

**SAMSUNG**

# COLOR TELEVISION RECEIVER

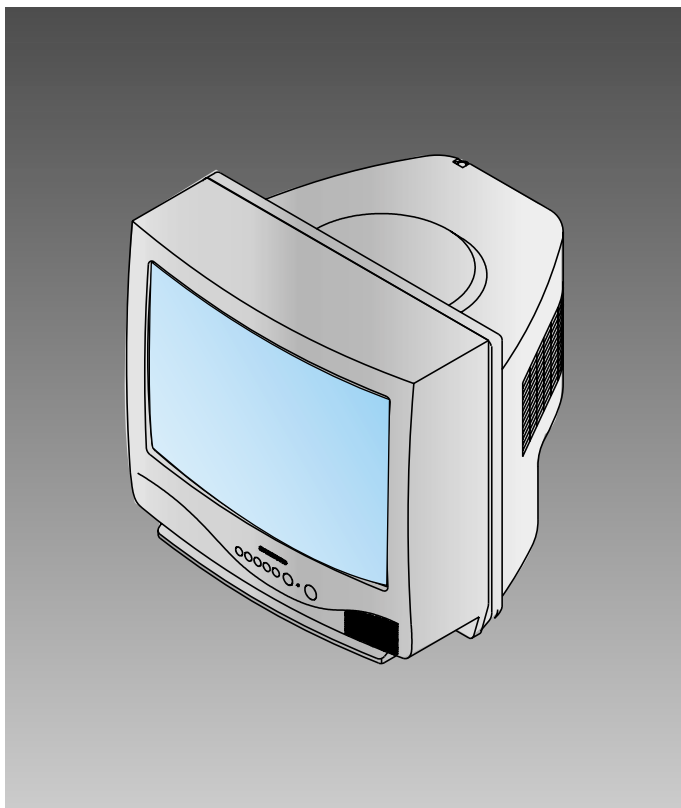
Chassis : KS1A(P)  
Model : CZ20F12TSXVXEH

## *RTV servis Horvat*

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# **SERVICE** Manual

## COLOR TELEVISION RECEIVER



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## 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.

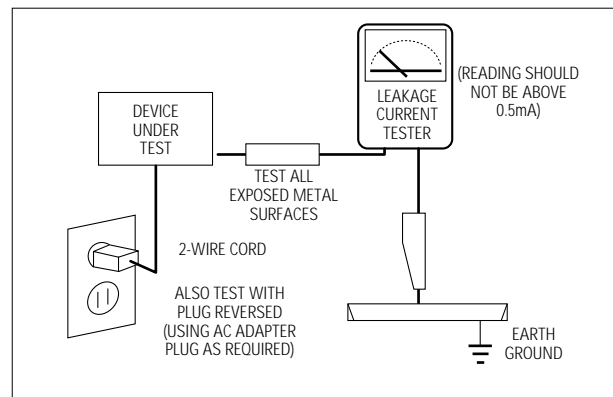




Fig. 1-1 AC Leakage Test

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)

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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

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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)

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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	

Power Requirements:

AC 100-240V, 50/60Hz

Antenna Input Impedance:

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

Speaker Impedance

8 ohm, 5W+5W (Dual Type)  
16 ohm, 3W (Monitor Type & Dual Type)

## 2-2 IC Line Up

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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

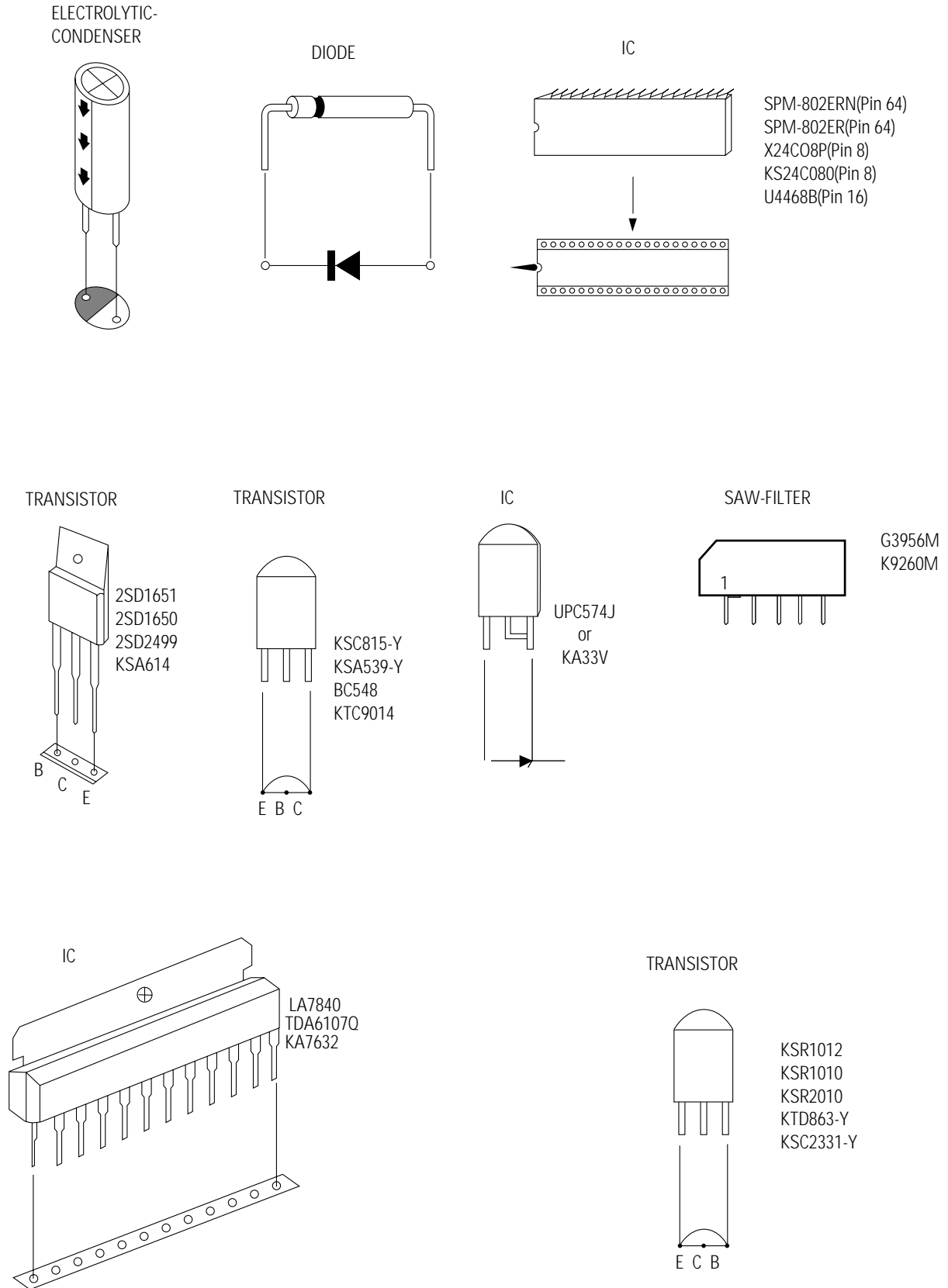


Fig. 2-1 Semiconductor Base Diagrams



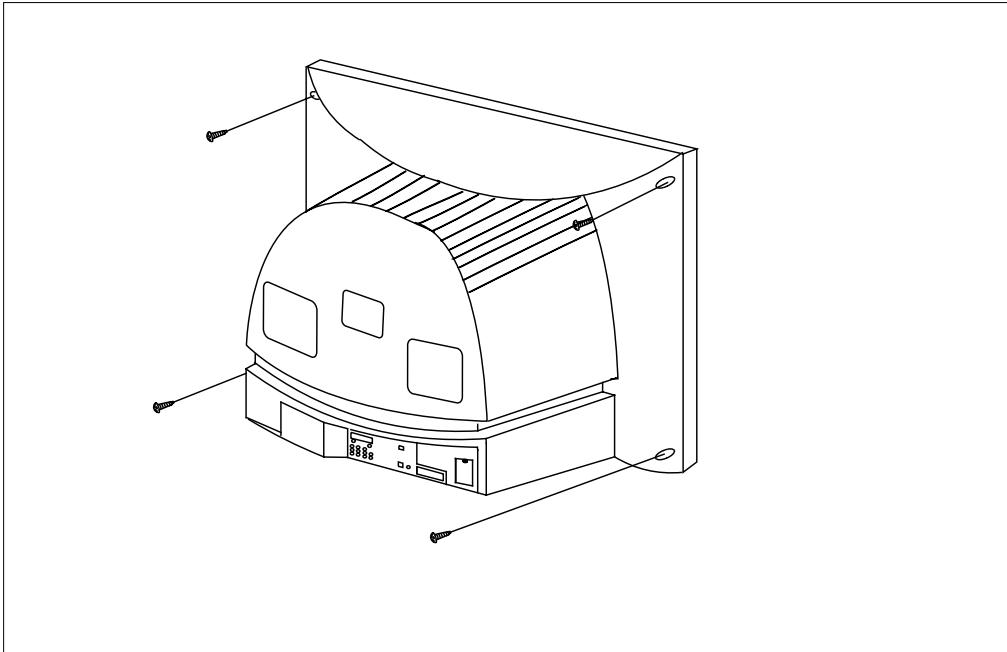
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## 3. Disassembly and Reassembly

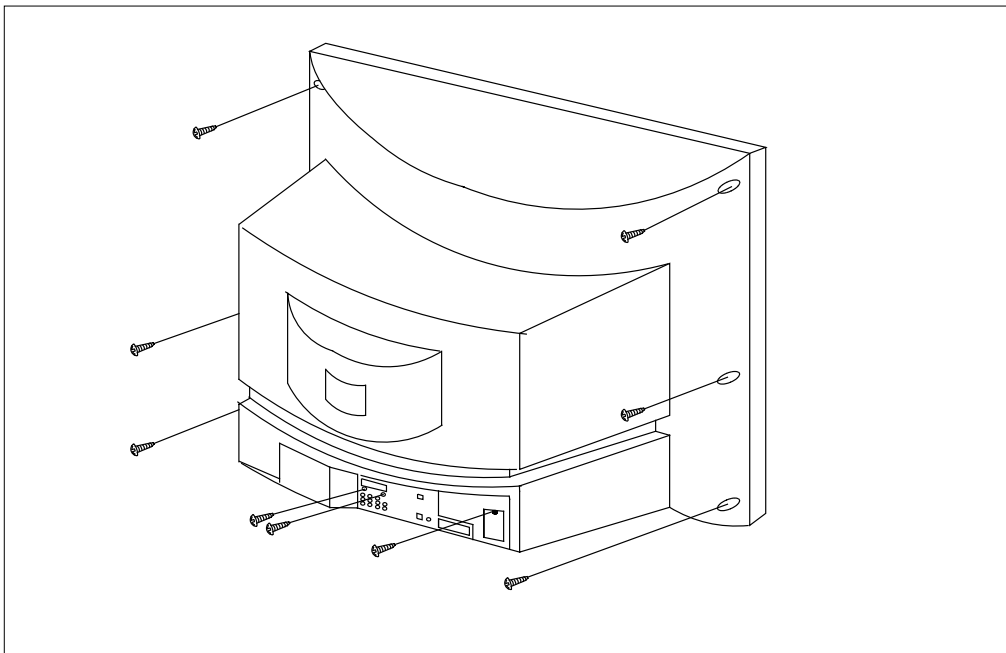
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### 3-1 Back Cover Removal

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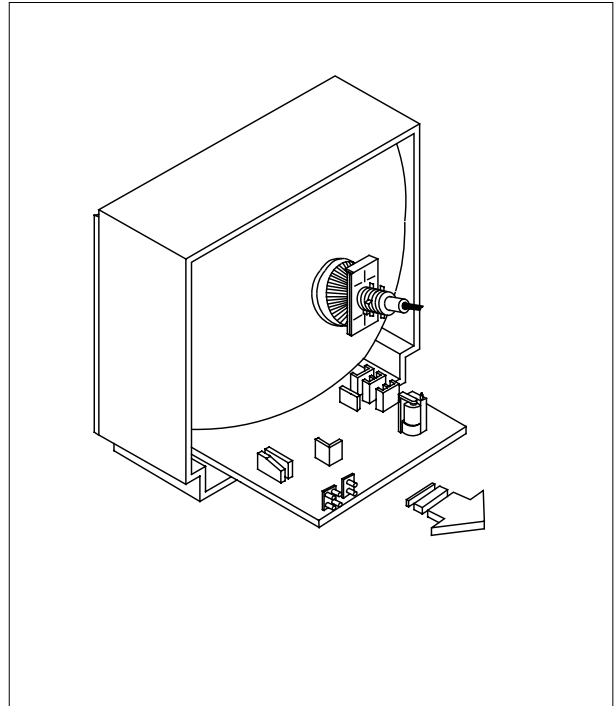
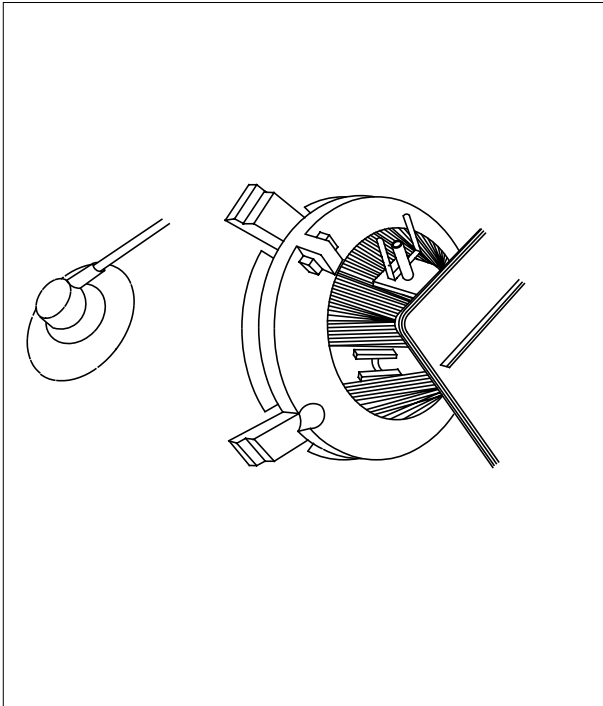


1. After removing the screws, press the tension rib and pull the cabinet backwards.
2. To reassemble, press the tension rib (see diagram).



## 3-2 Main Board Removal

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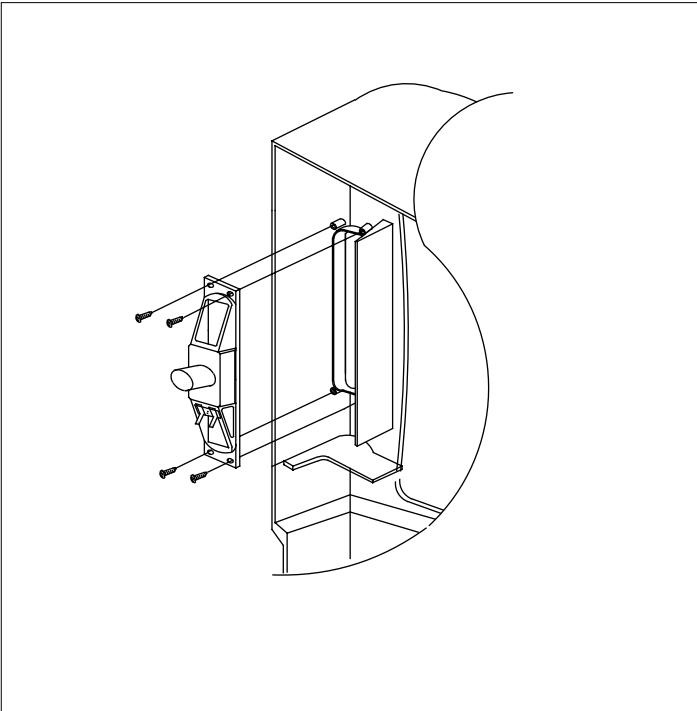


1. Separate the socket board from the CRT neck.
2. Remove the Anode Cap from the CRT.
3. Remove the main board by pulling it with both hands.

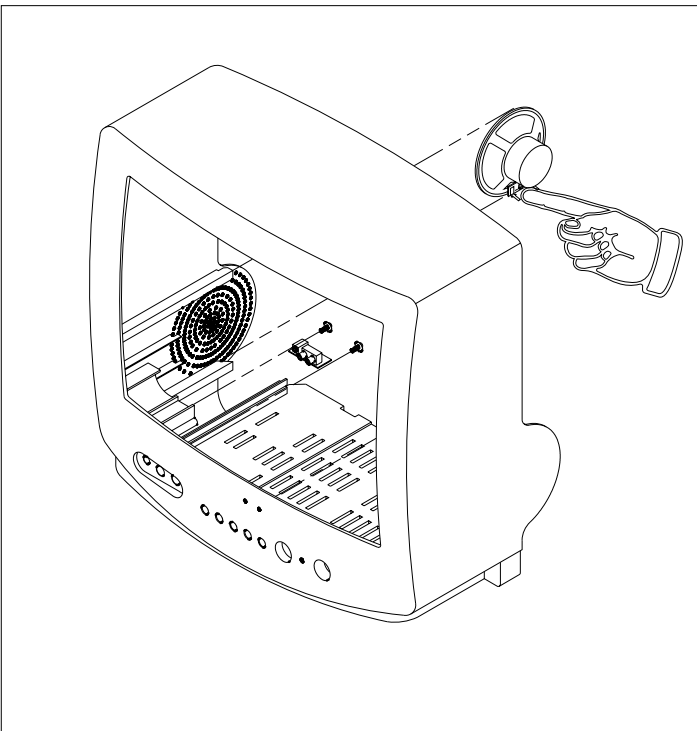
**Warning:** The FBT is charged with high voltage.  
Before removing the Anode Cap, discharge the voltage  
through one of the heat sinks on the main board.

### 3-3 Speaker Removal

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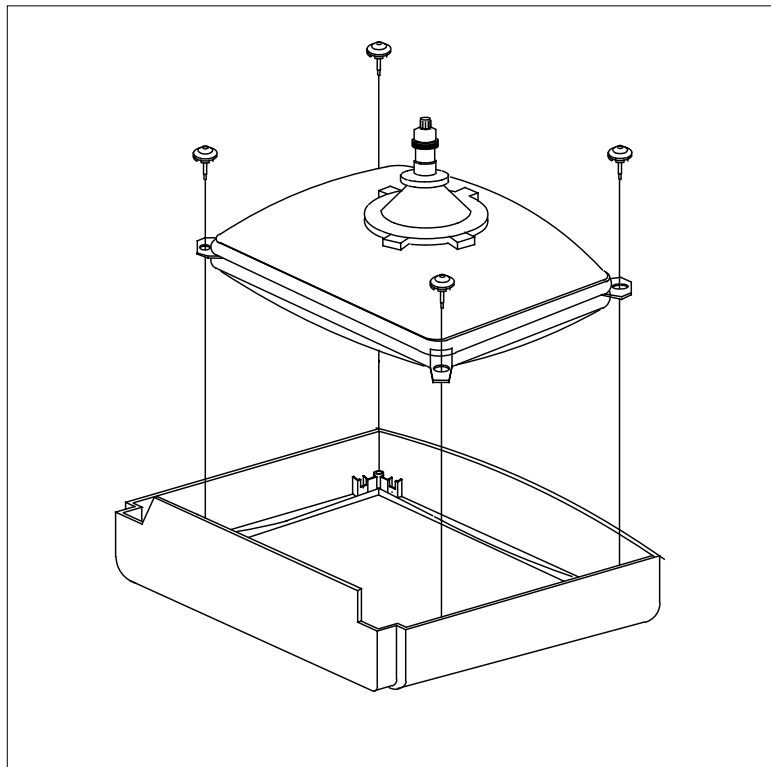
1. Remove the speaker by pressing the tension rib.



1. Remove the screws.
2. Remove the speaker by pressing the tension rib.

### 3-4 CRT Removal

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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 Size  
 Fail Safe (This adjustment must be the last step).

2. If the EEPROM or CRT is replaced, set PVA to 40 (factory mode) and set SC as follows.

14 inch : 0  
 20 inch : 9  
 21 inch : 9

### 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 four components: ADJUST, OPTION 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:  
 SCT>SBT>BLR>BLB>RG>GG>BG>VSL>  
 VS>VA>HS>SC>SDL>STT>SSP>PDL>  
 NDL>PSR>NSR>AGC>VOL>LCO>TXP

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
SCT	Sub Contrast	0 ~ 23	13	
SBT	Sub Brightness	0 ~ 23	9	
BLR	Black Level offset Blue	0 ~ 15	9	
BLB	Black Level offset Red	0 ~ 15	7	
RG	Red Gain	0 ~ 63	32	
GG	Green Gain	0 ~ 63	25(Fix)	
BG	Blue Gain	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	9	
CDL	Cathode Drive Level	0 ~ 15	9	
STT	Sub Tint	0 ~ 7	3	
SSP	Sub Sharpness	0 ~ 7	0	
PDL	PAL Delay	0 ~ 15	15(Fix)	
NDL	NTSC Delay	0 ~ 15	10	
PSR	PAL Sub color	0 ~ 23	2	
NSR	NTSC Sub color	0 ~ 23	5	
AGC	Automatic Gain Control	0 ~ 63	23	
VOL	Volume pre setting	0 ~ 63	10	
LCO	SECAM-L Vision IF	0 ~ 1	0	
TXP	TTX Position	0 ~ 15	9	

NOTE : PVS,PVA, PHS, parameters must be aligned using the 50Hz vertical-field rates.

### 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	MONO
4	JACK	RCA
5	ZOOM	NOR/ZOOM/16:9
6	AUTO POWER	ON
7	SBL	OFF
8	2nd SIF	ON
9	HOTEL MODE	OFF
10	BKS	ON

#### 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

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#### 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 Adjustment)

1. Connect CRT socket pin GK to an oscilloscope probe.
2. Input a gray scale pattern. (Use a pattern generator, PM5518)
3. Use the P mode key (on the remote control) for the STANDARD picture.
4. Adjust the Screen VR (on the FBT) so that the voltage on the oscilloscope becomes  $120 \pm 2.5V$  (See Fig. 4-1).

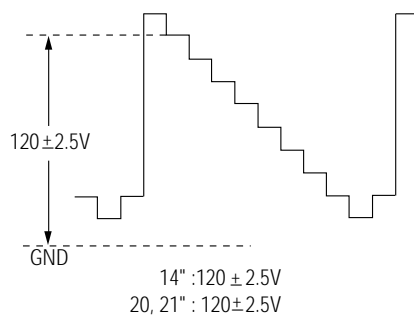


Fig. 4-1

### 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.

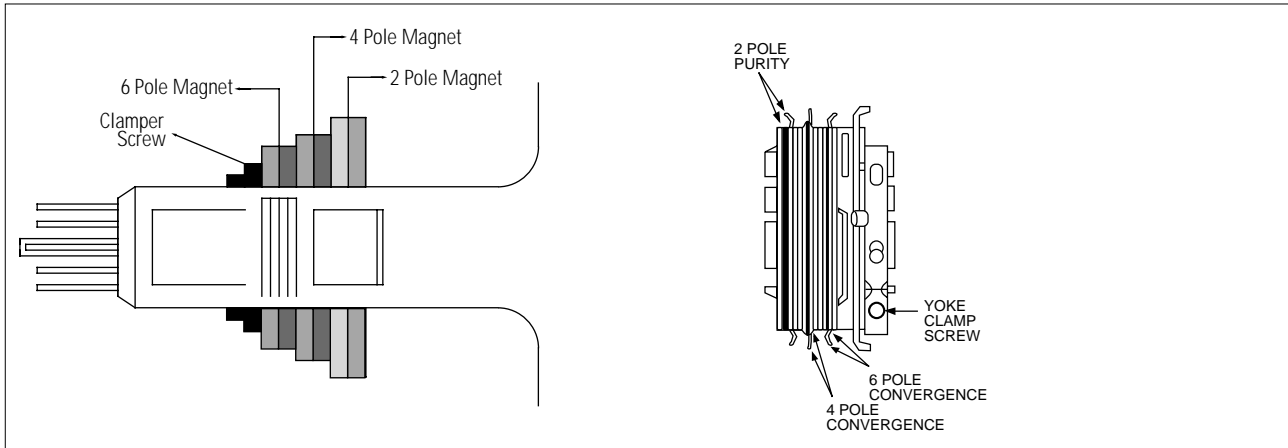


Fig. 4-2 Convergence Magnet Assembly

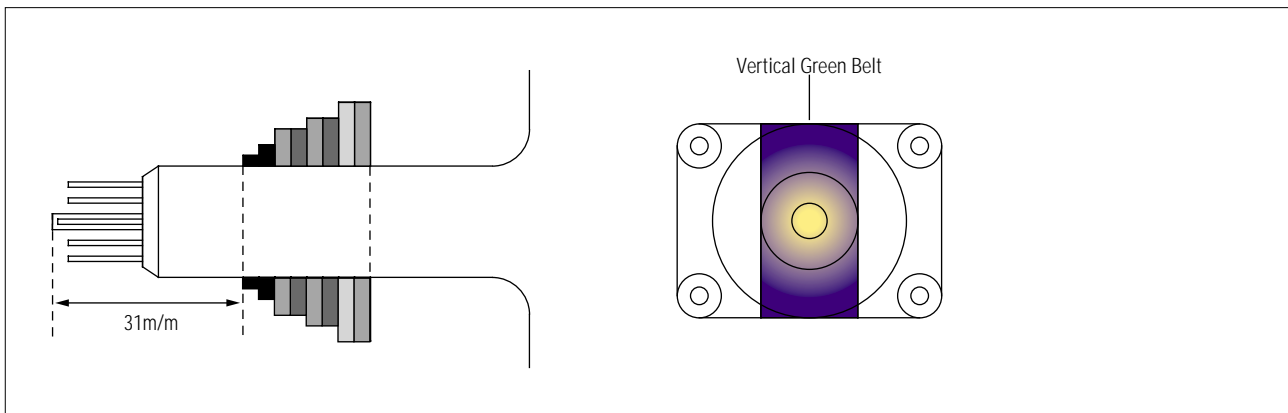


Fig. 4-3 Center Convergence Adjustment

### 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  $3.5 \pm 0.5$  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. Set SCT to 55 FL (20". 21"), 65 FL(14") in the Factory Service Mode with using CA100. See Fig. 4-4 ①.

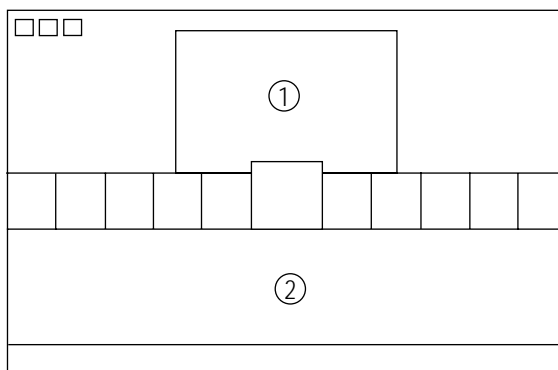


Fig. 4-4

### 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).

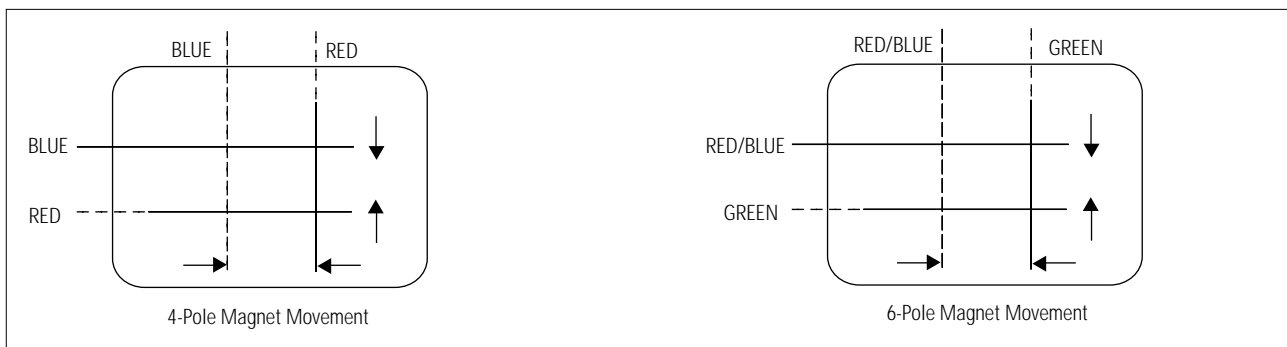


Fig. 4-5 Center Convergence Adjustment

### 4-3-9 RF AGC Adjustment

Set the AGC data to 23 (Factory Mode).

### 4-3-10 Sub-Color Adjustment

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

### 4-3-11 Geometry Adjustment

SC → VS → VSL → HS

1. Input a lion head pattern (in the PAL channel).
2. Set the SC (S-Correction) as follows : 9 (21"), 9 (20"), 0 (14") 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.

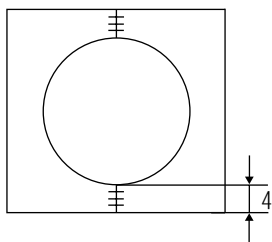


Fig. 4-7

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

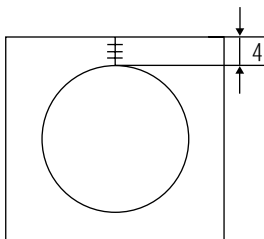


Fig. 4-8

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

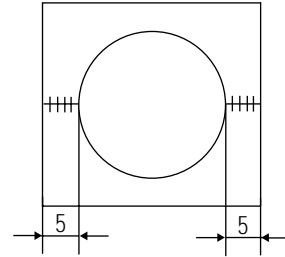
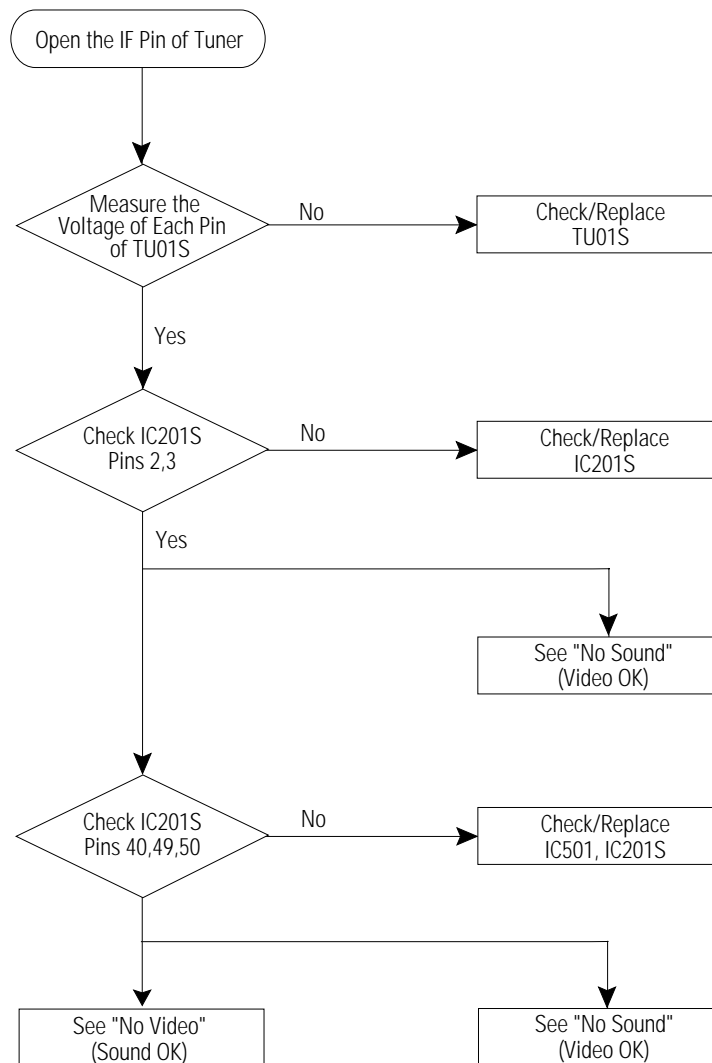


Fig. 4-9

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

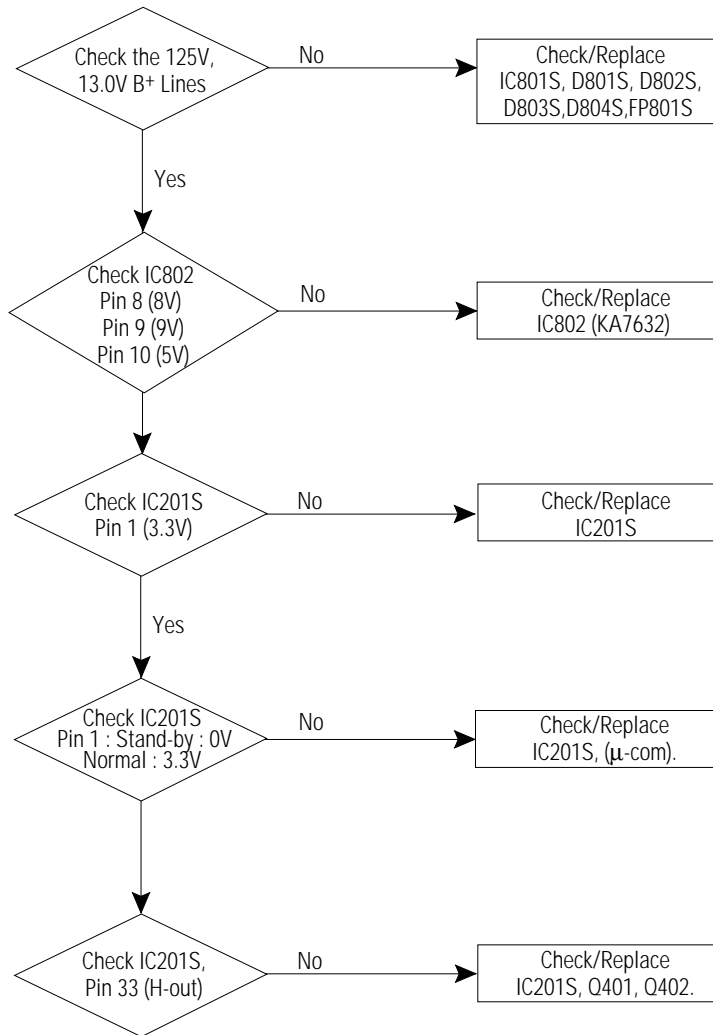
## 5. Troubleshooting

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

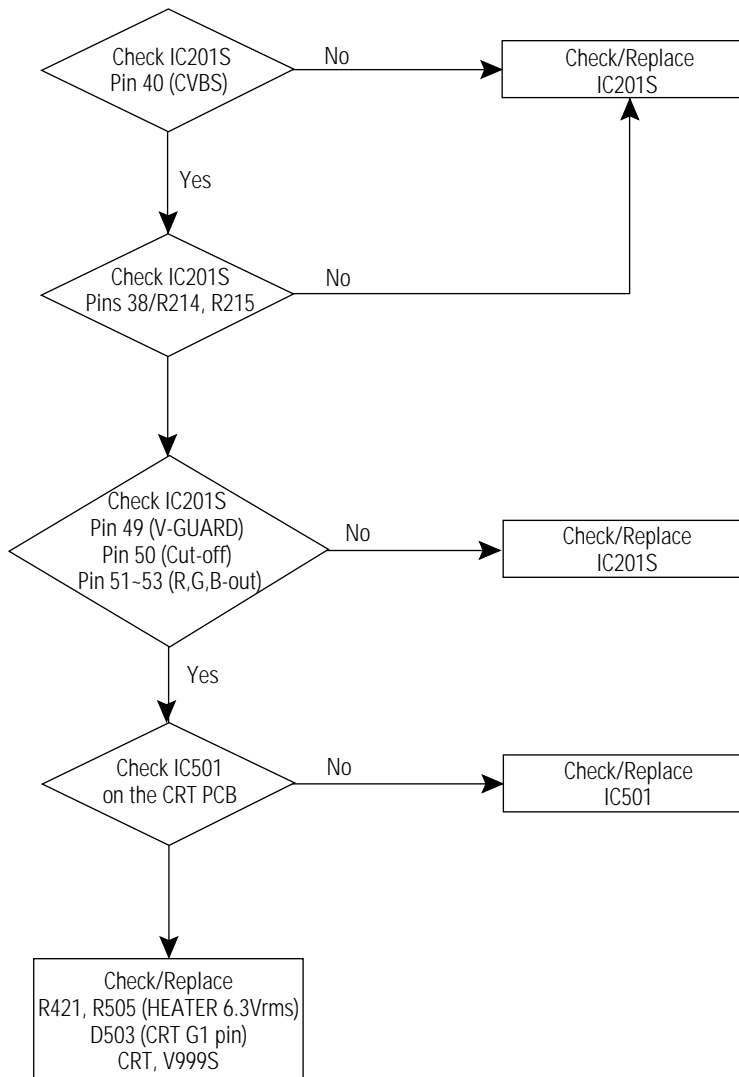


## 5-2 No Power

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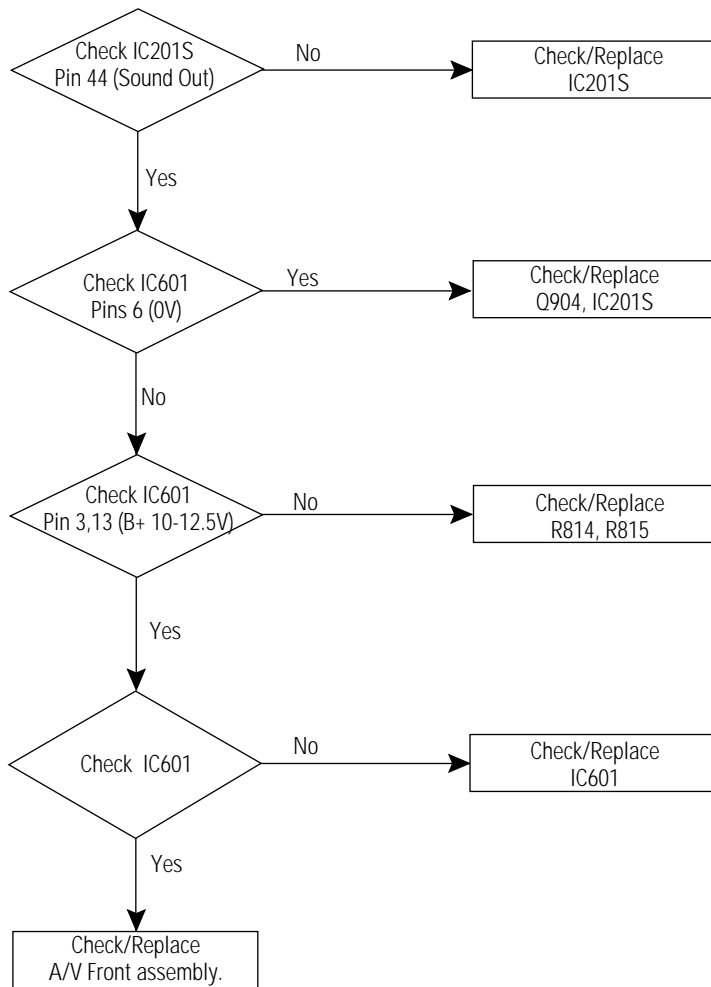


### 5-3 No Video (Sound OK)



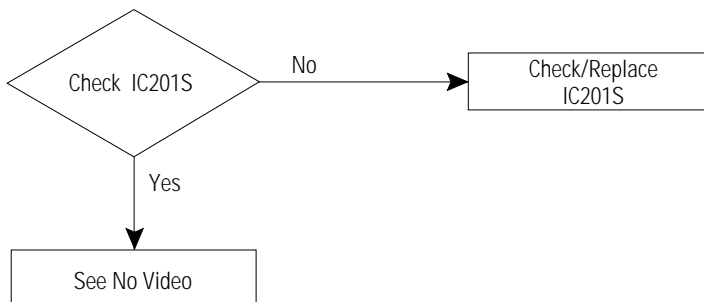
### 5-4 No Sound (Video OK)

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### 5-5 No TTX

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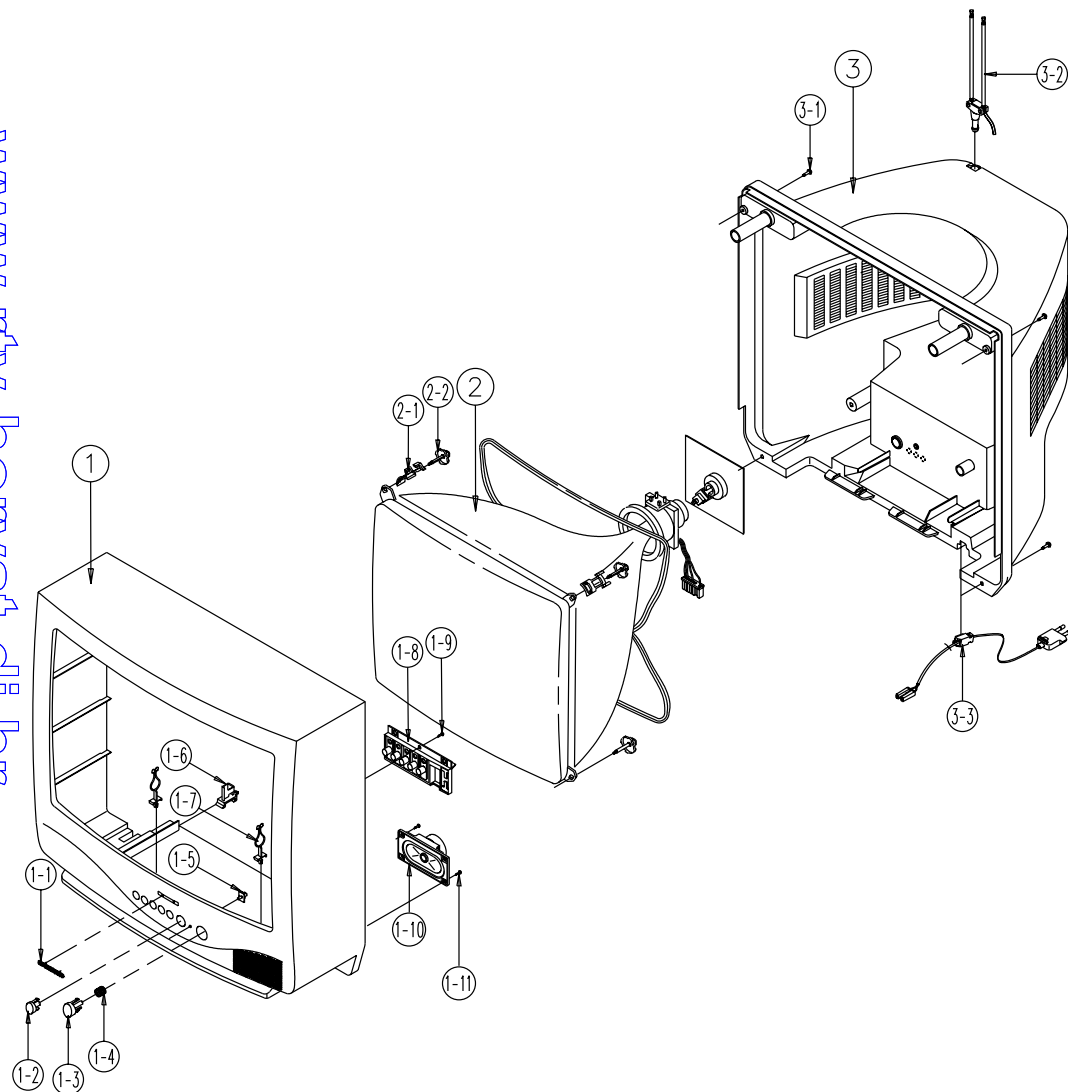




## 6. Exploded View & Parts List

### 6-1 CZ20F12TSXVXEH

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No	Code No	Description	Specification	Q'ty	Remark
1	AA64-02373A	CABINET-FRONT;20F1,HIPS,HB,SV-012P-II,GR		1	
1*	HA91-20005A	ASSY-CABINET,FRONT;20F1,SV-012P-II		1	*
1-1	AA64-70127F	BADGE-BRAND;NEW,AL,-,L40,R800,SILVER,S		1	
1-2	AA64-40450B	WINDOW-REMOCON,-,501F,-,PC,VO,VIOLET,-		1	
1-3	HA64-25011A	KNOB-POWER;20F1,21F1,HIPS,SV-012P-II,SIL		1	
1-4	AA61-60003T	SPRING-CS,-,SUS304,-,OD7,N5,OD7,-,-,-		1	
1-5	AA64-40451B	INDICATOR-LED,-,33.501F,-,ACRYL,-,CLR,-		1	
1-7	AA65-30105A	CLAMP-WIRE;ALL MODEL,NYLON 66,V2,-,NTR,1		1	
1-8	AA64-02599A	KNOB CONTROL;20F1,21F1,HIPS,HB,SV-012P-I		1	
1-9	6002-000515	SCREW-TAPPING;RH,+2,M4,L15,ZPC,SWRCH18		1	KC+CF
1-10	AA96-00853A	ASSY SPEAKER;16OHM,3W,3001-001039,700		1	
1-11	6002-000515	SCREW-TAPPING;RH,+2,M4,L15,ZPC,SWRCH18		2	SPK+CF
2	AA94-05858A	ASSY CRT;A48KRD82X01(H),+380MG,20		1	
2-1	AA65-30107A	CLAMP-D,COIL;20-22 INCH,NYLON 66,V2,-,NT		4	
2-2	AA60-10050Q	SCREW-ASSY,-,SWRCH18A,M5,L26.5,HH,+WC,-		4	CRT+CF
2-3	3704-001105	SOCKET-CRT;11P,20PI,26.5PI,NI,-		1	V999S
3	HA64-02395A	CABINETBACK;20F1,HIPS,HB,GRY		1	
3-1	6002-000515	SCREW-TAPPING;RH,+2,M4,L15,ZPC,SWRCH18		4	CB+CF
3-2		ANT-ROD			
3-3	AA96-20122A	ASSY-POWER,CORD,-,CP2/NO(4.0),H/C250,KKJ		1	*

## 7. Electrical Parts List

### 7-1 CZ20F12TSXVXEH

Level	Loc. No.	Code No.	Description ; Specification	Remark	Level	Loc. No.	Code No.	Description ; Specification	Remark
<b>ASSY PCB MAIN(OPT)</b>									
	1	*	AA94-05701A	ASSY PCB MAIN(OPT);CZ501FT,KS1A,CH		2	R218	2001-000008	R-CARBON;15KOHM,5%,1/8W,AA,TP,1.8X3.2MM
	2	D201	0401-000005	DIODE-SWITCHING;1N4148,100V,200mA,DO-35,		2	R602	2001-000008	R-CARBON;15KOHM,5%,1/8W,AA,TP,1.8X3.2MM
	2	D811	0401-000005	DIODE-SWITCHING;1N4148,100V,200mA,DO-35,		2	R205	2001-000011	R-CARBON;75Kohm,5%,1/8W,AA,TP,1.8x3.2mm
	2	D801S	0402-001111	DIODE-RECTIFIER;1N5397GP600V,1.5A,DO-20		2	R301	2001-000016	R-CARBON(S);10HM,5%,1/2W,AA,TP,2.4x6.4MM
	2	D802S	0402-001111	DIODE-RECTIFIER;1N5397GP600V,1.5A,DO-20		2	J125	2001-000016	R-CARBON(S);10HM,5%,1/2W,AA,TP,2.4x6.4MM
	2	D803S	0402-001111	DIODE-RECTIFIER;1N5397GP600V,1.5A,DO-20		2	R843	2001-000019	R-CARBON(S);100HM,5%,1/2W,AA,TP,2.4x6.4M
	2	D804S	0402-001111	DIODE-RECTIFIER;1N5397GP600V,1.5A,DO-20		2	R618	2001-000019	R-CARBON(S);100HM,5%,1/2W,AA,TP,2.4x6.4M
	2	D501	0402-000254	DIODE-RECTIFIER;RGP10J,600V,1A,DO-41,TP		2	R409	2001-000022	R-CARBON(S);330HM,5%,1/2W,AA,TP,2.4x6.4M
	2	D803	0402-000254	DIODE-RECTIFIER;RGP10J,600V,1A,DO-41,TP		2	R823	2001-000037	R-CARBON(S);3300HM,5%,1/2W,AA,TP,2.4x6.4
	2	D301	0402-001105	DIODE-RECTIFIER;ERB43-04SV1,400V,1.0A,-,		2	R902	2001-000241	R-CARBON;1.5KOHM,5%,1/8W,AA,TP,1.8X3.2M
	2	D304	0402-001105	DIODE-RECTIFIER;ERB43-04SV1,400V,1.0A,-,		2	R904	2001-000241	R-CARBON;1.5KOHM,5%,1/8W,AA,TP,1.8X3.2M
	2	D401	0402-001105	DIODE-RECTIFIER;ERB43-04SV1,400V,1.0A,-,		2	R211	2001-000281	R-CARBON;1000HM,5%,1/8W,AA,TP,1.8X3.2MM
	2	D502	0402-001105	DIODE-RECTIFIER;ERB43-04SV1,400V,1.0A,-,		2	R215	2001-000281	R-CARBON;1000HM,5%,1/8W,AA,TP,1.8X3.2MM
	2	D503	0402-001105	DIODE-RECTIFIER;ERB43-04SV1,400V,1.0A,-,		2	R223	2001-000281	R-CARBON;1000HM,5%,1/8W,AA,TP,1.8X3.2MM
	2	D504	0402-001105	DIODE-RECTIFIER;ERB43-04SV1,400V,1.0A,-,		2	R501	2001-000281	R-CARBON;1000HM,5%,1/8W,AA,TP,1.8X3.2MM
	2	D812	0402-001105	DIODE-RECTIFIER;ERB43-04SV1,400V,1.0A,-,		2	R502	2001-000281	R-CARBON;1000HM,5%,1/8W,AA,TP,1.8X3.2MM
	2	D302	0402-001352	DIODE-RECTIFIER;GUF15G-20A,400V,1.5A,DO-		2	R506	2001-000281	R-CARBON;1000HM,5%,1/8W,AA,TP,1.8X3.2MM
	2	DZ402	0403-000508	DIODE-ZENER;MTZJ5.6B,5.6V,5.45-5.73V,500		2	R510	2001-000281	R-CARBON;1000HM,5%,1/8W,AA,TP,1.8X3.2MM
	2	DZ807	0403-000508	DIODE-ZENER;MTZJ5.6B,5.6V,5.45-5.73V,500		2	R511	2001-000281	R-CARBON;1000HM,5%,1/8W,AA,TP,1.8X3.2MM
	2	DZ810	0403-000508	DIODE-ZENER;MTZJ5.6B,5.6V,5.45-5.73V,500		2	R512	2001-000281	R-CARBON;1000HM,5%,1/8W,AA,TP,1.8X3.2MM
	2	DZ903	0403-000508	DIODE-ZENER;MTZJ5.6B,5.6V,5.45-5.73V,500		2	R909	2001-000281	R-CARBON;1000HM,5%,1/8W,AA,TP,1.8X3.2MM
	2	DZ904	0403-000508	DIODE-ZENER;MTZJ5.6B,5.6V,5.45-5.73V,500		2	R911	2001-000281	R-CARBON;1000HM,5%,1/8W,AA,TP,1.8X3.2MM
	2	DZ905	0403-000508	DIODE-ZENER;MTZJ5.6B,5.6V,5.45-5.73V,500		2	R912	2001-000281	R-CARBON;1000HM,5%,1/8W,AA,TP,1.8X3.2MM
	2	DZ901	0403-000508	DIODE-ZENER;MTZJ5.6B,5.6V,5.45-5.73V,500		2	R913	2001-000281	R-CARBON;1000HM,5%,1/8W,AA,TP,1.8X3.2MM
	2	DZ101	0403-000700	DIODE-ZENER;TZP33A,33V,31-35V,1W,DO-41,T		2	R914	2001-000281	R-CARBON;1000HM,5%,1/8W,AA,TP,1.8X3.2MM
	2	DZ303	0403-000700	DIODE-ZENER;TZP33A,33V,31-35V,1W,DO-41,T		2	J137	2001-000281	R-CARBON;1000HM,5%,1/8W,AA,TP,1.8X3.2MM
	2	DZ803	0403-000700	DIODE-ZENER;TZP33A,33V,31-35V,1W,DO-41,T		2	R213	2001-000281	R-CARBON;1000HM,5%,1/8W,AA,TP,1.8X3.2MM
	2	DZ201	0403-000720	DIODE-ZENER;MTZJ9.1B,9.1V,8.57-9.01V,500		2	R718	2001-000281	R-CARBON;1000HM,5%,1/8W,AA,TP,1.8X3.2MM
	2	DZ204	0403-000720	DIODE-ZENER;MTZJ9.1B,9.1V,8.57-9.01V,500		2	R933	2001-000281	R-CARBON;1000HM,5%,1/8W,AA,TP,1.8X3.2MM
	2	DZ205	0403-000720	DIODE-ZENER;MTZJ9.1B,9.1V,8.57-9.01V,500		2	R934	2001-000281	R-CARBON;1000HM,5%,1/8W,AA,TP,1.8X3.2MM
	2	DZ207	0403-000720	DIODE-ZENER;MTZJ9.1B,9.1V,8.57-9.01V,500		2	R224	2001-000290	R-CARBON;10KOHM,5%,1/8W,AA,TP,1.8X3.2MM
	2	DZ501	0403-000720	DIODE-ZENER;MTZJ9.1B,9.1V,8.57-9.01V,500		2	R828	2001-000290	R-CARBON;10KOHM,5%,1/8W,AA,TP,1.8X3.2MM
	2	DZ502	0403-000720	DIODE-ZENER;MTZJ9.1B,9.1V,8.57-9.01V,500		2	R910	2001-000290	R-CARBON;10KOHM,5%,1/8W,AA,TP,1.8X3.2MM
	2	DZ503	0403-000720	DIODE-ZENER;MTZJ9.1B,9.1V,8.57-9.01V,500		2	R920	2001-000290	R-CARBON;10KOHM,5%,1/8W,AA,TP,1.8X3.2MM
	2	DZ504	0403-000720	DIODE-ZENER;MTZJ9.1B,9.1V,8.57-9.01V,500		2	R922	2001-000290	R-CARBON;10KOHM,5%,1/8W,AA,TP,1.8X3.2MM
	2	DZ704	0403-000720	DIODE-ZENER;MTZJ9.1B,9.1V,8.57-9.01V,500		2	R921	2001-000290	R-CARBON;10KOHM,5%,1/8W,AA,TP,1.8X3.2MM
	2	DZ808	0403-000720	DIODE-ZENER;MTZJ9.1B,9.1V,8.57-9.01V,500		2	R919	2001-000290	R-CARBON;10KOHM,5%,1/8W,AA,TP,1.8X3.2MM
	2	DZ306	0403-000720	DIODE-ZENER;MTZJ9.1B,9.1V,8.57-9.01V,500		2	R709	2001-000290	R-CARBON;10KOHM,5%,1/8W,AA,TP,1.8X3.2MM
	2	DZ307	0403-000720	DIODE-ZENER;MTZJ9.1B,9.1V,8.57-9.01V,500		2	R230	2001-000290	R-CARBON;10KOHM,5%,1/8W,AA,TP,1.8X3.2MM
	2	DZ701	0403-000720	DIODE-ZENER;MTZJ9.1B,9.1V,8.57-9.01V,500		2	R225	2001-001035	R-CARBON;91ohm,5%,1/8W,AA,TP,1.8x3.2mm
	2	DZ702	0403-000720	DIODE-ZENER;MTZJ9.1B,9.1V,8.57-9.01V,500		2	R918	2001-000429	R-CARBON;1KOHM,5%,1/8W,AA,TP,1.8X3.2MM
	2	DZ703	0403-000720	DIODE-ZENER;MTZJ9.1B,9.1V,8.57-9.01V,500		2	R926	2001-000429	R-CARBON;1KOHM,5%,1/8W,AA,TP,1.8X3.2MM
	2	DZ801	0403-001140	DIODE-ZENER;RD10ESAB-T4,10V,9.19-10.30V,		2	R210	2001-000429	R-CARBON;1KOHM,5%,1/8W,AA,TP,1.8X3.2MM
	2	DZ302	0403-001221	DIODE-ZENER;UZ39BSB,35.36-37.19V,500mW,D		2	R723	2001-000429	R-CARBON;1KOHM,5%,1/8W,AA,TP,1.8X3.2MM
	2	DZ806	0403-001317	DIODE-ZENER;MTZJ3.0B,3.01-3.22V,500mW,DO		2	R721	2001-000429	R-CARBON;1KOHM,5%,1/8W,AA,TP,1.8X3.2MM
	2	DZ802	0403-001318	DIODE-ZENER;MTZJ4.3B,4.17-4.43V,500mW,DO		2	R916	2001-000449	R-CARBON;2.2KOHM,5%,1/8W,AA,TP,1.8X3.2M
	2	DZ203	0403-001322	DIODE-ZENER;MTZJ8.2B,7.78-8.19V,500mW,DO		2	R917	2001-000449	R-CARBON;2.2KOHM,5%,1/8W,AA,TP,1.8X3.2M
	2	DZ805	0403-001327	DIODE-ZENER;MTZJ18A,16.22-17.06V,500mW,D		2	R220	2001-000472	R-CARBON;2.7KOHM,5%,1/8W,AA,TP,1.8X3.2M
	2	DZ301	0403-001328	DIODE-ZENER;MTZJ22A,20.15-21.20V,500mW,D		2	R901	2001-000472	R-CARBON;2.7KOHM,5%,1/8W,AA,TP,1.8X3.2M
	2	DZ305	0403-001328	DIODE-ZENER;MTZJ22A,20.15-21.20V,500mW,D		2	R903	2001-000472	R-CARBON;2.7KOHM,5%,1/8W,AA,TP,1.8X3.2M
	2	Q201	0501-000283	TR-SMALL SIGNAL;KSA539,PNP,400MW,TO-92,T		2	R907	2001-000472	R-CARBON;2.7KOHM,5%,1/8W,AA,TP,1.8X3.2M
	2	Q901	0501-000283	TR-SMALL SIGNAL;KSA539,PNP,400MW,TO-92,T		2	R908	2001-000472	R-CARBON;2.7KOHM,5%,1/8W,AA,TP,1.8X3.2M
	2	Q402	0501-000369	TR-SMALL SIGNAL;KSC2331-Y,NPN,1W,TO-92L,		2	R214	2001-000490	R-CARBON;2000HM,5%,1/8W,AA,TP,1.8X3.2MM
	2	Q202	0501-000389	TR-SMALL SIGNAL;KSC815,NPN,400MW,TO-92,T		2	R206	2001-000563	R-CARBON;27KOHM,5%,1/8W,AA,TP,1.8X3.2MM
	2	Q205	0501-000389	TR-SMALL SIGNAL;KSC815,NPN,400MW,TO-92,T		2	R829	2001-000563	R-CARBON;27KOHM,5%,1/8W,AA,TP,1.8X3.2MM
	2	Q701	0501-000389	TR-SMALL SIGNAL;KSC815,NPN,400MW,TO-92,T		2	R929	2001-000563	R-CARBON;27KOHM,5%,1/8W,AA,TP,1.8X3.2MM
	2	Q903	0501-000389	TR-SMALL SIGNAL;KSC815,NPN,400MW,TO-92,T		2	R208	2001-000591	R-CARBON;3.3KOHM,5%,1/8W,AA,TP,1.8X3.2M
	2	Q905	0501-000389	TR-SMALL SIGNAL;KSC815,NPN,400MW,TO-92,T		2	R202	2001-000689	R-CARBON;390KOHM,5%,1/8W,AA,TP,1.8X3.2M
	2	Q704	0501-000389	TR-SMALL SIGNAL;KSC815,NPN,400MW,TO-92,T		2	R925	2001-000734	R-CARBON;4.7KOHM,5%,1/8W,AA,TP,1.8X3.2M
	2	VX801S	1405-000187	VARIABLE;750V,1250A,12.5x7mm,TP		2	R841	2001-000734	R-CARBON;4.7KOHM,5%,1/8W,AA,TP,1.8X3.2M
	2	R207	2001-000005	R-CARBON;390OHM,5%,1/8W,AA,TP,1.8X3.2MM		2	R601	2001-000734	R-CARBON;4.7KOHM,5%,1/8W,AA,TP,1.8X3.2M
	2	R905	2001-000005	R-CARBON;390OHM,5%,1/8W,AA,TP,1.8X3.2MM		2	R227	2001-000739	R-CARBON;4.7MOHM,5%,1/8W,AA,TP,1.8X3.2M
	2	R906	2001-000005	R-CARBON;390OHM,5%,1/8W,AA,TP,1.8X3.2MM		2	R228	2001-000739	R-CARBON;4.7MOHM,5%,1/8W,AA,TP,1.8X3.2M
						2	R109	2001-000786	R-CARBON;47KOHM,5%,1/8W,AA,TP,1.8X3.2MM
						2	R724	2001-000786	R-CARBON;47KOHM,5%,1/8W,AA,TP,1.8X3.2MM
						2	R725	2001-000786	R-CARBON;47KOHM,5%,1/8W,AA,TP,1.8X3.2MM
						2	R726	2001-000786	R-CARBON;47KOHM,5%,1/8W,AA,TP,1.8X3.2MM

Electrical Parts List

Level	Loc. No.	Code No.	Description ; Specification	Remark	Level	Loc. No.	Code No.	Description ; Specification	Remark	
2	R727	2001-000786	R-CARBON;47KOHM,5%,1/8W,AA,TP,1.8X3.2MM		2	C227	2301-000445	C-FILM,PEF;4.7nF,5%,50V,TP,5.5x7x3mm,5mm		
2	R209	2001-000793	R-CARBON;470HM,5%,1/8W,AA,TP,1.8X3.2MM		2	C248	2301-000445	C-FILM,PEF;4.7nF,5%,50V,TP,5.5x7x3mm,5mm		
2	R927	2001-000793	R-CARBON;470HM,5%,1/8W,AA,TP,1.8X3.2MM		2	C420	2301-001065	C-FILM,MPPF;47nF,5%,630V,TP,19x15.5x7.7		
2	R203	2001-000857	R-CARBON;5600HM,5%,1/8W,AA,TP,1.8X3.2MM		2	C301	2305-000285	C-FILM,MPEF;220nF,5%,100V,TP,20x18x11.5		
2	R204	2001-000857	R-CARBON;5600HM,5%,1/8W,AA,TP,1.8X3.2MM		2	C215	2305-000289	C-FILM,MPEF;220nF,5%,63V,TP,-5mm		
2	R713	2001-000857	R-CARBON;5600HM,5%,1/8W,AA,TP,1.8X3.2MM		2	C216	2305-000289	C-FILM,MPEF;220nF,5%,63V,TP,-5mm		
2	R715	2001-000857	R-CARBON;5600HM,5%,1/8W,AA,TP,1.8X3.2MM		2	C233	2305-000289	C-FILM,MPEF;220nF,5%,63V,TP,-5mm		
2	R110	2001-000924	R-CARBON;6800HM,5%,1/8W,AA,TP,1.8X3.2MM		2	C611	2305-000289	C-FILM,MPEF;220nF,5%,63V,TP,-5mm		
2	R915	2001-000924	R-CARBON;6800HM,5%,1/8W,AA,TP,1.8X3.2MM		2	C613	2305-000289	C-FILM,MPEF;220nF,5%,63V,TP,-5mm		
2	R722	2001-000924	R-CARBON;6800HM,5%,1/8W,AA,TP,1.8X3.2MM		△	2	CR405S	2305-000382	C-FILM,MPEF;4.7nF,5%,400V,TP,-5MM	
2	R108	2001-000947	R-CARBON;7.5KOHM,5%,1/8W,AA,TP,1.8X3.2M		2	C103	2305-000665	C-FILM,MPEF;100nF,5%,63V,TP,7.5x4.0x5.0m		
2	R222	2001-000947	R-CARBON;7.5KOHM,5%,1/8W,AA,TP,1.8X3.2M		2	C208	2305-000665	C-FILM,MPEF;100nF,5%,63V,TP,7.5x4.0x5.0m		
2	R702	2001-000969	R-CARBON;750HM,5%,1/8W,AA,TP,1.8X3.2MM		2	C210	2305-000665	C-FILM,MPEF;100nF,5%,63V,TP,7.5x4.0x5.0m		
2	R719	2001-000969	R-CARBON;750HM,5%,1/8W,AA,TP,1.8X3.2MM		2	C230	2305-000665	C-FILM,MPEF;100nF,5%,63V,TP,7.5x4.0x5.0m		
2	R720	2001-000969	R-CARBON;750HM,5%,1/8W,AA,TP,1.8X3.2MM		2	C803	2305-000665	C-FILM,MPEF;100nF,5%,63V,TP,7.5x4.0x5.0m		
2	R408	2001-001037	R-CARBON(S);0.390HM,5%,1/2W,AA,TP,2.4X6.4		2	C819	2305-000665	C-FILM,MPEF;100nF,5%,63V,TP,7.5x4.0x5.0m		
2	R504	2001-001062	R-CARBON(S);15MOHM,5%,1/2W,AA,TP,2.4X6.4		2	C913	2305-000665	C-FILM,MPEF;100nF,5%,63V,TP,7.5x4.0x5.0m		
2	R414	2001-001078	R-CARBON(S);1KOHM,5%,1/2W,AA,TP,2.4X6.4		2	C218	2305-000665	C-FILM,MPEF;100nF,5%,63V,TP,7.5x4.0x5.0m		
2	R806	2001-001108	R-CARBON(S);22KOHM,5%,1/2W,AA,TP,2.4X6.4		2	C204	2305-000665	C-FILM,MPEF;100nF,5%,63V,TP,7.5x4.0x5.0m		
2	R411	2001-001114	R-CARBON(S);2700HM,5%,1/2W,AA,TP,2.4X6.4		2	C205	2305-000665	C-FILM,MPEF;100nF,5%,63V,TP,7.5x4.0x5.0m		
2	R809	2001-001150	R-CARBON(S);470KOHM,5%,1/2W,AA,TP,2.4X6.4		2	C231	2305-000665	C-FILM,MPEF;100nF,5%,63V,TP,7.5x4.0x5.0m		
2	R810	2001-001150	R-CARBON(S);470KOHM,5%,1/2W,AA,TP,2.4X6.4		2	C618	2305-000665	C-FILM,MPEF;100nF,5%,63V,TP,7.5x4.0x5.0m		
2	R501H	2002-001008	R-COMPOSITION;1.8KOHM,5%,1/2W,AA,TP,3.7X		2	C225	2309-000138	C-FILM,PE-PPF;100nF,5%,50V,TP,20x16x8.5,		
2	R502H	2002-001008	R-COMPOSITION;1.8KOHM,5%,1/2W,AA,TP,3.7X		2	C812	2401-000262	C-AL;100uF,20%,160V,HR,TP,16x25,7.5		
2	R503	2002-001008	R-COMPOSITION;1.8KOHM,5%,1/2W,AA,TP,3.7X		2	C817	2401-000302	C-AL;100uF,20%,25V,GPTP6.3x11,5		
△	RX801S	2002-001011	R-COMPOSITION;3.3MOHM,10%,1/2W,AA,TP,3.7		2	C821	2401-000302	C-AL;100uF,20%,25V,GPTP6.3x11,5		
△	RY801S	2002-001012	R-COMPOSITION;8.2MOHM,10%,1/2W,AA,TP,3.7		2	C823	2401-000302	C-AL;100uF,20%,25V,GPTP6.3x11,5		
2	R827	2003-000652	R-METAL OXIDE(S);330OHM,5%,2W,AF,TP,4X12		2	C915	2401-000302	C-AL;100uF,20%,25V,GPTP6.3x11,5		
2	R316	2003-000652	R-METAL OXIDE(S);330OHM,5%,2W,AF,TP,4X12		2	C307	2401-000360	C-AL;100uF,20%,50V,GPTP8x11,5,5		
2	R315	2003-000652	R-METAL OXIDE(S);330OHM,5%,2W,AF,TP,4X12		2	C308	2401-000360	C-AL;100uF,20%,50V,GPTP8x11,5,5		
2	R403	2003-000784	R-METAL OXIDE(S);7.5KOHM,5%,2W,AF,TP,4X12		2	C506	2401-000430	C-AL;10Uf,20%,250V,GPTP,10x16MM,5M		
2	R834	2003-001040	R-METAL OXIDE(S);47Kohm,5%,2W,AF,TP,3.9x		2	C219	2401-000603	C-AL;1uF,20%,50V,GPTP5x11,5		
2	R801	2003-002171	R-METAL OXIDE(S);150ohm,5%,2W,AG,TP,3.9x		2	C212	2401-000660	C-AL;2.2uF,20%,50V,GPTP5x11,5		
2	R402	2003-002178	R-METAL OXIDE(S);1Kohm,5%,2W,AG,TP,3.9x1		2	C221	2401-000660	C-AL;2.2uF,20%,50V,GPTP5x11,5		
2	R407	2003-002209	R-METAL OXIDE(S);47Kohm,5%,2W,AG,TP,3.9X		2	C605	2401-000660	C-AL;2.2uF,20%,50V,GPTP5x11,5		
2	R219	2004-001914	R-METAL;39KOHM,2%,1/8W,AA,TP,1.8X3.5MM		2	C222	2401-000758	C-AL;220nF,20%,50V,GPTP5x11MM,5MM		
2	R817	2004-004089	R-METAL;123KOHM,1%,1/2W,AA,TP,2.5X6.5M		2	G827	2401-000927	C-AL;22uF,20%,250V,GPTP,13X20MM,5M		
2	R304	2008-000253	R-FUSIBLE(S);0.47ohm,5%,1W,AF,TP,3.9x10mm		2	C110	2401-000962	AL;22uF,20%,50V,GPTP5x11,5		
2	R305	2008-000253	R-FUSIBLE(S);0.47ohm,5%,1W,AF,TP,3.9x10mm		2	C101	2401-001101	C-AL;330uF,20%,16V,GPTP8x11,5,5		
2	R825	2008-000266	R-FUSIBLE(S);10HM,5%,2W,AF,TP,3.9X10MM		2	C802	2401-001192	C-AL;33uF,20%,50V,GPTP6.3x11,5		
2	R421	2008-000266	R-FUSIBLE(S);10HM,5%,2W,AF,TP,3.9X10MM		2	C504	2401-001232	C-AL;4.7uF,20%,250V,GPTP,10x12,5,5		
2	R824	2008-000294	R-FUSIBLE(S);33ohm,5%,2W,AF,TP,3.9x10mm		2	C209	2401-001840	C-AL;100uF,20%,16V,GPTP6.3x11,5		
2	R420	2008-001110	R-FUSIBLE(S);68ohm,5%,2W,AG,TP,3.9X12mm		2	C213	2401-001840	C-AL;100uF,20%,16V,GPTP6.3x11,5		
2	R814	2008-001112	R-FUSIBLE(S);2.4ohm,5%,2W,AG,TP,3.9x12mm		2	C229	2401-001840	C-AL;100uF,20%,16V,GPTP6.3x11,5		
2	R815	2008-001112	R-FUSIBLE(S);2.4ohm,5%,2W,AG,TP,3.9x12mm		2	C903	2401-001840	C-AL;100uF,20%,16V,GPTP6.3x11,5		
2	C904	2201-000180	C-CERAMIC,DISC;10NF,10%,50V,Y5V,TP,6.5*3		2	C910	2401-001840	C-AL;100uF,20%,16V,GPTP6.3x11,5		
2	C501	2201-000192	C-CERAMIC,DISC;0.01nF,0.25pF,500V,NPO,TP		2	C705	2401-001989	C-AL;4.7uF,20%,50V,BPTP5x11,5		
2	C302	2201-000259	C-CERAMIC,DISC;0.18nF,10%,500V,Y5P,TP,5		2	C706	2401-001989	C-AL;4.7uF,20%,50V,BPTP5x11,5		
2	C303	2201-000556	C-CERAMIC,DISC;0.47nF,10%,500V,Y5P,TP,5		2	C710	2401-001989	C-AL;4.7uF,20%,50V,BPTP5x11,5		
2	C305	2201-000556	C-CERAMIC,DISC;0.47nF,10%,500V,Y5P,TP,5		2	C711	2401-001989	C-AL;4.7uF,20%,50V,BPTP5x11,5		
2	C908	2201-000573	C-CERAMIC,DISC;47pF,5%,50V,CH,TP,6.5x3.0		2	C601	2401-001998	C-AL;1000UF,20%,25V,GPTP,10X20,5MM		
2	C909	2201-000573	C-CERAMIC,DISC;47pF,5%,50V,CH,TP,6.5x3.0		2	C206	2401-002235	C-AL;10UF,20%,16V,GPTP5x11MM,5MM		
2	C408	2201-000599	C-CERAMIC,DISC;0.56nF,10%,500V,Y5P,TP,5		2	C220	2401-002235	C-AL;10UF,20%,16V,GPTP5x11MM,5MM		
△	CR404S	2201-000639	C-CERAMIC,DISC;0.68nF,10%,2KV,Y5P,TP,9x5		2	C709	2401-002235	C-AL;10UF,20%,16V,GPTP5x11MM,5MM		
2	C811	2201-000991	C-CERAMIC,DISC;0.56nF,10%,2KV,Y5P,TP,7,5		2	C304	2401-002288	C-AL;470uF,20%,25V,WT,TP,10x20,5		
2	C814	2201-000991	C-CERAMIC,DISC;0.56nF,10%,2KV,Y5P,TP,7,5		2	C306	2401-002288	C-AL;470uF,20%,25V,WT,TP,10x20,5		
2	C503	2201-000723	C-CERAMIC,DISC;4.7nF,20%,3KV,Y5U,TP,16x5		2	C813	2401-002290	C-AL;47uF,20%,160V,GPTP,13x20,5		
2	C703	2202-000121	C-CERAMIC,MLC-AXIAL;100pF,10%,50V,Y5P,TP		2	C406	2401-002619	C-AL;47uF,20%,25V,GPTP,5x11,5		
2	C704	2202-000121	C-CERAMIC,MLC-AXIAL;100pF,10%,50V,Y5P,TP		2	C214	2401-003102	C-AL;100uF,20%,10V,GPTP5x11,5		
2	C106	2202-000127	C-CERAMIC,MLC-AXIAL;10nF,+80-20%,25V,Y5V		2	L103	2701-000114	INDUCTOR-AXIAL;10UH,10%,2.5X3.4MM		
2	C111	2202-000127	C-CERAMIC,MLC-AXIAL;10nF,+80-20%,25V,Y5V		2	L202	2701-000114	INDUCTOR-AXIAL;10UH,10%,2.5X3.4MM		
2	C223	2202-000796	C-CERAMIC,MLC-AXIAL;1nF,10%,50V,Y5P,TP,3		2	L301	2701-000142	INDUCTOR-AXIAL;1UH,10%,2.5X3.4MM		
2	C224	2202-000796	C-CERAMIC,MLC-AXIAL;1nF,10%,50V,Y5P,TP,3		2	L302	2701-000142	INDUCTOR-AXIAL;1UH,10%,2.5X3.4MM		
2	C906	2202-000796	C-CERAMIC,MLC-AXIAL;1nF,10%,50V,Y5P,TP,3		2	L404	2701-000142	INDUCTOR-AXIAL;1UH,10%,2.5X3.4MM		
2	C505	2202-000825	C-CERAMIC,MLC-AXIAL;680pF,10%,50V,Y5P,TP		2	L903	2701-000158	INDUCTOR-AXIAL;22uH,10%,2.5X3.4mm		
2	C226	2202-000829	C-CERAMIC,MLC-AXIAL;820pF,10%,50V,Y5P,3		2	L102	2701-000159	INDUCTOR-AXIAL;22UH,10%,4.2X9.8MM		
2	C707	2301-000204	C-FILM,PEF;2.7nF,5%,50V,TP,7.4x3.9x13mm,		2	L201	2701-000159	INDUCTOR-AXIAL;22UH,10%,4.2X9.8MM		
2	C502	2301-000213	C-FILM,PEF;220nF,5%,250V,TP,21.5x11,7,5		2	L205	2701-000159	INDUCTOR-AXIAL;22UH,10%,4.2X9.8MM		
2	C109	2301-000224	C-FILM,PEF;22nF,5%,50V,TP,7.4x3.9x13mm		2	L405	2701-000159	INDUCTOR-AXIAL;22UH,10%,4.2X9.8MM		
2	C804	2301-000224	C-FILM,PEF;22nF,5%,50V,TP,7.4x3.9x13mm		2	L104	2701-000168	INDUCTOR-AXIAL;3.3UH,5%,2.5X3.4MM		
2	C805	2301-000235	C-FILM,PEF;3.9nF,5%,50V,TP,6.5x3.0x5.5mm		2	L902	2701-000180	INDUCTOR-AXIAL;33UH,5%,2.5X3.4MM		
2	C309	2301-000254	C-FILM,PEF;39nF,5%,50V,TP,7.5x3.5x6.5mm,		2	L904	2701-000180	INDUCTOR-AXIAL;33UH,5%,2.5X3.4MM		
2	C606	2301-000111	C-FILM,PEF;1.8nF,5%,50V,TP,6.5x3.0x5.5mm		2	L702	2701-000184	INDUCTOR-AXIAL;4.7UH,10%,2.5X3.4MM		
2	C217	2301-000342	C-FILM,PEF;2.2nF,5%,50V,TP,7.4x3.9x13mm,		2	L703	2701-000184	INDUCTOR-AXIAL;4.7UH,10%,2.5X3.4MM		
2	C234	2301-000342	C-FILM,PEF;2.2nF,5%,50V,TP,7.4x3.9x13mm,		2	L704	2701-000184	INDUCTOR-AXIAL;4.7UH,10%,2.5X3.4MM		
2	C407	2301-000383	C-FILM,PEF;10nF,5%,50V,TP,6x7x3.2mm,5mm		2	L706	2701-000184	INDUCTOR-AXIAL;4.7UH,10%,2.5X3.4MM		



Electrical Parts List

Level	Loc. No.	Code No.	Description ; Specification	Remark
2	EY803	AA60-40011A	EYELET;ID2,0,0D2.8,-,BST,-	
2	EY807	AA60-40011A	EYELET;ID2,0,0D2.8,-,BST,-	
2	EY808	AA60-40011A	EYELET;ID2,0,0D2.8,-,BST,-	
2	EY809	AA60-40011A	EYELET;ID2,0,0D2.8,-,BST,-	
2	EY810	AA60-40011A	EYELET;ID2,0,0D2.8,-,BST,-	
2	EY813	AA60-40011A	EYELET;ID2,0,0D2.8,-,BST,-	
2	EY818	AA60-40011A	EYELET;ID2,0,0D2.8,-,BST,-	
2	EY819	AA60-40011A	EYELET;ID2,0,0D2.8,-,BST,-	
2	EY821	AA60-40011A	EYELET;ID2,0,0D2.8,-,BST,-	
2	EY822	AA60-40011A	EYELET;ID2,0,0D2.8,-,BST,-	
2	EY825	AA60-40011A	EYELET;ID2,0,0D2.8,-,BST,-	
2	EY827	AA60-40011A	EYELET;ID2,0,0D2.8,-,BST,-	
2	EY828	AA60-40011A	EYELET;ID2,0,0D2.8,-,BST,-	
2	EY829	AA60-40011A	EYELET;ID2,0,0D2.8,-,BST,-	
2	EY850	AA60-40011A	EYELET;ID2,0,0D2.8,-,BST,-	
2	EY851	AA60-40011A	EYELET;ID2,0,0D2.8,-,BST,-	
2	EY852	AA60-40011A	EYELET;ID2,0,0D2.8,-,BST,-	
2	EY853	AA60-40011A	EYELET;ID2,0,0D2.8,-,BST,-	
2	EY860	AA60-40011A	EYELET;ID2,0,0D2.8,-,BST,-	
2	EY861	AA60-40011A	EYELET;ID2,0,0D2.8,-,BST,-	
2	EY824	AA60-40011A	EYELET;ID2,0,0D2.8,-,BST,-	
2	EY823	AA60-40011A	EYELET;ID2,0,0D2.8,-,BST,-	
2	EY833	AA60-40011A	EYELET;ID2,0,0D2.8,-,BST,-	
2	EY801	AA60-40011A	EYELET;ID2,0,0D2.8,-,BST,-	
2	EY403	AA60-40011A	EYELET;ID2,0,0D2.8,-,BST,-	
2	EY404	AA60-40011A	EYELET;ID2,0,0D2.8,-,BST,-	
2	EY101	AA60-40011A	EYELET;ID2,0,0D2.8,-,BST,-	
2	EY830	AA60-40011A	EYELET;ID2,0,0D2.8,-,BST,-	
2	EL301	AA60-40011B	EYELET;ID2,2,0D3.2,-,BSP,-	
2	EL302	AA60-40011B	EYELET;ID2,2,0D3.2,-,BSP,-	
2	EL403	AA60-40011B	EYELET;ID2,2,0D3.2,-,BSP,-	
2	EL407	AA60-40011B	EYELET;ID2,2,0D3.2,-,BSP,-	
2	EL408	AA60-40011B	EYELET;ID2,2,0D3.2,-,BSP,-	
2	EL501	AA60-40011B	EYELET;ID2,2,0D3.2,-,BSP,-	
2	EL502	AA60-40011B	EYELET;ID2,2,0D3.2,-,BSP,-	
2	EL801	AA60-40011B	EYELET;ID2,2,0D3.2,-,BSP,-	
2	EL802	AA60-40011B	EYELET;ID2,2,0D3.2,-,BSP,-	
2	EL804	AA60-40011B	EYELET;ID2,2,0D3.2,-,BSP,-	
2	EL404	AA60-40011B	EYELET;ID2,2,0D3.2,-,BSP,-	
2	EL603	AA60-40011B	EYELET;ID2,2,0D3.2,-,BSP,-	
2	EL604	AA60-40011B	EYELET;ID2,2,0D3.2,-,BSP,-	
2	GT101	AA60-40014A	PIN-GT,ASSY;1P,-,AUTO	
2	GT301	AA60-40014A	PIN-GT,ASSY;1P,-,AUTO	
2	GT302	AA60-40014A	PIN-GT,ASSY;1P,-,AUTO	
2	GT401	AA60-40014A	PIN-GT,ASSY;1P,-,AUTO	
2	GT402	AA60-40014A	PIN-GT,ASSY;1P,-,AUTO	
2	GT502	AA60-40014A	PIN-GT,ASSY;1P,-,AUTO	
2	GT801	AA60-40014A	PIN-GT,ASSY;1P,-,AUTO	
2	GT802	AA60-40014A	PIN-GT,ASSY;1P,-,AUTO	
2	GT803	AA60-40014A	PIN-GT,ASSY;1P,-,AUTO	
2	GT804	AA60-40014A	PIN-GT,ASSY;1P,-,AUTO	
2	GT805	AA60-40014A	PIN-GT,ASSY;1P,-,AUTO	
2	GT806	AA60-40014A	PIN-GT,ASSY;1P,-,AUTO	
2	GT501	AA60-40014A	PIN-GT,ASSY;1P,-,AUTO	
2	GT807	AA60-40014A	PIN-GT,ASSY;1P,-,AUTO	
2	R424	2004-001402	R-METAL(S);6.8KOHM,1%,1/2W,AA,TP2,4X6.4	
2	R423	2004-001373	R-METAL(S);100KOHM,1%,1/2W,AA,TP2,4X6.4	
△	FD801S	3601-001163	FUSE-AXIAL LEAD;125V,7A,-EPOXY,2.4X7.1M	
△	D807	0402-000493	DIODE-RECTIFIER;1R5GU41,400V,1.5A,DO-15L	
△	D303	0402-001321	DIODE-RECTIFIER;1A4G,400,1A,R-1,TP	
△	D809	0402-001321	DIODE-RECTIFIER;1A4G,400,1A,R-1,TP	
2	C115	2202-000632	C-CERAMIC,MLC-AXIAL;100nF,20%,50V,Z5U,TP	
2	C211	2202-000632	C-CERAMIC,MLC-AXIAL;100nF,20%,50V,Z5U,TP	
2	C911	2202-000632	C-CERAMIC,MLC-AXIAL;100nF,20%,50V,Z5U,TP	
2	C822	2401-000711	C-AL;2200uF,20%,25V,GP,TP;16x25,7,5	
2	C806	2301-001435	C-FILM,PPF;1.5nF,5%,1.2kV,TP;15x8x12.5mm	
2	C207	2305-000412	C-FILM,MPEF;470nF,5%,63V,TP,-,5mm	
2	C901	2305-000412	C-FILM,MPEF;470nF,5%,63V,TP,-,5mm	
2	C612	2401-000480	C-AL;10uF,20%,50V,GP,TP;5x11,5	
2	C820	2401-000480	C-AL;10uF,20%,50V,GP,TP;5x11,5	
2	C604	2401-000480	C-AL;10uF,20%,50V,GP,TP;5x11,5	
2	HIC01	AA13-20004W	IC-HYBRID,-,PAP103T,SIP6P,PRE-AMP,TP	
2	RW701	11-001133	R-NETWORK;33K/24K/75x3,5%,1/8W,X,SIP6P,-	
2	PCB	AA41-00131G	PCB-MAIN;G,KS1A,FR-1,1L,C,1.61;245	
2	C702	2202-000210	C-CERAMIC,MLC-AXIAL;270PF,10%,50V,Y5P,TP	
2	R413	2003-001035	R-METAL OXIDE(S);27ohm,5%,2W,AF,TP;3.9x1	

Level	Loc. No.	Code No.	Description ; Specification	Remark	
△	2	FP801S	3601-000281	FUSE-CARTRIDGE;250V,4A,TIME-LAG,GLASS,5.	
2	L101	2701-000171	INDUCTOR-AXIAL;330NH,10%,2.5X3.4MM		
2	J101	2001-000613	R-CARBON;3.9KOHM,5%,1/8W,AA,TP1.8X3.2M		
2	L807	2701-001030	INDUCTOR-AXIAL;43uH,10%,5x14mm		
2	L804	2701-001030	INDUCTOR-AXIAL;43uH,10%,5x14mm		
2	C403	2401-000560	C-AL;1uF,20%,160V,GP,TP;6.3x11,5		
2	C615	2202-000253	C-CERAMIC,MLC-AXIAL;4.7nF,20%,16V,Y5R,TP		
2	R302	2004-001369	R-METAL(S);1.2Kohm,1%,1/2W,AA,TP2.4x6.4		
△	2	D804	0401-000006	DIODE-SWITCHING BAV21,250V,250mA,DO-35,T	
△	2	D805	0402-001470	DIODE-RECTIFIER;RU2BV1,800V,1A,DO-204AC,	
2	R808	2001-001138	R-CARBON(S);390OHM,5%,1/2W,AA,TP2.4X6.4		
2	R831	2001-001088	R-CARBON(S);1KOHM,5%,1/2W,AA,TP2.4X6.4M		
2	R405	2001-001116	R-CARBON(S);270HM,5%,1/2W,AA,TP2.4X6.4M		
2	C203	2401-002462	C-AL;33uF,20%,16V,GP,TP;5x11,5		
2	R811	2003-002239	R-METAL OXIDE(S);100KOHM,5%,2W,AF,TP;3.9		
2	R812	2003-002239	R-METAL OXIDE(S);100KOHM,5%,2W,AF,TP;3.9		
2	R303	2003-002070	R-METAL OXIDE;1ohm,5%,2W,AF,TP;3.9x10mm		
2	R306	2004-004969	R-METAL(S);1.1Kohm,1%,1/2W,AA,TP2.4x6.4		
2	R505	2008-001011	R-FUSIBLE(S);0.18ohm,10%,2W,AF,TP;3.9x10		
△	2	CR409S	2201-000406	C-CERAMIC,DISC;0.27nF,10%,2kV,Y5P,TP;6.3	
2	Z203	2903-000181	FILTER-CERAMIC;TR,5.5MHz,-,TP;TPS5.5		
2	R840	2001-001122	R-CARBON(S);3.9KOHM,5%,1/2W,AA,TP2.4X6.		
2	C818	2401-003028	C-AL;100uF,20%,25V,WT,TP;6.3x11,5		
2	R728	2001-000273	R-CARBON;100KOHM,5%,1/8W,AA,TP1.8X3.2M		
2	R923	2001-000273	R-CARBON;100KOHM,5%,1/8W,AA,TP1.8X3.2M		
2	C603	2301-000247	C-FILM,PEF;33nF,5%,50V,TP;1.4x5.13mm,5		
2		0203-001123	TAPE-PAPER;#53131,TO,15,W6,0,L200000,YEL		
2	C102	2202-000279	C-CERAMIC,MLC-AXIAL;47pF,5%,50V,SL,TP,3.		
2	DZ401	0403-001319	DIODE-ZENER;MTZJ4.7C,4.68-4.93V,500mW,DO		
2	DZ906	0403-001319	DIODE-ZENER;MTZJ4.7C,4.68-4.93V,500mW,DO		
2	DZ907	0403-001319	DIODE-ZENER;MTZJ4.7C,4.68-4.93V,500mW,DO		
2	DZ908	0403-001319	DIODE-ZENER;MTZJ4.7C,4.68-4.93V,500mW,DO		
△	2	NT802S	1404-001045	THERMISTOR-NTC;4.70HM,15%,2900K,35.0MW,T	
△	2	R803S	1404-001156	THERMISTOR-PTC;90HM,+30%/20%,220VRMS,27	
△	2	CX801S	2306-000318	C-FILM,MPPF;220nF,20%,250V,TP,-,22.5mm	
△	2	SF101S	2904-001063	FILTER-SAW AV;38.9MHz,SIP5K,TP,17dB,PAL-	
△	2	T401	AA26-50001B	TRANS-HORIZ.DRIVE,-,7.1mH,-,102uH,	
△	2	LX801S	AA29-30001D	FILTER-LINE NOISE;SQ1913,-,6.0MH,0.8A,-	
△	2	TU01S	AA40-00076A	TUNER;TECC0949PG35(A);PAL,181CH,38.9MHZ	
2	LD901	AA96-00555A	ASSY LED GUIDE,-,UJEX-LD-030,GREEN		
2	IC501	AA96-00842A	ASSY H/S;VIDEO,AA62-30175D,TDAA6107Q		
2	IC501	1201-001541	IC-VIDEO AMP;6107,ZSIP9P,-,SINGLE,-,PLA		
3	SCR501	6003-000334	SCREW-TAPTITE;RH,+2S,M3,L6,ZPC(YE),SWR		
3	H/S501	AA62-30175D	HEAT SINK-PS,-,T1,0,-,33X15X30 FT-2		
△	2	V999S	3704-001105	SOCKET-CRT;11P;20P;26.5PI,Ni,-	
2	RM901	AA32-00001A	MODULE REMOCON,-,ORC-195VF;38KHZ,940nm,M		
△	2	IC801S	AA96-00845A	ASSY H/S;POWER,AA62-30186B,KA500765R	
△	3	IC801	1203-001932	IC-PWM CONTROLLER;500765,TO-220F;5P;185M	
3	SCR801	6003-000333	SCREW-TAPTITE;RH,+2S,M3,L10,ZPC(YEL),SWR		
3	H/S801	AA62-30186B	HEAT SINK-ES,-,SILVER,171J+ COVER-H		
3		HA68-02189A	LABEL-WARNING;33MM,18MM,WHITE		
3		0205-000129	GREASE-SILICON;SC102,JAPAN		
△	2	IC802	AA96-00846A	ASSY H/S;POWER,AA62-00055A,KA7632	
△	3	IC802	1203-001939	IC-POS.FIXED REG.;7632,SIP10P,-,PLASTI	
3	H/S802	AA62-00055A	HEAT SINK-PS,-,T1,0,-,35*15*25,D1,-,		
3	SCR802	6003-000334	SCREW-TAPTITE;RH,+2S,M3,L6,ZPC(YE),SWR		
2	IC902	1103-001106	IC-EEPROM;C81DC,1028x8Bit,DI8P;300MIL,		
△	2	SW801S	3403-000179	SWITCH-PUSH;250V,5A,DPST,-,JWP-2104B	
2	Q401	0502-001160	TR-POWER;2SD2499,NPN,50000mW,TO-3PBK,8-		
2	JS701	3722-000183	JACK-SCART;21P;4mm,SN,BLK,NO		
2	TOP	AA39-20010D	LEAD CONNECTOR-ASSY;1P,YFH800-01,S,400,		
2	CN501	AA39-20620C	LEAD-CONNECTOR,ASSY;9P,YBNH250-09,S,500		
2	IC301	AA96-00847A	ASSY H/S;AA62-00046A,LA7840		
3		1204-001483	IC-VERTICAL PROCESSO;LA7840,SIP7P;708MI		
3		AA62-00064A	HEAT SINK-PS;DP,-,AA62-00046A,-,-,-		
3		6003-000334	SCREW-TAPTITE;RH,+2S,M3,L6,ZPC(YE),SWR		
3		0205-000129	GREASE-SILICON;SC102,JAPAN		
2	C801	2401-002221	C-AL;220uF,20%,450V,GP,ST;25x40,10		
△	2	T444S	AA26-00116A	TRANS FB;FSV-14A004(HS),CT15A8,3.24MH,1	
2	SUB	AA98-00079A	ASSY-SUB.PART;KS1A,MAIN(OPT),PAL-		
3		0202-000008	SOLDER-WIRE;S63S-W3.0,S63S,D3,SN63/PB37		
3		0202-000187	SOLDER-WIRE FLUX;-RS60S,D1,2.63SN/37PB		
3		0204-000442	SOLVENT;1M-1000,C3H7OH,96,-		
3		0204-001024	FLUX;DF-98TVS,-,20%,-		
△	2	LR401S	AA27-30001B	COIL-LINEARLITY;-195uH,QIC1010,PI0.4,4.	
2	IC602	AA96-00848A	ASSY H/S;SOUND,AA62-30175D,TDAA8943		

Level	Loc. No.	Code No.	Description ; Specification	Remark
3	SCR602	6003-000334	SCREW-TAPTITE,RH,+2S,M3,L6,ZPC(YE),SWR	
3	H/S602	AA62-30175D	HEAT SINK-PS,-,SECC,T1.0,-,33X15X30 FT-2	
3	IC602	1201-001740	IC-AUDIO AMP;TDA8943,SIL,9P,850MIL,SINGL	
2	LW01	AA27-40001N	COIL-HORIZ.WIDTH:-,90/260uH,SB-5S620,PIO	
2	CN601	3711-002642	CONNECTOR-HEADER;BOX,3P,1R,2.5MM,STRAIGH	
△	2	CY801S	2201-000446 C-CERAMIC,DISC;3.3nF,20%,400V,Y5U,TP,18x	
△	2	CR410S	2303-001015 C-FILM,PPF;5.5nF,5%,1.6kV,TP;29x9.5x17,2	
2	CR402	2306-001004	C-FILM,MPPF;300nF,5%,400V,TP;26X14X21MM,	
△	2	IC201S	AA09-00188A IC-MOC;TDA9351PS/N2H6,SPM-802EE,64K,DIP	
△	2	T801S	AA26-00134A TRANS-SWITCHING;-CS21S5T,160V-260V,PM2 P	

### ASSY-CABINET,FRONT

1	*	HA91-20005A	ASSY-CABINET,FRONT;20F1,SV-012P-II	
2		AA61-60003T	SPRING-CS;-SUS304,-,OD7,N5,OD7,-,-,-	
2		HA64-25011A	KNOB-POWER;20F1,21F1,HIPS,SV-012P-II,SIL	
3		HA83-00040A	LP-MARKING PAINT;METALLIC SILVER,SV-012	
3		HA83-00006A	LP-RESIN HIPS;-BASF495F,NTR,HB	
3		HA83-00011A	LP-RESIN;-M BATCH,WILSON 6007-GY-60,GRY	
2		AA64-02599A	KNOB CONTROL;20F1,21F1,HIPS,HB,SV-012P-I	
3		HA83-00040A	LP-MARKING PAINT;METALLIC SILVER,SV-012	
3		HA83-00006A	LP-RESIN HIPS;-BASF495F,NTR,HB	
3		HA83-00011A	LP-RESIN;-M BATCH,WILSON 6007-GY-60,GRY	
2		AA64-40450B	WINDOW-REMOCON;-501F,-PC,VO,VIOLET,-	
2		AA64-40451B	INDICATOR-LED;-33.501F,-ACRYL,-CLR,-	
2		AA64-70127F	BADGE-BRAND;NEW,AL,-,L40,R800,SILVER,S	
2		AA65-30105A	CLAMP-WIRE;ALL MODEL,NYLON 66,V2,-,NTR,1	
2	SPK+CF	6002-000515	SCREW-TAPPING;RH,+2,M4,L15,ZPC,SWRCH18	
2	KC+CF	6002-000515	SCREW-TAPPING;RH,+2,M4,L15,ZPC,SWRCH18	
2		HA83-00049A	LP-ADHESIVE-HM;-12MM,NTR	
2		0203-000432	TAPE-ACETATE;#156A,TO.25mm,W19mm,L30M,-	
2		AA64-02373A	CABINET-FRONT;20F1,HIPS,HB,SV-012P-II,GR	
3		HA83-00040A	LP-MARKING PAINT;METALLIC SILVER,SV-012	
3		HA83-00021A	LP-MARKING PAINT;WHITE,TPC180	
3		HA83-00006A	LP-RESIN HIPS;-BASF495F,NTR,HB	
3		HA83-00011A	LP-RESIN;-M BATCH,WILSON 6007-GY-60,GRY	
2		AA96-00853A	ASSY SPEAKER;160HM,3W,3001-001039,700	
3		3001-001039	SPEAKER;3W,16ohm,90dB,180Hz	
3		AA39-20500C	LEAD CONNECTOR-ASSY;3(2),67096-003,REC,	

### ASSY-CABINET(COM)

1	*	AA90-01062A	ASSY-CABINET(COM);20F1	
2	CB+CF	6002-000515	SCREW-TAPPING;RH,+2,M4,L15,ZPC,SWRCH18	
2	CRT+CF	AA60-10050Q	SCREW-ASSY;-SWRCH18A,M5,L26.5,HH,+WC,-	
2		AA65-30008A	CLAMP-CORD;PE,HB,BLK,-,-,-	
2		HA60-00143A	SPACER-GUM;-RUBBER,BLK,T5.0,M5	
2		HA64-02395A	CABINETBACK;20F1,HIPS,HB,GRY	
3		HA83-00013A	LP-RESIN HIPS;-NTR,HB,DOW A-TECH,IEC65	
3		HA83-00011A	LP-RESIN;-M BATCH,WILSON 6007-GY-60,GRY	
2		AA65-30009A	CLAMP-FBT;ABS,VO,BLK,-,-,-	
2		AA65-30018A	CLAMP-WIRE;DONG-A,NYLON66,-,-,-,DATL-60	
2		HA68-02179A	LABEL-RATING;58MM,54MM,WHITE	
2		HA83-00052A	LP-TAPE-INK;WIDTH 55 MM	
2		HA68-02177A	LABEL-PQS;-135MM,35MM,WHITE	
2		HA83-00046A	LP-TAPE-INK;WIDTH 105 MM	

### ASSY CRT

1	*	AA94-05858A	ASSY CRT;A48KRD82X01(H);+380MG,20	
2		AA03-10030G	CRT COLOR;-A48KRD82X01(H);+380mG,20,90	
2		AA27-20003Y	COIL-DEGAUSSING;-20,15.2ohm,28T,L2170,E	
2		AA63-10002A	BAND-TIE;-NYLON66 V2,-,-,L100,NTR,-,-	
2		AA98-70031A	ASSY-TBC,WIRE(P);DP,20,AA98-70014B,1P,TV	
2		AA65-30107A	CLAMP-D,COIL;20-22 INCH,NYLON 66,V2,-,NT	

### ASSY ACCESSORY

1	*	AA94-05817A	ASSY ACCESSORY;20-21,KS1A,XEH	
2		HA68-00320A	LABEL CAUTION;-S15A,CEFTA,-,-,-	
2		HA68-00336B	CARD-WARRANTY;A/P100(G),A5,NEW VERSION,I	
2		4301-000120	BATTERY-MN;1.5V;-AA,14.5X50MM,-	
2		HA83-00047A	LP-TAPEACETATE;-TO.1MM,W20MM,L200MM	
2		HA69-00276A	VINYL-BAG;HDPE,TO.025,L400,W240,-,W/O LO	

### ASSY PACKING

1	*	AA90-01157B	ASSY PACKING;20F1;CHINESE	
2		AA60-40006A	PIN-STAPLE;-H18,33X17.8X2.4,-,AUTO	
2		AA69-30032C	BAG-SHEET;HDPE+PE FOAM;-W1050,H950,-,-,	
2		HA83-00046A	LP-TAPE-INK;WIDTH 105 MM	
2		HA68-02180A	LABEL-BOX;-120G,YELLOW,STAND	
2		HA69-01505A	CUSHION-SET;501F,PS,C-0.02	
3		HA83-00058A	LP-RESIN-EPS;-CHEIL SF-301V,VHWT	
2		HA69-01521A	PACKINGCASE;501,YEL,CB35	

### REMOCON

1	*	AA59-00104N	REMOCON;-TM59,SIM806E,29,L/GRAY,TTX/MONO	
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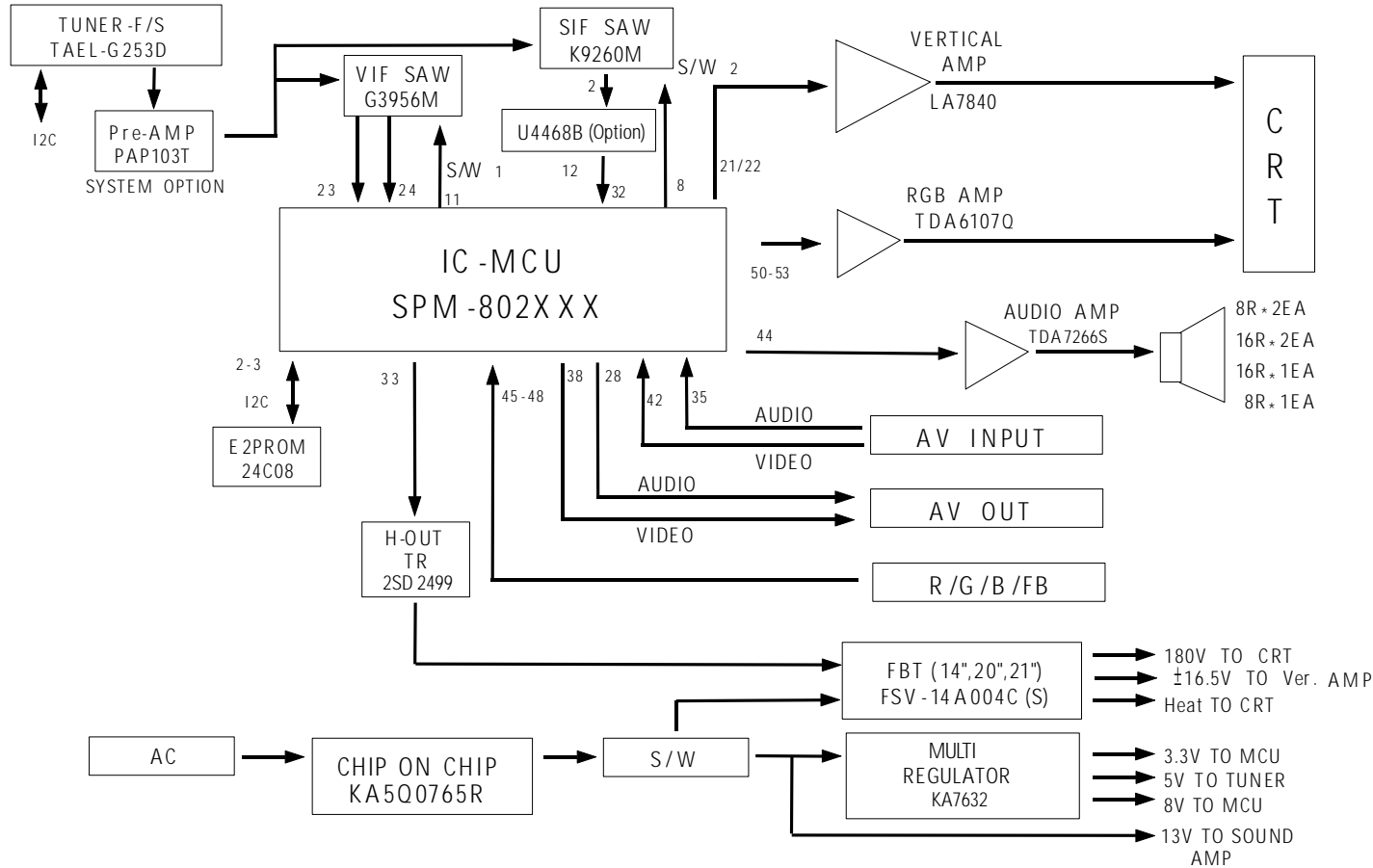
### ASSY-POWER,CORD

△	1	*	AA96-20122A	ASSY-POWER,CORD;-CP2,NQ(4.0),H/C250,KKJ
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8. Block Diagram

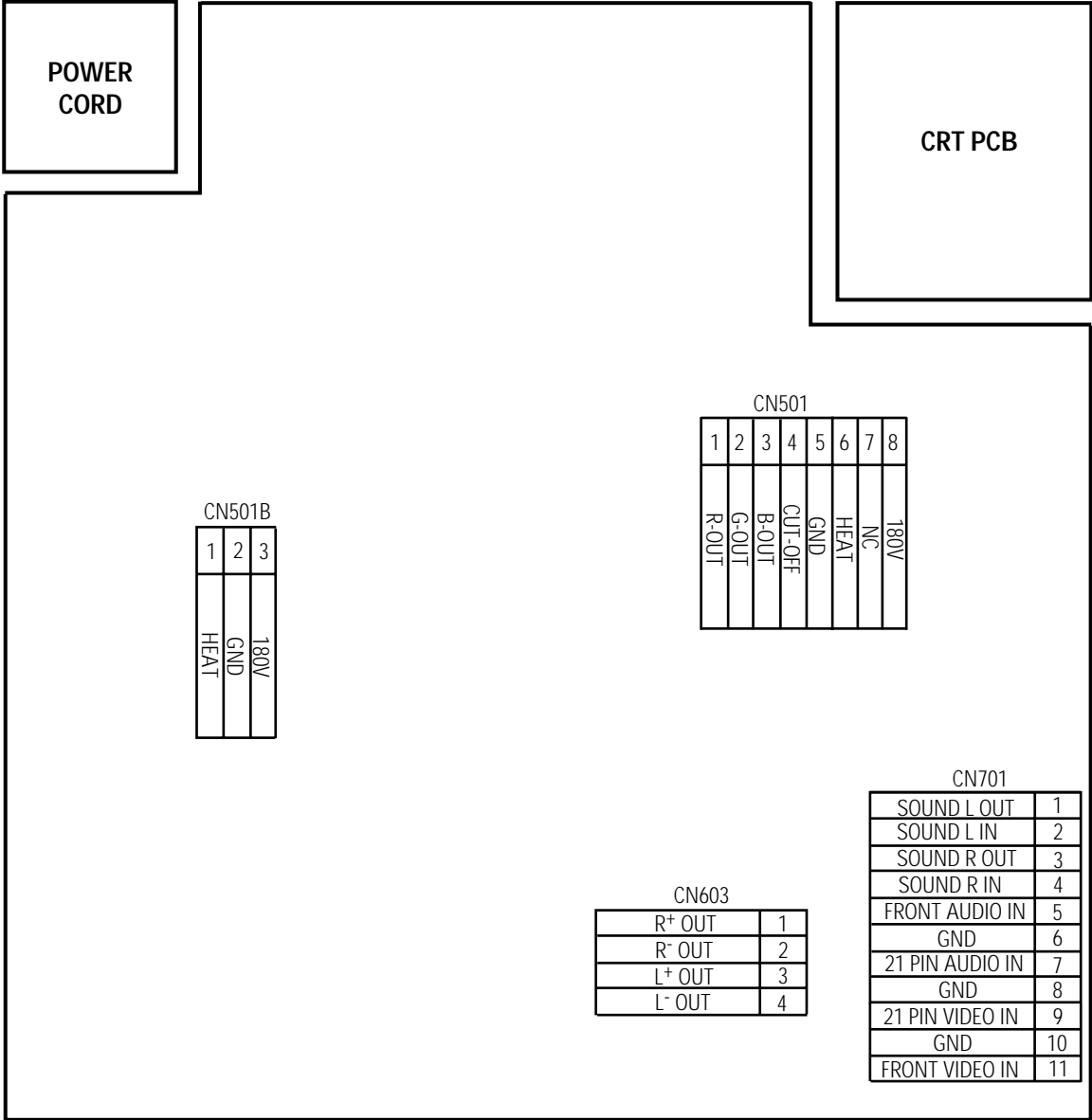
8-1 KS1A

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# 9. Wiring Diagram

## 9-1 KS1A

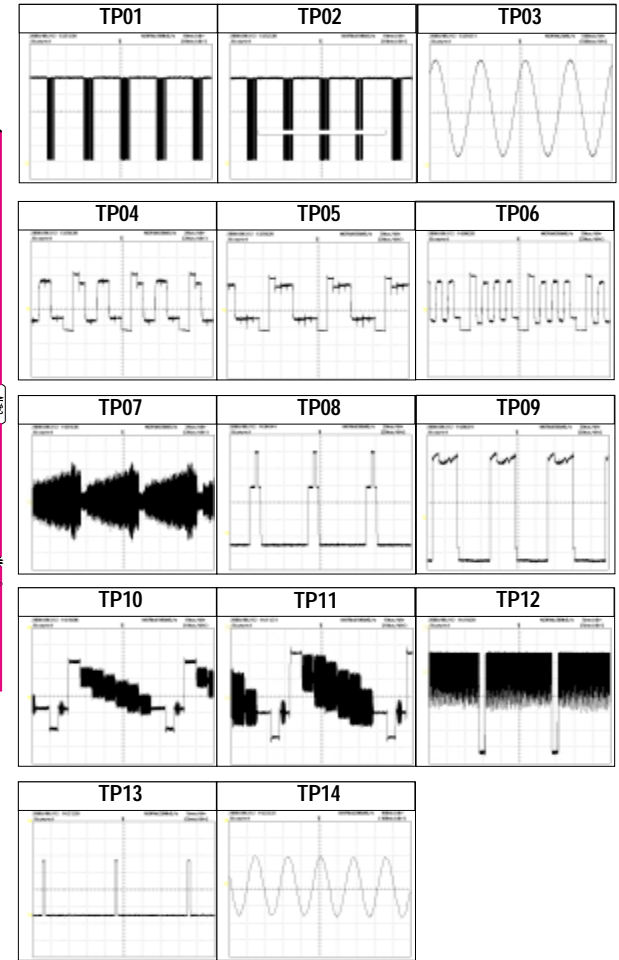
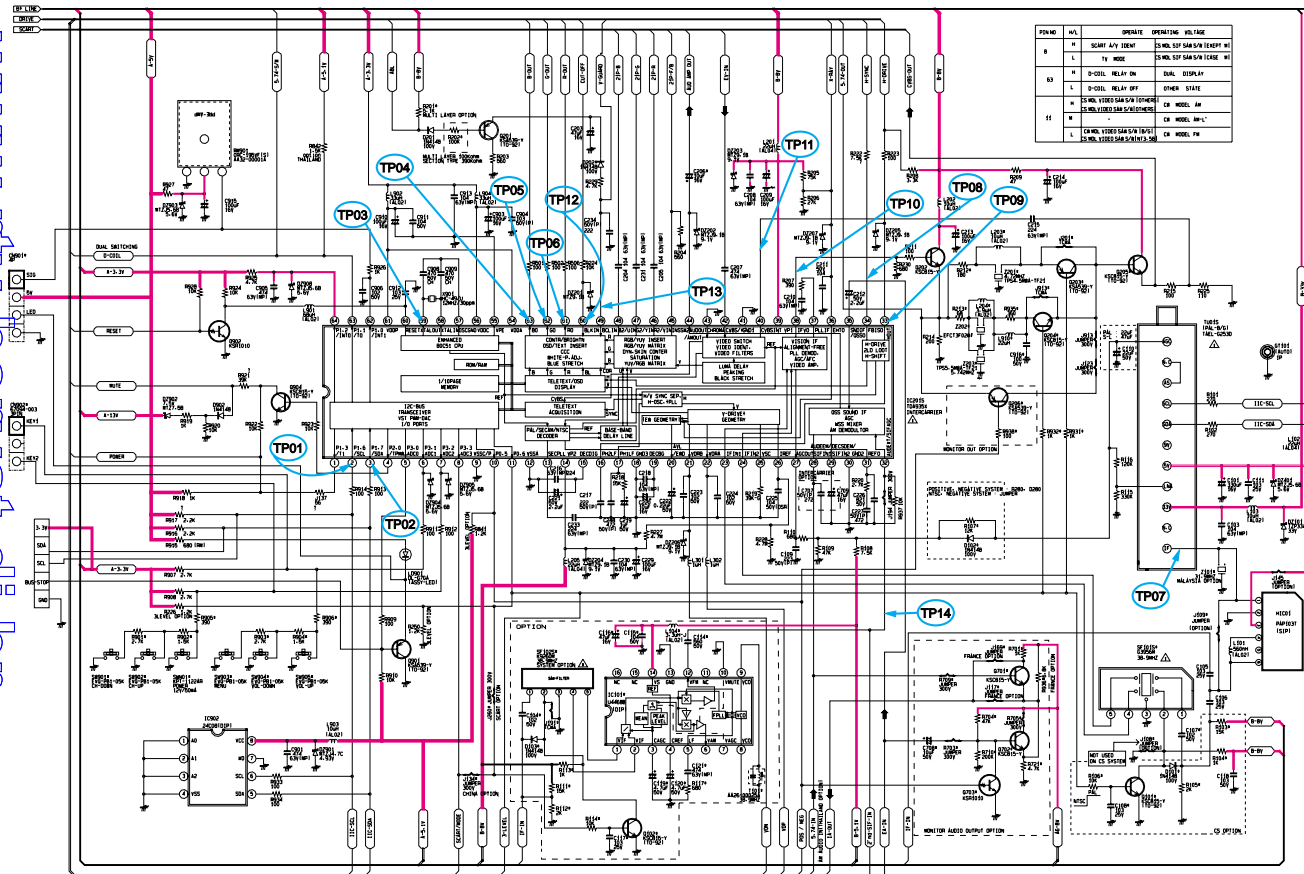




# 10. Schematic Diagrams

## 10-1 ONECHIP & MICOM

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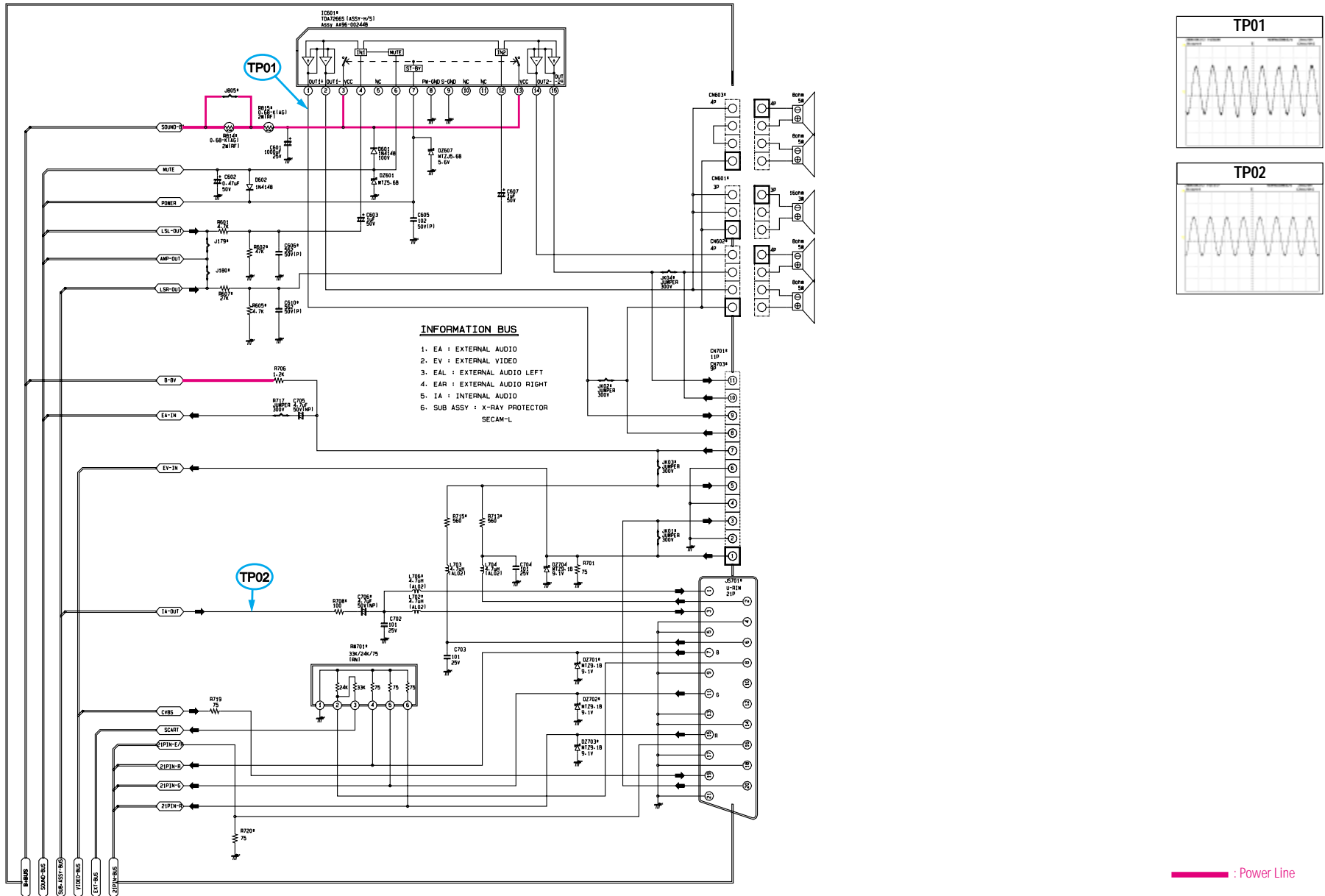


█ : Power Line



10-3 SOUND, EXT-A/V (SCART)

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