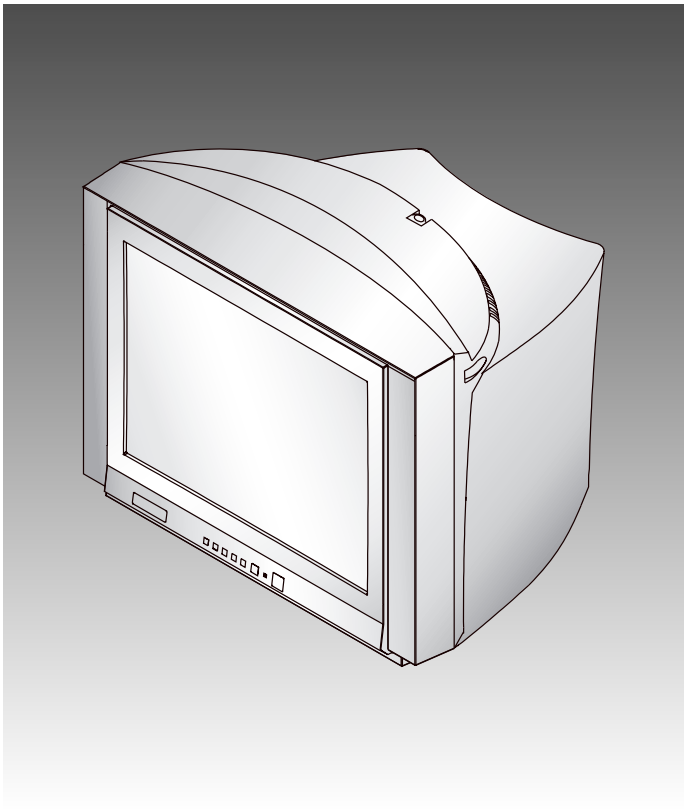
SAMSUNG

COLOR TELEVISION RECEIVER

Chassis : **K15D**
Model : **TXM1491FX/XAA**

SERVICE Manual

COLOR TELEVISION RECEIVER



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ELECTRONICS

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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.

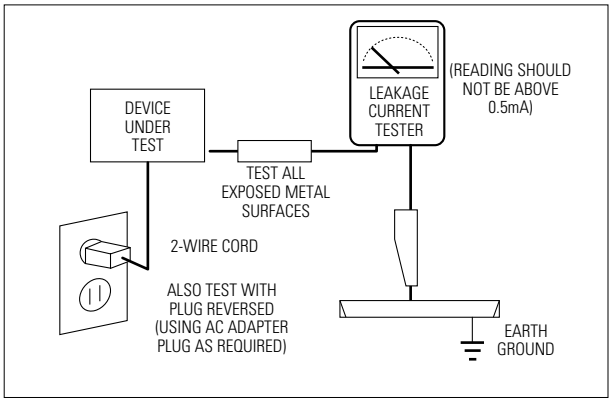


Fig. 1-1 AC Leakage Test

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)

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 semicon ductor 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.

CAUTION

These servicing instructions are for use by qualified service personnel only.
To reduce the risk of electric shock do not perform any servicing other than that contained in the operating instructions unless you are qualified to do so.

2. Specifications and IC Data

2-1 Specifications

Television System:

MODEL	SYSTEM
CT	NTSC ONLY

Channels:

System / Band	NTSC
VHF	2 - 13
UHF	14 - 69
CABLE	1 - 125

Intermediate Frequencies (MHz) :

SYSTEM / IF Carrier Frequency	NTSC
Picture IF Carrier	45.75
Sound IF Carrier	41.25
Color Sub Carrier	42.18

Picture Tube:

14 Inch	A34KQV42X	14Inch
15 Inch	A36QDT351X	15Inch Flat
20 Inch	A48KRD82X	20Inch
21 Inch	A51KQJ63X	21Inch

Power Requirements: AC 120V, 60Hz

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

Speaker Impedance 8 ohm

2-2 IC Line Up

Table 2-1 IC Line-Up

Loc. No	Specificatio	Description	Remark
IC201S	SPM458AN	TDA9377, English/Spanish/French	Philips
IC301	LA7840	VERTICAL OUTPUT	Sanyo
IC501	TDA6107Q	RGB DRIVE AMP	Philips
IC602	TDA7266M/TDA7266S	SOUND-AMP, TDA7266M (MONO) TDA7266S (STEREO)	Philips
IC801S	KA5Q0740RT (0765RT)	POWER IC (STR)	FIAIR CHILD
IC802	KA7632	CUSTOM REGULATOR (5V, 8V, 3.3V)	SEC
IC202	24C04	EEPROM	
PC801S	TCET1108 / LTV817B	PHOTO COUPLER	
ICS601	UPC1851B	Sound Processor (STEREO)	NEC

2-3 Semiconductor Base Diagrams

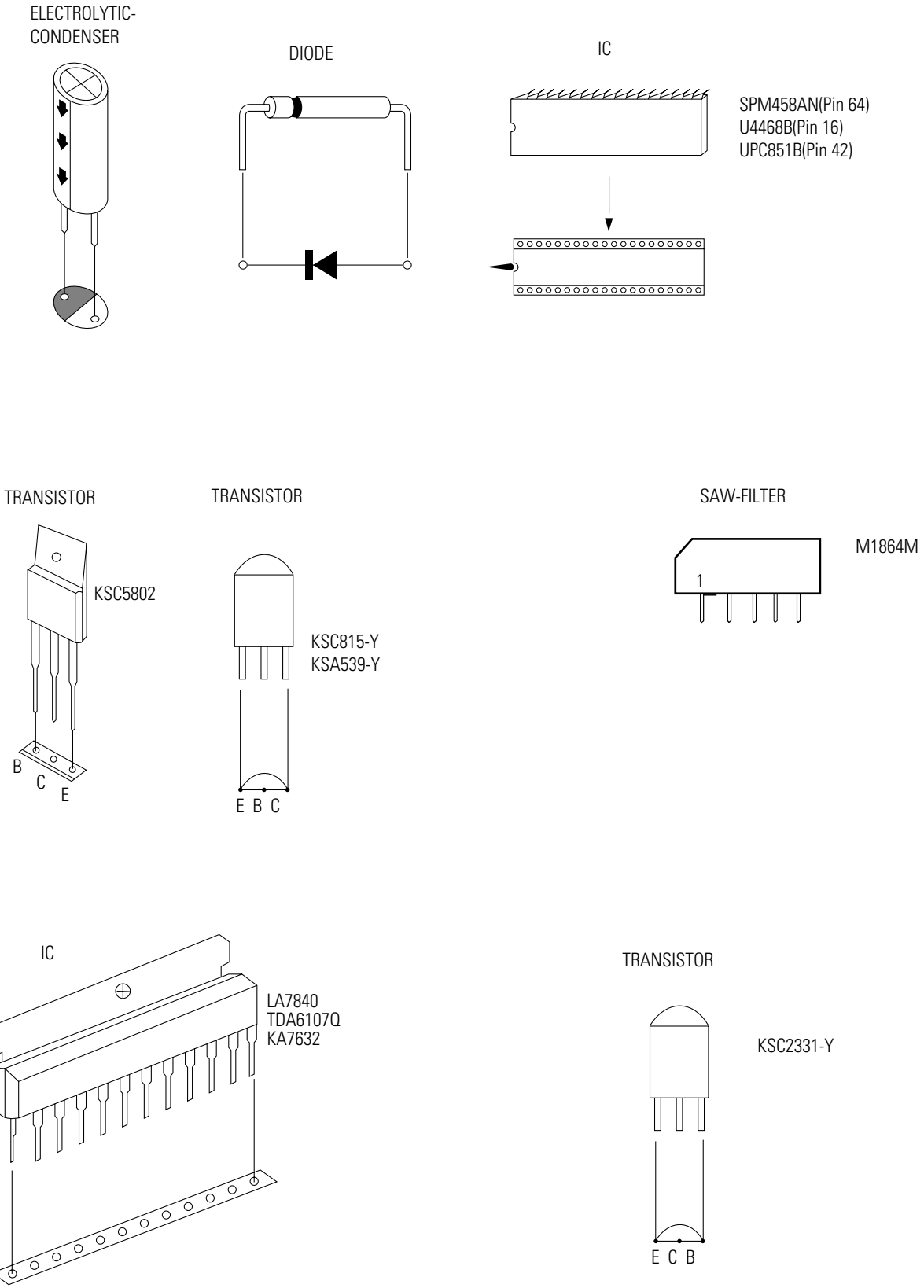
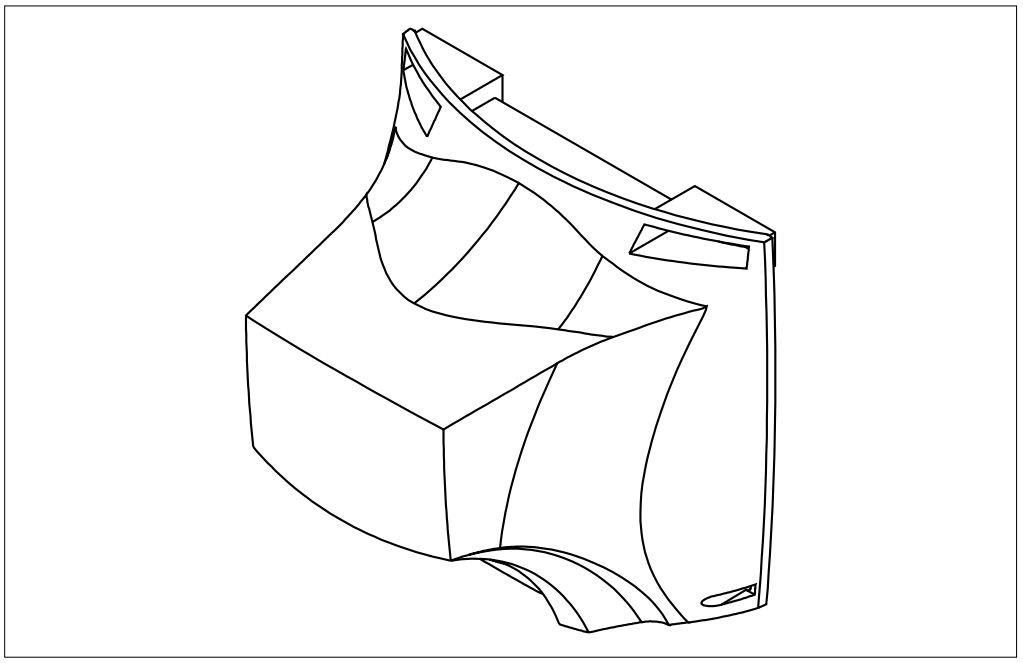


Fig. 2-1 Semiconductor Base Diagrams

MEMO

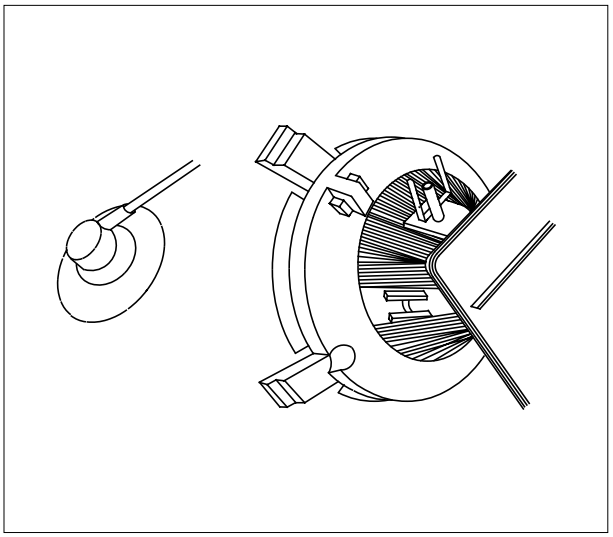
3. Disassembly and Reassembly

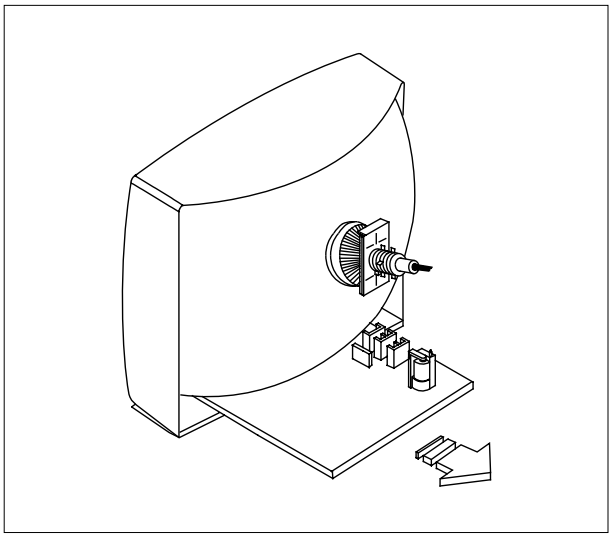
3-1 Back Cover Removal



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

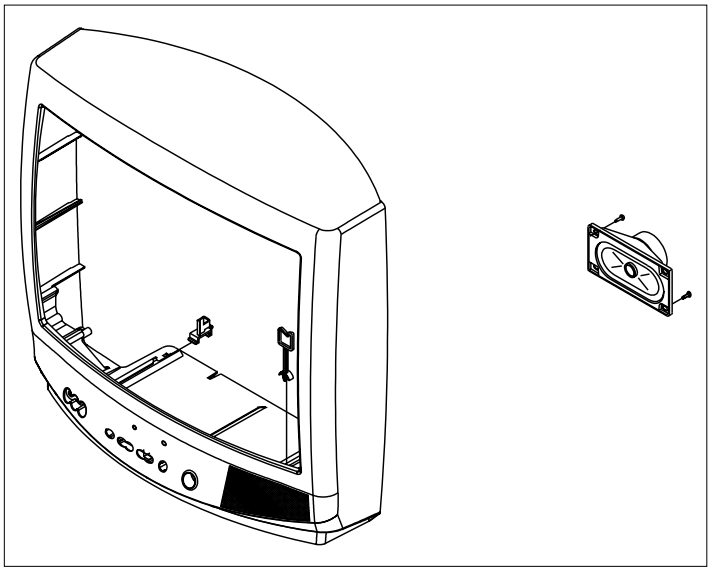




1. Separate the socket board from the CRT neck.
2. Remove the Anode Cap from the CRT.
3. Remove the main board by pulling it with both hands.

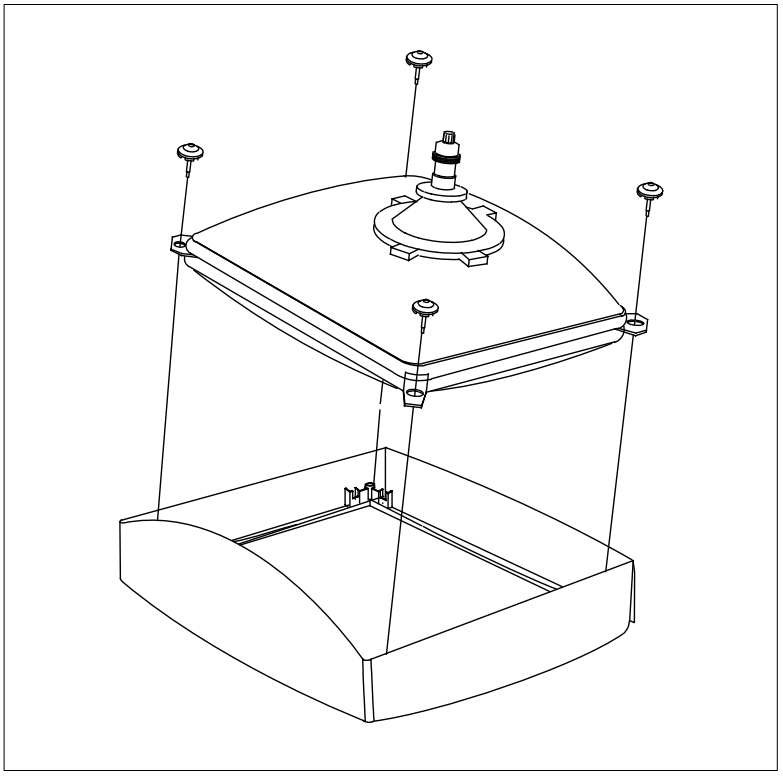
Warning: The FBT is charged with high voltage.
Before removing the Anode Cap, discharge the voltage through one of the heat sinks on the main board.

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.

MEMO

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 and set SC as 20(factory mode).

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 → MUTE → 1 → 8 → 2 →POWER ON.

2. The “SERVICE (FACTORY)” message will be displayed. The Service Mode has four components: ADJUST, OPTION , 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:

   SCT>SBT>BLR>BLB>RG>GG>BG>VSL>VS>
   VA>HS>SC>CDL>STT>AKB>FS>NDL>
   LBS>NSR>SCBT>VOL>CAP>HBS>RP00>
   RP01>FMWS>AGC1>OMD>SCL>PWL>
   MUS>AGC>DSK>DVDB

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

NO	OSD	FUNCTION	RANGE	INITAL DATA	SETTING		REMARK
					19V	13V	
1	SCT	Sub Contrast	0 ~ 23	15	13	13	W/B (HIGH Y)
2	SBT	Sub Brightness	0 ~ 23	8	9	9	W/B A (LOW Y)
3	BLR	Black Level offset Red	0 ~ 63	35	31	31	W/B (LOW X, Y)
4	BLB	Black Level offset Blue	0 ~ 63	32	27	27	W/B (LOW X, Y)
5	RG	Red Gain	0 ~ 63	40	32	32	W/B (HIGH X, Y)
6	GG	Green Gain	0 ~ 63	30	25	25	FIX
7	BG	Blue Gain	0 ~ 63	42	31	31	W/B (HIGH X, Y)
8	VSL	Vertical Slope	0 ~ 63	30	31	31	Vertical SLOPE
9	VS	Vertical Shift	0 ~ 63	31	31	31	FIX
10	VA	Vertical Amplitude	0 ~ 63	20	40	20	Vertical SIZE
11	HS	Horizontal Shift	0 ~ 63	32	30	30	Horizontal SHIFT
12	SC	S-Correction	0 ~ 63	35	20	12	FIX
13	CDL	Cathode Drive Level	0 ~ 15	11	11	7	FIX
14	STT	Sub Tint	0 ~ 7	3	7	7	FIX
15	AKB	AKB On / off	0 ~ 1	0	0	0	FIX
16	FS	Filter Seting	0 ~ 15	32	37	37	FIX(STEREO)
17	NDL	NTSC Delay	0 ~ 15	1	1	1	FIX
18	LBS	Low Band Separation Set	0 ~ 63	32	32	32	FIX(STEREO)
19	NSR	NTSC Sub color	0 ~ 23	3	3	3	FIX
20	SCBT	Screen Brighrtness	0 ~ 63	35	45	45	FIX
21	VOL	Volume pre setting	0 ~ 63	10	10	10	FIX
22	CAP	Caption Position	0 ~ 15	12	12	12	FIX
23	HBS	High Band Separation Set	0 ~ 63	32	32	32	FIX(STEREO)
24	RP00	Ratio Pre / overshoot	0 ~ 1	1	1	1	FIX
25	RP01	Ratio Pre / overshoot	0 ~ 1	1	1	1	FIX
26	FMWS	Window Selection Sound PLL	0 ~ 1	0	0	0	FIX (Mono)
27	AGC1	IF AGC Speed	0 ~ 3	1	1	1	FIX (Nomal)
28	OMD	Offset IF Demodulator	0 ~ 63	32	32	32	FIX (No Crrection)
29	SCL	Soft Clipping Level	0 ~ 3	3	1	1	FIX (Off)
30	PWL	Peak White Limitting	0 ~ 15	15	13	13	FIX (100%)
31	MUS	Matrix USA	0 ~ 1	0	0	0	FIX (Mono)
32	AGC	Automatic Gain Control	0 ~ 63	33	33	33	FIX
33	DSK	Dynamic Skin Tone	0 ~ 1	0	0	0	FIX
34	DVDB	DVD Bright Offset	0 ~ 10	5	4	4	FIX

4-2-3 Option Bytes

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

Option Table : xx xx

	OSD	SETTING	REMARK
1	VIDEO MUTE (When swiching channel)	ON	- 800msec Mute Time(Tri-norma)
		OFF	- Unavailable
2	AUDIO	STEREO	- Zenith stereo (WITH IN UPC1851B)
		LINE STEREO	- Line stereo (WITH IN UPC1851B)
		MONO	- Mono (WITH OUT UPC1851B)
3	TURBO	ON	- Stereo/L STEREO Model
		OFF	- Mono Model
4	ZOOM	ZOOM	- Nornal / Zoom
		NOMAL	- Nomal
5	AUTO POWER ON	ON	- The power is switched on automatically when detaching the Master S/W Auto On
		OFF	- Tact S/W Model
6	SOUND MUTE (NO SIGNAL)	OFF	- Unavailable
		ON	- Available
7	LANGUAGE	ENGLISH	- Start Language Select
		ESPANOL	
		FRENCH/PORTU	
8	HOTEL MODE	OFF	- Unavailable
		ON	- Available
9	CATV	AIR/STD/HRC/IRC	
		AIR/STD/HRC/AFN	- U.S Army
10	X-RAY	ON	- Available (U.S.A, Army)
		OFF	- Unavailable (South America)
11	V-CHIP	ON	- Available (U.S.A)
		OFF	- Unavailable (Canada)
12	AV Option	TV ↔ AV	
		TV ↔ AV ↔ DVD	
13	DEMO	ON	- Available (South America)
		OFF	- Unavailable (U.S.A)

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 +122.5 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 30KV.
4. Adjust the Brightness and contrast controls to both extremes. Ensure that the high voltage does not exceed 30KV 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 125±2.5V (See Fig. 4-1).

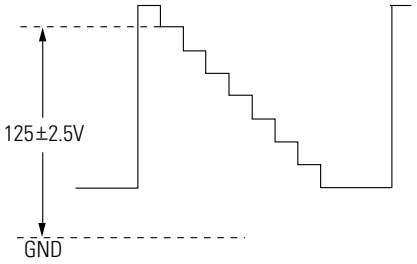


Fig. 4-1

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.

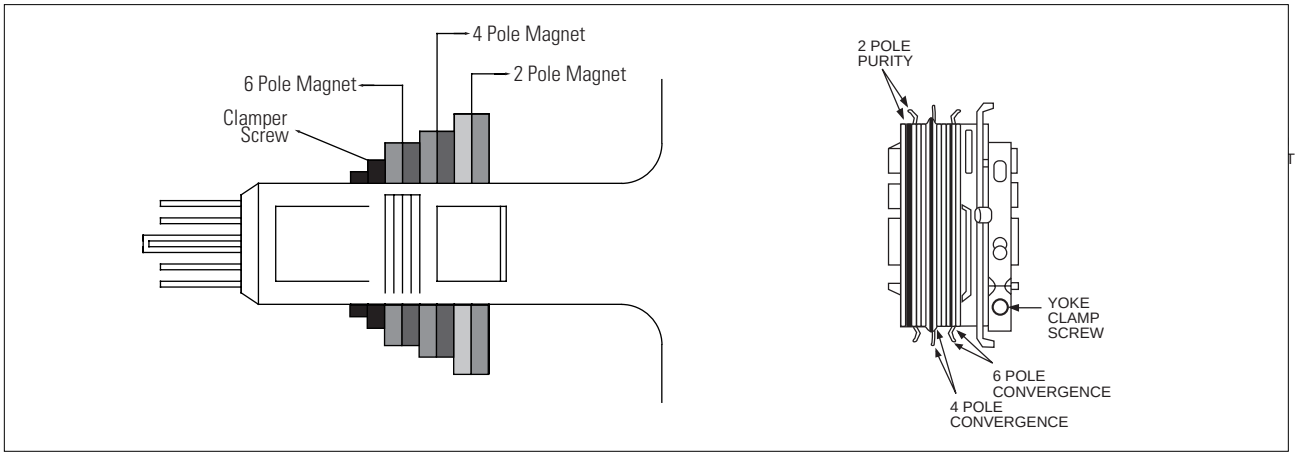


Fig. 4-2 Convergence Magnet Assembly

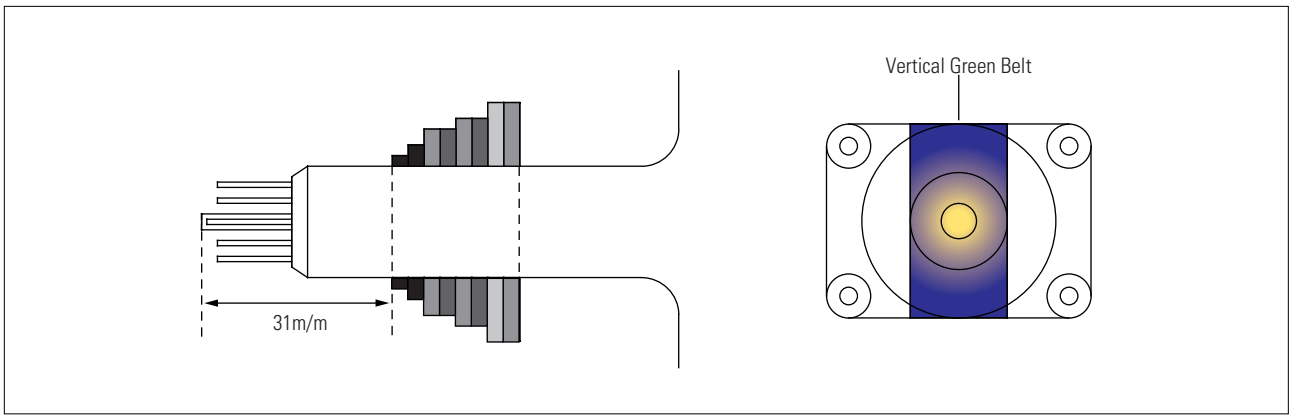


Fig. 4-3 Center Convergence Adjustment

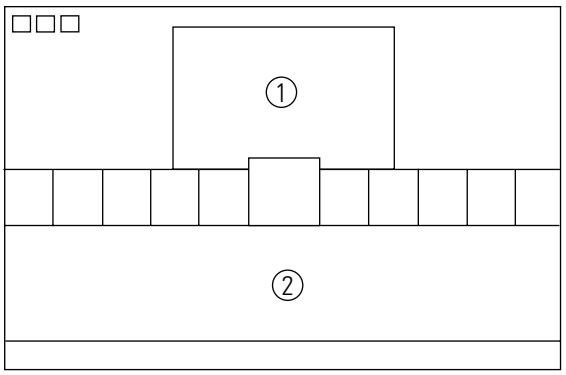


Fig. 4-4

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 1.2 fL in the Factory Service Mode with using CA100. See Fig. 4-4.

2. Adjust RG,BG so that the levels are suitable to each local area.

(c) High-Light Adjustment

1. Set SCT to 50FL(13V : 60FL) in the Factory Service Mode with using CA100.
   See 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).

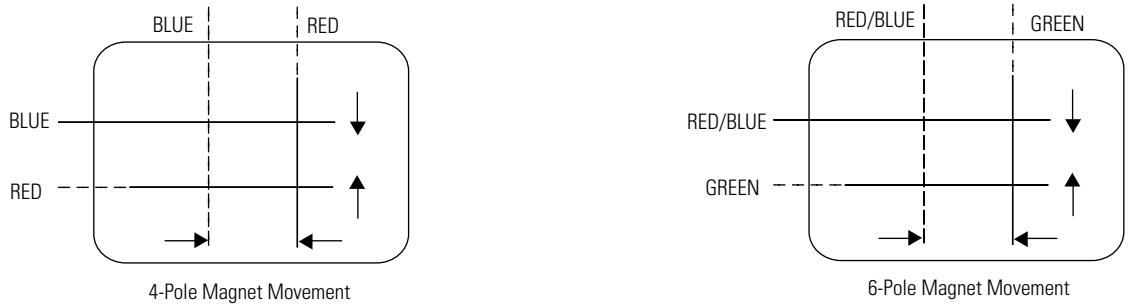


Fig. 4-5 Center Convergence Adjustment

4-3-9 RF AGC Adjustment

Set the AGC data to 33 (Factory Mode).

4-3-10 Sub-Color Adjustment

Set NSR data to 3 (Factory Mode).

4-3-11 Geometry Adjustment

SC →VS→VA→VSL→HS

1. Input a lion head pattern.
2. Set the SC (S-Correction) as 20(13V : 12) and VS(Vertical Shift) 31 so that the lion head circle becomes oval.
3. Adjust with VA (Vertical Amplitude) so that the top margin of the picture is 4.

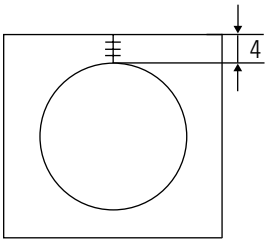


Fig. 4-7

4. Adjust with VSL (Vertical-Slope) so that the bottom margin of the picture is 4.

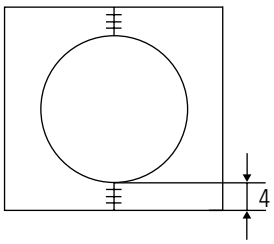


Fig. 4-8

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

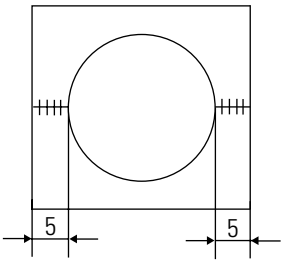
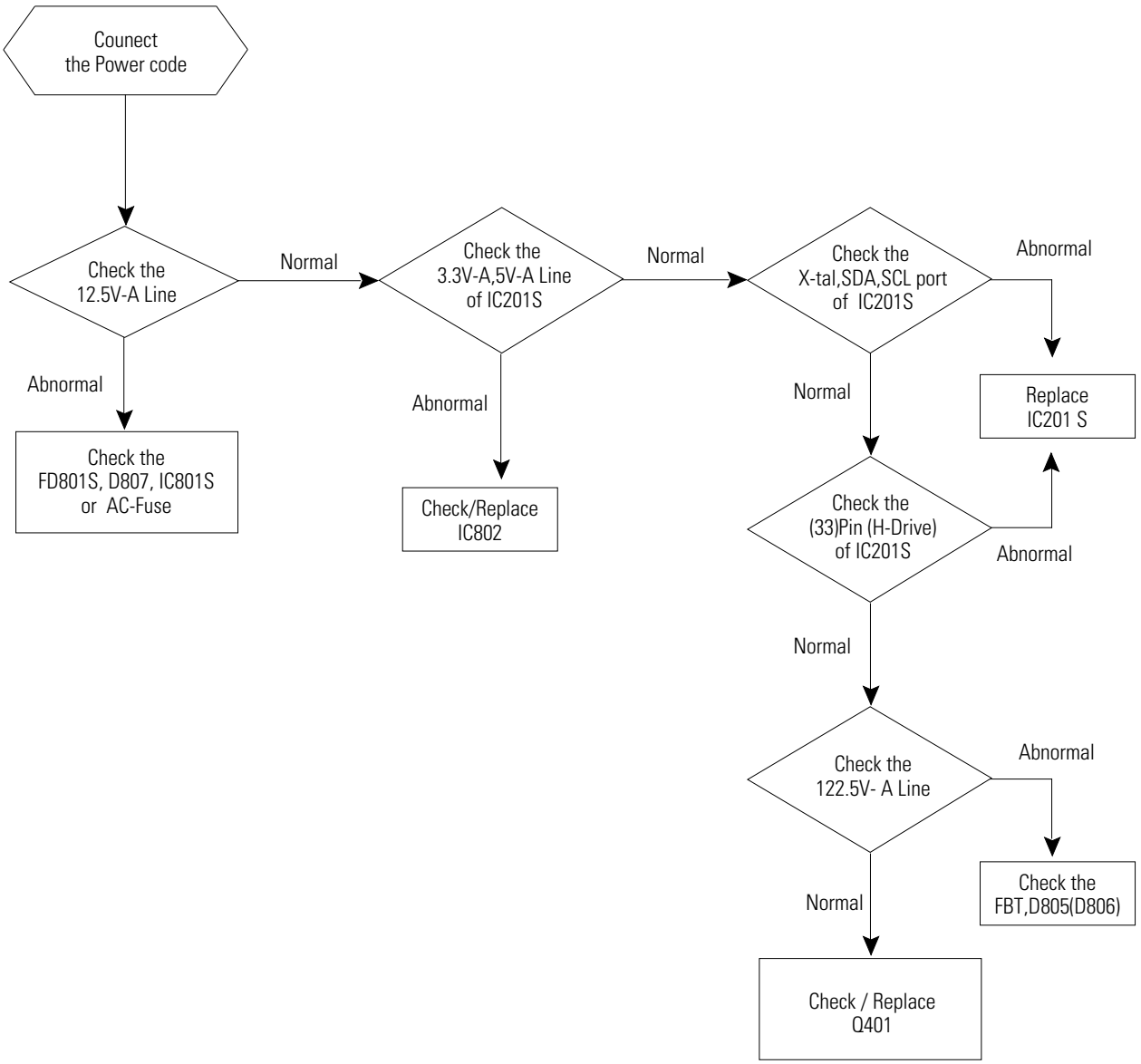


Fig. 4-9

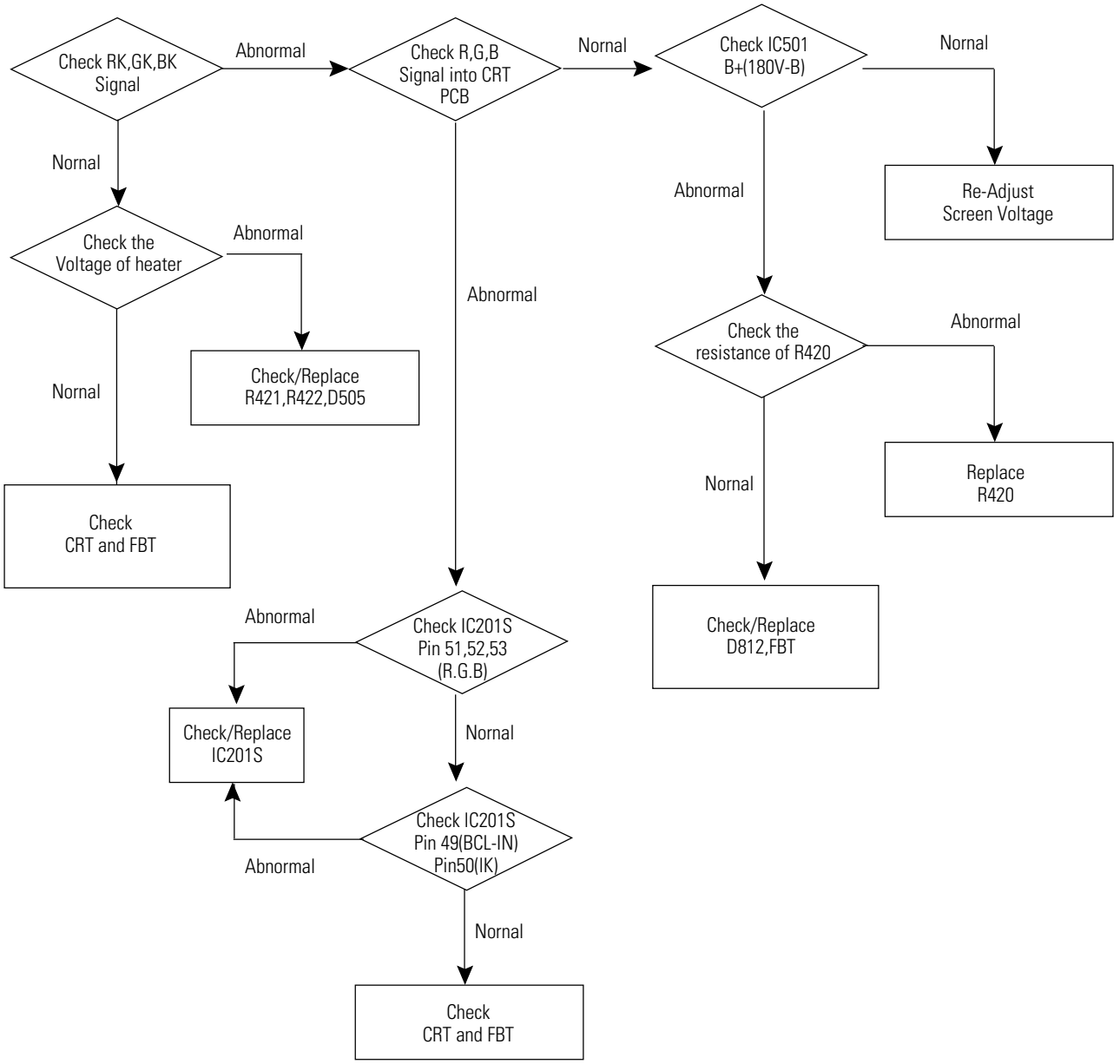
6. Adjust HS (Horizontal Shift) so that the left and right margins of the picture are 5.

5. Troubleshooting

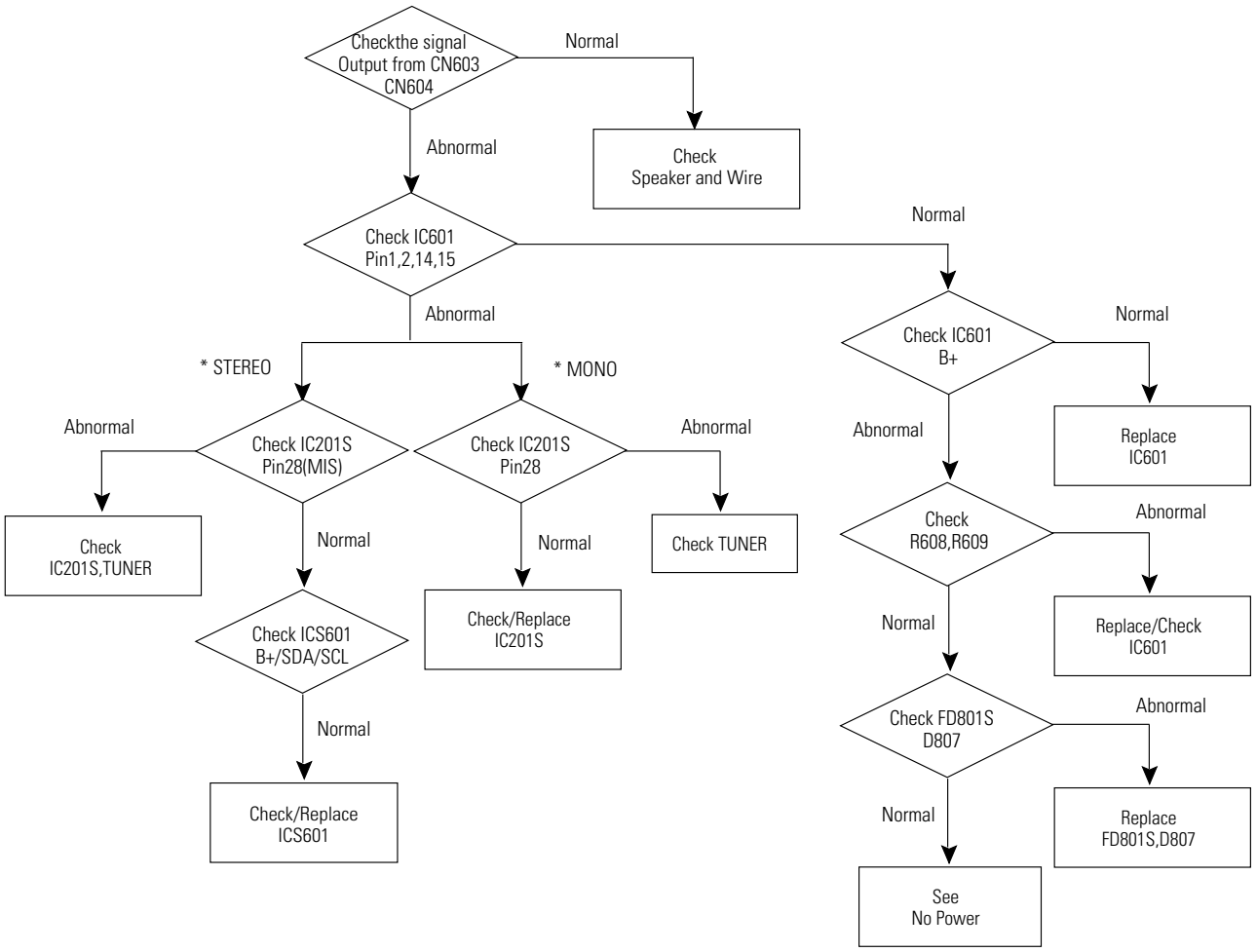
5-1 No Power



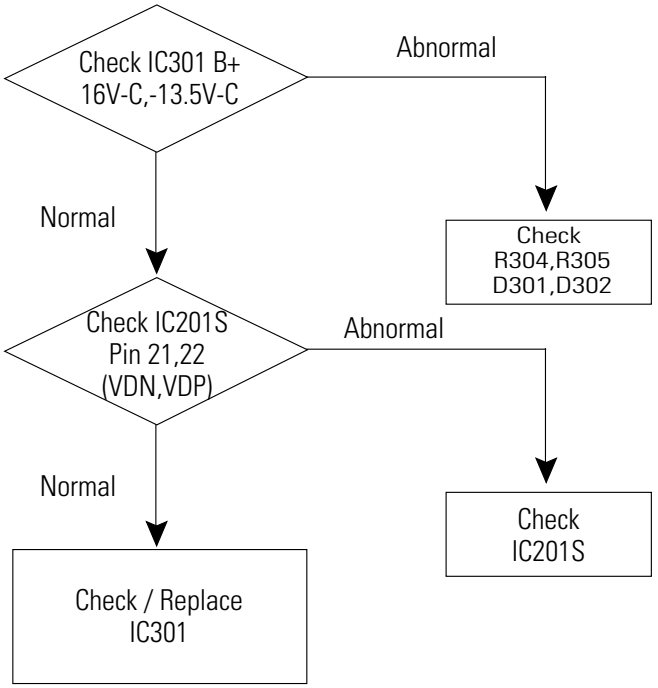
5-2 No Video (Sound OK)



5-3 No Sound (Video OK)

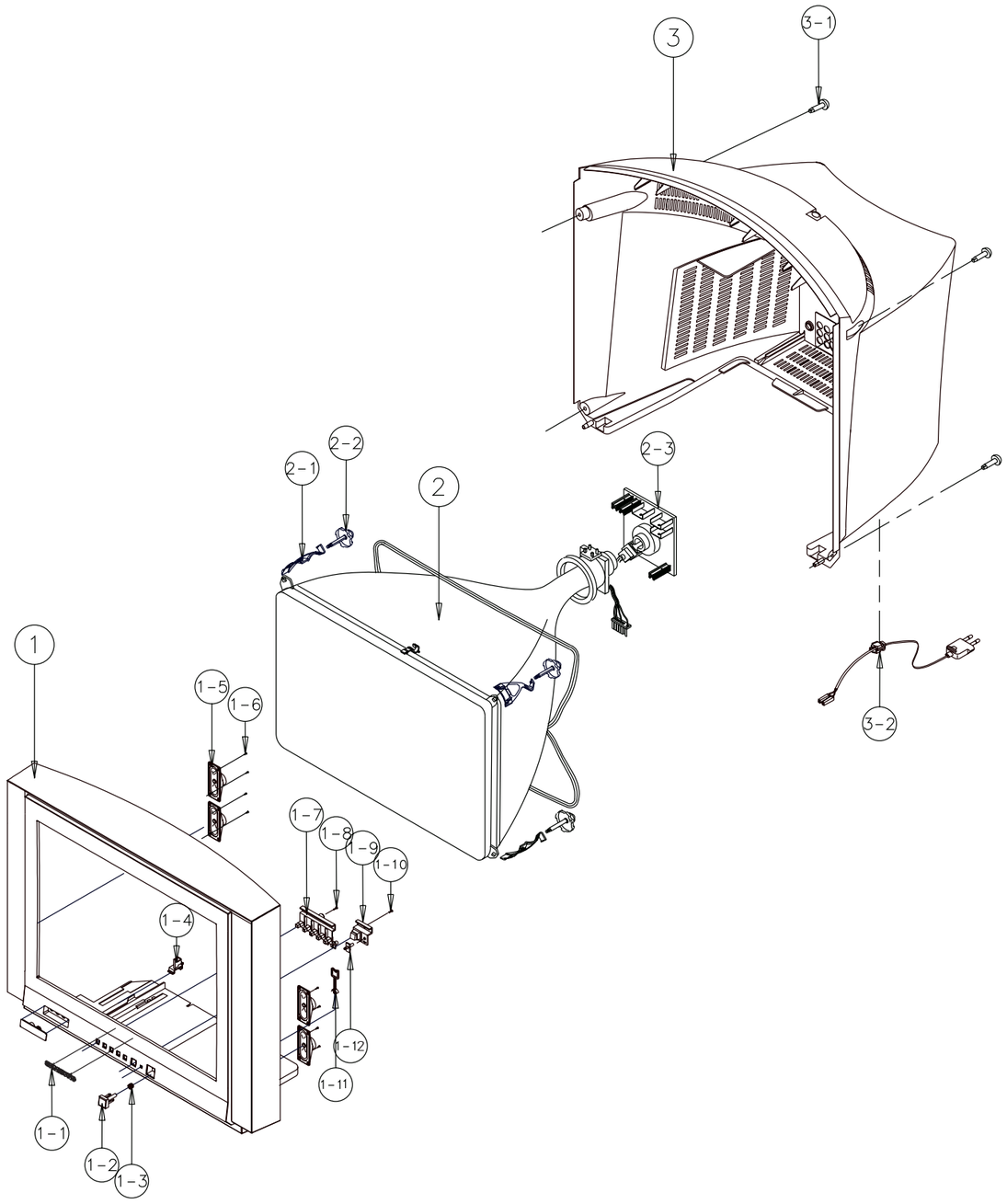


5-4 Vertical Lines Appear or Screen



6. Exploded View & Parts List

6-1 TXM1491FX/XAA



No	Code No	Description;Specification	Q'ty	Remark	S.N.A
1	AA64-02956A	CABINET-FRONT;15K8,HIPS,V0,BLK,DG703P,SE	1	F/C	
1-1	AA64-70127A	BADGE-BRAND;AL,FLAT,SILVER,L=40,SAMSUNG,	1	BADGE	
1-2	AA64-02973A	KNOB-POWER;15K8,ABS,HB,BLK,DG703P	1	KP	
1-3	AA61-60003J	SPRING-CS;-,-,SUS304,0.5,OD6,H	1	SPRING	
1-4	AA61-40113A	STOPPER-PCB;-,ABS,HB,NTR.	1	STOPPE	
1-5	3001-001020	SPEAKER;3W,8ohm,90dB,140Hz	2	SPK	
1-6	6003-001019	SCREW-TAPTITE;RH,+,B,M4,L12,ZPC(BLK),SWR	8	SPK+CF	
1-7	AA64-02972A	KNOB-CONTROL;15K8,ABS,HB,BLK,DG703P	1	KC	
1-8	6003-001019	SCREW-TAPTITE;RH,+,B,M4,L12,ZPC(BLK),SWR	1	KC+CF	
1-9	AA64-00816B	WINDOW REMOCON;-,21A8,-,PC,V0,VIOLET,-	1	WR	
1-10	6003-001019	SCREW-TAPTITE;RH,+,B,M4,L12,ZPC(BLK),SWR	1	WR+CF	
1-11	AA65-00011B	CLAMP-WIRE;ALL MODEL,NYLON 66,V2,NTR,15M	1	CWFC	
1-12	AA64-00818B	INDICATOR LED;-,21A8,-,ACRYL,-,CLR,-	1	IL	
2	AA03-00146A	CRT COLOR;A36QDT351X,-,15inch,-,-,-,FLAT	1	CRT	
2-1	AA60-10050R	SCREW-ASSY;WC,HH,+M5,L31.5,SWR	4	CRT+CF	
2-2	AA61-00735A	HOLDER;20POLYVINIL,DEGAUSSING,CHLORI	2	CDCOIL	
2-3	3704-001105	SOCKET-CRT;11P,20PI,26.5PI,NI,-	1	V999S	
3	AA64-01731D	CABINET BACK;15K8,HIPS,V0,BLK,-	1	B/C	
3-1	6003-001026	SCREW-TAPTITE;RH,+,B,M4,L15,ZPC(BLK),SWR	4	CB+CF	
3-2	AA96-20129A	ASSY-POWER,CORD;-,EP2/YES,H/C300,ME301P,	1	PWR/AC	

7. Electrical Parts List

7-1 CT20D8BW6X/XAP

Loc. No.	Code No.	Description ; Specification	Remark

ASSY CHASSIS

	1	A/CHAS	AA91-04548A	ASSY CHASSIS;K15D,14,SEA/SECA,STEREO
	2	FBT	AA65-30018A	CLAMP-WIRE;-,NYLON6.6,-,-,DATL
	2	CLW/HS	AA65-30018A	CLAMP-WIRE;-,NYLON6.6,-,-,DATL
	2	A/MAIN	AA94-11163A	ASSY PCB MAIN;K15D,14,SEA/SECA,STEREO
	3	Q401	0502-001115	TR-POWER;KSC5386,NPN,50W,TO-3PF,ST,8
⚠	3	PC801S	0604-001038	PHOTOCOUPLER;TR,130-260%,200MW
	3	IC902	1103-001209	IC-EEPROM;AT24C04-PC27 C,512Kx8Bit,DIP,8
	3	ICS602	1203-001225	IC-POSI.FIXEDREG.;78R09,TO-220,4P,-,PLA
⚠	3	NT801S	1404-001045	THERMISTOR NTC;4.7OHM,15%,2900K,35.0MW,T
⚠	3	P803S	1404-001247	THERMISTOR-PTC;1.5OHM;+30/-20,110V,140VA
⚠	3	CY801S	2201-002002	C-CERAMIC,DISC;4700PF,20%,400V
⚠	3	CR401S	2301-001456	C-FILM,MPE-PPF;5.1nF,5%,1.6kV,TP,29x9x16
	3	C801	2401-000822	C-ELECTROLYTIC;CE04W200V220U-H
⚠	3	SF101S	2904-001221	FILTER-SAW AV,45.75MHz,SIP5K,ST,14.2dB,M
	3	SWN01	3404-000295	SW-TACT,V;KPT1122R1KEYSTT=0.3M
⚠	3	FP801S	3601-001012	FUSE-FERRULE;250V,4A,SLOW-BLOW
⚠	3	V999S	3704-001105	SOCKET-CRT;11P,20PI,26.5PI,NI,-
	3	CN604	3711-002643	POST-HEADER;YW025-04(AUTO)
	3	JA701	3722-001453	JACK-RCA;3P,3.4mm,NI,BLK,-
⚠	3	IC201S	AA09-00284A	IC MICOM;,OTP, TDA9377PS/N2/AI
⚠	3	T801S	AA26-00172A	TRANS-SWITCHING;EER3543,K15D,90~264,PM2A
⚠	3	T444S	AA26-00065A	TRANS FBT;-,FSV-14A004C(S),14-22,125V
⚠	3	T401	AA26-50001B	ORIZ.DRIVE;-,7.1MH,102UH,10-2
⚠	3	LR401S	AA27-00122A	COIL LINEARITY;90UH,90UH,L81 DR10x10,7.5
⚠	3	LX801S	AA29-30001D	FILTER-LINE;-,6.0MH,2A,-,SQ191
	3	RM901	AA32-00015A	MODULE-REMOCON;FRP-3521H31,38KHZ,940MM,M
	3	CN501	AA39-20620A	LEADCONNECTOR-ASSY;-,YBNH025-09,S,9P,30
⚠	3	TU01S	AA40-00073A	TUNER-TECC1040PG32A(S),181CH,45.75MHZ,75
	3	IC301	AA96-00244A	ASSY H/S;-,-,AA62-00046A,LA7840,-
	4		0205-000129	GREASE-SILICON;SC102,JAPAN
	4		1204-001483	IC-VERTICAL PROCESSO;LA7840,SIP,7P,708MI
	4		6003-000335	SCREW-TAPTITE;RH,+,2S,M3,L8,ZPC(YEL),SWR
	4		AA62-00046A	HEAT SINK-PS;-,-,T1.0,-,D1(DREAM) 60X25X
	3	IC601	AA96-00244B	ASSY H/S;-,-,AA62-00046A,TDA7266S,-
	4		0205-000129	GREASE-SILICON;SC102,JAPAN
	4		1201-001308	IC-POWERAMP;7266,ZIP,15P,-,DUAL,26dB,PL
	4		6003-000335	SCREW-TAPTITE;RH,+,2S,M3,L8,ZPC(YEL),SWR
	4		AA62-00046A	HEAT SINK-PS;-,-,T1.0,-,D1(DREAM) 60X25X
⚠	3	IC802	AA96-00245A	ASSY H/S;-,-,AA62-00055A,KA7632,-
	4		1203-001939	IC-POSI.FIXED REG.;7632,SIP,10P,-,PLASTI
	4		6003-000334	SCREW-TAPTITE;RH,+,2S,M3,L6,ZP
	4		AA62-00055A	HEAT SINK-PS;-,-,T1.0,-,35*15*25,D1,-,-
	3	LD901	AA96-00555A	ASSY LED GUIDE;-,-,UEX-LD-030,GREEN
	3	IC501	AA96-50311A	ASSY-H/S;-,VIDEO,AA62-30175D,TDA6107Q,-
	4		1201-001159	ICVIDEOAMP;TDA6107Q,ZIP,9P,300
	4		6003-000334	SCREW-TAPTITE;RH,+,2S,M3,L6,ZP
	4		AA62-30175D	HEATSINK-PS;-,SECC,T1.0,-,33X15X30FT-2
⚠	3	IC801S	AA96-50395F	ASSY H/S;-,POWER,AA62-30190A,5Q0740RT
	4		0205-000129	GREASE-SILICON;SC102,JAPAN
	4		1203-002466	IC-PWM CONTROLLER;KA5Q0740RT,TO220F-5L,5
	4		6003-000334	SCREW-TAPTITE;RH,+,2S,M3,L6,ZP
	4		AA62-30190A	-,SECC-CA,T1.0,-,-,-,Cr03 A
⚠	3	PWR/AC	AA96-20129A	ASSY-POWER,CORD;-,EP2/YES,H/C300,ME301P,
	4		AA39-10007Y	POWER-CORD;-,EP2/YES,SPT-2 18AWGx2C,2.4m
	4		AA61-20284A	HOLDER P CORD;PP,VO,BLK,KE-002
	3		0204-000442	SOLVENT;CH3-CH5H-CH396%IM-1000
	3		0202-000008	SOLDER-WIRE;S63S-D3.0,S63A,D3,63/37
	3		0204-001024	FLUX;DF-96TVS,-,20%,-
	3		0202-000187	SOLDER-WIREFLUX;-,RS60S,D1.2,6
	3	ICS601	1204-001974	IC-SOUND PROCESSOR,UPC1851BCU,SDIP,42P,6
⚠	3	CX801S	2306-000318	C-FILM,MPPF;220NF,20%,250V,-,2
	3	CN701	3711-003641	CONNECTOR-HEADER;BOX,12P,1R,2.
	3	L/PQS	AA68-01018A	LABEL-PQS,-,50mmX,13,-,WHITE,-
	3	A/AUTO	AA97-12047A	ASSY AUTO;K15D,14,SEA/SECA,STEREO
	4	D201	0401-000005	DIODE;1N4148,100V,300mA,1V,8nS,TAPING
	4	D601	0401-000005	DIODE;1N4148,100V,300mA,1V,8nS,TAPING

Loc. No.	Code No.	Description ; Specification	Remark

⚠	4	D804	0401-000005	DIODE;1N4148,100V,300mA,1V,8nS,TAPING
⚠	4	D808	0401-000005	DIODE;1N4148,100V,300mA,1V,8nS,TAPING
⚠	4	D811	0401-000005	DIODE;1N4148,100V,300mA,1V,8nS,TAPING
⚠	4	DR003S	0401-000005	DIODE;1N4148,100V,300mA,1V,8nS,TAPING
⚠	4	D803	0401-000006	DIODE-SWITCHING;BAV21,250MA,400MW,50NS,2
⚠	4	D303	0402-000132	DIODE-RECTIFIER;1N4004,400V,1A,DO-41
⚠	4	D809	0402-000132	DIODE-RECTIFIER;1N4004,400V,1A,DO-41
	4	D501	0402-000254	DIODE-RECTIFIER;RGP10J,600V,1A,DO-41
⚠	4	DR001S	0402-000254	DIODE-RECTIFIER;RGP10J,600V,1A,DO-41
	4	D302	0402-000534	DIODE-RECTIFIER;RG10V,400V,1.5
	4	D301	0402-001105	DIODE-RECTIFIER;ERB43-04SV1,40
	4	D304	0402-001105	DIODE-RECTIFIER;ERB43-04SV1,40
	4	D401	0402-001105	DIODE-RECTIFIER;ERB43-04SV1,40
	4	D502	0402-001105	DIODE-RECTIFIER;ERB43-04SV1,40
	4	D503	0402-001105	DIODE-RECTIFIER;ERB43-04SV1,40
	4	D504	0402-001105	DIODE-RECTIFIER;ERB43-04SV1,40
⚠	4	D812	0402-001105	DIODE-RECTIFIER;ERB43-04SV1,40
⚠	4	D801S	0402-001111	DIODE-RECTIFIER;1N5397GP,600V,1.5A,DO-2
⚠	4	D802S	0402-001111	DIODE-RECTIFIER;1N5397GP,600V,1.5A,DO-2
⚠	4	D803S	0402-001111	DIODE-RECTIFIER;1N5397GP,600V,1.5A,DO-2
⚠	4	D804S	0402-001111	DIODE-RECTIFIER;1N5397GP,600V,1.5A,DO-2
⚠	4	D805	0402-000540	DIODE-RECTIFIER;RU20A,600V,1.5
	4	DZ211	0403-000508	DIODE-ZENER;MTZJ5.6B,5.6V,5.45-5.73V,500
	4	DZ401	0403-000508	DIODE-ZENER;MTZJ5.6B,5.6V,5.45-5.73V,500
	4	DZ402	0403-000508	DIODE-ZENER;MTZJ5.6B,5.6V,5.45-5.73V,500
	4	DZ903	0403-000508	DIODE-ZENER;MTZJ5.6B,5.6V,5.45-5.73V,500
	4	DZ904	0403-000508	DIODE-ZENER;MTZJ5.6B,5.6V,5.45-5.73V,500
	4	DZ905	0403-000508	DIODE-ZENER;MTZJ5.6B,5.6V,5.45-5.73V,500
⚠	4	DR002S	0403-000508	DIODE-ZENER;MTZJ5.6B,5.6V,5.45-5.73V,500
	4	DZ803	0403-000699	DIODE-ZENER;TZP27B,27V,27-30.8
	4	DZ101	0403-000700	DIODE-ZENER;TZP33A,33V,31-35V,
	4	DZ303	0403-000700	DIODE-ZENER;TZP33A,33V,31-35V,
	4	DZ604	0403-000719	DIODE-ZENER;MTZJ7.5B,7.5V,7.07-7.45V,500
	4	DZ201	0403-000720	DIODE-ZENER;MTZJ9.1B,9.1V,8.57-9.01V,500
	4	DZ202	0403-000720	DIODE-ZENER;MTZJ9.1B,9.1V,8.57-9.01V,500
	4	DZ205	0403-000720	DIODE-ZENER;MTZJ9.1B,9.1V,8.57-9.01V,500
	4	DZ306	0403-000720	DIODE-ZENER;MTZJ9.1B,9.1V,8.57-9.01V,500
	4	DZ307	0403-000720	DIODE-ZENER;MTZJ9.1B,9.1V,8.57-9.01V,500
	4	DZ501	0403-000720	DIODE-ZENER;MTZJ9.1B,9.1V,8.57-9.01V,500
	4	DZ502	0403-000720	DIODE-ZENER;MTZJ9.1B,9.1V,8.57-9.01V,500
	4	DZ503	0403-000720	DIODE-ZENER;MTZJ9.1B,9.1V,8.57-9.01V,500
	4	DZ504	0403-000720	DIODE-ZENER;MTZJ9.1B,9.1V,8.57-9.01V,500
	4	DZ806	0403-000720	DIODE-ZENER;MTZJ9.1B,9.1V,8.57-9.01V,500
	4	DZ807	0403-000720	DIODE-ZENER;MTZJ9.1B,9.1V,8.57-9.01V,500
	4	DZ808	0403-000720	DIODE-ZENER;MTZJ9.1B,9.1V,8.57-9.01V,500
	4	DZ801	0403-001140	DIODE-ZENER;RD10ESAB-T4,10V,9.19-10.30V,
	4	DZ204	0403-001211	DIODE-ZENER;MTZJ12B,11.44-12.03V,500MW,D
	4	DZ302	0403-001221	DIODE-ZENER;UZ39BSB,35.36-37.19V,500MW,D
	4	DZ802	0403-001318	DIODE-ZENER;MTZJ4.3B,4.17-4.43V,500mW,DO
	4	DZ901	0403-001373	DIODE-ZENER;MTZJ5.1A,4.81V-5.07V,500mW,D
	4	DZ805	0403-001327	DIODE-ZENER;MTZJ18A,16.22-17.06V,500mW,D
	4	DZ301	0403-001328	DIODE-ZENER;MTZJ22A,20.15-21.20V,500mW,D
	4	DZ305	0403-001328	DIODE-ZENER;MTZJ22A,20.15-21.20V,500mW,D
	4	Q201	0501-000283	TRANSISTOR;KSA539-Y(TAPG)/YTAM
	4	Q901	0501-000283	TRANSISTOR;KSA539-Y(TAPG)/YTAM
⚠	4	QR001S	0501-000283	TRANSISTOR;KSA539-Y(TAPG)/YTAM
	4	Q402	0501-000369	TRANSISTOR;KSC2331-Y(TAPG)
	4	Q202	0501-002183	TR-SMALL SIG;KTC9014,NPN,625MW,TO-92,100
	4	Q601	0501-002183	TR-SMALL SIG;KTC9014,NPN,625MW,TO-92,100
	4	Q802	0501-002183	TR-SMALL SIG;KTC9014,NPN,625MW,TO-92,100
	4	R207	2001-000005	R-CARBON;390OHM,5%,1/8W,AA,TP,
	4	R905	2001-000005	R-CARBON;390OHM,5%,1/8W,AA,TP,
	4	R906	2001-000005	R-CARBON;390OHM,5%,1/8W,AA,TP,
	4	RS603	2001-000007	R-CARBON;3KOHM,5%,1/8W,AA,TP,1
	4	R206	2001-000010	R-CARBON;68Kohm,5%,1/8W,AA,TP,1.8x3.2mm
	4	RS602	2001-000010	R-CARBON;68Kohm,5%,1/8W,AA,TP,1.8x3.2mm
	4	R301	2001-000016	R-CARBON(S);1OHM,5%,1/2W,AA,TP
	4	R843	2001-000019	R-CARBON(S);10ohm,5%,1/2W,AA,TP,2.4x6.4m
	4	R409	2001-000022	R-CARBON(S);33OHM,5%,1/2W,AA,T

Loc. No.	Code No.	Description ; Specification	Remark
4 R823	2001-000037	R-CARBON(S);330OHM,5%,1/2W,AA,	
4 R808	2001-000109	R-CARBON(S);470OHM,5%,1/2W,AA,	
4 R902	2001-000241	R-CARBON;1.5KOHM,5%,1/8W,AA,TP	
4 R904	2001-000241	R-CARBON;1.5KOHM,5%,1/8W,AA,TP	
4 R211	2001-000281	R-CARBON;100OHM,5%,1/8W,AA,TP,	
4 R233	2001-000281	R-CARBON;100OHM,5%,1/8W,AA,TP,	
4 R501	2001-000281	R-CARBON;100OHM,5%,1/8W,AA,TP,	
4 R502	2001-000281	R-CARBON;100OHM,5%,1/8W,AA,TP,	
4 R506	2001-000281	R-CARBON;100OHM,5%,1/8W,AA,TP,	
4 R510	2001-000281	R-CARBON;100OHM,5%,1/8W,AA,TP,	
4 R511	2001-000281	R-CARBON;100OHM,5%,1/8W,AA,TP,	
4 R512	2001-000281	R-CARBON;100OHM,5%,1/8W,AA,TP,	
4 R909	2001-000281	R-CARBON;100OHM,5%,1/8W,AA,TP,	
4 R911	2001-000281	R-CARBON;100OHM,5%,1/8W,AA,TP,	
4 R912	2001-000281	R-CARBON;100OHM,5%,1/8W,AA,TP,	
4 R913	2001-000281	R-CARBON;100OHM,5%,1/8W,AA,TP,	
4 R914	2001-000281	R-CARBON;100OHM,5%,1/8W,AA,TP,	
4 R917	2001-000281	R-CARBON;100OHM,5%,1/8W,AA,TP,	
4 R933	2001-000281	R-CARBON;100OHM,5%,1/8W,AA,TP,	
4 R934	2001-000281	R-CARBON;100OHM,5%,1/8W,AA,TP,	
4 R942	2001-000281	R-CARBON;100OHM,5%,1/8W,AA,TP,	
4 R943	2001-000281	R-CARBON;100OHM,5%,1/8W,AA,TP,	
4 RS608	2001-000281	R-CARBON;100OHM,5%,1/8W,AA,TP,	
4 RS609	2001-000281	R-CARBON;100OHM,5%,1/8W,AA,TP,	
4 R224	2001-000290	R-CARBON;10KOHM,5%,1/8W,AA,TP,	
4 R291A	2001-000290	R-CARBON;10KOHM,5%,1/8W,AA,TP,	
4 R601	2001-000290	R-CARBON;10KOHM,5%,1/8W,AA,TP,	
4 R612	2001-000290	R-CARBON;10KOHM,5%,1/8W,AA,TP,	
4 R807	2001-000290	R-CARBON;10KOHM,5%,1/8W,AA,TP,	
4 R828	2001-000290	R-CARBON;10KOHM,5%,1/8W,AA,TP,	
4 R910	2001-000290	R-CARBON;10KOHM,5%,1/8W,AA,TP,	
4 RS610	2001-000290	R-CARBON;10KOHM,5%,1/8W,AA,TP,	
4 RS612	2001-000290	R-CARBON;10KOHM,5%,1/8W,AA,TP,	
4 RS614	2001-000290	R-CARBON;10KOHM,5%,1/8W,AA,TP,	
4 R225	2001-000325	R-CARBON;120OHM,5%,1/8W,AA,TP,	
4 R205	2001-000397	R-CARBON;180KOHM,5%,1/8W,AA,TP	
⚠ 4 RR005S	2001-000397	R-CARBON;180KOHM,5%,1/8W,AA,TP	
4 R218	2001-000411	R-CARBON;18KOHM,5%,1/8W,AA,TP,	
⚠ 4 RR002S	2001-000411	R-CARBON;18KOHM,5%,1/8W,AA,TP,	
4 R602	2001-000429	R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
4 R604	2001-000429	R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
4 R926	2001-000429	R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
4 R944	2001-000429	R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
4 RS601	2001-000429	R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
4 RS606	2001-000429	R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
4 RS607	2001-000429	R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
4 R918	2001-000449	R-CARBON;2.2KOHM,5%,1/8W,AA,TP	
4 R940	2001-000449	R-CARBON;2.2KOHM,5%,1/8W,AA,TP	
4 R941	2001-000449	R-CARBON;2.2KOHM,5%,1/8W,AA,TP	
4 R901	2001-000472	R-CARBON;2.7KOHM,5%,1/8W,AA,TP	
4 R903	2001-000472	R-CARBON;2.7KOHM,5%,1/8W,AA,TP	
4 R907	2001-000472	R-CARBON;2.7KOHM,5%,1/8W,AA,TP	
4 R908	2001-000472	R-CARBON;2.7KOHM,5%,1/8W,AA,TP	
4 R214	2001-000490	R-CARBON;200OHM,5%,1/8W,AA,TP,	
4 R829	2001-000563	R-CARBON;27KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
4 R208	2001-000591	R-CARBON;3.3KOHM,5%,1/8W,AA,TP	
4 R220	2001-000613	R-CARBON;3.9KOHM,5%,1/8W,AA,TP	
4 R202	2001-000689	R-CARBON;390KOHM,5%,1/8W,AA,TP	
4 R830	2001-000734	R-CARBON;4.7KOHM,5%,1/8W,AA,TP	
4 R925	2001-000734	R-CARBON;4.7KOHM,5%,1/8W,AA,TP	
4 R227	2001-000739	R-CARBON;4.7MOHM,5%,1/8W,AA,TP	
4 R228	2001-000739	R-CARBON;4.7MOHM,5%,1/8W,AA,TP	
4 R109	2001-000786	R-CARBON;47KOHM,5%,1/8W,AA,TP,	
4 R927	2001-000793	R-CARBON;47OHM,5%,1/8W,AA,TP,1	
4 RS605	2001-000800	R-CARBON;5.1KOHM,5%,1/8W,AA,TP	
4 R203	2001-000857	R-CARBON;560OHM,5%,1/8W,AA,TP,	
4 R288	2001-000908	R-CARBON ;62Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
4 R289	2001-000908	R-CARBON ;62Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
4 R110	2001-000924	R-CARBON;680ohm,5%,1/8W,AA,TP,1.8x3.2mm	
4 R915	2001-000924	R-CARBON;680ohm,5%,1/8W,AA,TP,1.8x3.2mm	
4 R108	2001-000947	R-CARBON;7.5KOHM,5%,1/8W,AA,TP	
4 R222	2001-000947	R-CARBON;7.5KOHM,5%,1/8W,AA,TP	
4 R605	2001-000947	R-CARBON;7.5KOHM,5%,1/8W,AA,TP	
4 R212	2001-000969	R-CARBON;750HM,5%,1/8W,AA,TP,1	
4 R215	2001-000969	R-CARBON;750HM,5%,1/8W,AA,TP,1	
4 R610	2001-000969	R-CARBON;750HM,5%,1/8W,AA,TP,1	
4 R408	2001-001037	R-CARBON(S);0.390HM,5%,1/2W,AA	

Loc. No.	Code No.	Description ; Specification	Remark
4 R504	2001-001062	R-CARBON(S);10MOHM,5%,1/2W,AA,	
4 R414	2001-001078	R-CARBON(S);15KOHM,5%,1/2W,AA,	
4 R832	2001-001088	R-CARBON(S);1KOHM,5%,1/2W,AA,TP,2.4X6.4	
4 R819	2001-001088	R-CARBON(S);1KOHM,5%,1/2W,AA,TP,2.4X6.4	
4 R820	2001-001088	R-CARBON(S);1KOHM,5%,1/2W,AA,TP,2.4X6.4	
4 R840	2001-001108	R-CARBON(S);22KOHM,5%,1/2W,AA,	
4 R411	2001-001114	R-CARBON(S);270OHM,5%,1/2W,AA,	
4 R405	2001-001116	R-CARBON(S);27OHM,5%,1/2W,AA,T	
4 R821	2001-001125	R-CARBON(S);300KOHM,5%,1/2W,AA	
4 R809	2001-001150	R-CARBON(S);470KOHM,5%,1/2W,AA	
4 R810	2001-001150	R-CARBON(S);470KOHM,5%,1/2W,AA	
4 R818	2001-001154	R-CARBON(S);5.1KOHM,5%,1/2W,AB	
4 R805	2001-001170	R-CARBON(S);6.8OHM,5%,1/2W,AB,	
4 R831	2001-001192	R-CARBON(S);8200HM,5%,1/2W,AB,	
4 R501H	2002-001008	R-COMPOSITION;1.8KOHM,10%1/2W,AA,TP,3.7	
4 R502H	2002-001008	R-COMPOSITION;1.8KOHM,10%1/2W,AA,TP,3.7	
4 R503	2002-001008	R-COMPOSITION;1.8KOHM,10%1/2W,AA,TP,3.7	
⚠ 4 RY801S	2002-001013	R-COMPOSITION;4.7MOhm,5%,1/2W,AA,TP,3.7X	
4 R402	2003-002178	R-METAL OXIDE(S) 1Kohm,5%,2W,AG,TP,3.9X1	
4 R413	2003-000664	R-METAL OXIDE(S);330HM,5%,2W,AF,TP,4X12M	
4 R403	2003-001093	R-METALOXIDE;RS2RT123-J12K	
4 R827	2003-001023	R-METALOXIDE(S);120OHM,5%,2W,A	
4 R407	2003-001040	R-METALOXIDE(S);47Kohm,5%,2W,AF,TP,3.9x1	
4 R315	2003-002009	R-METALOXIDE(S);390OHM,5%,2W,A	
4 R316	2003-002009	R-METALOXIDE(S);390OHM,5%,2W,A	
4 R803	2003-002102	R-METAL OXIDE;68Kohm,5%,2W,AF,TP,4x12mm	
4 R804	2003-002102	R-METAL OXIDE;68Kohm,5%,2W,AF,TP,4x12mm	
4 R603	2004-000195	R-METAL;100Kohm,1%,1/8W,AA,TP,1.8x3.2m	
4 R302	2004-001371	R-METAL(S);1.5KOHM,1%,1/2W,AA,	
4 R306	2004-001371	R-METAL(S);1.5KOHM,1%,1/2W,AA,	
4 R423	2004-002011	R-METAL,FILM;RM1/2T110K-F	
4 R817	2004-001377	R-METAL(S);120KOHM,1%,1/2W,AA,TP,2.4X6.4	
4 R424	2004-001402	R-METAL(S);6.8KOHM,1%,1/2W,AA,	
4 R219	2004-001914	R-METAL;39KOHM,2%,1/8W,AA,TP,1	
4 R822	2004-001983	R-METAL;2.49KOHM,1%,1/2W,AA,TP,2.4X6.4	
4 R304	2008-000253	R-FUSIBLE(S);0.47OHM,5%,1W,AF,	
4 R305	2008-000253	R-FUSIBLE(S);0.47OHM,5%,1W,AF,	
4 R801	2008-001107	R-FUSIBLE(S);300ohm,5%,2W,AG,TP,3.9x12mm	
4 R825	2008-000266	R-FUSIBLE(S);10HM,5%,2W,AF,TP,	
4 R303	2008-000266	R-FUSIBLE(S);10HM,5%,2W,AF,TP,	
4 R608	2008-001086	R-FUSIBLE(S);3.3ohm,5%,2W,AG,TP,3.9x12mm	
4 R609	2008-001086	R-FUSIBLE(S);3.3ohm,5%,2W,AG,TP,3.9x12mm	
4 R824	2008-000294	R-FUSIBLE;33OHM,5%,2W,AF,TP,3.	
4 R422	2008-001011	R-FUSIBLE(S);0.18OHM,10%,2W,AF	
4 R420	2008-001047	R-FUSIBLE(S);68ohm,5%,2W,AF,TP,3.9x10mm	
4 C501	2201-000193	C-CERAMIC,DISC;10PF,0.25PF,50V	
4 C302	2201-000259	C-CERAMIC,DISC;180PF,10%,500V,Y5P,6X4MM,	
4 CS621	2201-000327	C-CERAMIC,DISC;2.2NF,10%,50V,Y	
4 CS624	2201-000327	C-CERAMIC,DISC;2.2NF,10%,50V,Y	
4 C816	2201-000375	C-CERAMIC,DISC;220PF,5%,50V,RH	
4 CS626	2201-000379	C-CERAMIC,DISC;22NF,+80-20%,50	
4 C908	2201-000573	C-CERAMIC,DISC;47PF,5%,50V,NPO	
4 C909	2201-000573	C-CERAMIC,DISC;47PF,5%,50V,NPO	
4 C408	2201-000599	C-CERAMIC,DISC;560PF,10%,500V,	
⚠ 4 CR404S	2201-000639	C-CERAMIC,DISC;680PF,10%,2KV,Y5P,-,5MM,T	
4 C503	2201-000723	C-CERAMIC,DISC;4.7nF,20%,3KV,Y5U,TP,16x5	
4 C811	2201-000991	C-CERAMIC,HIC;CK45(T)B2KV561-K	
4 C105	2202-000127	C-CERAMIC,MLC-AXIAL;10NF,+80-2	
4 C111	2202-000127	C-CERAMIC,MLC-AXIAL;10NF,+80-2	
4 C912	2202-000127	C-CERAMIC,MLC-AXIAL;10NF,+80-2	
4 C226	2202-000231	C-CERAMIC,MLC-AXIAL;330PF,10%,50V,Y5P,3.	
4 C223	2202-000796	C-CERAMIC,MLC-AXIAL;1NF,10%,50	
4 C224	2202-000796	C-CERAMIC,MLC-AXIAL;1NF,10%,50	
4 C602	2202-000796	C-CERAMIC,MLC-AXIAL;1NF,10%,50	
4 C906	2202-000796	C-CERAMIC,MLC-AXIAL;1NF,10%,50	
4 C505	2202-000106	C-CERAMIC,MLC-AXIAL;1.5nF,20%,16V,Y5P,TP	
4 C211	2202-002037	C-CERAMIC,MLC-AXIAL;100NF,+80-20	
4 C502	2301-000213	C-FILM,PEF;220NF,5%,250V,21.5X	
4 C109	2301-000224	C-FILM,PEF;22NF,5%,50V,7.4X3.9	
4 C804	2301-000224	C-FILM,PEF;22NF,5%,50V,7.4X3.9	
4 C805	2301-000235	C-FILM,PEF;3.9NF,5%,50V,6.5X3.0X5.5MM,5M	
4 C309	2301-000254	C-FILM,PEF;39NF,5%,50V,7.5X3.5X6.5MM,5MM	
4 C227	2301-000301	C-FILM,PEF;6.8NF,5%,50V,6.5X5.	
4 C217	2301-000342	C-FILM,PEF;2.2nF,5%,50V,TP,7.4x3.9x13mm,	
4 C234	2301-000342	C-FILM,PEF;2.2nF,5%,50V,TP,7.4x3.9x13mm,	
4 CS606	2301-000356	C-FILM,PEF;47nF,5%,50V,TP,7.5x4.0x6.5,5m	
4 C407	2301-000383	C-FILM,PEF;10nF,5%,50V,TP,6x7x3.2mm,5mm	

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4 C248	2301-000445	C-FILM,PEF;4.7nF,5%,50V,TP,5.5x7x3mm,5mm	
4 C420	2301-001065	C-FILM,MPPF;47NF,55,630V,TP,19	
4 C312	2305-000149	C-FILM;CF922N100VT104-J-40/105	
4 C301	2305-000285	C-FILM,MPEF;220NF,5%,100V,-,5M	
4 C215	2305-000289	C-FILM,MPEF;220NF,5%,63V,-,5MM	
4 C216	2305-000289	C-FILM,MPEF;220NF,5%,63V,-,5MM	
4 C233	2305-000289	C-FILM,MPEF;220NF,5%,63V,-,5MM	
⚠ 4 CR405S	2201-000441	C-CERAMIC,DISC;3.3nF,10%,500V,Y5P,TP,10x	
4 C916	2305-000411	C-FILM,MPEF;470NF,5%,50V,7.3X4	
4 C103	2305-000665	C-FILM;104J, 60V,5MM TAPING	
4 C207	2305-000665	C-FILM;104J, 60V,5MM TAPING	
4 C208	2305-000665	C-FILM;104J, 60V,5MM TAPING	
4 C210	2305-000665	C-FILM;104J, 60V,5MM TAPING	
4 C218	2305-000665	C-FILM;104J, 60V,5MM TAPING	
4 C222	2305-000665	C-FILM;104J, 60V,5MM TAPING	
4 C230	2305-000665	C-FILM;104J, 60V,5MM TAPING	
4 C803	2305-000665	C-FILM;104J, 60V,5MM TAPING	
4 C819	2305-000665	C-FILM;104J, 60V,5MM TAPING	
4 C913	2305-000665	C-FILM;104J, 60V,5MM TAPING	
4 C920	2305-000665	C-FILM;104J, 60V,5MM TAPING	
4 CS602	2305-000665	C-FILM;104J, 60V,5MM TAPING	
4 CS608	2305-000665	C-FILM;104J, 60V,5MM TAPING	
4 C225	2309-000138	C-FILM,PE-PPF;100NF,5%,50V,TP,	
4 C812	2401-000262	C-AL;100UF,20%,160V,GP,16X25MM,5MM,	
4 C817	2401-000302	C-AL;100UF,20%,25V,GP,6X11MM,5	
4 C821	2401-000302	C-AL;100UF,20%,25V,GP,6X11MM,5	
4 C823	2401-000302	C-AL;100UF,20%,25V,GP,6X11MM,5	
4 CS629	2401-000302	C-AL;100UF,20%,25V,GP,6X11MM,5	
4 C307	2401-000360	C-AL;100UF,20%,50V,GP,8X11MM,5	
4 C308	2401-000360	C-AL;100UF,20%,50V,GP,8X11MM,5	
4 C506	2401-000430	C-ELECTROLYTIC;CE04WTAPG250V10	
4 C403	2401-000560	C-AL;1UF,20%,160V,GP,GT,6.3,11MM	
4 C219	2401-000603	C-AL;1UF,20%,50V,GP,5X11MM,5MM	
4 C601	2401-000603	C-AL;1UF,20%,50V,GP,5X11MM,5MM	
4 CS603	2401-000603	C-AL;1UF,20%,50V,GP,5X11MM,5MM	
4 CS611	2401-000603	C-AL;1UF,20%,50V,GP,5X11MM,5MM	
4 CS613	2401-000603	C-AL;1UF,20%,50V,GP,5X11MM,5MM	
4 CS614	2401-000603	C-AL;1UF,20%,50V,GP,5X11MM,5MM	
4 CS616	2401-000603	C-AL;1UF,20%,50V,GP,5X11MM,5MM	
4 CS617	2401-000603	C-AL;1UF,20%,50V,GP,5X11MM,5MM	
4 C221	2401-000660	C-ELECTROLYTIC;CE04WTAPG50V2.2	
4 CS605	2401-000660	C-ELECTROLYTIC;CE04WTAPG50V2.2	
4 CS622	2401-000660	C-ELECTROLYTIC;CE04WTAPG50V2.2	
4 CS625	2401-000660	C-ELECTROLYTIC;CE04WTAPG50V2.2	
4 C820	2401-000660	C-ELECTROLYTIC;CE04WTAPG50V2.2	
4 C280	2401-000660	C-ELECTROLYTIC;CE04WTAPG50V2.2	
4 C815	2401-000703	C-ELEC;CE04-40/8525VT222-MWSD	
4 C827	2401-000927	C-AL;22UF,20%,250V,GP,13X20MM,	
4 C110	2401-000962	C-AL;22uF,20%,50V,GP,TP,5x11,5	
4 CS601	2401-000962	C-AL;22uF,20%,50V,GP,TP,5x11,5	
4 CS610	2401-001026	C-AL;3.3UF,20%,50V,GP,5X11MM,5	
4 C802	2401-001192	C-AL;33UF,20%,50V,GP,6X11MM,5MM,TP	
4 C504	2401-001232	C-AL;4.7UF,20%,250V,GP,10X12.5	
4 CS607	2401-001333	C-ELECTROLYTIC;CE04WTAPG50V0.4	
4 C304	2401-001397	C-AL;470UF,20%,25V,GP,10X16MM,	
4 C306	2401-002288	C-ELEC;CE04-55/10525VT471-MWRG	
4 C209	2401-001840	C-AL;100UF,20%,16V,GP,TP,6.3X1	
4 C213	2401-001840	C-AL;100UF,20%,16V,GP,TP,6.3X1	
4 C229	2401-001840	C-AL;100UF,20%,16V,GP,TP,6.3X1	
4 C903	2401-001840	C-AL;100UF,20%,16V,GP,TP,6.3X1	
4 C910	2401-001840	C-AL;100UF,20%,16V,GP,TP,6.3X1	
4 C605	2401-001998	C-AL;1000UF,20%,25V,GP,TP,10X20	
4 CS604	2401-000027	C-AL;4.7UF,20%,50V,GP,5*11MM,5MEA	
4 CS615	2401-000027	C-AL;4.7UF,20%,50V,GP,5*11MM,5MEA	
4 CS618	2401-000027	C-AL;4.7UF,20%,50V,GP,5*11MM,5MEA	
4 CS619	2401-000027	C-AL;4.7UF,20%,50V,GP,5*11MM,5MEA	
4 C901	2401-002144	C-AL;47uF,20%,16V,GP,TP,5x11,5	
4 C203	2401-002235	C-ELECTROLYTIC;CE04W(T)16V10M	
4 C220	2401-002235	C-ELECTROLYTIC;CE04W(T)16V10M	
4 C231	2401-002235	C-ELECTROLYTIC;CE04W(T)16V10M	
4 CS612	2401-002235	C-ELECTROLYTIC;CE04W(T)16V10M	
4 C813	2401-002290	C-AL;47uF,20%,160V,GP,TP,13x20,5	
4 C101	2401-002594	C-AL;220uF,20%,16V,GP,TP,8x11.5,5	
4 C406	2401-002619	C-AL;47uF,20%,25V,GP,TP,5x11,5	
4 C818	2401-003028	C-AL;100UF,20%,25V,WT,TP,6.3X1	
4 L103	2701-000114	INDUCTOR-AXIAL;10UH,10%,2.5X3.	
4 L202	2701-000114	INDUCTOR-AXIAL;10UH,10%,2.5X3.	
4 L903	2701-000114	INDUCTOR-AXIAL;10UH,10%,2.5X3.	
4 R101	2701-000114	INDUCTOR-AXIAL;10UH,10%,2.5X3.	
4 R102	2701-000114	INDUCTOR-AXIAL;10UH,10%,2.5X3.	
4 L203	2701-000127	INDUCTOR-AXIAL;15UH,10%,2.5X3.	
4 L301	2701-000142	INDUCTOR-AXIAL;1UH,10%,2.5X3.4	
4 L302	2701-000142	INDUCTOR-AXIAL;1UH,10%,2.5X3.4	
4 L404	2701-000142	INDUCTOR-AXIAL;1UH,10%,2.5X3.4	
4 L102	2701-000159	INDUCTORAXIAL;22uH,10%,4.2x9.8mm	
4 L201	2701-000159	INDUCTORAXIAL;22uH,10%,4.2x9.8mm	
4 L230	2701-000159	INDUCTORAXIAL;22uH,10%,4.2x9.8mm	
4 L405	2701-000159	INDUCTORAXIAL;22uH,10%,4.2x9.8mm	
4 L902	2701-000177	INDUCTOR-AXIAL;33UH,10%,2.5X3.4MM	
4 L904	2701-000177	INDUCTOR-AXIAL;33UH,10%,2.5X3.4MM	
4 L804	2701-001030	INDUCTOR-AXIAL;43uH,10%,14x4.5mm	
4 L807	2701-001030	INDUCTOR-AXIAL;43uH,10%,14x4.5mm	
4 X901	2801-003433	CRYSTAL-UNIT;12MHZ,30PPM,28-AAM,30PF,30O	
4 L808	2901-000297	FILTER-EMI ON BOARD;-,3A,-,-,3.5x5,TP,-	
4 L403	3301-000287	CORE-FERRITEBEAD;AA,3.5X1.0X6.	
4 L806	3301-000287	CORE-FERRITEBEAD;AA,3.5X1.0X6.	
4 L803	3301-000287	CORE-FERRITEBEAD;AA,3.5X1.0X6.	
4 J124	3301-000287	CORE-FERRITEBEAD;AA,3.5X1.0X6.	
4 L206	3301-000287	CORE-FERRITEBEAD;AA,3.5X1.0X6.	
4 J127	3301-000287	CORE-FERRITEBEAD;AA,3.5X1.0X6.	
4 SW901	3404-000244	SWITCH-TACT;15V,20MA,90-170GF,	
4 SW902	3404-000244	SWITCH-TACT;15V,20MA,90-170GF,	
4 SW903	3404-000244	SWITCH-TACT;15V,20MA,90-170GF,	
4 SW904	3404-000244	SWITCH-TACT;15V,20MA,90-170GF,	
4 SW905	3404-000244	SWITCH-TACT;15V,20MA,90-170GF,	
⚠ 4 FD801S	3601-001086	FUSE-AXIAL LEAD;125V,5A,FAST-ACTING,GLAS	
4 F801A	3602-000114	FUSE-HOLDER;-,-,30MOHM	
4 F801B	3602-000114	FUSE-HOLDER;-,-,30MOHM	
4 J101	3812-000219	JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M(A	
4 J102	3812-000219	JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M(A	
4 J103	3812-000219	JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M(A	
4 J104	3812-000219	JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M(A	
4 J105	3812-000219	JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M(A	
4 J106	3812-000219	JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M(A	
4 J107	3812-000219	JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M(A	
4 J108	3812-000219	JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M(A	
4 J110	3812-000219	JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M(A	
4 J111	3812-000219	JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M(A	
4 J112	3812-000219	JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M(A	
4 J113	3812-000219	JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M(A	
4 J114	3812-000219	JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M(A	
4 J115	3812-000219	JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M(A	
4 J117	3812-000219	JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M(A	
4 J120	3812-000219	JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M(A	
4 J121	3812-000219	JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M(A	
4 J122	3812-000219	JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M(A	
4 J123	3812-000219	JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M(A	
4 J128	3812-000219	JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M(A	
4 J129	3812-000219	JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M(A	
4 J130	3812-000219	JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M(A	
4 J131	3812-000219	JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M(A	
4 J132	3812-000219	JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M(A	
4 J135	3812-000219	JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M(A	
4 J136	3812-000219	JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M(A	
4 J137	3812-000219	JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M(A	
4 J138	3812-000219	JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M(A	
4 J139	3812-000219	JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M(A	
4 J140	3812-000219	JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M(A	
4 J142	3812-000219	JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M(A	
4 J150	3812-000219	JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M(A	
4 J401	3812-000219	JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M(A	
4 J602	3812-000219	JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M(A	
4 J604	3812-000219	JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M(A	
4 J605	3812-000219	JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M(A	
4 J606	3812-000219	JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M(A	
4 J801	3812-000219	JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M(A	
4 J802	3812-000219	JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M(A	
4 J803	3812-000219	JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M(A	
4 J804	3812-000219	JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M(A	
4 J806	3812-000219	JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M(A	
4 J807	3812-000219	JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M(A	
4 J808	3812-000219	JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M(A	
4 JAW02	3812-000219	JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M(A	
4 JS601	3812-000219	JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M(A	

Loc. No.	Code No.	Description ; Specification	Remark
4 R229	3812-000219	JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M(A	
4 R309	3812-000219	JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M(A	
4 R507	3812-000219	JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M(A	
4 R508	3812-000219	JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M(A	
4 R509	3812-000219	JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M(A	
4 R850	3812-000219	JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M(A	
4 J125	3812-000219	JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M(A	
4 L805	3812-000219	JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M(A	
4 J143	3812-000219	JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M(A	
4 J811	3812-000219	JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M(A	
4 DZ804	3812-000219	JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M(A	
4 J822	3812-000219	JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M(A	
4 J133	3812-000219	JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M(A	
4 J601	3812-000219	JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M(A	
4 J603	3812-000219	JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M(A	
4 J402	3812-000219	JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M(A	
4 J823	3812-000219	JUMPER-WIRE-SO,COPPER;TA0.6SN/52M/M(A	
4 01VER	AA41-00625B	PCB-MAIN;TXM1967X/XAA,FR-1,1L,B,1.6T,245	
4 EY401	AA60-40011A	EYELET;-,ID2.0,OD2.8,-,-,BST	
4 EY402	AA60-40011A	EYELET;-,ID2.0,OD2.8,-,-,BST	
4 EY403	AA60-40011A	EYELET;-,ID2.0,OD2.8,-,-,BST	
4 EY404	AA60-40011A	EYELET;-,ID2.0,OD2.8,-,-,BST	
4 EY405	AA60-40011A	EYELET;-,ID2.0,OD2.8,-,-,BST	
4 EY414	AA60-40011A	EYELET;-,ID2.0,OD2.8,-,-,BST	
4 EY415	AA60-40011A	EYELET;-,ID2.0,OD2.8,-,-,BST	
4 EY416	AA60-40011A	EYELET;-,ID2.0,OD2.8,-,-,BST	
4 EY417	AA60-40011A	EYELET;-,ID2.0,OD2.8,-,-,BST	
4 EY418	AA60-40011A	EYELET;-,ID2.0,OD2.8,-,-,BST	
4 EY419	AA60-40011A	EYELET;-,ID2.0,OD2.8,-,-,BST	
4 EY420	AA60-40011A	EYELET;-,ID2.0,OD2.8,-,-,BST	
4 EY421	AA60-40011A	EYELET;-,ID2.0,OD2.8,-,-,BST	
4 EY501	AA60-40011A	EYELET;-,ID2.0,OD2.8,-,-,BST	
4 EY819	AA60-40011A	EYELET;-,ID2.0,OD2.8,-,-,BST	
4 EY827	AA60-40011A	EYELET;-,ID2.0,OD2.8,-,-,BST	
4 EY829	AA60-40011A	EYELET;-,ID2.0,OD2.8,-,-,BST	
4 EY833	AA60-40011A	EYELET;-,ID2.0,OD2.8,-,-,BST	
4 EY701	AA60-40011A	EYELET;-,ID2.0,OD2.8,-,-,BST	
4 EY702	AA60-40011A	EYELET;-,ID2.0,OD2.8,-,-,BST	
4 EL401	AA60-40011B	EYELET;-,ID2.2,OD3.2,-,-,BSP	
4 EL402	AA60-40011B	EYELET;-,ID2.2,OD3.2,-,-,BSP	
4 EL801	AA60-40011B	EYELET;-,ID2.2,OD3.2,-,-,BSP	
4 EL802	AA60-40011B	EYELET;-,ID2.2,OD3.2,-,-,BSP	
4 GT501	AA60-40014A	PIN-GT,ASSY;1P,-,-,AUTO	
4 GT801	AA60-40014A	PIN-GT,ASSY;1P,-,-,AUTO	
4 GT802	AA60-40014A	PIN-GT,ASSY;1P,-,-,AUTO	
4 GT803	AA60-40014A	PIN-GT,ASSY;1P,-,-,AUTO	
4 GT804	AA60-40014A	PIN-GT,ASSY;1P,-,-,AUTO	
4 GT805	AA60-40014A	PIN-GT,ASSY;1P,-,-,AUTO	
4 Z201	2903-000129	FILTER-CERAMIC;BR,4.5MHz,-,-,-,TP,-	
⚠ 4 IC803	1203-001217	IC-POST,ADJUSTREG;431,T0-92,3P,4.58MIL,P	
4 C915	2401-002009	C-AL;100UF,20%,16V,GP,TP,6.3X7	
4 R505	2008-000206	R-FUSIBLE(S);10HM,5%,1/2W,AF,T	
4 R421	2008-001015	R-FUSIBLE;1.50HM,5%2WAF,TP39X10	
4 C806A	2201-000108	C-CERAMIC,DISC;1.5NF,10%,1KV,Y	
4 C810	2301-000192	C-FILM,PEF;1NF,5%,50V,5.3X10MM	
⚠ 4 CR01S	2401-000480	C-AL;10UF,20%,50V,GP,5X11MM,5M	
⚠ 4 CR02S	2401-000480	C-AL;10UF,20%,50V,GP,5X11MM,5M	
4 CS609	2401-000480	C-AL;10UF,20%,50V,GP,5X11MM,5M	
4 CS620	2401-000480	C-AL;10UF,20%,50V,GP,5X11MM,5M	
4 CS623	2401-000480	C-AL;10UF,20%,50V,GP,5X11MM,5M	
⚠ 4 RR001S	2001-000660	R-CARBON;33KOHM,5%,1/8W,AA,TP,	
⚠ 4 RR003S	2004-001379	R-METAL(S);12KOHM,1%,1/2W,AA,T	
⚠ 4 RR004S	2004-001987	R-METAL;4.3KOHM,1%,1/2W,AA,TP,	
⚠ 4 RP801S	2002-001010	R-COMPOSITION;1.8MOHM,5%,1/2W,AA,TP,3.7X	
4 CS631	2401-001914	C-AL;1uF,20%,50V,BP,TP,5x11,5	
4 C603	2401-001914	C-AL;1uF,20%,50V,BP,TP,5x11,5	
4 D807	0402-000493	DIODE-RECTIFIER;1R5GU41,400V,1	
4 L/LINE	AA68-01544A	LABEL;LINE,ALL MDL COMMON	
4 C232	2201-000262	C-CERAMIC,DISC;180PF,10%,50V,Y	
4 RS604	2004-005053	R-METAL;16.6KOHM,1%,18W,AA,TP,1.8X3.2MM	
4 C604	2301-000204	C-FILM,PEF;2.7NF,5%,50V,7.4X3.	
4 CS632	2301-000204	C-FILM,PEF;2.7NF,5%,50V,7.4X3.	
4 R607	2001-001015	R-CARBON;9.1Kohm,5%,1/8W,AA,TP,1.8x3.2m	
4 RS613	2001-001015	R-CARBON;9.1Kohm,5%,1/8W,AA,TP,1.8x3.2m	
⚠ 4 CR409S	2201-000406	C-CERAMIC,HIC;CK45(T)B2KV271-K	
⚠ 4 CR403S	2306-000179	C-FILM,MPPF;300nF,5%,250V,TP,20x18.5x10.	
3 GT301	AA60-40012D	PIN-GT,ASSY;4P,T1.6,6-12.5-14MM,NYLON66	
3 REW	2201-000991	C-CERAMIC,HIC;CK45(T)B2KV561-K	
3 TPREW	0203-001203	TAPE-DOUBLE FACE;#4016,T1.6,W10,L1000,NT	

ASSY COVER FRONT

1 A/CFRN	AA90-03310A	ASSY COVER FRONT;K15D,15K8,HIPS,VO,BLK	
2 SPK	3001-001020	SPEAKER;3W,8ohm,90dB,140Hz	
2 SPK+CF	6003-001019	SCREW-TAPTITE;RH,+,B,M4,L12,ZPC(BLK),SWR	
2 AV+CF	6006-001095	SCREW-ASS'Y TAPT;WP,BH,+,M4,L12,ZPC(YEL)	
2 L/SPK	AA39-20505M	LEAD-CONNECTOR;SY4XREC,R700/L350	
2 CRT+CF	AA60-10050R	SCREW-ASSY;WC,HH,+M5,L31.5,SWR	
2 STOPPE	AA61-40113A	STOPPER-PCB;-,ABS,HB,NTR.	
2 F/C	AA64-02956A	CABINET-FRONT;15K8,HIPS,VO,BLK,DG703P,SE	
3 KC+CF	6003-001019	SCREW-TAPTITE;RH,+,B,M4,L12,ZPC(BLK),SWR	
3 WR+CF	6003-001019	SCREW-TAPTITE;RH,+,B,M4,L12,ZPC(BLK),SWR	
3 SPRING	AA61-60003J	SPRING-CS;-,-,SUS304,0.5,OD6,H	
3 WR	AA64-00816B	WINDOW REMOCON;-,21A8,-,PC,V0,VIOLET,-	
3 IL	AA64-00818B	INDICATOR LED;-,21A8,-,ACRYL,-,CLR,-	
3 KC	AA64-02972A	KNOB-CONTROL;15K8,ABS,HB,BLK,DG703P	
3 KP	AA64-02973A	KNOB-POWER;15K8,ABS,HB,BLK,DG703P	
2 BADGE	AA64-70127A	BADGE-BRAND;AL,FLAT,SILVER,L=40,SAMSUNG,	
2 CWFC	AA65-00011B	CLAMP-WIRE;ALL MODEL,NYLON 66,V2,NTR,15M	
2 CWSPK	AA65-30018A	CLAMP-WIRE;-,NYLON6.6,-,-,DATL	
2 CWFC	AA65-30105A	CLAMP-WIRE;NYLON 66N,VO,NTR,15MM	
2 L/IND	AA68-00524A	LABEL-INDICATOR;A/P 90(G),CXJ1352X/XAA,U	
2 L/QMS	AA68-02391A	LABEL-QMS;ART-PAPER(90)G,110x24mm	
2 L/WARN	AA68-01618A	LABEL-WARNING;WHTPAPER100	
2 A/A-V	AA95-00577A	ASSY-PCB,A/V FRONT;CT2188BL6,K15A,STR	
3 JE601	3722-000143	JACKHONE;1P,3.4MM,-,MBAG	
3 JR01	3722-001031	JACK-RCA;3P,3.6MM,#18,AU	
3 CN705A	AA39-20071F	LEAD CONNECTOR-ASSY;YBNH250-12,12P,200MM	
3 A/MAIN	AA95-01332A	ASSY-PCB,A/V FRONT,(AUTO);K15A(H)	
4 RE01	2001-001077	R-CARBON(S);150OHM,5%,1/2W,AA,	
4 RE02	2001-001077	R-CARBON(S);150OHM,5%,1/2W,AA,	
4 CE01	2401-000480	C-AL;10UF,20%,50V,GP,5X11MM,5M	
4 CE02	2401-000480	C-AL;10UF,20%,50V,GP,5X11MM,5M	
4 01VER	AA41-00227B	PCB-A/V;CT-20S4,FR-1,1L,B,1.6T,245X245	

ASSY COVER REAR

1 A/REAR	AA90-04236A	ASSY COVER REAR;K15D,15K8,BLK,SEA,HIPS,V	
2 CB+CF	6003-001026	SCREW-TAPTITE;RH,+,B,M4,L15,ZPC(BLK),SWR	
2 B/C	AA64-01731D	CABINET BACK;15K8,HIPS,V0,BLK,-	
2 AC+BC	AA65-30008A	CLAMP-CORD;-,PE,HB,BLK,-,-	
2 L/SET	AA68-01606A	LABEL;SET;K15A,14,A36QDT3	
2 C-R	AA63-60001X	SPACER-FELT;FELT,T0.5,330X15MM	

ASSY CPT

1 A/CPT	AA91-04547A	ASSY CPT;A36QDT351X,-,15INCH,,FLAT	
2 TAPE	0203-001303	TAPE-ACETATE;#1554,T0.25,W19,L30000,WHT	
2 DY-TAP	0203-001279	TAPE-OPP MASKING;#232,T0.14,W15,L50000,Y	
⚠ 2 CRT	AA03-00146A	CRT COLOR;A36QDT351X,-,15inch,-,-,-,FLAT	
2 C-Y	AA27-00002A	MAGNET-CONVERGENCE;JH291-SC-OB,29.1M	
2 D-Y	AA27-00069A	DEFLECTION-YOKE;-,DIF-1592CA,15,ST,2.0mH	
2 D-COIL	AA27-00212A	COIL DEGAUSSING;,30T,1.5OHM,15,110V	
2 CDCOIL	AA61-00735A	HOLDER;20POLYVINIL,DEGAUSSING,CHLORI	
2 SPACER	AA63-60028A	SPACER-DY;-,NEOPRENE,-,BLK,V0W	
2 A/TBC	AA98-70014G	ASSY TBC WIRE(P);-,15inch,NTSC,1P,KS2A/C	

ASSY P/MATERIAL

1 A/PACK	AA92-02683A	ASSY P/MATERIAL;TXL1491FX/XAA	
2 BXTAPE	0203-001295	TAPE-OPP MASKING;1242,T0.06,W100,L91.4M,	
2 STAPLE	AA60-40006A	PIN-STAPLE;-,-,-,H18,33X17.8X2	
2 C/SET	AA69-01634A	CUSHION-SET;15K8NEW,(SAMEX),EPS,C=0.	

Loc. No.	Code No.	Description ; Specification	Remark
2	PE-BAG	AA69-01207A BAG;SHEET,9-13,W35,L42,FOAM,OEM	

ASSY BOX

1	A/BOX	AA92-02129A ASSY BOX;TXL1491FX/XAA	
2	L/BOX	AA68-01542A LABEL;(UNIBOX),PAPER WHT ALLMD	
2	PCK	AA69-01212G PACKING CASE;TXL1491F(15K8) ANALO,CB S-1	

ASSY LABEL

1	A/LABE	AA92-02406A ASSY LABEL;TXL1491FX/XAA	
2	INLAB	AA64-60385G INLAY BACK;3E,K15A-1 3PIN S/T,PS SHEET,T	
2	INLAYC	AA64-60421C INLAY-COVER;-,PS,T0.3,-,-,BLK,SEA	
2	L/RAT	AA68-02447A LABEL-RATING;ART-PAPER;2AA9 E221083,SEA	

Loc. No.	Code No.	Description ; Specification	Remark

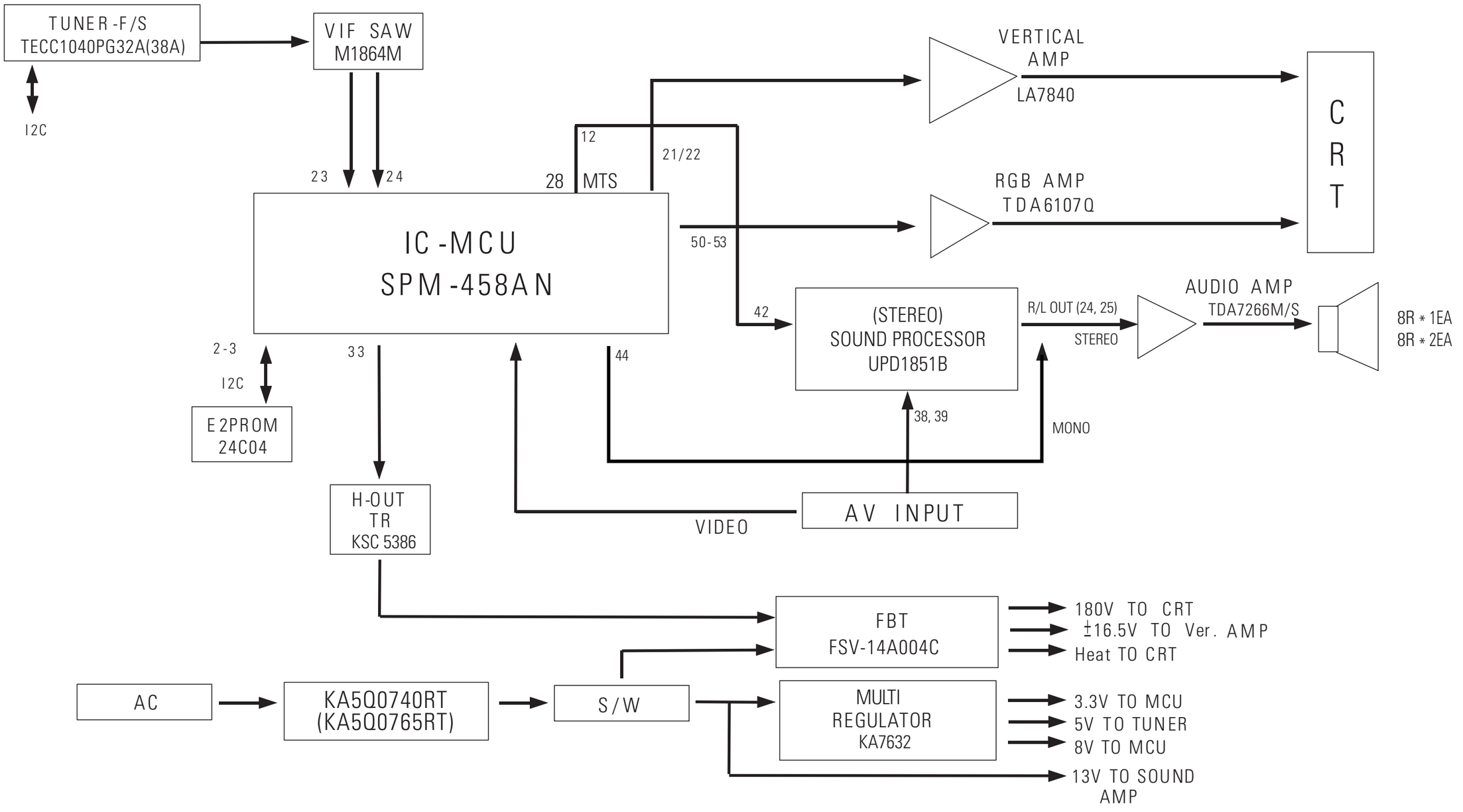
ASSY ACCESSORY

1	A/ACCE	AA92-05638A ASSY ACCESSORY;K15D,14,USA,FLAT	
2	AC-TAP	0203-001279 TAPE-OPP MASKING;#232,T0.14,W15,L50000,Y	
2	C/WARR	AA68-01433A CARD WARRANTY;TV/TVCR,ALL,W/P100(G),B5,	
2	B/WARR	AA68-01561A CARD WARRANTY;BLOCK,STATEMENT ONLY,SEA/S	
2	C/REG	AA68-01969A CARD;REGISTRATION PRODUCT,W/P120(G),SEA	
2	BAG-PE	AA69-01195A BAG PE;CL29A6W8X,HDPET0.012,93/4X151	
2	RMT	AA59-00108C REMOCON;DP,TM59,AA59-00077C,21,STR	
2	I/B	AA68-02341A MANUAL USERS;,ENG,USA,W/P100(G),B5,K15D,	

MEMO

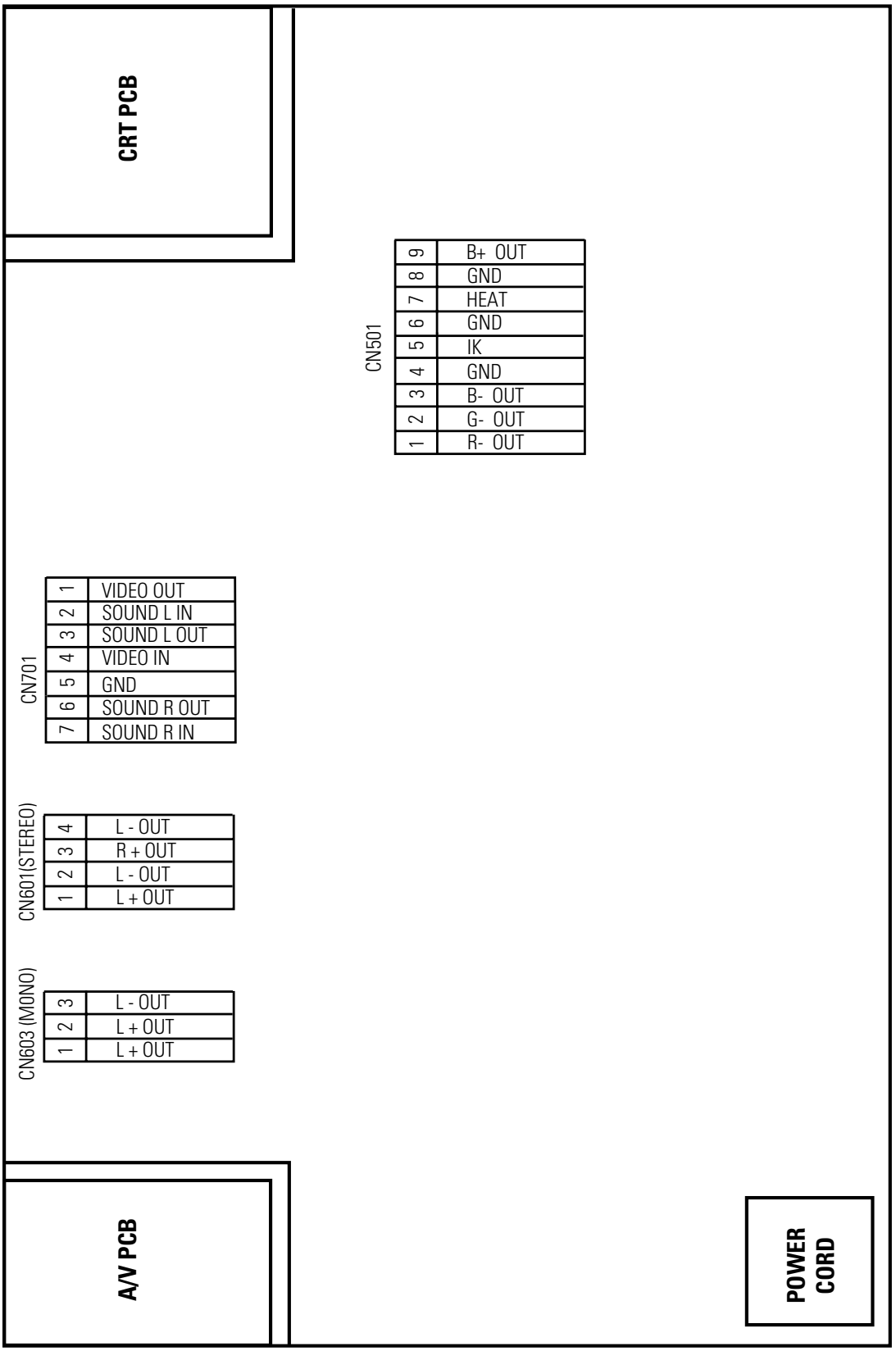
8. Block Diagram

8-1 K15D



9. Wiring Diagram

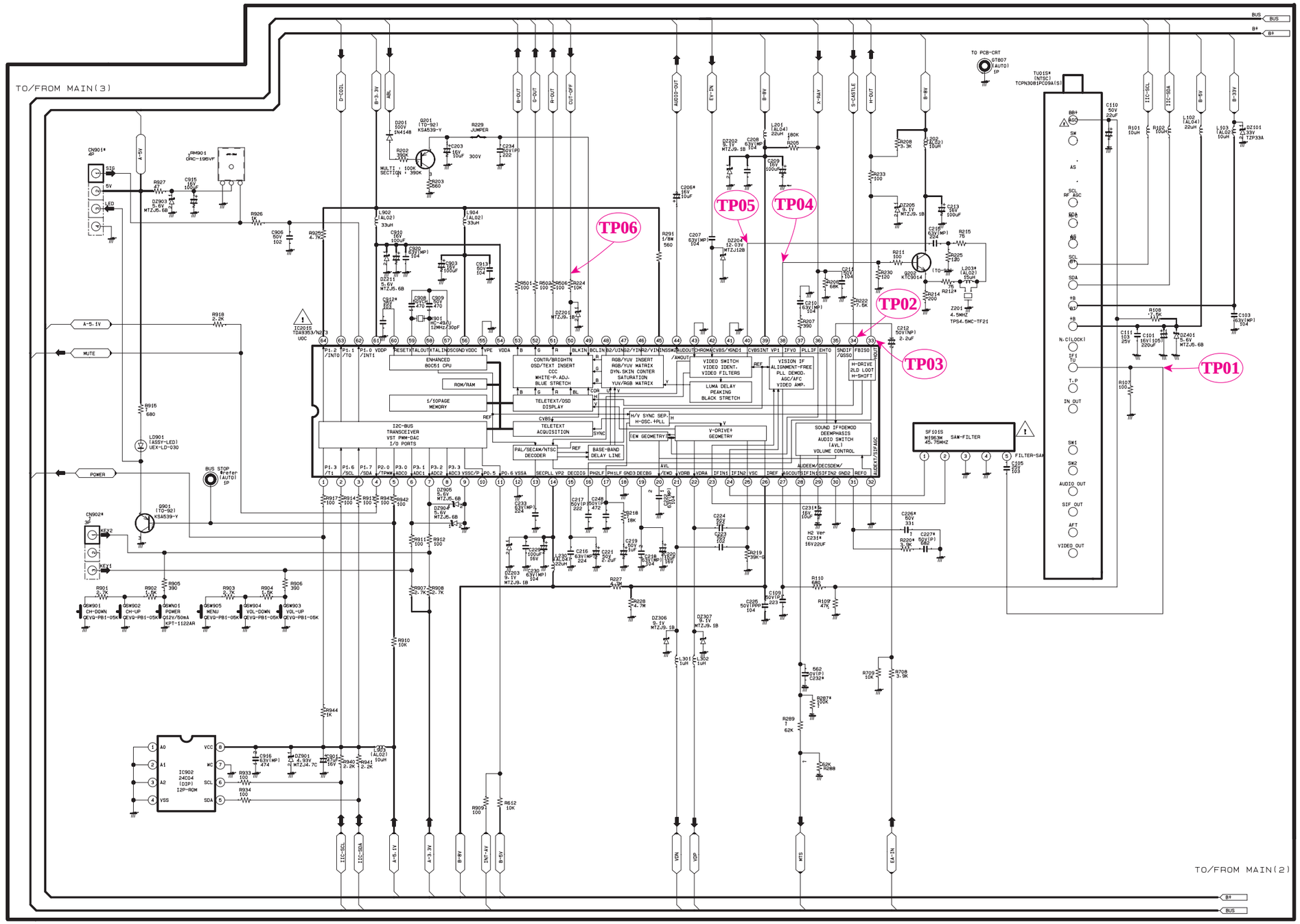
9-1 K15D



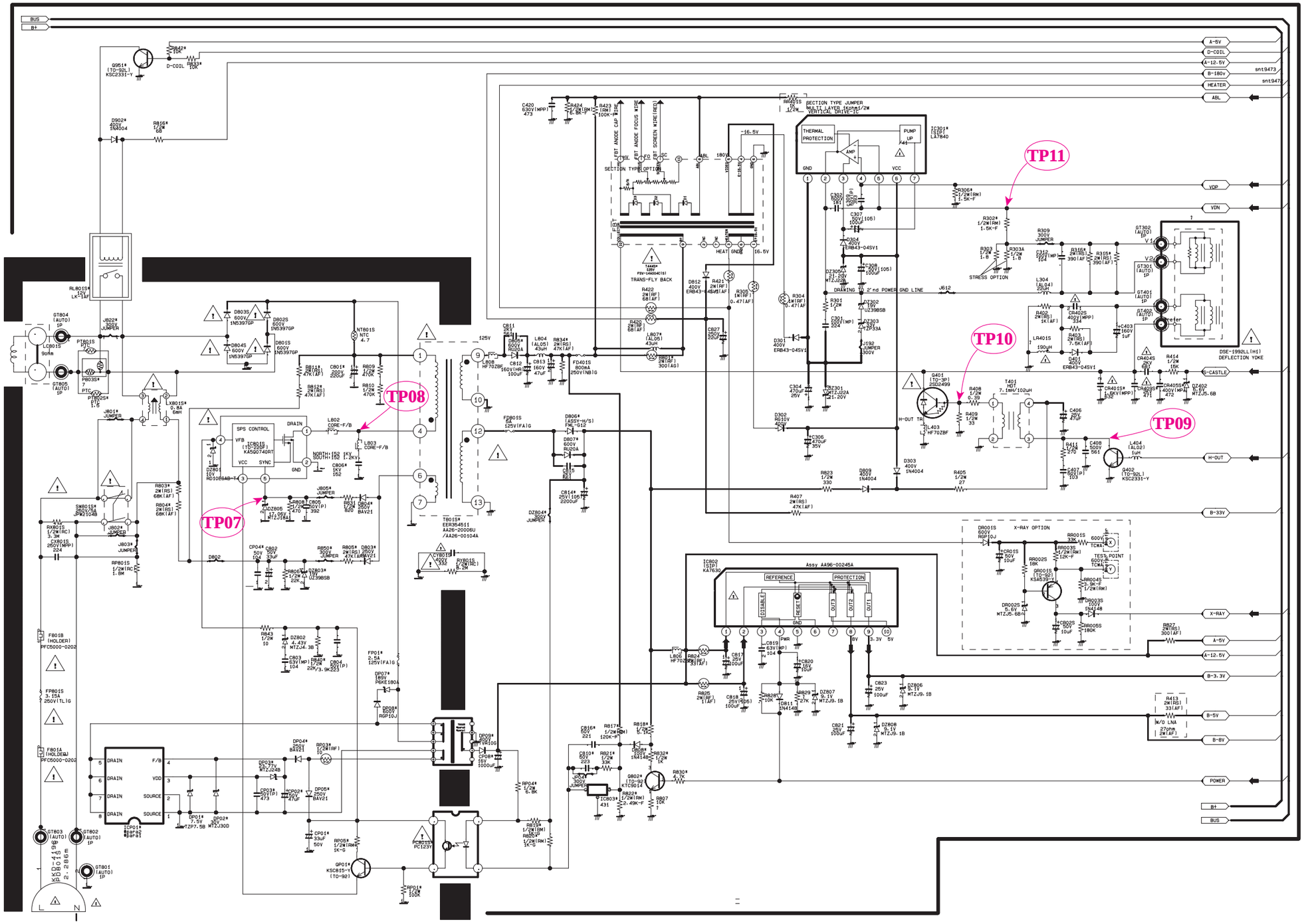
MEMO

10. Schematic Diagrams

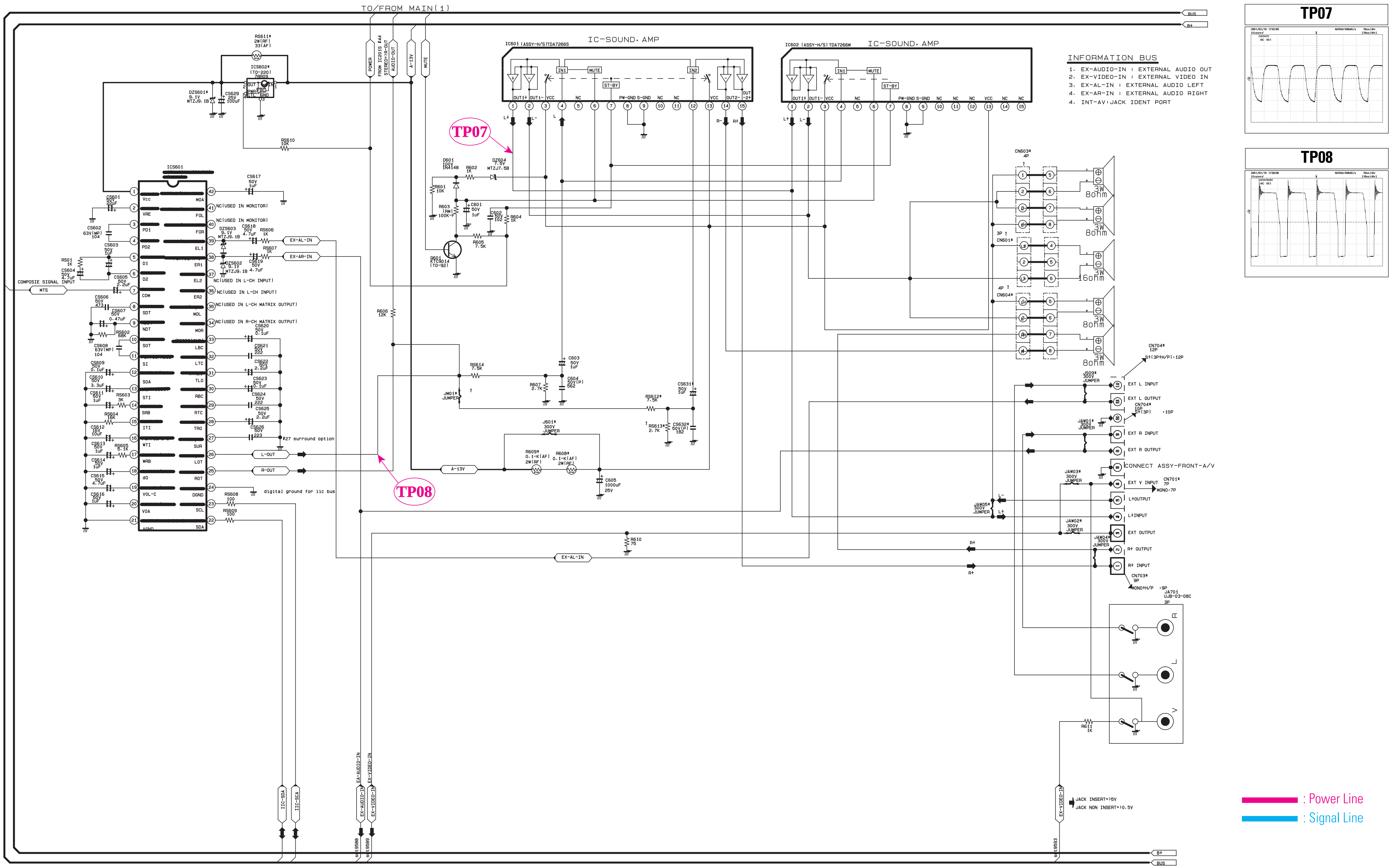
10-1 MAIN (1/4)



10-2 MAIN (2/4)

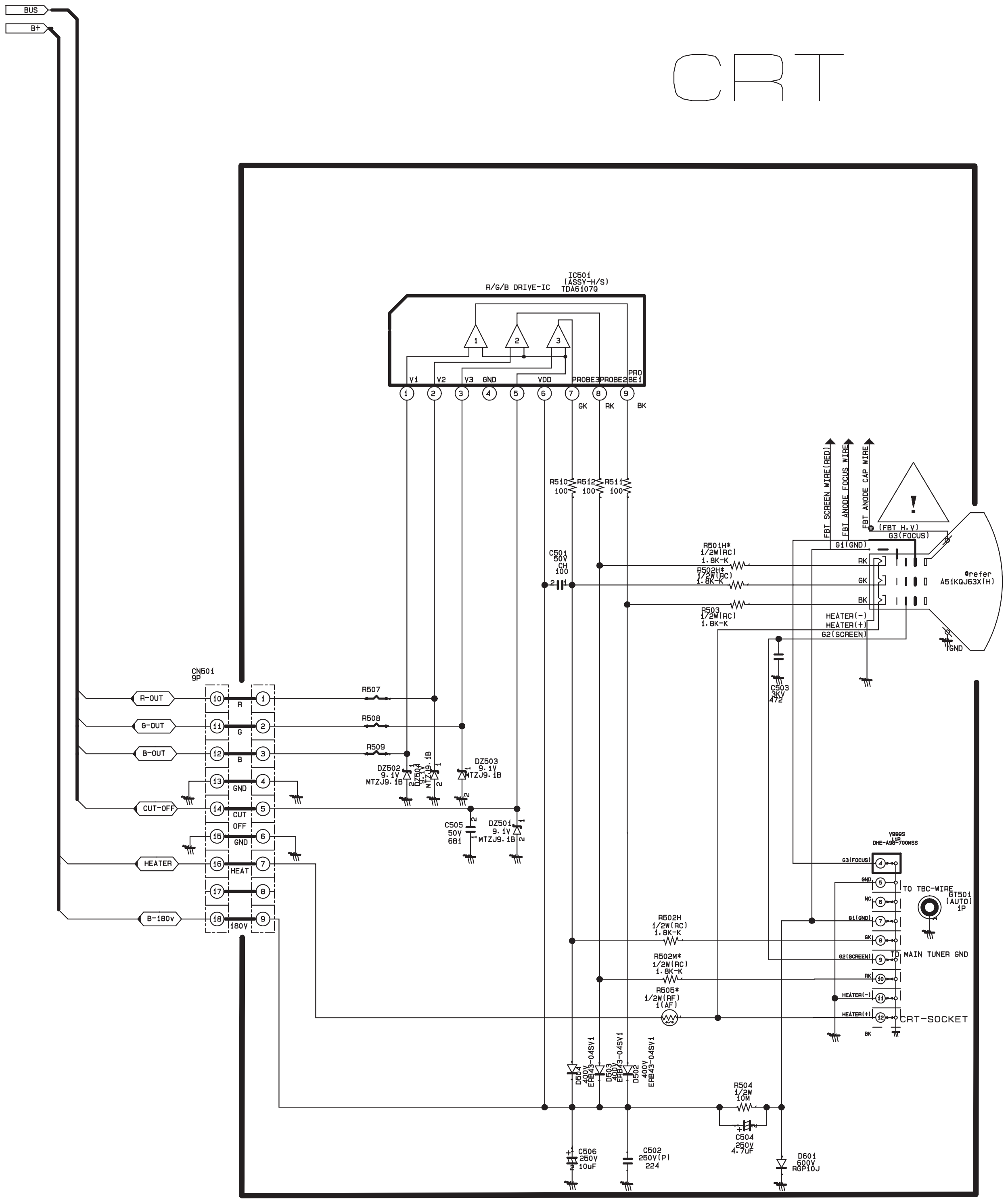

TP07
TP08
TP09
TP10
TP11
BUS
B+
A-5V
D-COIL
A-12.5V
B-180V
HEATER
ABL
snt9473
snt9472
VDP
VDN
G-CASTLE
H-OUT
B-33V
X-RAY
A-5V
A-12.5V
B-3.3V
B-5V
B-8V
POWER
DSE-1992LL(Hi)
DEFLECTION YOKE
SECTION TYPE JUMPER
THERMAL PROTECTION
PUMP UP
AMP
GND
VCC
TRANS-FLY BACK
STRESS OPTION
DRAWING
2'nd POWER GND LINE
H-OUT TR
X-RAY OPTION
REFERENCE
PROTECTION
DISABLE
RESET
SPS CONTROL
DRAIN
SOURCE
VFB
VCC
SYNC
GND
F/B
VDD
HEAT GND
-16.5V
16.5V
3.3V
5V
8V

10-3 MAIN (3/4)


TO/FROM MAIN(1)
IC-SOUND AMP
IC-SOUND AMP
INFORMATION BUS
1. EX-AUDIO-IN : EXTERNAL AUDIO OUT
2. EX-VIDEO-IN : EXTERNAL VIDEO IN
3. EX-AL-IN : EXTERNAL AUDIO LEFT
4. EX-AR-IN : EXTERNAL AUDIO RIGHT
4. INT-AV:JACK IDENT PORT
TP07
TP08
TP07
TP08
: Power Line
: Signal Line

10-4 MAIN (4/4)

CRT



FRONT A/V