatian/Romanian/Hungarian/Polish/Czech/ Bulgarian/Russian/Portugal	
IC301	LA7840	VERTICAL OUTPUT	Sanyo
IC501	TDA6107Q	RGB DRIVE AMP	Philips
IC601	TDA7266S	SOUND-AMP (3W x 1CH or 3W x 2CH or 5W x 2CH)	
IC801S	KA5Q0765R	POWER IC (STR)	
IC802	KA7632	CUSTOM REGULATOR (5V, 8V, 3.3V)	
IC902	24C08/KS28C040	EEPROM	
PC801S	TCET1108 / LTV817B	PHOTO COUPLER	
IC101	U4468B	SIF - IC	TEMIC

2-3 Semiconductor Base Diagrams

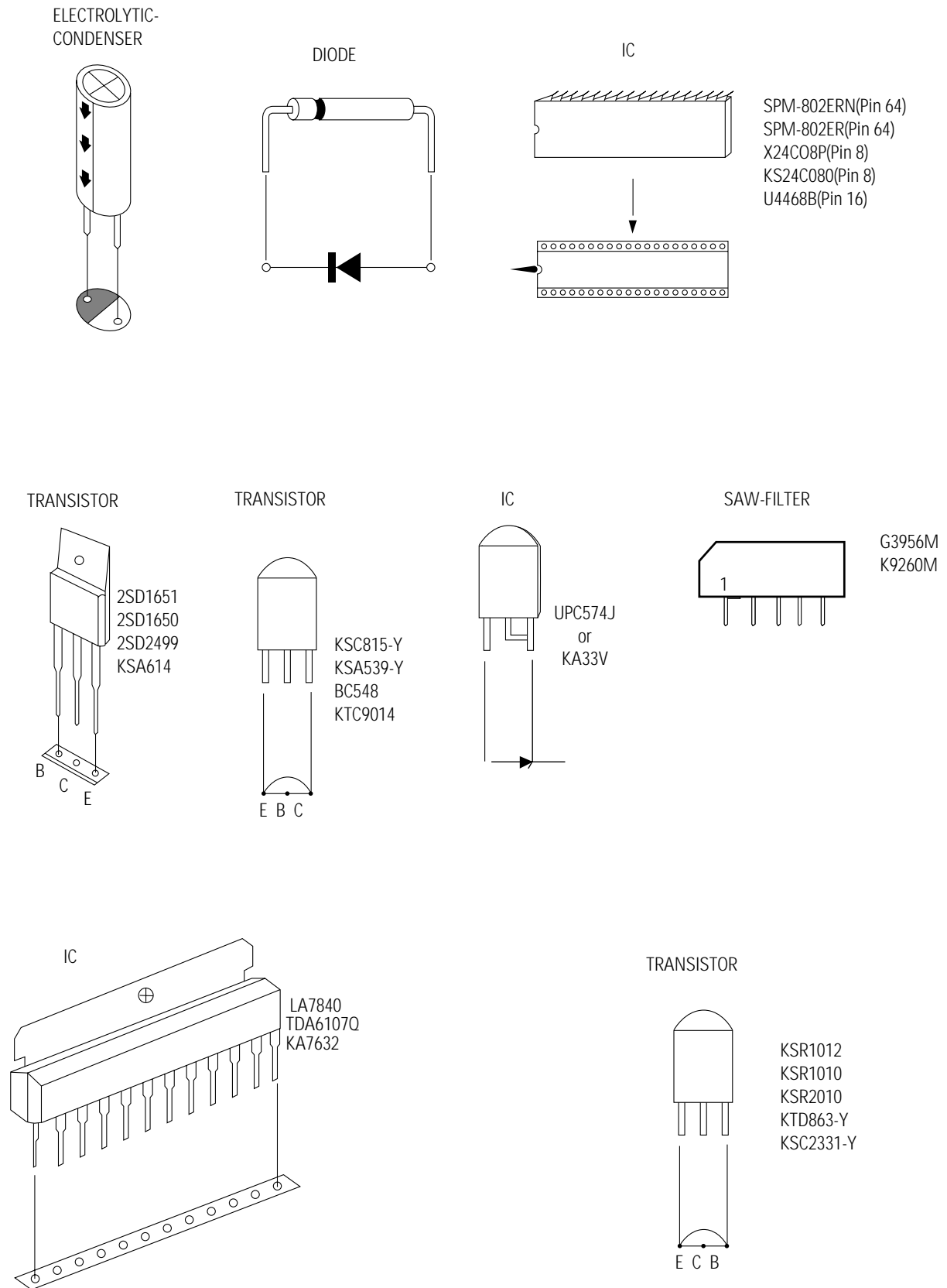
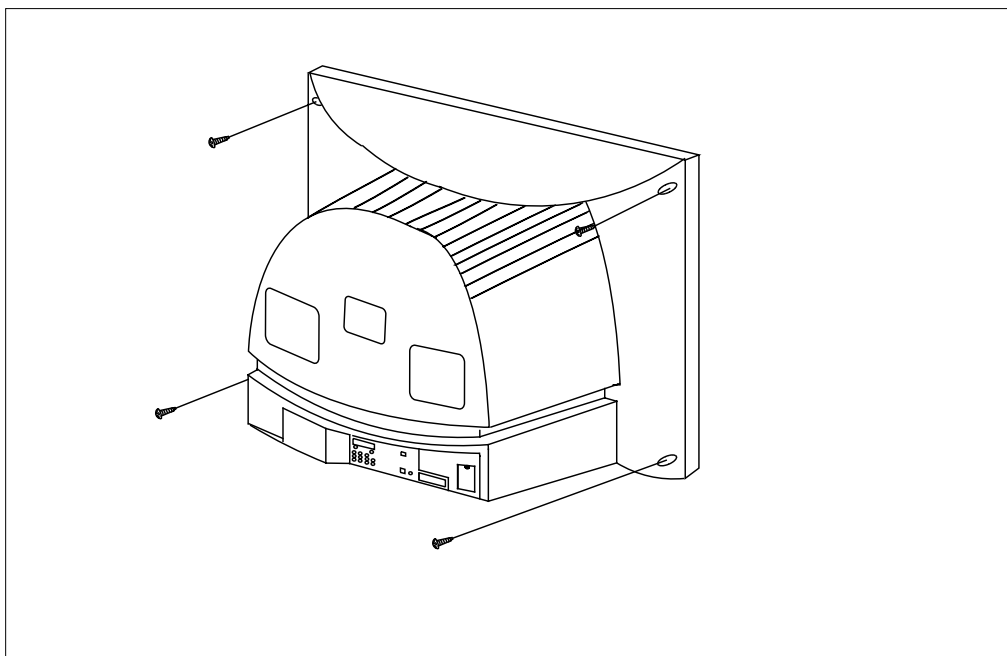


Fig. 2-1 Semiconductor Base Diagrams

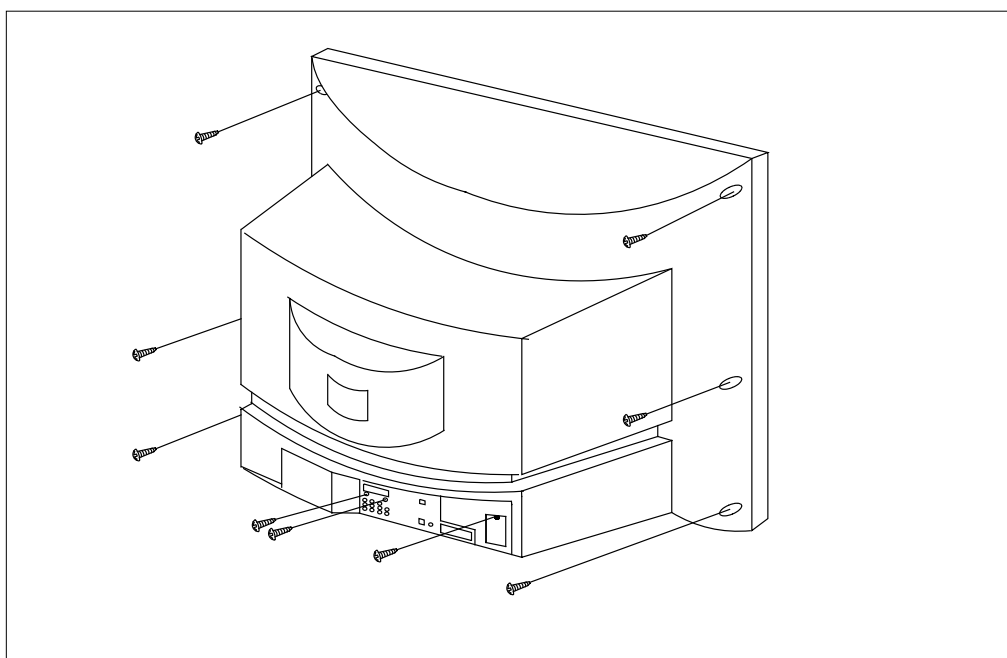
MEMO

3. Disassembly and Reassembly

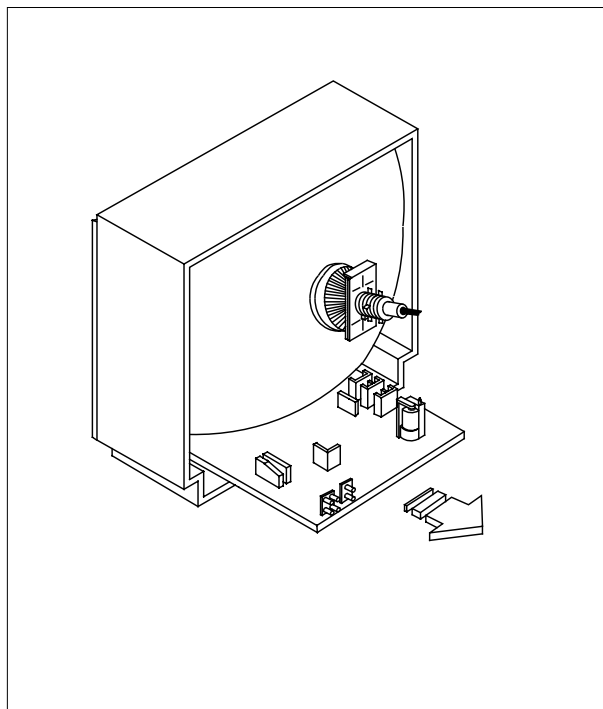
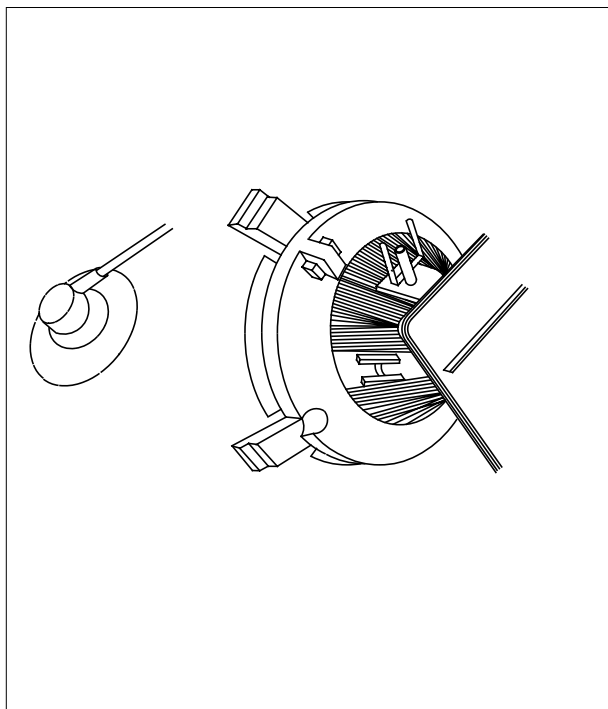
3-1 Back Cover Removal



1. After removing the screws, press the tension rib and pull the cabinet backwards.
2. To reassemble, press the tension rib (see diagram).



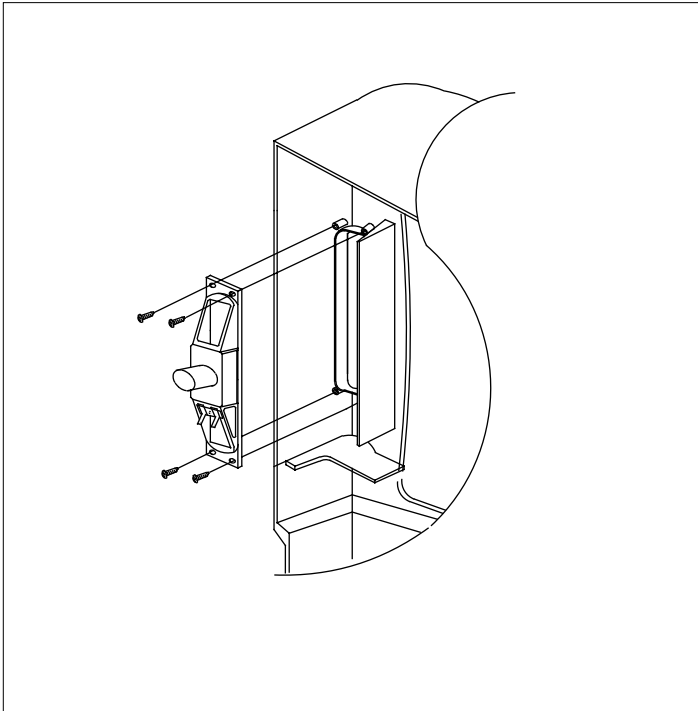
3-2 Main Board Removal



1. Separate the socket board from the CRT neck.
2. Remove the Anode Cap from the CRT.
3. Remove the main board by pulling it with both hands.

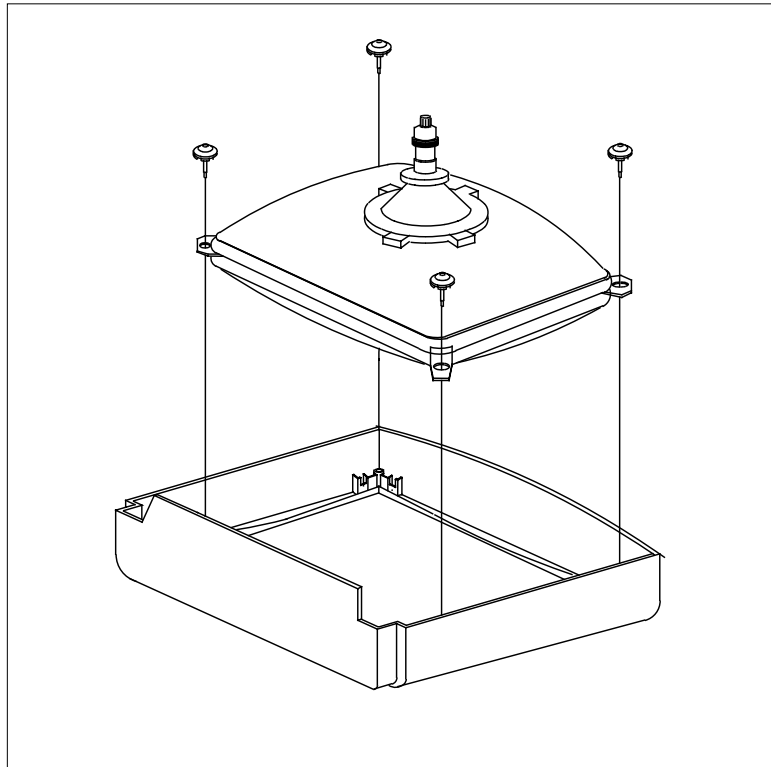
Warning: The FBT is charged with high voltage.
Before removing the Anode Cap, discharge the voltage
through one of the heat sinks on the main board.

3-3 Speaker Removal



1. Remove the speaker by pressing the tension rib.

3-4 CRT Removal



1. Spread a soft mat on the floor. Place the TV set face down.
2. Remove the 4 nuts mounting the CRT to the front cabinet. Lift the CRT.
3. Caution: Because of the high vacuum and large surface area of the picture tube, be careful while handling it: (1) Always lift the picture tube by grasping it firmly around the faceplate, (2) Never lift the tube by its neck. (3) Do not scratch the picture tube or apply excessive pressure. Fractures of the glass may cause an implosion.

4. Alignment and Adjustments

4-1 Preadjustment

4-1-1 Factory Mode

1. Do not attempt these adjustments in the Video Mode.
2. The Factory Mode adjustments are necessary when either the EEPROM (IC902) or the CRT is replaced.
3. Do not tamper with the "Adjustment" screen of the Factory Mode menu. This screen is intended only for factory use.

4-1-2 When EEPROM (IC902) Is Replaced

1. When IC902 is replaced all adjustment data revert to initial values. It is necessary to re-program this data.
2. After IC902 is replaced, warm up the TV for 10 seconds.

4-1-3 When CRT Is Replaced

1. Make the following adjustments AFTER setting up after setting up purity and convergence :

White Balance
Sub-Brightness
Vertical Center
Vertical Size
Horizontal Center
Fail Safe (This adjustment must be the last step).

2. If the EEPROM or CRT is replaced, set VA to 40 (factory mode) and set SC to 24.

4-2 Factory/Service Mode

4-2-1 Procedure for the "Adjustment" Mode

1. This mode uses the standard remote control. The Service Mode is activated by entering the following remote-control sequence :
 - (1) DISPLAY→FACTORY.
 - (2) STAND-BY→ DISPLAY→ MENU→ MUTE
→POWER ON.
2. The "SERVICE (FACTORY)" message will be displayed. The Service Mode has five components: ADJUST, OPTION,OPTION1,G2 Adjust and Reset
3. Access the Adjustment Mode by pressing the "VOLUME" keys (Up or Down). The adjustment parameters are listed in the accompanying table, and selected by pressing the CHANNEL keys (▲ ,▼).

4. Selection sequences for the all system:

DOWN or UP key:
AGC>SCT>SBT>BLR>BLB>RG>GG>BG>VSL>
VS>VA>HS>SC>CDL>STT>AKB>PDL>
NDL>PSR>NSR>VOL>LCO>TXP>MVOL>FMWS>
AGCS>OMD>SCL>PWL>ACN>PEK>ACL>FCD>SCBT>
SSP>PSNS

5. The VOLUME keys increase or decrease the adjustment values (stored in the non-volatile memory) when Adjustment Mode is cancelled.
6. Cancel the Adjustment Mode by re-pressing the "FACTORY" or "Power OFF" keys.

4-2-2 Main Adjustment Parameter

OSD	FUNCTION	RANGE	INITIAL DATA	REMARK
AGC	RF AGC	0 ... 63	33	
SCT	Sub contrast	0 ... 23	13	
SBT	Sub brightness	0 ... 23	9	
BLR	Black level offset R	0 ... 63	31	
BLB	Black level offset B	0 ... 63	27	
RG	White point R	0 ... 63	32	
GG	White point G	0 ... 63	32 (FIX)	
BG	White point B	0 ... 63	31	
VSL	Vertical slope	0 ... 63	19	
VS	Vertical shift	0 ... 63	38	
VA	Vertical amplitude	0 ... 63	40 (FIX)	
HS	Horizontal shift	0 ... 63	30	
SC	S-correction	0 ... 63	24	
CDL	Cathode drive level	0 ... 15	12	
STT	Sub tint	0 ... 7	7	
AKB	Black current stabilization	0 ... 1	0	
PDL	PAL delay	0 ... 15	1	
NDL	NTSC delay	0 ... 15	10	
PSR	PAL sub color	0 ... 23	15	
NSR	NTSC sub color	0 ... 23	10	
VOL	Volume pre setting	0 ... 63	10	
LCO	SECAM-L Vision IF	0 ... 1	0	
TXP	TTX Position	0 ... 15	9	
MVOL	Melody initial volume adjustment	0 ... 50	10	
FMWS	Narrow-band sound PLL window selection	0 ... 1	0	
AGCS	IF AGC speed	0 ... 3	1	
OMD	Off-set IF demodulator	0 ... 63	26	
SCL	Soft clipping level	0 ... 3	1	
PWL	Peak white limiting	0 ... 15	12	
AGN	FM demodulator gain	0 ... 1	1	
PEK	Peaking center frequency	0 ... 3	2	
ACL	Automatic color limiting	0 ... 1	0	
FCO	Forced color limiting	0 ... 1	0	
SCBT	Screen brightness	0 ... 63	45	
SSP	Sub Sharpness gain adjustment	0 ... 23	20	
PSNS	Identify sensitivity PAL/NTSC decoder	0 ... 1	1	

4-2-3 Option Bytes

In the Service Mode, various can be selected via the Option Table. Example:

Option Table:XX XX XX XX

1	LNA	ON
2	SYSTEM	CZ
3	AUDIO	STEREO
4	JACK	SCART
5	ZOOM	NOR/ZOOM/16:9
6	AUTO POWER	ON
7	SBL	OFF
8	2nd SIF	ON
9	HOTEL MODE	OFF
10	BKS	ON
11	HIGH DEVIA	ON
12	HELP MENU	ON
13	TIME	ON
14	V-GUARD	OFF

4-2-4 RESET

The Reset Mode is used during factory inspection.
Function Reset:

1. Picture	Custom
2. Auto Volume	Off
3. Color System	Auto (option)
4. Sound System	D/K (option)
5. Blue Screen	Off
6. Low Noise AMP	Off (option)
7. Volume	10
8. CH. Skip	Erased
9. CH. Lock	Off
10. Timer	Off

4-3 Other Adjustments

4-3-1 General

1. Usually, a color TV needs only slight touch-up adjustment upon installation. Check the basic characteristics such as height, horizontal and vertical sync and focus.
2. The picture should have good black and white details. There should be no objectionable color shading; if color shading is present, perform the purity and convergence adjustments described below.
3. Use the specified test equipment or its equivalent.
4. Correct impedance matching is essential.
5. Avoid overload. Excessive signal from a sweep generator might overload the front-end of the TV. When inserting signal markers, do not allow the marker generator to distort test results.
6. Connect the TV only to an AC power source with voltage and frequency as specified on the backcover nameplate.
7. Do not attempt to connect or disconnect any wires while the TV is turned on. Make sure that the power cord is disconnected before replacing any parts.
8. To protect against shock hazard, use an isolation transformer.

4-3-2 Automatic Degaussing

A degaussing coil is mounted around the picture tube, so that external degaussing after moving the TV should be unnecessary. But the receiver must be properly degaussed upon installation.

The degaussing coil operates for about 1 second after the power is switched ON. If the set has been moved or turned in a different direction, disconnect its AC power for at least 30 minutes.

If the chassis or parts of the cabinet become magnetized, poor color purity will result. If this happens, use an external degaussing coil. Slowly move the degaussing coil around the faceplate of the picture tube and the sides and front of the receiver. Slowly withdraw the coil to a distance of about 6 feet before removing power.

4-3-3 High Voltage Check

CAUTION: There is no high voltage adjustment on this chassis. The B+ power supply must be set to +125 volts (Full color bar input and normal picture level).

1. Connect a digital voltmeter to the second anode of the picture tube.
2. Turn on the TV. Set the Brightness and Contrast controls to minimum (zero beam current).
3. The high voltage should not exceed 27.5KV.
4. Adjust the Brightness and contrast controls to both extremes. Ensure that the high voltage does not exceed 27.5KV under any conditions.

4-3-4 FOCUS Adjustment

1. Input a black and white signal.
2. Adjust the tuning control for the clearest picture.
3. Adjust the FOCUS control for well defined scanning lines in the center area of the screen.

4-3-5 Cathode Voltage Adjustment (Screen Adjust)

1. Input a gray scale pattern.
(Use a pattern generator, PM5518)
2. Enter "Adjustment" Mode:
(1) DISPLAY → FACTORY
(2) STAND-BY → DISAPALY → MENU
→ MUTE → POWER ON
3. Select "G2 adjust" by pressing channel key ▲ or ▼
4. Enter "G2 adjust" by pressing channel key ◀ or ▶
5. Adjust the screen Vr (On the FBT), so that OSD becomes "SCREEN ADJUST:OK"

4-3-6 Purity Adjustment

1. Warm up the receiver for at least 20 minutes.
2. Plug in the CRT deflection yoke and tighten the clamp screw.
3. Plug the convergence yoke into the CRT and set in as shown in Fig. 4-2.
4. Input a black and white signal.
5. Fully demagnetize the receiver by applying an external degaussing coil.
6. Turn the CONTRAST and BRIGHTNESS controls to maximum.
7. Loosen the clamp screw holding the yoke. Slide the yoke backward or forward to provide vertical green belt. (Fig. 4-3).
8. Tighten the convergence yoke.
9. Slowly move the deflection yoke forward, and adjust for the best overall green screen.
10. Temporarily tighten the deflection yoke.
11. Produce blue and red rasters by adjusting the low-light controls. Check for good purity in each field.
12. Tighten the deflection yoke.

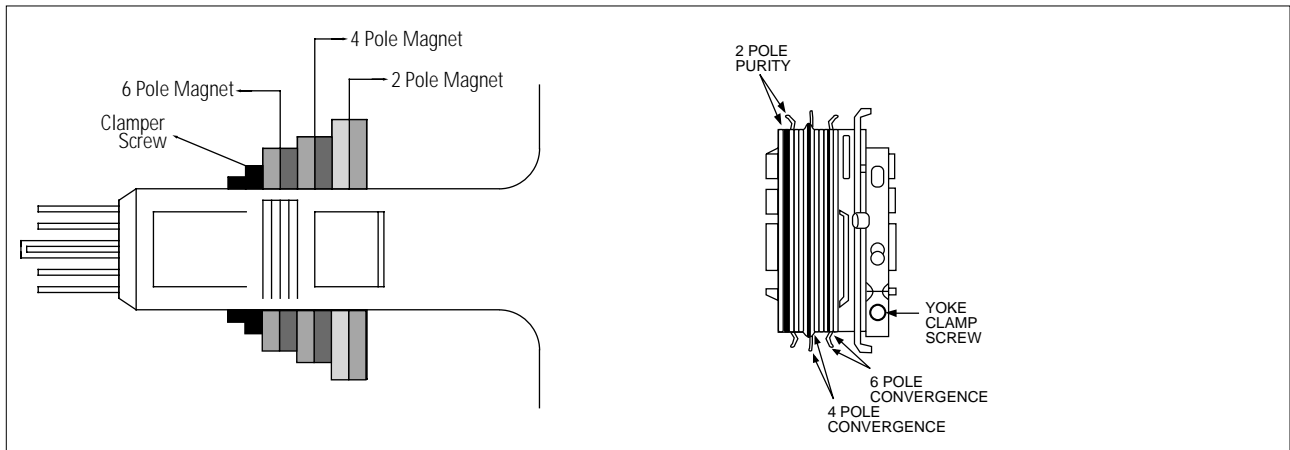


Fig. 4-2 Convergence Magnet Assembly

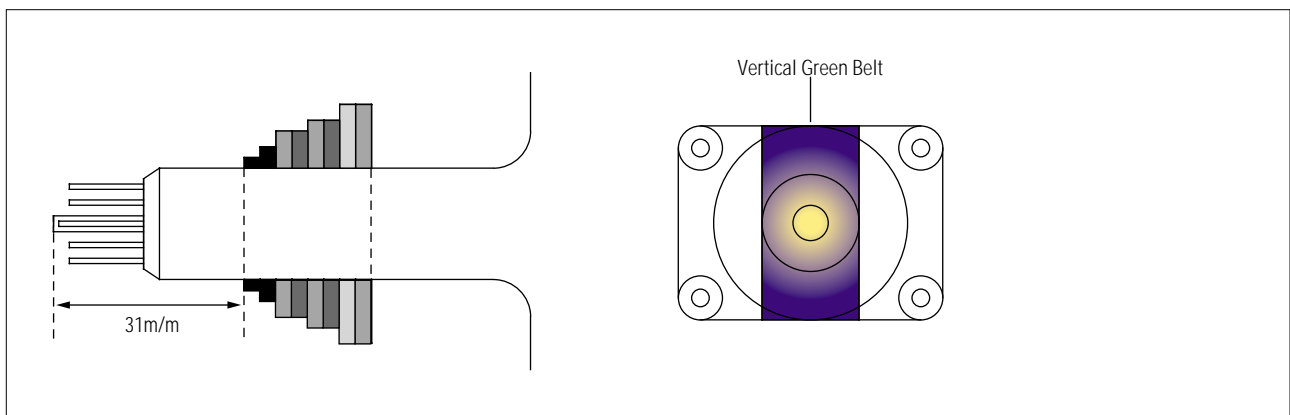


Fig. 4-3 Center Convergence Adjustment

4-3-7 White Balance Adjustment

(a) Set up

1. Warm up the TV for at least 30 minutes in the Aging Mode (OSD White). This mode is displayed by entering the following sequence:

DISPLAY → FACTORY → FACTORY

2. Input a Toshiba pattern.

(b) Low-Light Adjustment

1. Set SBT to 2.5 ± 0.5 fL in the Factory Service Mode with using CA100. See Fig. 4-4 ②.
2. Adjust RG,BG so that the levels are suitable to each local area.

(c) High-Light Adjustment

1. 50 21"flat in the Factory Service Mode with using CA100. See Fig. 4-4 ①.

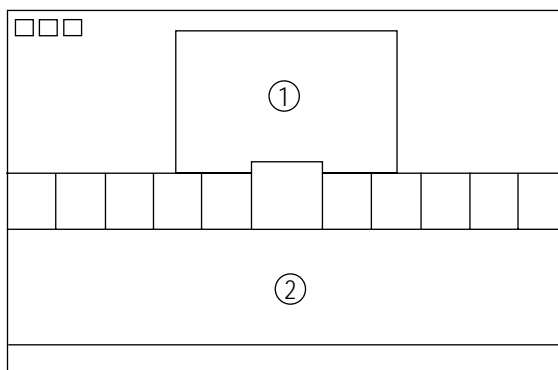


Fig. 4-4

4-3-8 Center Convergence Adjustment

1. Warm up the receiver for at least 20 minutes.
2. Adjust the two tabs of the 4 pole magnets to change the angle between them. Superimpose the red and blue vertical lines in the center area of the screen.
3. Adjust the Brightness and Contrast controls for a well defined picture.
4. Adjust the two-tab pairs of the 4 pole magnets, and change the angle between them. Superimpose the red and the blue vertical lines in the center area of the screen.
5. Turn the both tabs at the same time, keeping the angle constant, and superimpose the red and blue horizontal line in the center of the screen.
6. Adjust the two-tab pairs of the 6-pole magnets to superimpose the red and blue line onto the green. (Changing the angle affects the vertical lines, and rotating both magnets affects the horizontal lines.)
7. Repeat adjustments 2~6, if necessary.
8. Since the 4-pole magnets and 6-pole magnets interact, the dot movement is complex (Fig. 4-5).

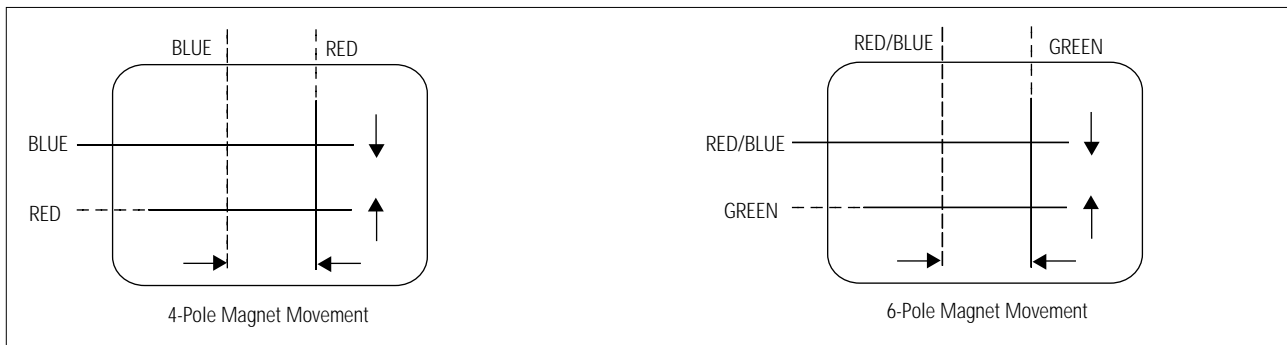


Fig. 4-5 Center Convergence Adjustment

4-3-9 RF AGC Adjustment

Set the AGC data to 33 (Factory Mode).

4-3-10 Sub-Color Adjustment

Set $\frac{PSR}{NSR}$ data to $\frac{2}{5}$ (Factory Mode).

4-3-11 Geometry Adjustment

VS→VSL→HS

1. Input a lion head pattern (in the PAL channel).
2. Set the SC (S-Correction) as follows :
24(21"flat) and VA 40 so that the lion head circle becomes oval.
3. Adjust with VSL (Vertical-Slope) so that the bottom margin of the picture is 4.

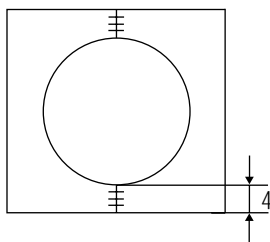


Fig. 4-7

4. Adjust with VS (Vertical shift) so that the top margin of the picture is 4.

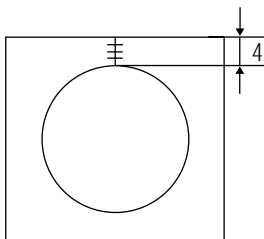


Fig. 4-8

5. Adjust with HS (Horizontal Shift) so that the lion-head pattern and CRT centers are aligned.

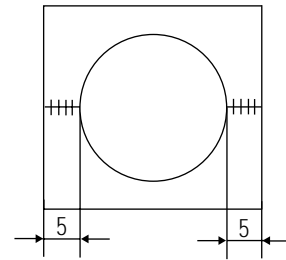
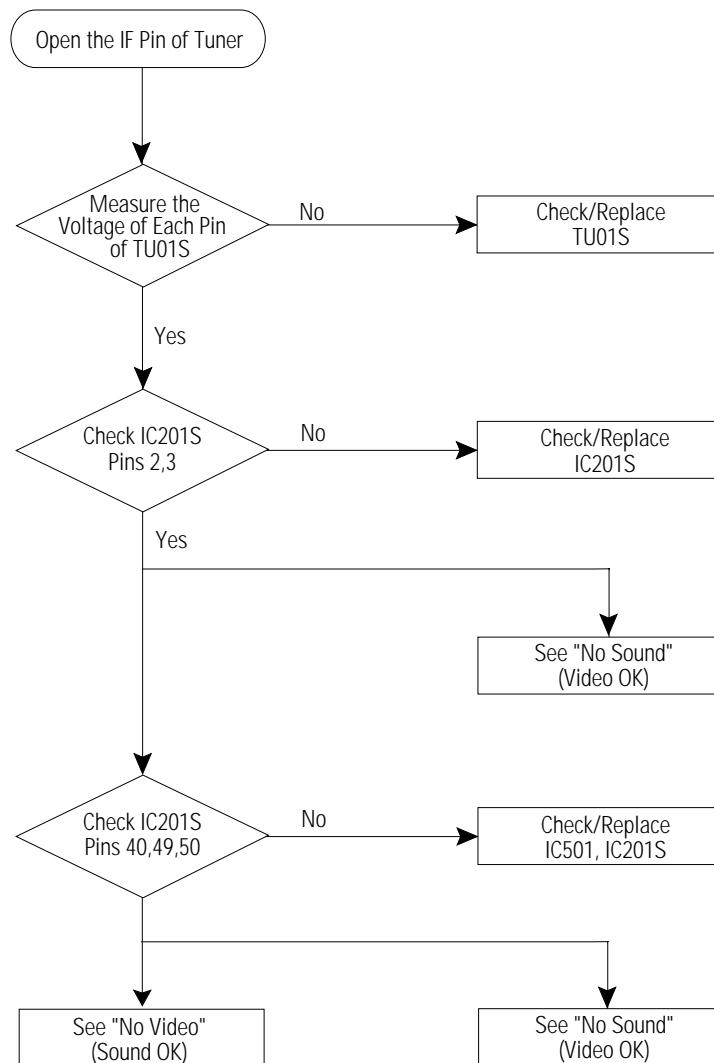


Fig. 4-9

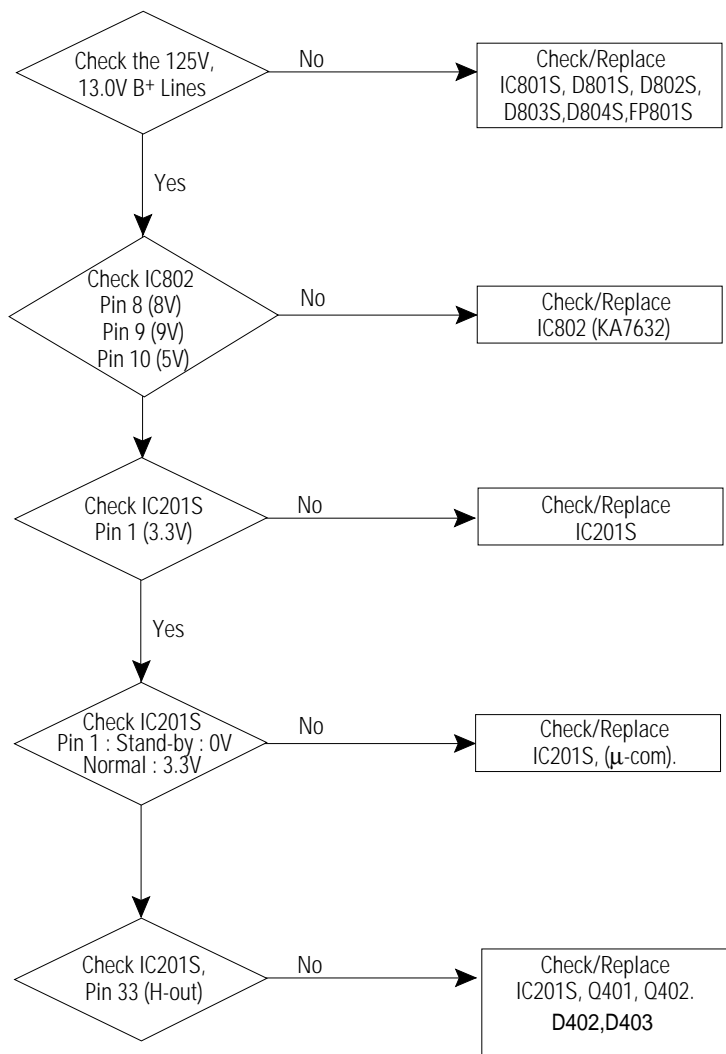
6. Adjust HS (using the width coil) so that the left and right margins of the picture are 5.

5. Troubleshooting

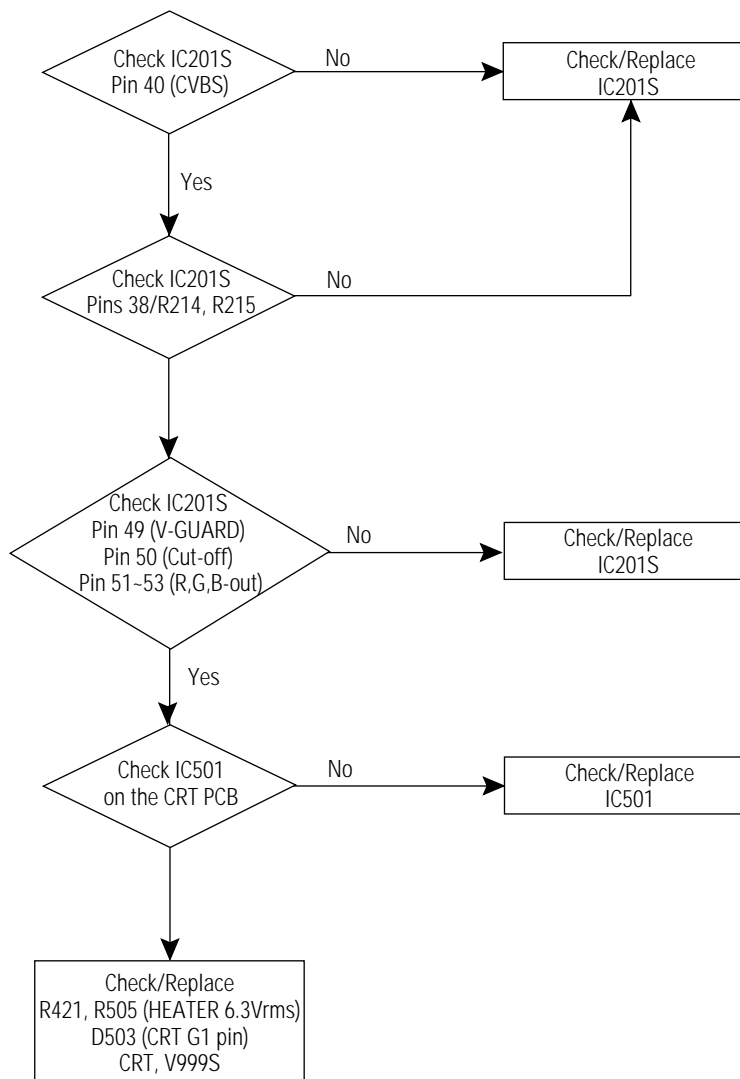
5-1 No Video (Raster On, No Sound)



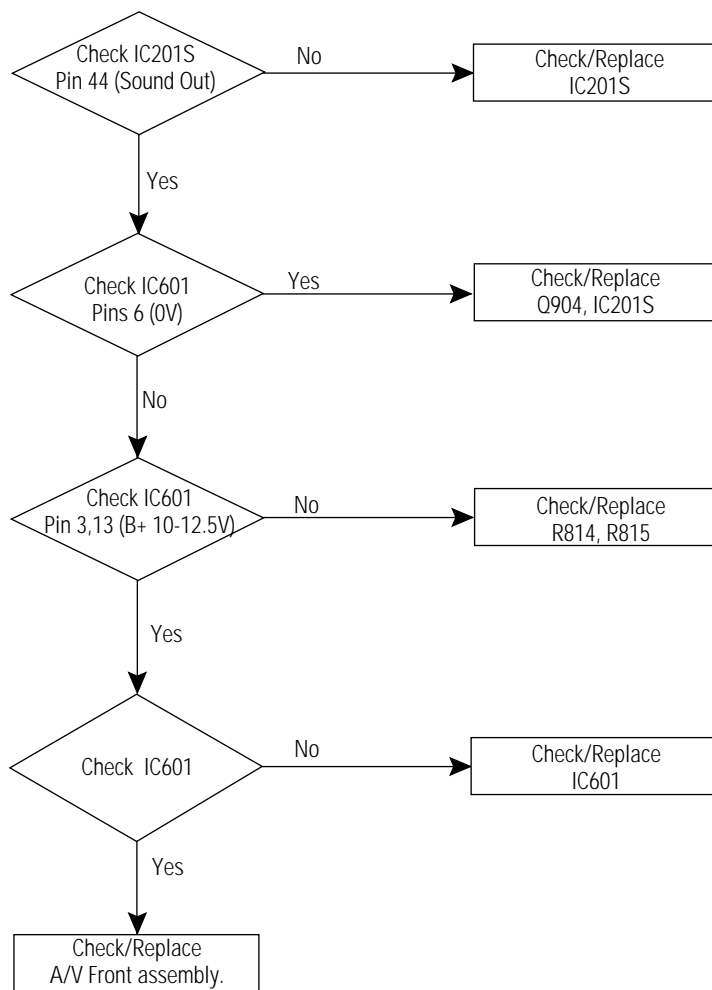
5-2 No Power



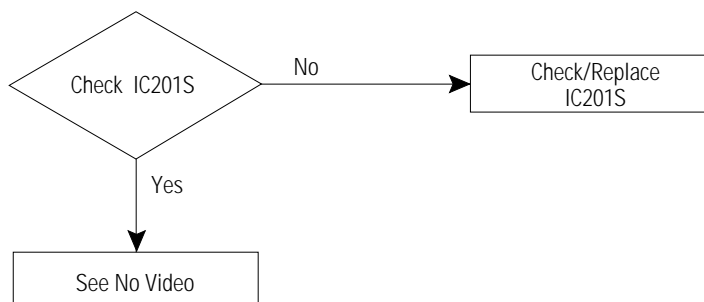
5-3 No Video (Sound OK)



5-4 No Sound (Video OK)



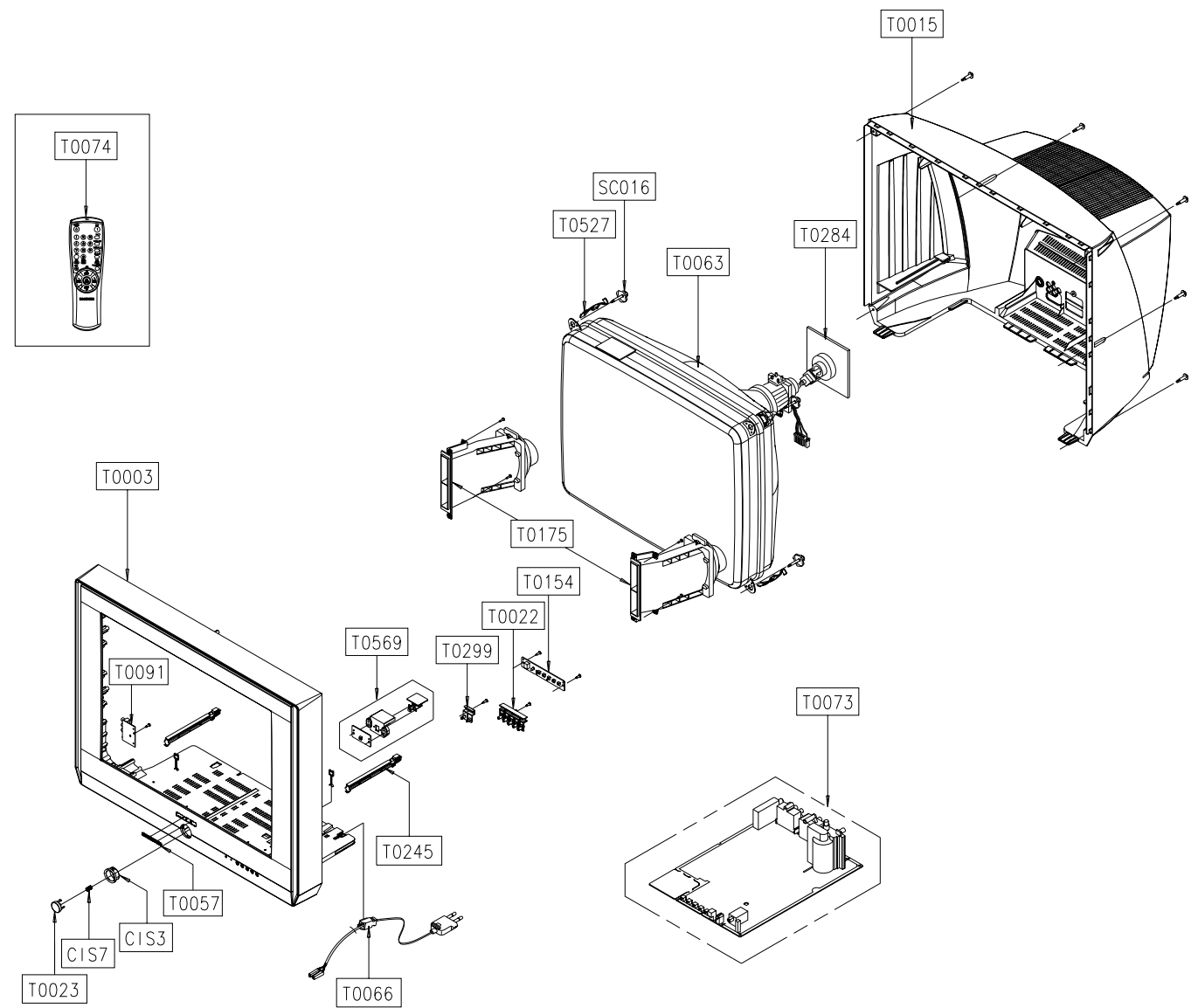
5-5 No TTX



6. Exploded View & Parts List

6-1 CS21M20MQZXBWT

You can search for the updated part code through ITSELF web site.
URL : <http://itself.sec.samsung.co.kr>



Remark	Code No	Description Specification	Q'ty	S.N.A
T0003	AA64-03863B	CABINET FRONT;21M20,HQ,TTSEC,HIPS,HB,G43	1	S.N.A
T0023	AA64-03860A	KNOB POWER;29M20,ABS,HB,G3676,SVM3012	1	S.N.A
CIS7	AA61-60003J	SPRING ETC-CS;- ,SUS304,- , - ,OD6,N7,OD6,- ,	1	S.N.A
CIS3	AA64-03862A	DECORATION-POWER;29M20,ABS,HB,G3676,AL	1	S.N.A
T0057	AA64-70123A	BADGE-BRAND;NEW,AL,L50,FLAT,SILVER,SAMSU	1	S.N.A
T0091	AA94-13917A	ASSY PCB MISC-A/V SIDE;21M16/21M20,KS9A	1	
T0245	AA61-00711D	HOLDER-PCB;29U1,U2,HIPS V0,BK502(HB-PROP	2	S.N.A
T0569	AA94-14275A	ASSY PCB MISC-MASTER;21M20,FULL-MONTY,KS	1	S.N.A
	AA64-03861A	WINDOW-RMC LED;29M20,PC,CLEAR	1	S.N.A
T0022	AA64-03859A	KNOB CONTROL;29M20,ABS,HB,G3676,SVM3012	1	S.N.A
T0154	AA94-14276A	ASSY PCB MISC-CONTROL;21M20,FULL-MONTY,K	1	
T0175	AA96-01572A	ASSY SPEAKER P;8ohm,semidome,10W,AA91-00	1	S.N.A
T0527	AA65-00009B	CLAMPER CORE-D,COIL;21A8,NYLON 66,V0,-,-	4	S.N.A
SC016	AA60-10050R	SCREW-ASSY;- ,SWRCH18A,M5,L31.5,HH,+ ,WC,-	4	S.N.A
T0063	AA03-00403A	CRT COLOR;A51QDX993X,0MG,1.75MH,18MH,3.1	1	
V999S	3704-001105	SOCKET-CRT;11P,20PI,26.5PI,NI,-	1	
T0015	AA64-03866A	CABINET BACK;21M20,TTSEC,HIPS,FV2,GR503,	1	
T0073	AA94-14029A	ASSY PCB MAIN;CS21M20MQZXBWT,FULL MONTY	1	
T0066	AA96-20109B	ASSY POWER CORD;- ,CP2/NO(4.0),H/C250,KKP	1	S.N.A
T0074	AA59-00332A	REMOCON;TM75,DEEP IMPACT,36,G6148,PAL,EX	1	

You can search for the updated part code through ITSELF web site.
URL : <http://itself.sec.samsung.co.kr>

7. Electrical Parts List

7-1 CS21M20MQZXBWT

Level	Loc. No.	Code No.	Description ; Specification	Remark	Level	Loc. No.	Code No.	Description ; Specification	Remark
ASSY COVER FRONT									
1	M0001	AA90-04993B	ASSY COVER FRONT;CS21M20MQZXBWT	S.N.A	...		0202-001366	SOLDER-WIRE FLUX:-,RS60S,D1 2.63Sn/37Pb,	S.N.A
.2	T0081	6003-001026	SCREW-TAPTITE:RH,+,B,M4,L15,ZPC(BLK),SWR	S.N.A	...	T0083	0402-001230	DIODE-RECTIFIER:FMG-G2CS,1000V,3A,DO-41,	
.2	T0081	6003-001026	SCREW-TAPTITE:RH,+,B,M4,L15,ZPC(BLK),SWR	S.N.A	...	T0083	0402-001599	DIODE-RECTIFIER:DGP30L,1500,3A,DO-201AD(
.2	T0081	6003-001268	SCREW-TAPTITE:TH,+,B,M4,L12,ZPC(YEL),SWR	S.N.A	...	T0090	0502-001160	TR-POWER:2SD2499,NPN,50000mW,T0-3PBK,8-	
.2	T0081	AA60-10002A	SCREW-TAPPING:-,ZPC(YEL),M4,L12,RH,+,-,-	S.N.A	...	IC112	1103-001106	IC-EEPROM:24C080,1Kx8Bit,DIP,8P,9.6x6.4mm	
.2	SC016	AA60-10050R	SCREW-ASSY:-,SWRCH18A,M5,L31.5,HH,+,-,WC,-	S.N.A	△	NT802S	1404-001045	THERMISTOR-NTC:4.7ohm,15%,2900K,35.0mW,T	
.2	T0081	AA60-10050T	SCREW-TAPPING:-,SWRCH18A,M4,L20,RH,+,-,2S,	S.N.A	...	P803T	1404-001265	THERMISTOR-PTC:4.50HM/1000HM,+30/-20%,22	
.2	T0175	AA96-01572A	ASSY SPEAKER P:8ohm,semidome,10W,AA91-00	S.N.A	...	RW701	2011-001133	R-NET:33K/24K/75x3,5%,1/8W,X,SIP,6P,TP	
.2	M0003	AA96-02057B	ASSY COVER P-FRONT:21M20,HQ,TTSEC,HIPS,H	S.N.A	△	C598	2201-000446	C-CERAMIC,DISC:3.3nF,20%,400V,Y5U,BK,15X	
...	T0081	6003-001019	SCREW-TAPTITE:RH,+,B,M4,L12,ZPC(BLK),SWR	S.N.A	...	C410A	2301-001402	C-FILM,LEAD-PPF:33nF,5%,630V,BK,20x11x17	
...	T0069	AA60-00091G	SPACER-FELT:-,FELT,200X10,-,-,BLK,T0.5,-	S.N.A	△	CX801S	2306-000318	C-FILM,LEAD-PPF:220nF,20%,250V,BK,-,22.5	
...	T0069	AA60-00091R	SPACER-FELT:-,FELT,250X10,-,-,BLK,T0.5,-	S.N.A	△	CR402S	2306-000350	C-FILM,LEAD-PPF:270nF,5%,400V,BK,26X18.5	
...	T0245	AA61-00711D	HOLDER-PCB:29U1,U2,HIPS VO,BK502(HB-PROP	S.N.A	△	CR410S	2306-000353	C-FILM,LEAD-PPF:6.3nF,5%,1.6KV,BK,26.5x8	
...	CIS7	AA61-60003J	SPRING ETC-CS:-,SUS304,-,-,OD6,N7,OD6,-,	S.N.A	...	C701	2401-003030	C-AL:220uF,20%,450V,GPBK,30x35,10	
...	T0022	AA64-03859A	KNOB CONTROL:29M20,ABS,HB,G3676,SVM3012	S.N.A	...	X901	2801-003937	CRYSTAL-UNIT:12MHz,25ppm,28-AAM,30pF,300	
...	T0023	AA64-03860A	KNOB POWER:29M20,ABS,HB,G3676,SVM3012	S.N.A	△	SF101S	2904-000302	FILTER-SAW AV:38.9MHz,SIP5K,ST,15.4dB/B/	
...		AA64-03861A	WINDOW-RMC LED:29M20,PC,CLEAR	S.N.A	△	FP801S	3601-001012	FUSE:250V,4A,SLOW-BLOW,GLASS,5.2x20mm	
...	CIS3	AA64-03862A	DECORATION-POWER:29M20,ABS,HB,G3676,AL	S.N.A	△	V999S	3704-001105	SOCKET-CRT:11P,20PI,26.5PI,Ni-	
...	CIS3	AA64-03863B	CABINET FRONT:21M20,HQ,TTSEC,HIPS,HB,G43	S.N.A	...	CN906	3711-000628	CONNECTOR-HEADER BOX,11P,1R,2.5MM,STRAIG	
...	T0057	AA64-70123A	BADGE-BRAND:NEW,ALL,LS0,FLAT,SILVER,SAMSU	S.N.A	...	CN906	3711-002642	CONNECTOR-HEADER BOX,3P,1R,2.5mm,STRAIGH	
...		AA65-00011C	CLAMPER CORE-WIRE:ALL MODEL,NYLON 66,V2,	S.N.A	△	CN906	3711-002643	CONNECTOR-HEADER BOX,4P,1R,2.5mm,STRAIGH	
...		AA65-30105A	CLAMPER CORE-WIRE:ALL MODEL,NYLON 66,V2,	S.N.A	△	JS701	3722-000183	JACK-SCART:21P,4mm,SN,BLK,NO	
...	T0382	BP61-00509A	HOLDER-CARE:PJT,ACRYL-FOAM,T0.25,W20.0mm	S.N.A	...	T0119	AA09-00411A	IC MICOM:TDA9351PS/N2/31,SPM-802EE5,64P,	
.2	T0382	BP61-00495A	HOLDER-CARE:PJT,ACRYL-FOAM,T0.25,W30.0mm	S.N.A	△	T801S	AA26-00134A	TRANS SWITCHING:-,CS21S5T,160V-260V,PM2 P	
ASSY COVER REAR					△	T0616	AA26-00201A	TRANS FBT:CA173B,KS1A-1.3.8mH,FERRITE,1	
1	M0002	AA90-04994B	ASSY COVER REAR:21M20,TTSEC(245),HIPS,FV	S.N.A	△	T401	AA26-50001B	TRANS-HORIZ DRIVE:-,-,-,7.1mH,-,-,102uH,	
.2	T0069	AA60-00091J	SPACER-FELT:-,FELT,330X10,-,-,BLK,T0.5,-	S.N.A	...	T0296	AA27-00122A	COIL LINEARITY:90UH,90UH,L81 DR10x10,7.5	
.2	T0015	AA64-03866A	CABINET BACK:21M20,TTSEC,HIPS,FV2,GR503,	S.N.A	△	LW01	AA27-00296A	COIL CHOKE:220UH,CPTTV,220UH,10%,3A,DR14	
.2	T0214	AA65-30008A	CLAMPER CORE-CORD:-,PE,HB,-,BLK,-	S.N.A	△	LX801S	AA29-00015A	FILTER LINE NOISE:WS32W8,28-20MH 1.5A,+	
ASSY CHASSIS					△	T0245	AA39-20620C	LEAD CONNECTOR-ASSY:9P500MM,YBNH250-09	
1	M0017	AA91-07648A	ASSY CHASSIS:CS21M20MQZXBWT,FULL MONTY K	S.N.A	...	TU01S	AA40-00067A	TUNER:TAE-G671D,-,PAL,181CH,38.9MHz,-,7	
.2	T0091	AA94-13917A	ASSY PCB MISC-A/V SIDE:21M16/21M20,KS9A		...	GT301	AA60-40012D	PIN-GT,ASSY:T1.6-12.5,-,NYLON66	S.N.A
...		0202-001366	SOLDER-WIRE FLUX:-,RS60S,D1 2.63Sn/37Pb,	S.N.A	...		AA95-03275A	ASSY SUB PCB-STEREO:CIS-CS CZ-SYSTEM,A2,	S.N.A
...	JE601	3722-000143	JACK-PHONE:1P(VER),3.4PI,AG,BLK,NO		...		0202-001366	SOLDER-WIRE FLUX:-,RS60S,D1 2.63Sn/37Pb,	S.N.A
...	JR01	3722-001031	JACK-PIN:3P3.6mm,#18,AU		...	IC101	1204-001583	IC-IF CIRCUIT:U4468B,DIP,16P,-,PLASTIC,5	
...	T0245	AA39-00094A	LEAD CONNECTOR-ASSY:3(2)P,200MM,YBNH250		...	XS01	2801-004020	CRYSTAL-UNIT:18.432MHz,30ppm,28-AAM,12pF	
...	T0245	AA39-20461C	LEAD CONNECTOR-ASSY:11P,300MM,YBNH250-1		...	CN906	3711-002706	CONNECTOR-HEADER:NOWALL,8P,1R,2.5mm,ANGL	
...		AA97-14337B	ASSY AUTO:CS21D8SX/ANB,KS1A	S.N.A	...	CN906	3711-002708	CONNECTOR-HEADER:NOWALL,10P,1R,2.5mm,ANG	
...	R075	2001-001153	R-CARBON(S):470HM,5%,1/2W,AA,TP,2.4x6.4MM		...	T0245	AA39-00095A	LEAD CONNECTOR-ASSY:3(2)P,200MM,YBNH250	
...	R075	2001-001153	R-CARBON(S):470HM,5%,1/2W,AA,TP,2.4x6.4MM		...	T0245	AA39-00276A	LEAD CONNECTOR-ASSY:UL1185#26,UL/CSA,6P	
...	C689	2202-000121	C-CERAMIC,MLC-AXIAL:100pF,10%,50V,Y5P,TP		...	ICS01	1204-002038	IC-SOUND PROCESSOR:MSP3410G-PO-83V3,PSDI	
...	C689	2202-000121	C-CERAMIC,MLC-AXIAL:100pF,10%,50V,Y5P,TP		...	HCP01	AA61-10068A	BRACKET-PCB:M2160,SPT,TO,3,-,-,-	S.N.A
...	C689	2202-000222	C-CERAMIC,MLC-AXIAL:3.3nF,20%,16V,Y5P,TP		...		AA97-14855A	ASSY AUTO-STEREO:CS21M20MQZXBWT,FULL MON	S.N.A
...	C689	2202-000222	C-CERAMIC,MLC-AXIAL:3.3nF,20%,16V,Y5P,TP		...	ICS02	1203-000515	IC-VOL DETECTOR:7042,TO-92,3P,177MIL,PL	
...	C701	2401-000025	C-AL:100uF,20%,16V,GP,TP,6.3x11.5		...	R125	2001-000281	R-CARBON:1000HM,5%,1/8W,AA,TP,1.8X3.2MM	
...	C701	2401-000025	C-AL:100uF,20%,16V,GP,TP,6.3x11.5		...	R125	2001-000281	R-CARBON:1000HM,5%,1/8W,AA,TP,1.8X3.2MM	
...	LE05	2701-000114	INDUCTOR-AXIAL:10UH,10%,2534		...	R125	2001-000281	R-CARBON:1000HM,5%,1/8W,AA,TP,1.8X3.2MM	
...	LE04	2701-000114	INDUCTOR-AXIAL:10UH,10%,2534		...	R125	2001-000290	R-CARBON:10KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
...	LE02	2701-000158	INDUCTOR-AXIAL:22UH,10%,2534		...	R125	2001-000362	R-CARBON:1500HM,5%,1/8W,AA,TP,1.8X3.2MM	
...	LE01	2701-000158	INDUCTOR-AXIAL:22UH,10%,2534		...	R125	2001-000429	R-CARBON:1KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
0		AA41-00567B	PCB-SIDE A/V:CS21D8,FR-1,1LB,245X245,KS	S.N.A	...	R125	2001-000429	R-CARBON:1KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
.2	T0073	AA94-14029A	ASSY PCB MAIN:CS21M20MQZXBWT,FULL MONTY		...	R125	2001-000515	R-CARBON:220OHM,5%,1/8W,AA,TP,1.8X3.2MM	
					...	R125	2001-000780	R-CARBON:470OHM,5%,1/8W,AA,TP,1.8X3.2MM	
					...	C598	2201-000112	C-CERAMIC,DISC:1.5nF,10%,50V,Y5V,TP5X3	
					...	C598	2201-000304	C-CERAMIC,DISC:0.001nF,0.25PF,50V,COG,TP	
					...	C598	2201-000304	C-CERAMIC,DISC:0.001nF,0.25PF,50V,COG,TP	
					...	C598	2201-000471	C-CERAMIC,DISC:0.33nF,10%,50V,Y5P,TP4X3	
					...	C689	2202-000121	C-CERAMIC,MLC-AXIAL:100pF,10%,50V,Y5P,TP	
					...	C689	2202-000127	C-CERAMIC,MLC-AXIAL:10nF,+80-20%,25V,Y5V	
					...	C689	2202-000279	C-CERAMIC,MLC-AXIAL:47pF,5%,50V,SL,TP,3	
					...	C689	2202-000286	C-CERAMIC,MLC-AXIAL:56pF,5%,50V,SL,TP,1	
					...	C2560	2301-000111	C-FILM,LEAD-PEF:1.8nF,5%,50V,TP,6.5x3.0x	
					...	C2560	2301-000111	C-FILM,LEAD-PEF:1.8nF,5%,50V,TP,6.5x3.0x	

Level	Loc. No.	Code No.	Description ; Specification	Remark
...	R125	2001-000281	R-CARBON:100OHM,5%,1/8W,AA,TP1.8X3.2MM	
...	R125	2001-000281	R-CARBON:100OHM,5%,1/8W,AA,TP1.8X3.2MM	
...	R125	2001-000281	R-CARBON:100OHM,5%,1/8W,AA,TP1.8X3.2MM	
...	R125	2001-000281	R-CARBON:100OHM,5%,1/8W,AA,TP1.8X3.2MM	
...	R125	2001-000290	R-CARBON:10KOHM,5%,1/8W,AA,TP1.8X3.2MM	
...	R125	2001-000290	R-CARBON:10KOHM,5%,1/8W,AA,TP1.8X3.2MM	
...	R125	2001-000290	R-CARBON:10KOHM,5%,1/8W,AA,TP1.8X3.2MM	
...	R125	2001-000290	R-CARBON:10KOHM,5%,1/8W,AA,TP1.8X3.2MM	
...	R125	2001-000290	R-CARBON:10KOHM,5%,1/8W,AA,TP1.8X3.2MM	
...	R125	2001-000290	R-CARBON:10KOHM,5%,1/8W,AA,TP1.8X3.2MM	
...	R125	2001-000290	R-CARBON:10KOHM,5%,1/8W,AA,TP1.8X3.2MM	
...	R125	2001-000290	R-CARBON:10KOHM,5%,1/8W,AA,TP1.8X3.2MM	
...	R125	2001-000290	R-CARBON:10KOHM,5%,1/8W,AA,TP1.8X3.2MM	
...	R125	2001-000290	R-CARBON:10KOHM,5%,1/8W,AA,TP1.8X3.2MM	
...	R125	2001-000319	R-CARBON:120KOHM,5%,1/8W,AA,TP1.8X3.2MM	
...	R125	2001-000325	R-CARBON:120KOHM,5%,1/8W,AA,TP1.8X3.2MM	
...	R125	2001-000325	R-CARBON:120KOHM,5%,1/8W,AA,TP1.8X3.2MM	
...	R125	2001-000429	R-CARBON:1KOHM,5%,1/8W,AA,TP1.8X3.2MM	
...	R125	2001-000429	R-CARBON:1KOHM,5%,1/8W,AA,TP1.8X3.2MM	
...	R125	2001-000449	R-CARBON:2.2KOHM,5%,1/8W,AA,TP1.8X3.2MM	
...	R125	2001-000449	R-CARBON:2.2KOHM,5%,1/8W,AA,TP1.8X3.2MM	
...	R125	2001-000472	R-CARBON:2.7KOHM,5%,1/8W,AA,TP1.8X3.2MM	
...	R125	2001-000472	R-CARBON:2.7KOHM,5%,1/8W,AA,TP1.8X3.2MM	
...	R125	2001-000563	R-CARBON:27KOHM,5%,1/8W,AA,TP1.8X3.2MM	
...	R125	2001-000563	R-CARBON:27KOHM,5%,1/8W,AA,TP1.8X3.2MM	
...	R125	2001-000563	R-CARBON:27KOHM,5%,1/8W,AA,TP1.8X3.2MM	
...	R125	2001-000591	R-CARBON:3.3KOHM,5%,1/8W,AA,TP1.8X3.2MM	
...	R125	2001-000591	R-CARBON:3.3KOHM,5%,1/8W,AA,TP1.8X3.2MM	
...	R125	2001-000591	R-CARBON:3.3KOHM,5%,1/8W,AA,TP1.8X3.2MM	
...	R125	2001-000645	R-CARBON:33KOHM,5%,1/8W,AA,TP1.8X3.2MM	
...	R125	2001-000660	R-CARBON:33KOHM,5%,1/8W,AA,TP1.8X3.2MM	
...	R125	2001-000734	R-CARBON:4.7KOHM,5%,1/8W,AA,TP1.8X3.2MM	
...	R125	2001-000734	R-CARBON:4.7KOHM,5%,1/8W,AA,TP1.8X3.2MM	
...	R125	2001-000739	R-CARBON:4.7MOHM,5%,1/8W,AA,TP1.8X3.2MM	
...	R125	2001-000739	R-CARBON:4.7MOHM,5%,1/8W,AA,TP1.8X3.2MM	
...	R125	2001-000786	R-CARBON:47KOHM,5%,1/8W,AA,TP1.8X3.2MM	
...	R125	2001-000793	R-CARBON:47OHM,5%,1/8W,AA,TP1.8X3.2MM	
...	R125	2001-000857	R-CARBON:560OHM,5%,1/8W,AA,TP1.8X3.2MM	
...	R125	2001-000857	R-CARBON:560OHM,5%,1/8W,AA,TP1.8X3.2MM	
...	R125	2001-000857	R-CARBON:560OHM,5%,1/8W,AA,TP1.8X3.2MM	
...	R125	2001-000857	R-CARBON:560OHM,5%,1/8W,AA,TP1.8X3.2MM	
...	R125	2001-000878	R-CARBON:6.2KOHM,5%,1/8W,AA,TP1.8X3.2MM	
...	R125	2001-000878	R-CARBON:6.2KOHM,5%,1/8W,AA,TP1.8X3.2MM	
...	R125	2001-000924	R-CARBON:680OHM,5%,1/8W,AA,TP1.8X3.2MM	
...	R125	2001-000947	R-CARBON:7.5KOHM,5%,1/8W,AA,TP1.8X3.2MM	
...	R125	2001-000947	R-CARBON:7.5KOHM,5%,1/8W,AA,TP1.8X3.2MM	
...	R125	2001-000969	R-CARBON:75OHM,5%,1/8W,AA,TP1.8X3.2MM	
...	R125	2001-000969	R-CARBON:75OHM,5%,1/8W,AA,TP1.8X3.2MM	
...	R125	2001-001006	R-CARBON:82OHM,5%,1/8W,AA,TP1.8X3.2MM	
...	R075	2001-001062	R-CARBON(S):10MOHM,5%,1/2W,AA,TP2.4X6.4	
...	R075	2001-001078	R-CARBON(S):15KOHM,5%,1/2W,AA,TP2.4X6.4	
...	R075	2001-001108	R-CARBON(S):22KOHM,5%,1/2W,AA,TP2.4X6.4	
...	R075	2001-001114	R-CARBON(S):270OHM,5%,1/2W,AA,TP2.4X6.4	
...	R075	2001-001116	R-CARBON(S):270OHM,5%,1/2W,AA,TP2.4X6.4M	
...	R075	2001-001117	R-CARBON(S):2KOHM,5%,1/2W,AA,TP2.4X6.4M	
...	R075	2001-001117	R-CARBON(S):2KOHM,5%,1/2W,AA,TP2.4X6.4M	
...	R075	2001-001122	R-CARBON(S):3.9KOHM,5%,1/2W,AA,TP2.4X6.4	
...	R075	2001-001138	R-CARBON(S):390OHM,5%,1/2W,AA,TP2.4X6.4	
...	R075	2001-001150	R-CARBON(S):47KOHM,5%,1/2W,AA,TP2.4X6.4	
...	R075	2001-001150	R-CARBON(S):47KOHM,5%,1/2W,AA,TP2.4X6.4	
...	R075	2001-001194	R-CARBON(S):82KOHM,5%,1/2W,AA,TP2.4X6.4	
...	RX801S	2002-000133	R-COMPOSITION:3.3Mohm,5%,1/2W,AA,TP3.5x	
...	R501H	2002-001008	R-COMPOSITION:1.8Kohm,10%,1/2W,AA,TP3.7	
...	R502H	2002-001008	R-COMPOSITION:1.8Kohm,10%,1/2W,AA,TP3.7	
...	R503	2002-001008	R-COMPOSITION:1.8Kohm,10%,1/2W,AA,TP3.7	
...	RY801S	2002-001012	R-COMPOSITION:8.2Mohm,5%,1/2W,AA,TP3.7x	
...	R413	2003-000592	R-METAL OXIDE(S):22ohm,5%,2W,AF,TP4x12m	
...	R403	2003-000784	R-METAL OXIDE(S):7.5Kohm,5%,2W,AF,TP4x1	
...	R827	2003-000998	R-METAL OXIDE:300ohm,5%,2W,AF,TP3.9x10m	
...	R802	2003-001040	R-METAL OXIDE(S):47Kohm,5%,2W,AF,TP3.9x	
...	R834	2003-001040	R-METAL OXIDE(S):47Kohm,5%,2W,AF,TP3.9x	
...	R837	2003-001091	R-METAL OXIDE(S):10ohm,5%,2W,AF,TP4x12m	
...	R838	2003-001091	R-METAL OXIDE(S):10ohm,5%,2W,AF,TP4x12m	
...	R839	2003-001091	R-METAL OXIDE(S):10ohm,5%,2W,AF,TP4x12m	

Level	Loc. No.	Code No.	Description ; Specification	Remark
...	R315	2003-0002069	R-METAL OXIDE:470ohm,5%,2W,AF,TP3.9x10m	
...	R316	2003-0002069	R-METAL OXIDE:470ohm,5%,2W,AF,TP3.9x10m	
...	R407	2003-002209	R-METAL OXIDE(S):47Kohm,5%,2W,AG,TP3.9X	
...	R814	2003-002228	R-METAL OXIDE(S):0.47ohm,5%,2W,AG,TP3.9	
...	R811	2003-002239	R-METAL OXIDE(S):100KOHM,5%,2W,AF,TP3.9	
...	R812	2003-002239	R-METAL OXIDE(S):100KOHM,5%,2W,AF,TP3.9	
...	R303	2003-002279	R-METAL OXIDE(S):1.20HM,5%,2W,AG,TP5.6X	
...	R401	2003-002288	R-METAL OXIDE(S):2.2KOHM,5%,2W,AF,TP3.9	
...	R402	2003-002288	R-METAL OXIDE(S):2.2KOHM,5%,2W,AF,TP3.9	
...	R024	2004-001402	R-METAL(S):6.8Kohm,1%,1/2W,AA,TP2.4x6.4	
...	R219	2004-001914	R-METAL:39Kohm,2%,1/8W,AA,TP1.8x3.5mm	
...	R024	2004-001970	R-METAL(S):1.8Kohm,1%,1/2W,AA,TP6.5x2.5	
...	R024	2004-004089	R-METAL(S):123Kohm,1%,1/2W,AA,TP2.5x6.5	
...	R306	2004-004097	R-METAL:1.6Kohm,2%,1/2W,AA,TP6.5x2.5m	
...	R304	2008-000264	R-FUSIBLE(S):1ohm,5%,1W,AF,TP3.9x10mm	
...	R825	2008-000284	R-FUSIBLE(S):0.1OHM,10%,2W,AF,TP3.9X10M	
...	R824	2008-000294	R-FUSIBLE(S):33ohm,5%,2W,AF,TP3.9x10mm	
...	R420	2008-001062	R-FUSIBLE:39ohm,5%,2W,AF,TP3.9x10mm	
...	R421	2008-001148	R-FUSIBLE:3.3Kohm,2%,1W,AG,TP3.9X12MM	
...	R505	2008-001149	R-FUSIBLE(S):0.22OHM,5%,2W,AF,TP3.8X11M	
...	R305	2008-001159	R-FUSIBLE(S):1.5OHM,5%,1W,AF,TP3.9X10MM	
...	C598	2201-000259	C-CERAMIC,DISC:0.18NF,10%,500V,Y5P,TP5	
...	C598	2201-000467	C-CERAMIC,DISC:0.33NF,10%,2KV,Y5P,TP6.3	
...	C598	2201-000556	C-CERAMIC,DISC:0.47NF,10%,500V,Y5P,TP5	
...	C598	2201-000556	C-CERAMIC,DISC:0.47NF,10%,500V,Y5P,TP5	
...	C598	2201-000573	C-CERAMIC,DISC:0.047NF,5%,50V,COG,TP5X3	
...	C598	2201-000573	C-CERAMIC,DISC:0.047NF,5%,50V,COG,TP5X3	
...	C598	2201-000599	C-CERAMIC,DISC:0.56NF,10%,500V,Y5P,TP5	
...	C598	2201-000639	C-CERAMIC,DISC:0.68NF,10%,2KV,Y5P,TP9X5	
...	C598	2201-000723	C-CERAMIC,DISC:4.7NF,20%,3KV,Y5U,TP16X5	
...	C598	2201-000991	C-CERAMIC,DISC:0.56NF,10%,2KV,Y5P,TP7.5	
...	C598	2201-000991	C-CERAMIC,DISC:0.56NF,10%,2KV,Y5P,TP7.5	
...	C689	2202-000121	C-CERAMIC,MLC-AXIAL:100pF,10%,50V,Y5P,TP	
...	C689	2202-000121	C-CERAMIC,MLC-AXIAL:100pF,10%,50V,Y5P,TP	
...	C689	2202-000121	C-CERAMIC,MLC-AXIAL:100pF,10%,50V,Y5P,TP	
...	C689	2202-000121	C-CERAMIC,MLC-AXIAL:100pF,10%,50V,Y5P,TP	
...	C689	2202-000127	C-CERAMIC,MLC-AXIAL:10nF,+80-20%,25V,Y5V	
...	C689	2202-000127	C-CERAMIC,MLC-AXIAL:10nF,+80-20%,25V,Y5V	
...	C689	2202-000210	C-CERAMIC,MLC-AXIAL:270pF,10%,50V,Y5P,TP	
...	C689	2202-000279	C-CERAMIC,MLC-AXIAL:47pF,5%,50V,SL,TP3	
...	C689	2202-000632	C-CERAMIC,MLC-AXIAL:100nF,20%,50V,Z5U,TP	
...	C689	2202-000796	C-CERAMIC,MLC-AXIAL:1NF,10%,50V,Y5P,TP3	
...	C689	2202-000796	C-CERAMIC,MLC-AXIAL:1NF,10%,50V,Y5P,TP3	
...	C689	2202-000796	C-CERAMIC,MLC-AXIAL:1NF,10%,50V,Y5P,TP3	
...	C689	2202-000796	C-CERAMIC,MLC-AXIAL:1NF,10%,50V,Y5P,TP3	
...	C2560	2301-000004	C-FILM,LEAD-PEF:2.2nF,5%,100V,TP5.5X10X	
...	C2560	2301-000004	C-FILM,LEAD-PEF:2.2nF,5%,100V,TP5.5X10X	
...	C2560	2301-000013	C-FILM,LEAD-PEF:4.7nF,5%,100V,TP10.5x12	
...	C2560	2301-000013	C-FILM,LEAD-PEF:4.7nF,5%,100V,TP10.5x12	
...	C2560	2301-000016	C-FILM,LEAD-PEF:22nF,5%,100V,TP7.2x4.5x	
...	C2560	2301-000016	C-FILM,LEAD-PEF:22nF,5%,100V,TP7.2x4.5x	
...	C2560	2301-000148	C-FILM,LEAD-PEF:10nF,5%,100V,TP7x3.2x7m	
...	C2560	2301-000148	C-FILM,LEAD-PEF:10nF,5%,100V,TP7x3.2x7m	
...	C2560	2301-000148	C-FILM,LEAD-PEF:10nF,5%,100V,TP7x3.2x7m	
...	C2560	2301-000213	C-FILM,LEAD-PEF:220nF,5%,250V,TP21.5x11	
...	C2560	2301-000233	C-FILM,LEAD-PEF:3.9nF,10%,100V,TP5.8x12	
...	C2560	2301-000253	C-FILM,LEAD-PEF:39nF,5%,100V,TP7.5X4.5X	
...	C2560	2301-000289	C-FILM,LEAD-PEF:5.6nF,5%,50V,TP7x6x3.5	
...	C2560	2301-000289	C-FILM,LEAD-PEF:5.6nF,5%,50V,TP7x6x3.5	
...	C420	2301-001065	C-FILM,LEAD-PPF:47nF,5%,630V,TP19x15.5x	
...	C806	2301-001435	C-FILM,LEAD-PPF:1.5nF,5%,1.2KV,TP15x8x1	
...	C225	2301-001664	C-FILM,LEAD-OTHER:100nF,3%,50V,TP20x16x	
...	C2560	2305-000149	C-FILM,LEAD-PEF:100nF,5%,100V,TP12x12.5	
...	C2560	2305-000285	C-FILM,LEAD-PEF:220nF,5%,100V,TP10.5X5	
...	C2560	2305-000289	C-FILM,LEAD-PEF:220nF,5%,63V,TP-,5mm	
...	C2560	2305-000289	C-FILM,LEAD-PEF:220nF,5%,63V,TP-,5mm	
...	C2560	2305-000289	C-FILM,LEAD-PEF:220nF,5%,63V,TP-,5mm	
...	C2560	2305-000289	C-FILM,LEAD-PEF:220nF,5%,63V,TP-,5mm	
...	C2560	2305-000289	C-FILM,LEAD-PEF:220nF,5%,63V,TP-,5mm	
...	C2560	2305-000289	C-FILM,LEAD-PEF:220nF,5%,63V,TP-,5mm	
...	C2560	2305-000289	C-FILM,LEAD-PEF:220nF,5%,63V,TP-,5mm	
...	C2560	2305-000382	C-FILM,LEAD-PEF:4.7nF,5%,400V,TP-,5mm	
...	C2560	2305-000412	C-FILM,LEAD-PEF:470nF,5%,63V,TP-,5mm	
...	C2560	2305-000412	C-FILM,LEAD-PEF:470nF,5%,63V,TP-,5mm	
...	C2560	2305-000665	C-FILM,LEAD-PEF:100nF,5%,63V,TP7.5x4.0x	
...	C2560	2305-000665	C-FILM,LEAD-PEF:100nF,5%,63V,TP7.5x4.0x	

Level	Loc. No.	Code No.	Description ; Specification	Remark
△	L2514	3301-000287	BEAD-AXIAL;-;3.5x1.0x6.0mm,3000mA,TP,,50
△	FD801S	3601-001086	FUSE-AXIAL LEAD;125V,5A,FAST-ACTING,GLAS
△	F801A	3602-000114	FUSE-HOLDER;-;-,30mohm
△	F801B	3602-000114	FUSE-HOLDER;-;-,30mohm
△	CN906	3711-002645	CONNECTOR-HEADER;BOX,6P;1R,2.5mm,STRAIGH
△	CN906	3711-003043	CONNECTOR-HEADER;BOX,4P;1R,2.5MM,STRAIGH
△	EL403	6042-000001	EYELET;ID2.2,OD2.7,L3.1,NI+SN,BSP3-1/2H
△	EL404	6042-000001	EYELET;ID2.2,OD2.7,L3.1,NI+SN,BSP3-1/2H
△	EL801	6042-000001	EYELET;ID2.2,OD2.7,L3.1,NI+SN,BSP3-1/2H
△	EL802	6042-000001	EYELET;ID2.2,OD2.7,L3.1,NI+SN,BSP3-1/2H
△	EL804	6042-000001	EYELET;ID2.2,OD2.7,L3.1,NI+SN,BSP3-1/2H
△	EY101	6042-000002	EYELET;ID1.5,OD2.2,L2.8,NI+SN,BSP3-1/2H
△	EY401	6042-000002	EYELET;ID1.5,OD2.2,L2.8,NI+SN,BSP3-1/2H
△	EY402	6042-000002	EYELET;ID1.5,OD2.2,L2.8,NI+SN,BSP3-1/2H
△	EY403	6042-000002	EYELET;ID1.5,OD2.2,L2.8,NI+SN,BSP3-1/2H
△	EY404	6042-000002	EYELET;ID1.5,OD2.2,L2.8,NI+SN,BSP3-1/2H
△	EY405	6042-000002	EYELET;ID1.5,OD2.2,L2.8,NI+SN,BSP3-1/2H
△	EY406	6042-000002	EYELET;ID1.5,OD2.2,L2.8,NI+SN,BSP3-1/2H
△	EY407	6042-000002	EYELET;ID1.5,OD2.2,L2.8,NI+SN,BSP3-1/2H
△	EY408	6042-000002	EYELET;ID1.5,OD2.2,L2.8,NI+SN,BSP3-1/2H
△	EY409	6042-000002	EYELET;ID1.5,OD2.2,L2.8,NI+SN,BSP3-1/2H
△	EY410	6042-000002	EYELET;ID1.5,OD2.2,L2.8,NI+SN,BSP3-1/2H
△	EY411	6042-000002	EYELET;ID1.5,OD2.2,L2.8,NI+SN,BSP3-1/2H
△	EY412	6042-000002	EYELET;ID1.5,OD2.2,L2.8,NI+SN,BSP3-1/2H
△	EY414	6042-000002	EYELET;ID1.5,OD2.2,L2.8,NI+SN,BSP3-1/2H
△	EY415	6042-000002	EYELET;ID1.5,OD2.2,L2.8,NI+SN,BSP3-1/2H
△	EY416	6042-000002	EYELET;ID1.5,OD2.2,L2.8,NI+SN,BSP3-1/2H
△	EY417	6042-000002	EYELET;ID1.5,OD2.2,L2.8,NI+SN,BSP3-1/2H
△	EY418	6042-000002	EYELET;ID1.5,OD2.2,L2.8,NI+SN,BSP3-1/2H
△	EY419	6042-000002	EYELET;ID1.5,OD2.2,L2.8,NI+SN,BSP3-1/2H
△	EY420	6042-000002	EYELET;ID1.5,OD2.2,L2.8,NI+SN,BSP3-1/2H
△	EY422	6042-000002	EYELET;ID1.5,OD2.2,L2.8,NI+SN,BSP3-1/2H
△	EY423	6042-000002	EYELET;ID1.5,OD2.2,L2.8,NI+SN,BSP3-1/2H
△	EY501	6042-000002	EYELET;ID1.5,OD2.2,L2.8,NI+SN,BSP3-1/2H
△	EY801	6042-000002	EYELET;ID1.5,OD2.2,L2.8,NI+SN,BSP3-1/2H
△	EY802	6042-000002	EYELET;ID1.5,OD2.2,L2.8,NI+SN,BSP3-1/2H
△	EY803	6042-000002	EYELET;ID1.5,OD2.2,L2.8,NI+SN,BSP3-1/2H
△	EY807	6042-000002	EYELET;ID1.5,OD2.2,L2.8,NI+SN,BSP3-1/2H
△	EY808	6042-000002	EYELET;ID1.5,OD2.2,L2.8,NI+SN,BSP3-1/2H
△	EY809	6042-000002	EYELET;ID1.5,OD2.2,L2.8,NI+SN,BSP3-1/2H
△	EY810	6042-000002	EYELET;ID1.5,OD2.2,L2.8,NI+SN,BSP3-1/2H
△	EY813	6042-000002	EYELET;ID1.5,OD2.2,L2.8,NI+SN,BSP3-1/2H
△	EY818	6042-000002	EYELET;ID1.5,OD2.2,L2.8,NI+SN,BSP3-1/2H
△	EY819	6042-000002	EYELET;ID1.5,OD2.2,L2.8,NI+SN,BSP3-1/2H
△	EY821	6042-000002	EYELET;ID1.5,OD2.2,L2.8,NI+SN,BSP3-1/2H
△	EY822	6042-000002	EYELET;ID1.5,OD2.2,L2.8,NI+SN,BSP3-1/2H
△	EY823	6042-000002	EYELET;ID1.5,OD2.2,L2.8,NI+SN,BSP3-1/2H
△	EY824	6042-000002	EYELET;ID1.5,OD2.2,L2.8,NI+SN,BSP3-1/2H
△	EY825	6042-000002	EYELET;ID1.5,OD2.2,L2.8,NI+SN,BSP3-1/2H
△	EY827	6042-000002	EYELET;ID1.5,OD2.2,L2.8,NI+SN,BSP3-1/2H
△	EY828	6042-000002	EYELET;ID1.5,OD2.2,L2.8,NI+SN,BSP3-1/2H
△	EY829	6042-000002	EYELET;ID1.5,OD2.2,L2.8,NI+SN,BSP3-1/2H
△	EY830	6042-000002	EYELET;ID1.5,OD2.2,L2.8,NI+SN,BSP3-1/2H
△	EY833	6042-000002	EYELET;ID1.5,OD2.2,L2.8,NI+SN,B

Level	Loc. No.	Code No.	Description ; Specification	Remark
...	...	0202-001366	SOLDER-WIRE FLUX:-,RS60S,D1.2,63Sn/37Pb,	S.N.A
...	CN906	3711-004696	CONNECTOR-HEADER:NOWALL,3P1R,5MM,ANGLE,	
...	CN906	3711-004697	CONNECTOR-HEADER:NOWALL,3P1R,5MM,ANGLE,	
...	T0081	6003-000333	SCREW-TAPTITE:RH,+,2S,M3,L10,ZPC(YEL),SW	S.N.A
...	T0062	AA61-01376A	HOLDER-POWER:HIPS V0,29M20,BLK	S.N.A
...	...	AA97-14856A	ASSY AUTO-PCB:CS21M20MQZXBWT,FULL MONTY	S.N.A
...	...	AA41-01056A	PCB SUB-MASTER S/W:CS21M20MQ,FR-1,1,A,24	S.N.A
...	SW811S	3403-001107	SWITCH-PUSH:250V,5A,DPST,-,KDC-A04	
...	T0098	AA94-14276A	ASSY PCB MISC-CONTROL:21M20,FULL-MONTY,K	
...	...	0202-001366	SOLDER-WIRE FLUX:-,RS60S,D1.2,63Sn/37Pb,	S.N.A
...	LDY02	0601-001502	LED:ROUND,GRN,4.75mm,565nm	
...	D0254	AA32-00012A	MODULE REMOCON:ORC-50HF2,38KHZ,940NM,MES	
...	T0245	AA39-20005A	LEAD CONNECTOR-ASSY:,3P500,YBNH025-03,6	
...	T0245	AA39-20052A	LEAD CONNECTOR-ASSY:,4P300,YBNH025-04,Y	
...	...	AA97-14854A	ASSY AUTO-CONTROL:CS21M20MQZXBWT,FULL MO	S.N.A
...	DZ016	0403-000508	DIODE-ZENER:MTZJ5.6B,5.45-5.73V,500MW,DO	
...	DZ016	0403-000508	DIODE-ZENER:MTZJ5.6B,5.45-5.73V,500MW,DO	
...	R125	2001-000005	R-CARBON:390ohm,5%,1/8W,AA,TP,1.8X3.2mm	
...	R125	2001-000005	R-CARBON:390ohm,5%,1/8W,AA,TP,1.8X3.2mm	
...	R125	2001-000241	R-CARBON:1.5KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
...	R125	2001-000241	R-CARBON:1.5KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
...	R125	2001-000429	R-CARBON:1KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
...	R125	2001-000472	R-CARBON:2.7KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
...	R125	2001-000472	R-CARBON:2.7KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
...	R125	2001-000793	R-CARBON:470HM,5%,1/8W,AA,TP,1.8X3.2MM	
...	R125	2001-000924	R-CARBON:680OHM,5%,1/8W,AA,TP,1.8X3.2MM	
...	C701	2401-000302	C-AL:100uF,20%,25V,GP,TP,6.3x11.5	
...	SW02	3404-000176	SWITCH-TACT:12V,50mA,120gf,6x6mm,SPST	
...	SW03	3404-000176	SWITCH-TACT:12V,50mA,120gf,6x6mm,SPST	
...	SW04	3404-000176	SWITCH-TACT:12V,50mA,120gf,6x6mm,SPST	
...	SW05	3404-000176	SWITCH-TACT:12V,50mA,120gf,6x6mm,SPST	
...	SW06	3404-000176	SWITCH-TACT:12V,50mA,120gf,6x6mm,SPST	
...	...	AA41-01052A	PCB SUB-CONTROL:CS-21M20MQ,FR-1,1,A,245*	S.N.A

ASSY FIXING

1	AA91-07649A	ASSY FIXING:CS21M20MQZXBWT,FULL MONTY KS	S.N.A
...	T0245	AA39-20010D	LEAD CONNECTOR-ASSY:,1P400,YFH800-01,S,
...	T0245	AA39-20179A	LEAD CONNECTOR-ASSY:,3(2)P:300MM,YFH800-
...	...	AA61-01364A	HOLDER-COVER:KS1A,NYLON66,BLK,V2
...	...	AA65-30002A	CLAMPER CORE-FBT:-,NYLON-66,V0,-,BLK,-
...	...	AA65-30009A	CLAMPER CORE-FBT:-,ABS,V0,-,BLK,-
...	-	AA65-30018A	CLAMPER CORE-WIRE:DONG-A,NYLON-66,-,-,-,
...	CLAMP	AA65-30018A	CLAMPER CORE-WIRE:DONG-A,NYLON-66,-,-,-,
...	...	AA65-30111A	CLAMPER CORE-WIRE:ALL MODEL,NYLON,V0,-,W
...	T0066	AA96-20109B	ASSY POWER CORD:-,CP2/NO(4.0),H/C250,KKP
...	...	3811-001609	WIRE-PVC CU:BCWA,300V,ROLL,-,#22,BLK
...	T0077	AA39-10006X	CBF POWER CORD:-,KKP419C,KLCE-2F2.286MT
...	...	AA61-20284A	HOLDER:P-CORD,PP,-,-,BLK,V0,KE-002

ASSY ACCESSORY

1	M0045	AA92-08848A	ASSY ACCESSORY:CS21M20MQZXBWT,KS9A,FULLM	S.N.A
...	...	6801-001073	CARD-REGISTRATION:RUS,XEV,RUS,MOJO100,-,	S.N.A
...	T0080	AA26-90001C	TRANS MATCHING:-,300ohm/75ohm,PAL,40-890	
...	T0075	AA42-00003A	ANT ROD:-,3S,720mm,ABS,UL/CSA,-	
...	T0269	AA68-01120A	MANUAL SERVICE:-,CIS,A4,6PAGE(FOLD),W/	S.N.A
...	...	AA68-01402A	MANUAL-GOOD WILL LETTER:CIS,B5,1PAGE,A/	S.N.A
...	...	6902-000110	BAG PE:LDPE,TO.05,L356,W240,TRP,28,2,PE	S.N.A
...	T0074	AA59-00332A	REMOCON:TM75,DEEP IMPACT,36,G6148,PAL,EX	
...	T0511	AA68-03124A	MANUAL USERS:CS21V10,UI,RUSSIA,CIS,W/P10	S.N.A
...	1	AA68-03242A	MANUAL-01,SAFETY GUIDE:NT/PAL ALL MODEL,	S.N.A
...	...	AA68-03278A	MANUAL-00,CARD WARRANTY:CIS ALL MODEL,CI	S.N.A
...	...	AA68-00952A	CARD-COUPON:-,A/P100(G),AA68-00949A,-,-,	S.N.A
...	...	AA68-00816B	CARD WARRANTY-03;RUSSINA,2,W/P 120G,BOT	S.N.A

ASSY P/MATERIAL

Level	Loc. No.	Code No.	Description ; Specification	Remark
1	...	AA92-08951A	ASSY P/MATERIAL:21M20,HQ,TTSEC(245)	S.N.A
...	...	6902-000001	BAG AIR:LDPE,TO.2,L1800,W1000,TRP,,,LDPE	S.N.A
...	...	6902-000005	BAG PE:HDPE/NITRON/HDPE,TO.015/TO.5/TO.0	S.N.A
...	...	6902-000061	BAG AIR:LDPE,TO.2,L1000,W500,TRP,,,	S.N.A
...	T0214	AA60-40006A	PIN-STAPLE:AUTO,33X17.8X2.4,H18,33X17.8X	S.N.A

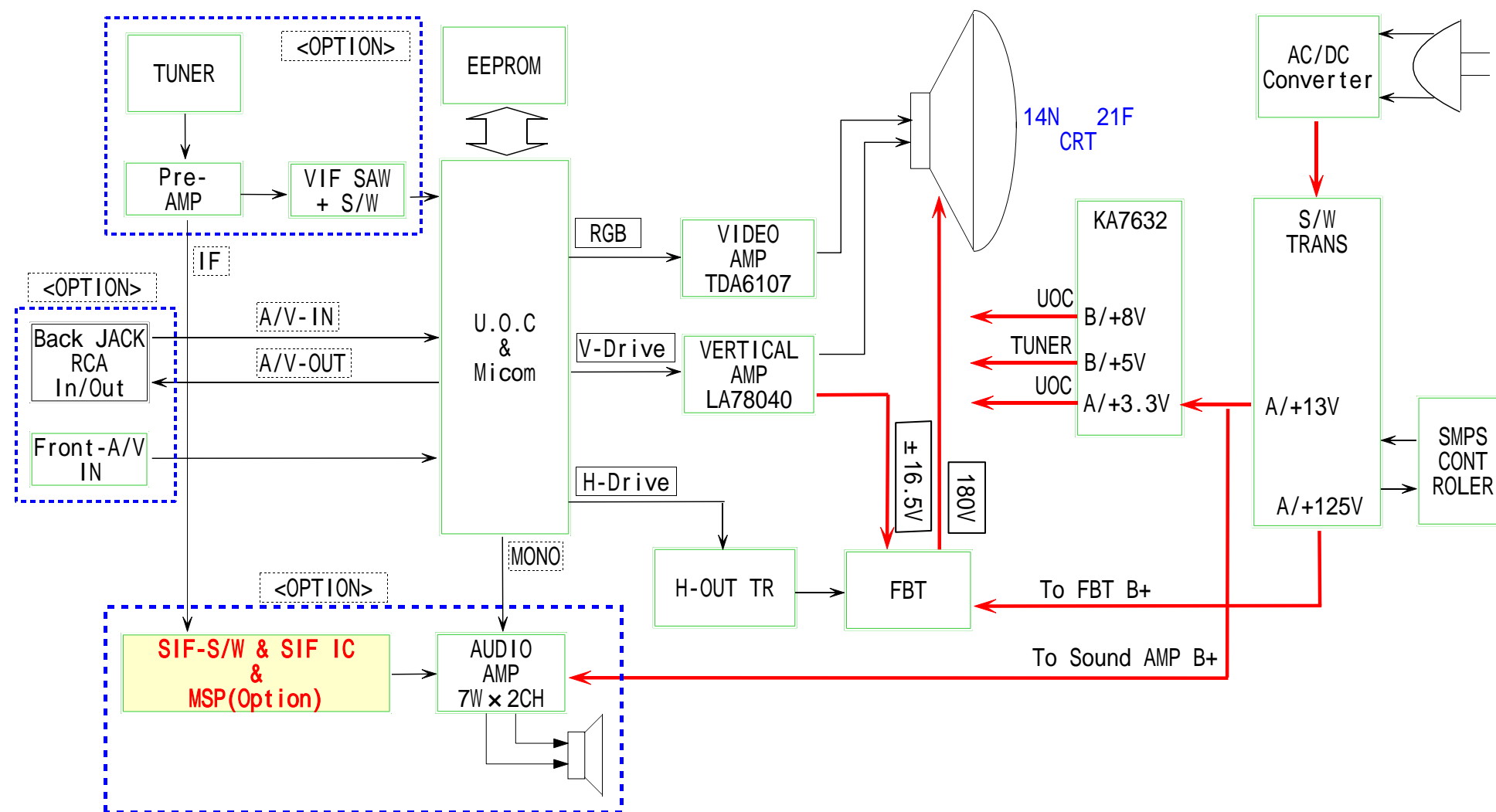
ASSY CPT

1	T0521	AA91-07790A	ASSY CPT:CS21M16MGZXKSE,KS9A	S.N.A
...	T0089	AA27-00256A	COIL DEGAUSSING:-,21HCH,10%,35TS,4.5OHM,	
...	T0527	AA65-00009B	CLAMPER CORE-D,COIL:-21A8,NYLON 66,V0,-,-	S.N.A
...	T0521	AA91-07819A	ASSY CPT:CS21M16MHZXBWT,KS9A FLAT MST	S.N.A
...	T0063	AA03-00403A	CRT COLOR:A51QDX993X,0MG,1.75MH,18MH,3.1	
...	T0079	AA27-00002A	MAGNET CONVERGENCE:JH291-SC-OB,29.1MM,-,	
...	T0078	AA27-00324A	DEFLECTION YOKE:-,DIF-2192AA(A),S/T,A510D	
...	...	AA63-60028A	SPACER-DY:-,NEOPRENE,-,-,BLK,-,-,V0 W1	S.N.A
...	...	AA98-70014D	ASSY TBC WIRE P;TVI,22,NTSC,PAL,1P,UL101	S.N.A

MEMO

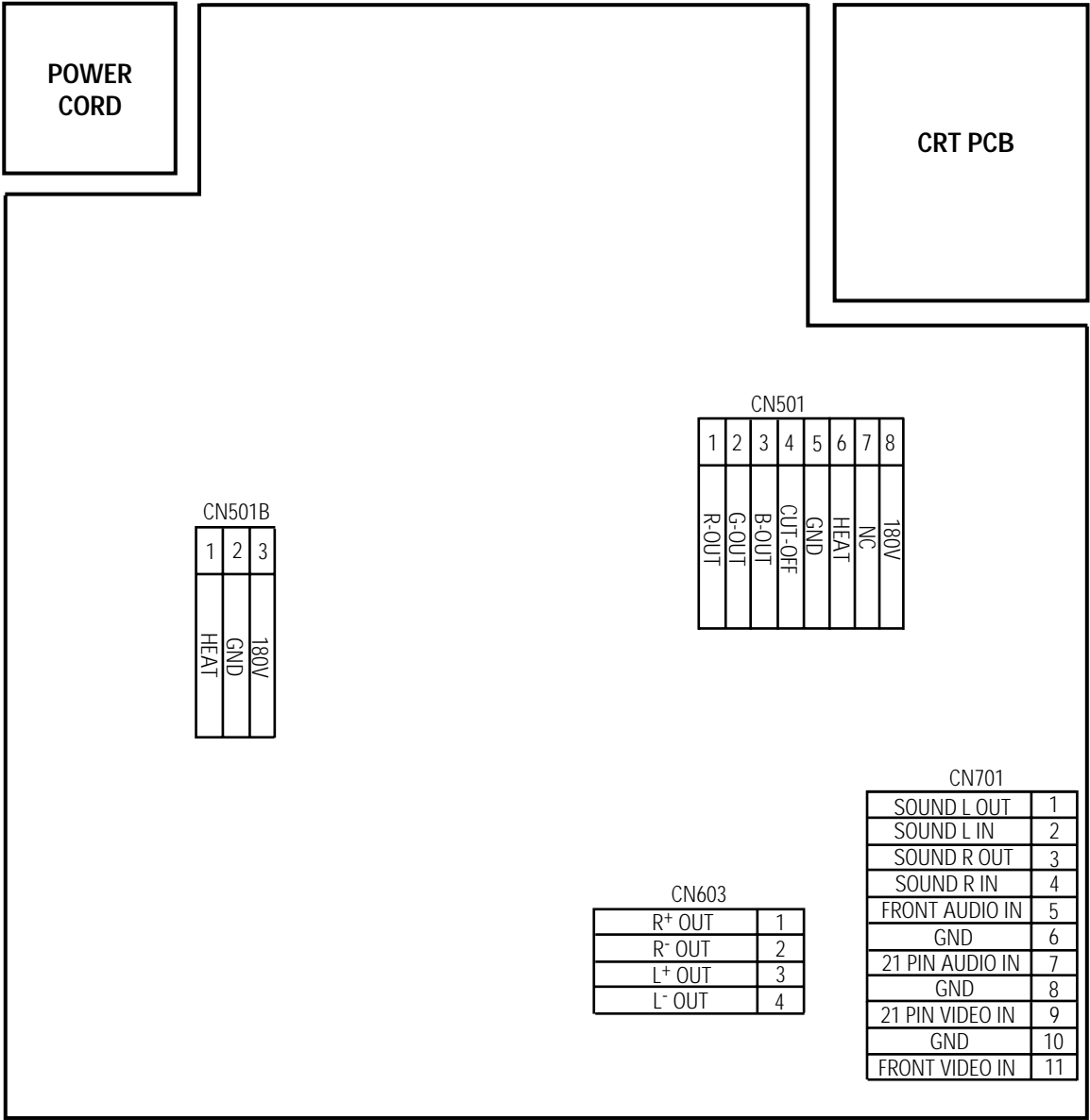
8. Block Diagram

8-1 KS9A



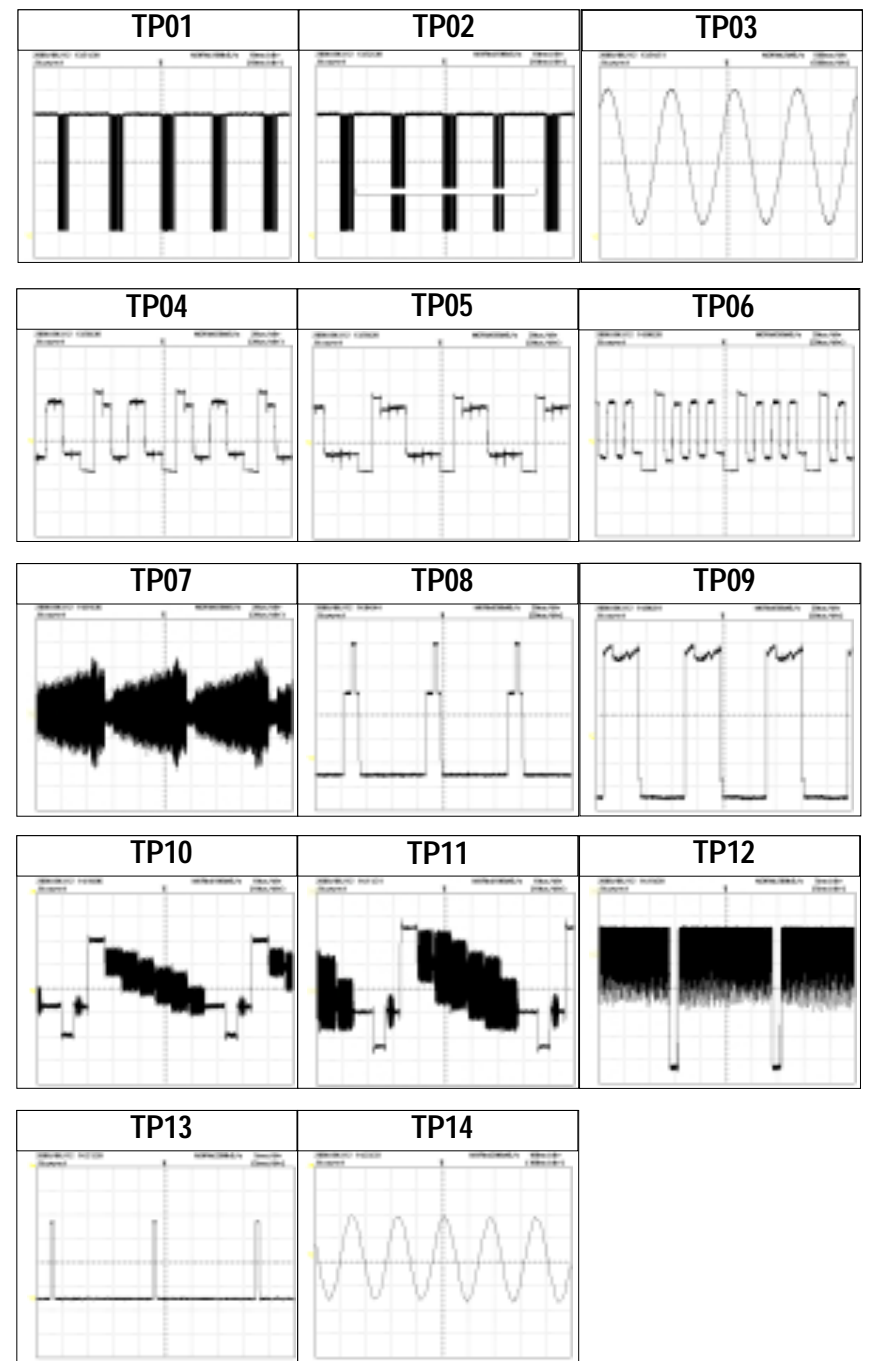
9. Wiring Diagram

9-1 KS9A

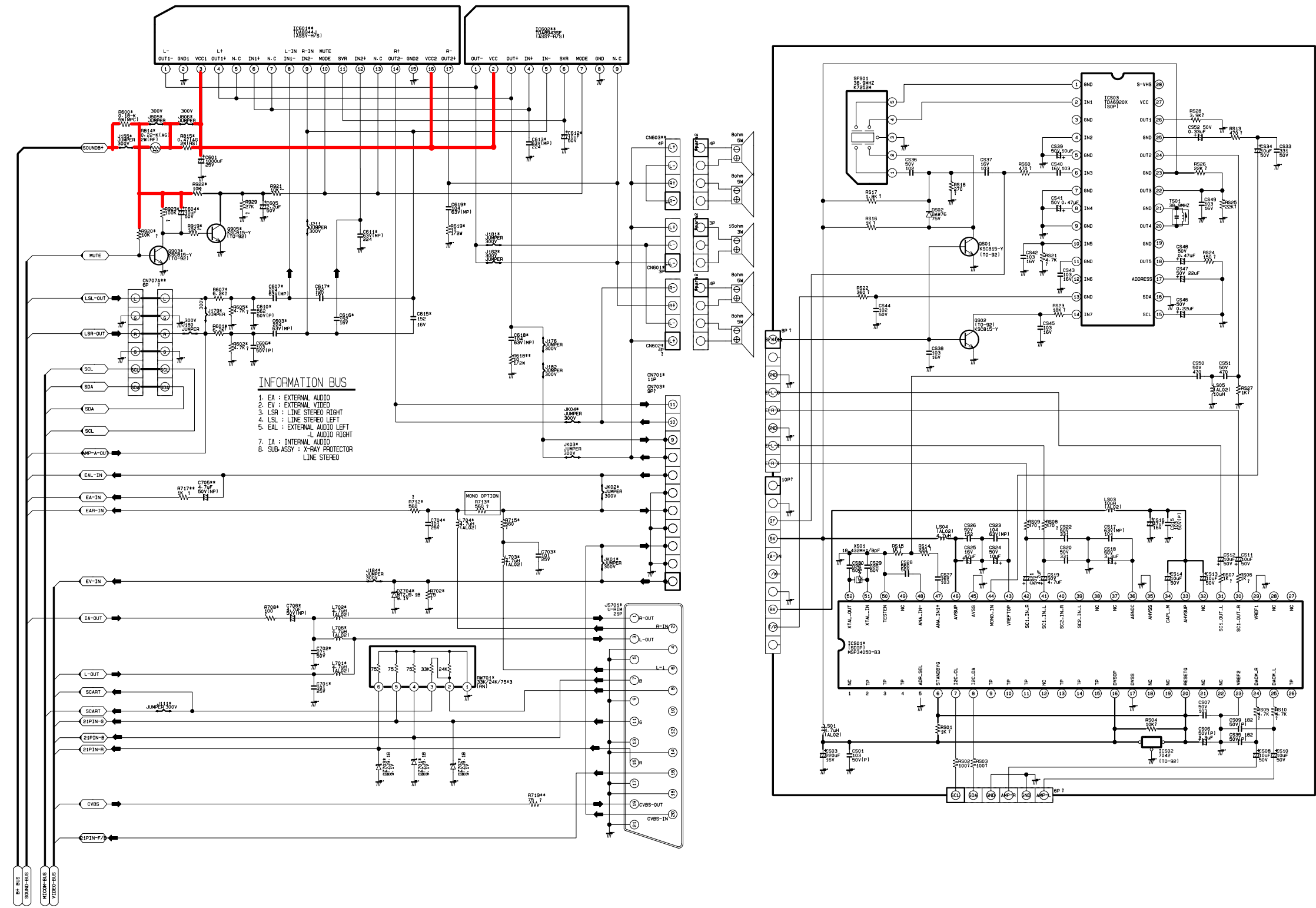


MEMO

10-1 ONECHIP & MICOM



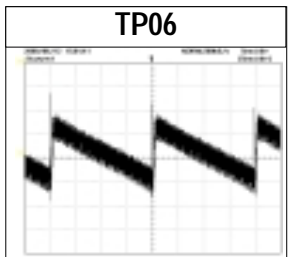
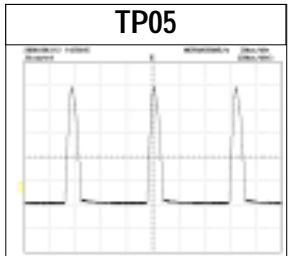
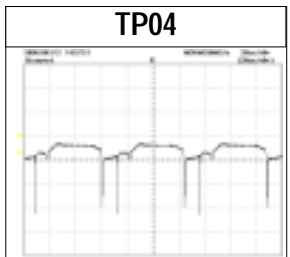
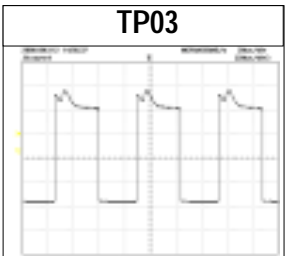
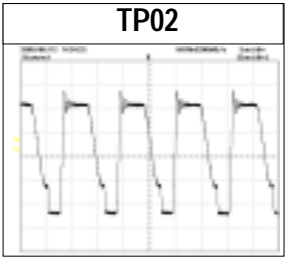
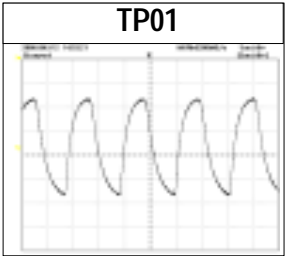
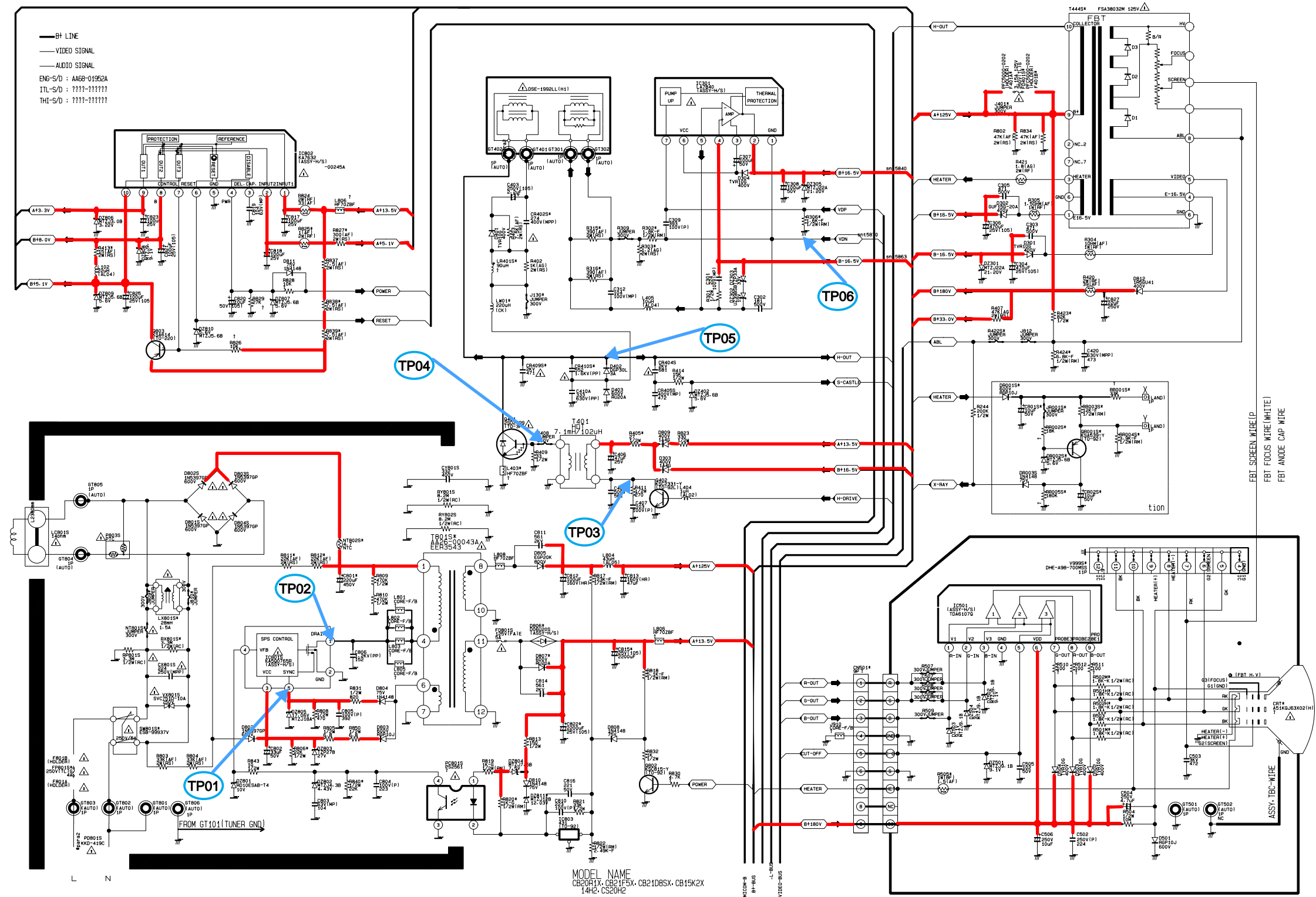
10-2 SOUND, EXT-A/V (SCART)



Power Line



10-4 POWER / CRT / VERTICAL / HORIZONTAL



Power Line



10-6 SUB PCB-STEREO

