



COLOR TELEVISION

Chassis : K16C(N)_Valiant
Model : CL21Z50MQ3XXAO

SERVICE Manual

COLOR TELEVISION



CL-21Z50MQ

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Refer to the service manual in the GSPN (see the rear cover) for the more information.

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2. Product Specification

2-1 Product Specification

Features			
Block	Specification	Major IC	Remark
CRT	21" FLAT Slim CRT	21" Vixlim CRT	
RF Part	1 TUNER F/S TUNER	TDQ-6F/13F2S	
Power	Input Voltage : Mexico:AC 110V(Other: AC100 ~ 240V) Stand-By : 3W UNDER	STR-W6750F	
Video	NTSC 3.58, ATSC	VCT4822	
	1H Comb Filter		
	Interlaced Scan		
Sound	Output : 5W x 2	VCT4822, LA42032	
	Function : MTS, Surround, Turbo		
Cabinet	21Z50 Cabinet	Z50 Cabinet	
Specification			
Model	CL-21Z50MQ		
Screen Size	21"		
Dimensions (WxHxD)	690 x 435 x 580 mm		
Weight	19.5 kg		
Voltage	Mexico:AC 110V(Other: AC100 ~ 240V)		
Speaker Output	5W + 5W		

2-2 Specifications Analysis





※ ○: application, ×: non-application

Model		CL-21Z50MQ	CL-21Z50MQ
Design			
Basic	Product Type	FLAT CRT	FLAT CRT
	Digital TV	Analog	Analog
	Digital Display	480i	480i
	Screen Size	21	21
	Aspect Ratio	4:3	4:3
Visual Quality	Progressive Scan	○	○
	Digital Comb Filter	×	×
	Screen Pitch	0.73	0.73
	Digital Noise Reduction	×	×
	AKB	○	○
	DNle	×	×
	3:2 Pull Down Support	×	×
Audio	Base/Treble/Balance	×	×
	Equalizer	×	×
	AVL	○	○
	Surround	×	×
	Speaker System	Direct	Direct
	Speaker Output	5W + 5W	10W + 10W
Function	Dual Screen Function	×	×
	Double Screen	×	×
	Caption	Eng	Eng
	Still Picture	×	×
	Auto Jack Recognition	×	×
	EPG	×	×
	Network	×	×
Ports	Antenna In	Rear:1	Rear:2
	External In	Rear1, side1	Rear1, side1
	S-Video	×	×
	Y/Pb/Pr	Rear:1	Rear:1
	PC	×	×
	DVI	×	×
	HDMI	×	×
	Digital Audio Out	×	×
	Video Out	Rear:1	Rear:1
Remote Controller	TM85	TM85	





※ For the power supply and power consumption, refer to the label attached to the product.

2-3 Accessories

2-3-1 Supplied Accessories

Accessories	Item	Item code	Remark
	Remote Control Batteries	AA59-00385C 4301-000103	Samsung Service center
	Power Cord	-	
	Owner's Instructions	AA68-03806H	
	Warranty Card Registration Card Safety Guide Manual	AA68-03727A - AA68-03242L	

2-3-2 Accessories that can be purchased additionally

Accessories	Item	Item code	Remark
	RF Cable	-	Electronics Store/ Internal shopping mall
	Video Cable	-	
	Audio Cable	-	
	Component Cables (RCA)	-	

1. Precaution

To avoid possible damages or electric shocks or exposure to radiation, follow the instructions below with regard to safety, installation, service and ESD.

1-1 Safety Precautions

1. Make sure all protective devices are properly installed including non-metallic handles and compartment covers when installing or re-installing the chassis or chassis assemblies.
2. Make sure that no gaps exist between the cabinets for children to insert their fingers in to prevent children from receiving electric shocks. Gaps mentioned above include ventilation holes of a too great magnitude between the vacuum tube and the cabinet mask, and the improper installation of the rear cabinet.

Errors may occur when the resistance is below 1.0 M Ω or over 5.2 M Ω .

In these cases, make sure that the device is repaired before sending it back to the customer.

3. Check for Electricity Leakage (Figure 1-1)
Warning: Do not use an insulated transformer for checking the leakage. Use only those current leakage testers or mirroring systems that comply with ANSIC 101.1 and the Underwriter Laboratory's specifications (UL1410, 59.7).

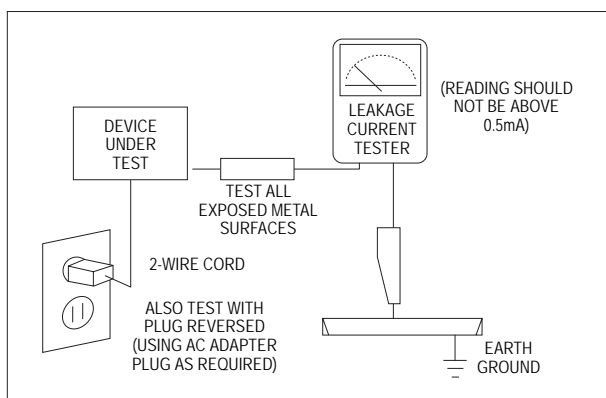


Fig. 1-1 AC Leakage Test

4. A high voltage is maintained within the specified limits using safety parts, calibration and tolerances. When voltage exceeds the specified limits, check each special part.

5. Warning for Engineering Changes:
Never make any changes or additions to the circuit design or the internal part for this product.
Ex: Do not add any audio or video accessory connectors. This might cause physical damage.
Furthermore, any changes or additions to the original design/engineering will invalidate the warranty.
6. Warning - Hot Chassis:
Some TV chassis are directly connected to one end of the AC power cord for electrical reasons.
Without insulated transformers, the product can only be repaired safely when the chassis is connected to the earthed end of the AC power source.



To make sure the AC power cord is properly connected, follow the instructions below. Use the voltmeter to measure the voltage between the chassis and the earthed ground. If the measurement is over 1.0V, unplug the AC power cord and change the polarity before re-inserting it. Measure the voltage between the chassis and the ground again.

7. Some TV chassis are shipped with an additional secondary grounding system. The secondary system is adjacent to the AC power line. These two grounding systems are separated in the circuit using an unbreakable/unchangeable insulation material.
8. When any parts, material or wiring appear overheated or damaged, replace them with new regular ones immediately. When any damage or overheating is detected, correct this immediately and make a regular check of possible errors.
9. Check for the original shape of the lead, especially that of the antenna wiring, any sharp edges, the AC power and the high voltage power. Carefully check if the wiring is too tight, incorrectly placed or loose. Never change the space between the part and the printed circuit board. Check the AC power cord for possible damages. Keep the part or the lead away from any heat-emitting materials.

Precaution

10. Safety Indication:

Some electrical circuits or device related materials require special attention to their safety features, which cannot be viewed by the naked eye. If an original part is replaced with another irregular one, the safety or protective features will be lost even if the new one has a higher voltage or more watts.

Critical safety parts should be bracketed with ( ). Use only regular parts for replacements (in particular, flame resistance and dielectric strength specifications). Irregular parts or materials may cause electric shock or fire.

1-2 Servicing Precautions

Warning 1: First carefully read the "Safety Instruction" in this service manual.

When there is a conflict between the service and the safety instructions, follow the safety instruction at all times.

Warning 2: Any electrolytic capacitor with the wrong polarity will explode.

1. The service instructions are printed on the cabinet, and should be followed by any service personnel.
2. Make sure to unplug the AC power cord from the power source before starting any repairs.
 - (a) Remove or re-install parts or assemblies.
 - (b) Disconnect the electric plug or connector, if any.
 - (c) Connect the test part in parallel with the electrolytic capacitor.
3. Some parts are placed at a higher position than the printed board. Insulated tubes or tapes are used for this purpose. The internal wiring is clamped using buckles to avoid contact with heat emitting parts. These parts are installed back to their original position.
4. After the repair, make sure to check if the screws, parts or cables are properly installed. Make sure no damage is caused to the repaired part and its surroundings.
5. Check for insulation between the blade of the AC plug and that of any conductive materials (i.e. the metal panel, input terminal, earphone jack, etc).
6. Insulation Check Process: Unplug the power cord from the AC source and turn the switch on. Connect the insulating resistance meter (500v) to the AC plug blade.

The insulating resistance between the blade of the AC plug and that of the conductive material should be more than 1 M Ω .
7. Any B+ interlock should not be damaged. If the metal heat sink is not properly installed, no connection to the AC power should be made.
8. Make sure the grounding lead of the tester is connected to the chassis ground before connecting to the positive lead. The ground lead of the tester should be removed last.
9. Beware of risks of any current leakage coming into contact with the high-capacity capacitor.
10. The sharp edges of the metal material may cause physical damage, so ensure wearing protective gloves during the repair.

1-3 Static Electricity Precautions

1. Some semi-conductive ("solid state") devices are vulnerable to static electricity. These devices are known as ESD. ESD includes the integrated circuit and the field effect transistor. To avoid any materials damage from electrostatic shock, follow the instructions described below.
2. Remove any static electricity from your body by connecting the earth ground before handling any semi-conductive parts or ass'ys. Alternatively, wear a dischargeable wrist-belt.
(Make sure to remove any static electricity before connecting the power source - this is a safety instruction for avoiding electric shock)
3. Remove the ESD ass'y and place it on a conductive surface such as aluminum foil to prevent accumulating static electricity.
4. Do not use any Freon-based chemicals. Such chemicals will generate static electricity that causes damage to the ESD.
5. Use only grounded-tip irons for soldering purposes.
6. Use only anti-static solder removal devices. Most solder removal devices do not support an anti-static feature. A solder removal device without an anti-static feature can store enough static electricity to cause damage to the ESD.
7. Do not remove the ESD from the protective box until the replacement is ready. Most ESD replacements are covered with lead, which will cause a short to the entire unit due to the conductive foam, aluminum foil or other conductive materials.
8. Remove the protective material from the ESD replacement lead immediately after connecting it to the chassis or circuit ass'y.
9. Take extreme caution in handling any uncovered ESD replacements. Actions such as brushing clothes or lifting your leg from the carpet floor can generate enough static electricity to damage the ESD.

CAUTION

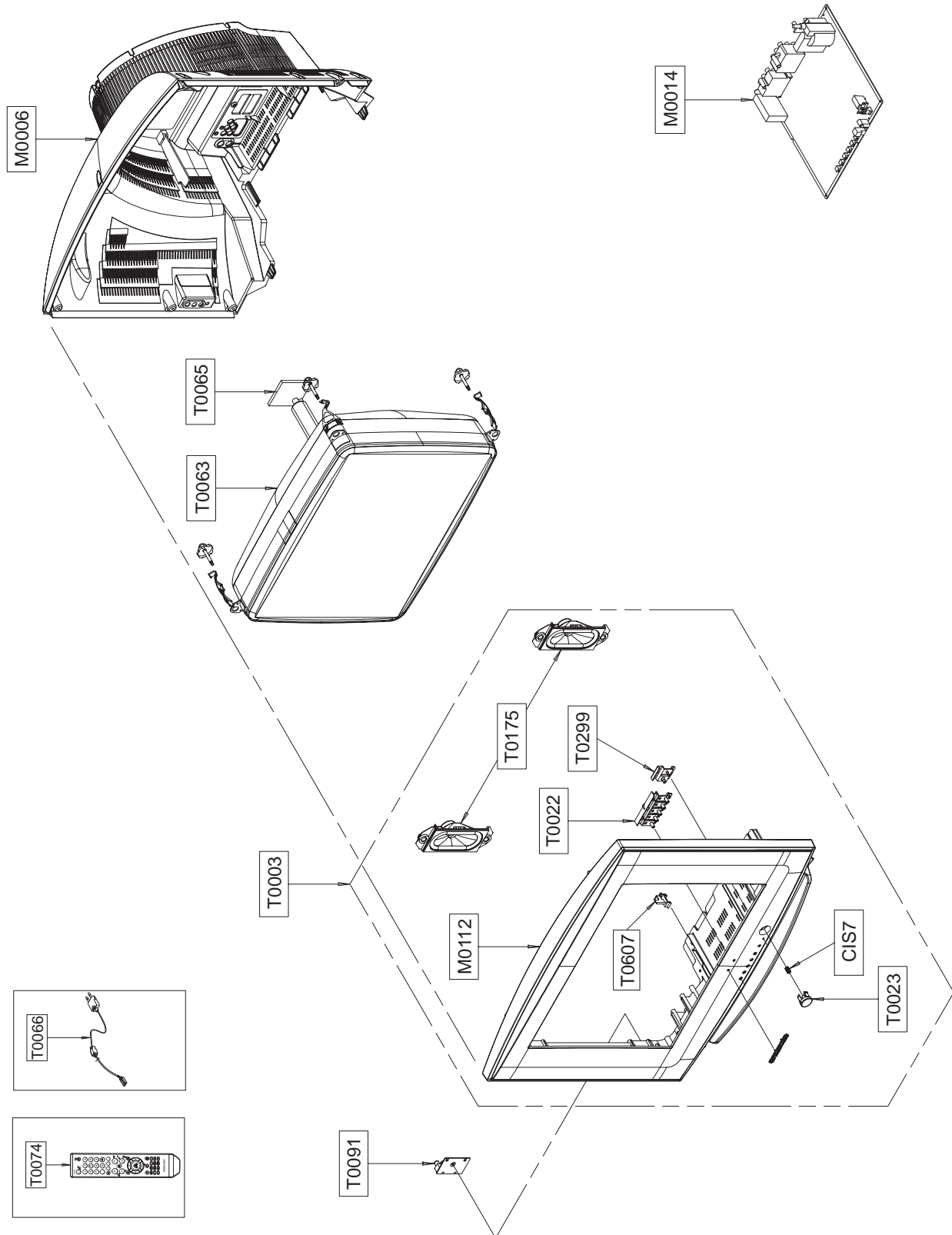
These servicing instructions are for use by qualified service personnel only. To reduce the risk of electric shock do not perform any servicing other than that contained in the operating instructions unless you are qualified to do so.

1-4 Installation Precautions

1. For safety reasons, more than two people are required for carrying the product.
2. Keep the power cord away from any heat emitting devices, as a melted covering may cause fire or electric shock.
3. Do not place the product in areas with poor ventilation such as a bookshelf or closet. The increased internal temperature may cause fire.
4. Bend the external antenna cable when connecting it to the product. This is a measure to protect it from being exposed to moisture. Otherwise, it may cause a fire or electric shock.
5. Make sure to turn the power off and unplug the power cord from the outlet before repositioning the product. Also check the antenna cable or the external connectors if they are fully unplugged. Damage to the cord may cause fire or electric shock.
6. Keep the antenna far away from any high-voltage cables and install it firmly. Contact with the high-voltage cable or the antenna falling over may cause fire or electric shock.
7. Check the basics of the screen test.
- Image position/size, Tilt adjustment

5. Exploded View & Part List

5-1 CL21Z50MQ3XXAO Exploded View



Loc. No.	Code No.	Description	Specification	Q'ty	SA/SNA	Remark
CIS7	AA61-60003J	SPRING ETC-CS	-,SUS304,-,-,OD6,N7,OD6,-,	1	S.N.A	
M0006	AA63-01555D	COVER-REAR	21Z50,HIPS,HB,BK500,ASIA	1	S.N.A	
M0014	AA94-16289A	ASSY PCB MAIN	CL21Z50MQ3XRCL,VALIANT	1	S.A	△
M0112	AA63-01553E	COVER-FRONT	21Z50,HIPS,HB,GR503,BKN1576+	1	S.N.A	
T0003	AA96-04720F	ASSY COVER P-FRONT	21Z50,HIPS,HB,BKN1576	1	S.A	
T0022	AA64-04430A	KNOB CONTROL	21Z50 / 21Z51,ABS,HB,BKN157	1	S.N.A	
T0023	AA64-04429A	KNOB POWER	21Z50 / 21Z51,ABS,HB,BKN1576	1	S.N.A	
T0063	AA03-00533A	CRT COLOR	A51QGV991X201,+380mG,0.915,9.1	1	S.A	
T0065	AA94-16233A	ASSY PCB CRT	I ROBOT2, K10C, TR DRIVE	1	S.A	△
T0066	AA96-20109B	ASSY POWER CORD	-,CP2/NO(4.0),H/C250,KKP	1	S.A	
T0074	AA59-00385C	REMOCON	TOMORROW,TM85,S3C1860XP0-SKT1,30	1	S.A	
T0091	AA94-16001A	ASSY PCB MISC-A/V	CT-21Z45,KOREA,NARNIA	1	S.A	△
T0175	AA96-04766A	ASSY SPEAKER P	8ohm,10W,R/B700mm,Y/B500m	1	S.A	
T0299	AA64-04431A	WINDOW-RMC,LED	21Z50/ 21Z51,PC,CLEAR	1	S.N.A	
T0607	AA61-40113A	STOPPER-PCB	501H,HIPS,-,-,HB,NTR,-	1	S.N.A	

5-2 CL21Z50MQ3XXAO Electrical Part List

Loc. No.	Code No.	Description	Specification	Q'ty	SA/SNA	Remark
ASSY CHASSIS						
M0017	AA91-10945A	ASSY CHASSIS	CL21Z50MQ3XRCL,VALIANT	1	S.N.A	
CA01	2202-000231	C-CERAMIC,MLC-AXIAL	0.33NF,10%,50V,Y5P,T	1	S.A	
CA02	2202-000231	C-CERAMIC,MLC-AXIAL	0.33NF,10%,50V,Y5P,T	1	S.A	
CA03	2401-002009	C-AL	100uF,20%,16V,GP,TP,6.3x7,5	1	S.A	
CA04	2401-002009	C-AL	100uF,20%,16V,GP,TP,6.3x7,5	1	S.A	
CA05	2202-000183	C-CERAMIC,MLC-AXIAL	2.2NF,20%,16V,Y5R,TP	1	S.A	
CA06	2202-000183	C-CERAMIC,MLC-AXIAL	2.2NF,20%,16V,Y5R,TP	1	S.A	
JA330	3722-001061	JACK-PHONE	1P,3.6PI,AG,BLK,N	1	S.A	
JA333	3722-002595	JACK-PIN	3P,Ni,BLK,STRAIGHT	1	S.A	
LA01	2701-000114	INDUCTOR-AXIAL	10UH,10%,2534	1	S.A	
LA02	2701-000114	INDUCTOR-AXIAL	10UH,10%,2534	1	S.A	
PCB	AA41-01178B	PCB SUB-SIDE A/V	CS21Z30,FR-1,1,B,1.6T,2	1	S.N.A	
RA01	2001-000028	R-CARBON(S)	100OHM,5%,1/2W,AA,TP,2.4X6.4	1	S.A	
RA02	2001-000028	R-CARBON(S)	100OHM,5%,1/2W,AA,TP,2.4X6.4	1	S.A	
T0091	AA94-16001A	ASSY PCB MISC-A/V	CT-21Z45,KOREA,NARNIA	1	S.A	
T0245	0202-001492	SOLDER-WIRE FLUX	HSE-02 LFM48 SR-34 S,-,	0.003	S.N.A	
T0245	AA39-20068B	LEAD CONNECTOR-ASSY	,8P,400,YBNH025-08,6	1	S.A	
T0245	AA39-20069D	LEAD CONNECTOR-ASSY	,5P,300,YBNH025-05,6	1	S.A	
T0557	AA97-16790A	ASSY AUTO-A/V	CT-21Z45,KOREA,NARNIA	1	S.N.A	
C101	2306-000122	C-FILM,LEAD-PPF	100nF,5%,50V,TP,7.3x4.0x	1	S.A	
C102	2202-000216	C-CERAMIC,MLC-AXIAL	0.027NF,5%,50V,SL,TP	1	S.A	
C103	2202-000216	C-CERAMIC,MLC-AXIAL	0.027NF,5%,50V,SL,TP	1	S.A	
C203	2401-001989	C-AL	4.7uF,20%,50V,BP,TP,5x11,5	1	S.A	
C204	2401-001989	C-AL	4.7uF,20%,50V,BP,TP,5x11,5	1	S.A	
C205	2401-001989	C-AL	4.7uF,20%,50V,BP,TP,5x11,5	1	S.A	
C206	2401-001989	C-AL	4.7uF,20%,50V,BP,TP,5x11,5	1	S.A	
C207	2401-001989	C-AL	4.7uF,20%,50V,BP,TP,5x11,5	1	S.A	
C208	2401-001989	C-AL	4.7uF,20%,50V,BP,TP,5x11,5	1	S.A	
C209	2301-000383	C-FILM,LEAD-PEF	10nF,5%,50V,TP,6x7x3.2mm	1	S.A	
C210	2202-002253	C-CERAMIC,MLC-AXIAL	100.0nF,+80-20%,50.0	1	S.A	
C211	2401-000603	C-AL	1UF,20%,50V,GP,TP,5X11,2	1	S.A	
C212	2202-000796	C-CERAMIC,MLC-AXIAL	1NF,10%,50V,Y5P,TP,3	1	S.A	
C213	2202-000796	C-CERAMIC,MLC-AXIAL	1NF,10%,50V,Y5P,TP,3	1	S.A	
C214	2202-002037	C-CERAMIC,MLC-AXIAL	100nF,80-20%,50V,Y5V	1	S.A	
C215	2401-001026	C-AL	3.3UF,20%,50V,GP,TP,5X11,5	1	S.A	
C216	2401-003036	C-AL	100uF,20%,16V,GP,TP,5X11mm,5mm	1	S.A	
C217	2202-000796	C-CERAMIC,MLC-AXIAL	1NF,10%,50V,Y5P,TP,3	1	S.A	
C218	2202-000796	C-CERAMIC,MLC-AXIAL	1NF,10%,50V,Y5P,TP,3	1	S.A	
C219	2401-002619	C-AL	47uF,20%,25V,GP,TP,5x11,5	1	S.A	
C221	2202-000796	C-CERAMIC,MLC-AXIAL	1NF,10%,50V,Y5P,TP,3	1	S.A	
C222	2305-000665	C-FILM,LEAD-PEF	100nF,5%,63V,TP,7.5x4.0x	1	S.A	
C223	2201-000389	C-CERAMIC,DISC	0.022NF,5%,50V,C0G,TP,5X3	1	S.A	
C227	2202-002037	C-CERAMIC,MLC-AXIAL	100nF,80-20%,50V,Y5V	1	S.A	
C228	2202-002037	C-CERAMIC,MLC-AXIAL	100nF,80-20%,50V,Y5V	1	S.A	
C229	2202-000121	C-CERAMIC,MLC-AXIAL	0.1nF,10%,50V,Y5P,-,	1	S.A	
C230	2401-002619	C-AL	47uF,20%,25V,GP,TP,5x11,5	1	S.A	
C231	2202-000796	C-CERAMIC,MLC-AXIAL	1NF,10%,50V,Y5P,TP,3	1	S.A	
C233	2202-000121	C-CERAMIC,MLC-AXIAL	0.1nF,10%,50V,Y5P,-,	1	S.A	
C234	2202-000632	C-CERAMIC,MLC-AXIAL	100nF,20%,50V,Z5U,TP	1	S.A	
C235	2202-000632	C-CERAMIC,MLC-AXIAL	100nF,20%,50V,Z5U,TP	1	S.A	
C237	2401-003010	C-AL	1000uF,20%,6.3V,GP,TP,8x11.5mm	1	S.N.A	
C238	2202-000632	C-CERAMIC,MLC-AXIAL	100nF,20%,50V,Z5U,TP	1	S.A	
C239	2201-000389	C-CERAMIC,DISC	0.022NF,5%,50V,C0G,TP,5X3	1	S.A	
C240	2305-000411	C-FILM,LEAD-PEF	470nF,5%,50V,TP,7.3x4.8x	1	S.A	
C241	2202-000796	C-CERAMIC,MLC-AXIAL	1NF,10%,50V,Y5P,TP,3	1	S.A	
C242	2401-002619	C-AL	47uF,20%,25V,GP,TP,5x11,5	1	S.A	
C244	2301-000224	C-FILM,LEAD-PEF	22nF,5%,50V,TP,7.4x3.9x1	1	S.A	
C245	2202-000796	C-CERAMIC,MLC-AXIAL	1NF,10%,50V,Y5P,TP,3	1	S.A	
C246	2401-002619	C-AL	47uF,20%,25V,GP,TP,5x11,5	1	S.A	
C248	2202-000632	C-CERAMIC,MLC-AXIAL	100nF,20%,50V,Z5U,TP	1	S.A	
C249	2202-000796	C-CERAMIC,MLC-AXIAL	1NF,10%,50V,Y5P,TP,3	1	S.A	

Loc. No.	Code No.	Description	Specification	Q'ty	SA/SNA	Remark
C250	2202-000796	C-CERAMIC,MLC-AXIAL	1NF,10%,50V,Y5P,TP,3	1	S.A	
C251	2202-000796	C-CERAMIC,MLC-AXIAL	1NF,10%,50V,Y5P,TP,3	1	S.A	
C252	2401-002075	C-AL	4.7uF,20%,50V,GP,TP,5x11,5	1	S.A	
C253	2202-000796	C-CERAMIC,MLC-AXIAL	1NF,10%,50V,Y5P,TP,3	1	S.A	
C256	2305-000665	C-FILM,LEAD-PEF	100nF,5%,63V,TP,7.5x4.0x	1	S.A	
C257	2305-001037	C-FILM,LEAD-PEF	330nF,5%,63V,TP,7.5x5.5x	1	S.A	
C258	2401-002619	C-AL	47uF,20%,25V,GP,TP,5x11,5	1	S.A	
C259	2202-000796	C-CERAMIC,MLC-AXIAL	1NF,10%,50V,Y5P,TP,3	1	S.A	
C262	2401-002619	C-AL	47uF,20%,25V,GP,TP,5x11,5	1	S.A	
C263	2202-000796	C-CERAMIC,MLC-AXIAL	1NF,10%,50V,Y5P,TP,3	1	S.A	
C264	2401-002619	C-AL	47uF,20%,25V,GP,TP,5x11,5	1	S.A	
C265	2202-000796	C-CERAMIC,MLC-AXIAL	1NF,10%,50V,Y5P,TP,3	1	S.A	
C270	2202-000863	C-CERAMIC,MLC-AXIAL	560pF,10%,50V,Y5P,TP	1	S.A	
C274	2401-003036	C-AL	100uF,20%,16V,GP,TP,5X11mm,5mm	1	S.A	
C276	2202-000796	C-CERAMIC,MLC-AXIAL	1NF,10%,50V,Y5P,TP,3	1	S.A	
C280	2202-002037	C-CERAMIC,MLC-AXIAL	100nF,80-20%,50V,Y5V	1	S.A	
C281	2202-002037	C-CERAMIC,MLC-AXIAL	100nF,80-20%,50V,Y5V	1	S.A	
C282	2401-002463	C-AL	470uF,20%,16V,GP,TP,8x11.5,5	1	S.A	
C301	2301-000342	C-FILM,LEAD-PEF	2.2nF,5%,50V,TP,7.4x3.9x	1	S.A	
C302	2201-000192	C-CERAMIC,DISC	0.01nF,0.25pF,500V,COG,-,	1	S.A	
C303	2401-000360	C-AL	100uF,20%,50V,GP,TP,8x11.5,5	1	S.A	
C304	2401-000360	C-AL	100uF,20%,50V,GP,TP,8x11.5,5	1	S.A	
C305	2305-000289	C-FILM,LEAD-PEF	220nF,5%,63V,TP,-,5mm	1	S.A	
C306	2305-000665	C-FILM,LEAD-PEF	100nF,5%,63V,TP,7.5x4.0x	1	S.A	
C307	2201-000003	C-CERAMIC,DISC	0.068NF,10%,2KV,SL,TP,7X5	1	S.A	
C308	2401-000480	C-AL	10uF,20%,50V,GP,TP,5x11,5	1	S.A	
C401	2301-000383	C-FILM,LEAD-PEF	10nF,5%,50V,TP,6x7x3.2mm	1	S.A	
C402	2401-000302	C-AL	100uF,20%,25V,GP,TP,6.3x11,5	1	S.A	
C403	2201-000599	C-CERAMIC,DISC	0.56NF,10%,500V,Y5P,TP,5.	1	S.A	
C408	2201-000556	C-CERAMIC,DISC	0.47NF,10%,500V,Y5P,TP,5.	1	S.A	
C409	2401-001397	C-AL	470uF,20%,25V,GP,TP,10x16,5	1	S.A	
C410	2401-000038	C-AL	470uF,20%,25V,GP,TP,10x12.5mm,	1	S.A	
C411	2201-000556	C-CERAMIC,DISC	0.47NF,10%,500V,Y5P,TP,5.	1	S.A	
C412	2401-001232	C-AL	4.7uF,20%,250V,GP,TP,10x12.5,5	1	S.A	
C413	2201-000556	C-CERAMIC,DISC	0.47NF,10%,500V,Y5P,TP,5.	1	S.A	
C415	2301-001259	C-FILM,LEAD-PPF	100nF,5%,400V,TP,19x8x16	1	S.A	
C418	2305-001037	C-FILM,LEAD-PEF	330nF,5%,63V,TP,7.5x5.5x	1	S.A	
C424	2201-000132	C-CERAMIC,DISC	0.1NF,10%,500V,Y5P,TP,6.5	1	S.A	
C499	2305-000237	C-FILM,LEAD-PEF	1uF,5%,63V,TP,7.5x15.5mm	1	S.A	
C602	2305-000665	C-FILM,LEAD-PEF	100nF,5%,63V,TP,7.5x4.0x	1	S.A	
C610	2301-000289	C-FILM,LEAD-PEF	5.6nF,5%,50V,TP,7x6x3mm,	1	S.A	
C611	2301-000289	C-FILM,LEAD-PEF	5.6nF,5%,50V,TP,7x6x3mm,	1	S.A	
C612	2401-000649	C-AL	2.2uF,20%,50V,BP,TP,5x11,5	1	S.A	
C613	2401-000649	C-AL	2.2uF,20%,50V,BP,TP,5x11,5	1	S.A	
C617	2401-002291	C-AL	47uF,20%,16V,GP,TP,6.3x5,5	1	S.A	
C620	2401-000010	C-AL	220uF,20%,16V,GP,-,6.3x11mm,2.5	1	S.A	
C666	2401-000493	C-AL	10uF,20%,50V,LZ,TP,5x11mm,5mm	1	S.A	
C701	2202-000231	C-CERAMIC,MLC-AXIAL	0.33NF,10%,50V,Y5P,T	1	S.A	
C702	2202-000231	C-CERAMIC,MLC-AXIAL	0.33NF,10%,50V,Y5P,T	1	S.A	
C703	2202-000231	C-CERAMIC,MLC-AXIAL	0.33NF,10%,50V,Y5P,T	1	S.A	
C704	2202-000231	C-CERAMIC,MLC-AXIAL	0.33NF,10%,50V,Y5P,T	1	S.A	
C705	2202-000231	C-CERAMIC,MLC-AXIAL	0.33NF,10%,50V,Y5P,T	1	S.A	
C706	2202-000231	C-CERAMIC,MLC-AXIAL	0.33NF,10%,50V,Y5P,T	1	S.A	
C707	2202-000231	C-CERAMIC,MLC-AXIAL	0.33NF,10%,50V,Y5P,T	1	S.A	
C708	2202-000231	C-CERAMIC,MLC-AXIAL	0.33NF,10%,50V,Y5P,T	1	S.A	
C709	2202-000231	C-CERAMIC,MLC-AXIAL	0.33NF,10%,50V,Y5P,T	1	S.A	
C710	2202-000231	C-CERAMIC,MLC-AXIAL	0.33NF,10%,50V,Y5P,T	1	S.A	
C711	2401-003036	C-AL	100uF,20%,16V,GP,TP,5X11mm,5mm	1	S.A	
C712	2401-002291	C-AL	47uF,20%,16V,GP,TP,6.3x5,5	1	S.A	
C800	2401-002128	C-AL	220uF,20%,400V,GP,BK,25x40mm,10	1	S.A	
C807	2303-000147	C-FILM,LEAD-PPF	1NF,5%,2KV,TP,23X13X8MM,	1	S.A	
C808	2401-001576	C-AL	47uF,20%,50V,GP,TP,8x11.5,5mm	1	S.A	
C809	2201-000732	C-CERAMIC,DISC	0.68NF,10%,1KV,Y5P,TP,7X4	1	S.A	
C810	2301-000383	C-FILM,LEAD-PEF	10nF,5%,50V,TP,6x7x3.2mm	1	S.A	
C811	2401-002463	C-AL	470uF,20%,16V,GP,TP,8x11.5,5	1	S.A	
C812	2401-002075	C-AL	4.7uF,20%,50V,GP,TP,5x11,5	1	S.A	
C815	2401-002463	C-AL	470uF,20%,16V,GP,TP,8x11.5,5	1	S.A	
C817	2401-000703	C-AL	2200uF,20%,25V,GP,-,12.5x25mm,	1	S.A	

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C818	2201-000930	C-CERAMIC,DISC	0.22NF,10%,500V,Y5P,TP,5.	1	S.A	
C819	2401-003578	C-AL	1000uF,20%,10V,GP,TP,8x20mm,5	1	S.A	
C821	2401-000262	C-AL	100uF,20%,160V,HR,TP,16x25,7.5	1	S.A	
C822	2401-000262	C-AL	100uF,20%,160V,HR,TP,16x25,7.5	1	S.A	
C823	2201-000930	C-CERAMIC,DISC	0.22NF,10%,500V,Y5P,TP,5.	1	S.A	
C824	2305-000289	C-FILM,LEAD-PEF	220nF,5%,63V,TP,-,5mm	1	S.A	
C828	2201-000374	C-CERAMIC,DISC	0.22NF,5%,50V,COG,TP,10.5	1	S.A	
C843	2301-000192	C-FILM,LEAD-PEF	1nF,5%,50V,TP,5.3x10mm,5	1	S.A	
C844	2301-000356	C-FILM,LEAD-PEF	47nF,5%,50V,TP,7.5x4.0x6	1	S.A	
C845	2201-000930	C-CERAMIC,DISC	0.22NF,10%,500V,Y5P,TP,5.	1	S.A	
C846	2401-003555	C-AL	3300uF,20%,25V,WT,TP,16x25,7.5	1	S.A	
C881	2401-000603	C-AL	1UF,20%,50V,GP,TP,5X11,2	1	S.A	
C888	2201-000556	C-CERAMIC,DISC	0.47NF,10%,500V,Y5P,TP,5.	1	S.A	
C901	2401-002144	C-AL	47uF,20%,16V,GP,TP,5x11,5	1	S.A	
C902	2401-002619	C-AL	47uF,20%,25V,GP,TP,5x11,5	1	S.A	
C904	2202-000796	C-CERAMIC,MLC-AXIAL	1NF,10%,50V,Y5P,TP,3	1	S.A	
C905	2401-002463	C-AL	470uF,20%,16V,GP,TP,8x11.5,5	1	S.A	
CIS1	0205-001154	OIL-SILICON	G746,-,-	0.1	S.N.A	
CIS1	0205-001154	OIL-SILICON	G746,-,-	0.1	S.N.A	
CIS1	0205-001154	OIL-SILICON	G746,-,-	0.1	S.N.A	
CIS1	0205-001154	OIL-SILICON	G746,-,-	0.5	S.N.A	
CIS1	0205-001154	OIL-SILICON	G746,-,-	0.2	S.N.A	
CIS1	0205-001154	OIL-SILICON	G746,-,-	0.2	S.N.A	
CIS1	0205-001154	OIL-SILICON	G746,-,-	0.1	S.N.A	
CIS3	AA40-00016A	TUNER	TDQ-6F/13F2S,NTSC,181CH,45.75MHZ,7	1	S.A	
CN330	3711-000577	HEADER-BOARD TO CABLE	BOX,10P,1R,2.5MM,S	1	S.A	
CN330	3711-002642	HEADER-BOARD TO CABLE	BOX,3P,1R,2.5mm,ST	1	S.A	
CN330	3711-002644	HEADER-BOARD TO CABLE	BOX,5P,1R,2.5mm,ST	1	S.A	
CN330	3711-002647	HEADER-BOARD TO CABLE	BOX,8P,1R,2.5mm,ST	1	S.A	
CN330	3711-003043	HEADER-BOARD TO CABLE	BOX,4P,1R,2.5MM,ST	1	S.A	
CN909	AA37-00001A	CONNECTOR-FBT FIX PIN	JM-3500,CPTTV,0.36	1	S.A	
△ CR403S	2301-001041	C-FILM,LEAD-PPF	15nF,5%,1.6KV,TP,29x14x2	1	S.A	
△ CR404S	2303-001001	C-FILM,LEAD-PPF	22nF,5%,630V,TP,18x14.5x	1	S.A	
△ CR406S	2306-000172	C-FILM,LEAD-PPF	270nF,5%,400V,BK,26.5x19	1	S.A	
△ CX801S	2306-000321	C-FILM,LEAD-PPF	470NF,20%,275V,BK,31X11X	1	S.A	
△ CY802S	2201-000987	C-CERAMIC,DISC	2.2NF,20%,400V,Y5U,BK,12.	1	S.A	
D201	0401-000005	DIODE-SWITCHING	1N4148,75V,150mA,DO-35,T	1	S.A	
D211	0401-000005	DIODE-SWITCHING	1N4148,75V,150mA,DO-35,T	1	S.A	
D240	0401-000005	DIODE-SWITCHING	1N4148,75V,150mA,DO-35,T	1	S.A	
D241	0401-000005	DIODE-SWITCHING	1N4148,75V,150mA,DO-35,T	1	S.A	
D242	0401-000005	DIODE-SWITCHING	1N4148,75V,150mA,DO-35,T	1	S.A	
D303	0402-000546	DIODE-RECTIFIER	TVR10G,400V,1A,DO-41,TP	1	S.A	
D402	0402-000132	DIODE-RECTIFIER	1N4004,400V,1A,DO-41,TP	1	S.A	
D403	0402-000132	DIODE-RECTIFIER	1N4004,400V,1A,DO-41,TP	1	S.A	
D404	0402-001599	DIODE-RECTIFIER	DGP30L,1500,3A,DO-201AD(1	S.A	
D405	0402-000534	DIODE-RECTIFIER	RG10V,400V,1.2A,DO-201,T	1	S.A	
D406	0402-000540	DIODE-RECTIFIER	RU20A,600V,1.5A,-,TP	1	S.A	
D407	0402-000540	DIODE-RECTIFIER	RU20A,600V,1.5A,-,TP	1	S.A	
D408	0402-001295	DIODE-RECTIFIER	GUR460L-5700,600V,4A,DO-	1	S.A	
△ D801S	0402-001477	DIODE-BRIDGE	GSIB460,600V,4A,SIP-4,ST	1	S.A	
D803	0402-000546	DIODE-RECTIFIER	TVR10G,400V,1A,DO-41,TP	1	S.A	
D804	0401-000006	DIODE-SWITCHING	BAV21,250V,200mA,DO-35,T	1	S.A	
D805	0401-000006	DIODE-SWITCHING	BAV21,250V,200mA,DO-35,T	1	S.A	
D807	0402-000493	DIODE-RECTIFIER	1R5GU41,400V,1.5A,DO-15L	1	S.A	
D809A	0402-001604	DIODE-RECTIFIER	MUR420,200V,4A,DO-201AD,	1	S.A	
D811	0402-001603	DIODE-RECTIFIER	MUR480E,800V,4A,DO-201AD	1	S.A	
D813	0402-001604	DIODE-RECTIFIER	MUR420,200V,4A,DO-201AD,	1	S.A	
D901	0401-000005	DIODE-SWITCHING	1N4148,75V,150mA,DO-35,T	1	S.A	
DZ201	0403-000717	DIODE-ZENER	MTZJ5.1B,4.94-5.2V,500mW,DO-	1	S.A	
DZ202	0403-000720	DIODE-ZENER	MTZJ9.1B,8.57-9.01V,500mW,DO	1	S.A	
DZ203	0403-000717	DIODE-ZENER	MTZJ5.1B,4.94-5.2V,500mW,DO-	1	S.A	
DZ204	0403-000508	DIODE-ZENER	MTZJ5.6B,5.45-5.73V,500mW,DO	1	S.A	
DZ205	0403-000508	DIODE-ZENER	MTZJ5.6B,5.45-5.73V,500mW,DO	1	S.A	
DZ242	0403-000717	DIODE-ZENER	MTZJ5.1B,4.94-5.2V,500mW,DO-	1	S.A	
DZ244	0403-000508	DIODE-ZENER	MTZJ5.6B,5.45-5.73V,500mW,DO	1	S.A	
DZ246	0403-000714	DIODE-ZENER	MTZJ3.3B,3.32-3.53V,500mW,DO	1	S.A	
DZ301	0403-001329	DIODE-ZENER	MTZJ24B,22.75-23.73V,500mW,D	1	S.A	
DZ302	0403-001329	DIODE-ZENER	MTZJ24B,22.75-23.73V,500mW,D	1	S.A	

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DZ303	0403-001221	DIODE-ZENER	UZ39BSB,35.36-37.19V,500mW,D	1	S.A	
DZ306	0403-000700	DIODE-ZENER	TZP33A,5%,1000mW,DO-41,TP	1	S.A	
DZ403	0401-000005	DIODE-SWITCHING	1N4148,75V,150mA,DO-35,T	1	S.A	
DZ605	0403-000508	DIODE-ZENER	MTZJ5.6B,5.45-5.73V,500mW,DO	1	S.A	
DZ702	0403-000720	DIODE-ZENER	MTZJ9.1B,8.57-9.01V,500mW,DO	1	S.A	
DZ703	0403-000720	DIODE-ZENER	MTZJ9.1B,8.57-9.01V,500mW,DO	1	S.A	
DZ704	0403-000720	DIODE-ZENER	MTZJ9.1B,8.57-9.01V,500mW,DO	1	S.A	
DZ807	0403-000718	DIODE-ZENER	MTZJ6.8B,6.52-6.79V,500mW,DO	1	S.A	
DZ810	0403-000508	DIODE-ZENER	MTZJ5.6B,5.45-5.73V,500mW,DO	1	S.A	
DZ811	0403-000700	DIODE-ZENER	TZP33A,5%,1000mW,DO-41,TP	1	S.A	
DZ812	0403-000700	DIODE-ZENER	TZP33A,5%,1000mW,DO-41,TP	1	S.A	
DZ813	0403-000720	DIODE-ZENER	MTZJ9.1B,8.57-9.01V,500mW,DO	1	S.A	
DZ814	0403-001320	DIODE-ZENER	MTZJ6.2C,6.16-6.4V,500mW,DO-	1	S.A	
DZ815	0403-001321	DIODE-ZENER	MTZJ6.8C,6.7-6.97V,500mW,DO-	1	S.A	
DZ816	0401-000005	DIODE-SWITCHING	1N4148,75V,150mA,DO-35,T	1	S.A	
DZ817	0403-001322	DIODE-ZENER	MTZJ8.2B,7.78-8.19V,500mW,DO	1	S.A	
DZ818	0403-001322	DIODE-ZENER	MTZJ8.2B,7.78-8.19V,500mW,DO	1	S.A	
DZ901	0403-000508	DIODE-ZENER	MTZJ5.6B,5.45-5.73V,500mW,DO	1	S.A	
DZ902	0403-000717	DIODE-ZENER	MTZJ5.1B,4.94-5.2V,500mW,DO-	1	S.A	
DZ903	0403-000508	DIODE-ZENER	MTZJ5.6B,5.45-5.73V,500mW,DO	1	S.A	
DZ904	0403-000714	DIODE-ZENER	MTZJ3.3B,3.32-3.53V,500mW,DO	1	S.A	
DZ905	0403-001220	DIODE-ZENER	UZ2.7BSB,2.7-2.9V,500mW,DO-3	1	S.A	
EL101	6042-000001	EYELET	ID2.2,OD2.7,L3.1,Ni+SN,BSP3-1/2H	1	S.N.A	
EL102	6042-000001	EYELET	ID2.2,OD2.7,L3.1,Ni+SN,BSP3-1/2H	1	S.N.A	
EL103	6042-000001	EYELET	ID2.2,OD2.7,L3.1,Ni+SN,BSP3-1/2H	1	S.N.A	
EL104	6042-000001	EYELET	ID2.2,OD2.7,L3.1,Ni+SN,BSP3-1/2H	1	S.N.A	
EL105	6042-000001	EYELET	ID2.2,OD2.7,L3.1,Ni+SN,BSP3-1/2H	1	S.N.A	
EL107	6042-000001	EYELET	ID2.2,OD2.7,L3.1,Ni+SN,BSP3-1/2H	1	S.N.A	
EL108	6042-000001	EYELET	ID2.2,OD2.7,L3.1,Ni+SN,BSP3-1/2H	1	S.N.A	
EY101	6042-000002	EYELET	ID1.5,OD2,L2.8,Ni+SN,BSP3-1/2H	1	S.A	
EY102	6042-000002	EYELET	ID1.5,OD2,L2.8,Ni+SN,BSP3-1/2H	1	S.A	
EY103	6042-000002	EYELET	ID1.5,OD2,L2.8,Ni+SN,BSP3-1/2H	1	S.A	
EY104	6042-000002	EYELET	ID1.5,OD2,L2.8,Ni+SN,BSP3-1/2H	1	S.A	
EY105	6042-000002	EYELET	ID1.5,OD2,L2.8,Ni+SN,BSP3-1/2H	1	S.A	
EY106	6042-000002	EYELET	ID1.5,OD2,L2.8,Ni+SN,BSP3-1/2H	1	S.A	
EY107	6042-000002	EYELET	ID1.5,OD2,L2.8,Ni+SN,BSP3-1/2H	1	S.A	
EY108	6042-000002	EYELET	ID1.5,OD2,L2.8,Ni+SN,BSP3-1/2H	1	S.A	
EY109	6042-000002	EYELET	ID1.5,OD2,L2.8,Ni+SN,BSP3-1/2H	1	S.A	
EY110	6042-000002	EYELET	ID1.5,OD2,L2.8,Ni+SN,BSP3-1/2H	1	S.A	
EY111	6042-000002	EYELET	ID1.5,OD2,L2.8,Ni+SN,BSP3-1/2H	1	S.A	
EY112	6042-000002	EYELET	ID1.5,OD2,L2.8,Ni+SN,BSP3-1/2H	1	S.A	
EY113	6042-000002	EYELET	ID1.5,OD2,L2.8,Ni+SN,BSP3-1/2H	1	S.A	
EY114	6042-000002	EYELET	ID1.5,OD2,L2.8,Ni+SN,BSP3-1/2H	1	S.A	
EY115	6042-000002	EYELET	ID1.5,OD2,L2.8,Ni+SN,BSP3-1/2H	1	S.A	
EY116	6042-000002	EYELET	ID1.5,OD2,L2.8,Ni+SN,BSP3-1/2H	1	S.A	
EY117	6042-000002	EYELET	ID1.5,OD2,L2.8,Ni+SN,BSP3-1/2H	1	S.A	
EY118	6042-000002	EYELET	ID1.5,OD2,L2.8,Ni+SN,BSP3-1/2H	1	S.A	
EY119	6042-000002	EYELET	ID1.5,OD2,L2.8,Ni+SN,BSP3-1/2H	1	S.A	
EY120	6042-000002	EYELET	ID1.5,OD2,L2.8,Ni+SN,BSP3-1/2H	1	S.A	
EY121	6042-000002	EYELET	ID1.5,OD2,L2.8,Ni+SN,BSP3-1/2H	1	S.A	
EY122	6042-000002	EYELET	ID1.5,OD2,L2.8,Ni+SN,BSP3-1/2H	1	S.A	
EY123	6042-000002	EYELET	ID1.5,OD2,L2.8,Ni+SN,BSP3-1/2H	1	S.A	
EY126	6042-000002	EYELET	ID1.5,OD2,L2.8,Ni+SN,BSP3-1/2H	1	S.A	
EY127	6042-000002	EYELET	ID1.5,OD2,L2.8,Ni+SN,BSP3-1/2H	1	S.A	
EY128	6042-000002	EYELET	ID1.5,OD2,L2.8,Ni+SN,BSP3-1/2H	1	S.A	
EY129	6042-000002	EYELET	ID1.5,OD2,L2.8,Ni+SN,BSP3-1/2H	1	S.A	
EY130	6042-000002	EYELET	ID1.5,OD2,L2.8,Ni+SN,BSP3-1/2H	1	S.A	
EY133	6042-000002	EYELET	ID1.5,OD2,L2.8,Ni+SN,BSP3-1/2H	1	S.A	
EY134	6042-000002	EYELET	ID1.5,OD2,L2.8,Ni+SN,BSP3-1/2H	1	S.A	
EY135	6042-000002	EYELET	ID1.5,OD2,L2.8,Ni+SN,BSP3-1/2H	1	S.A	
EY136	6042-000002	EYELET	ID1.5,OD2,L2.8,Ni+SN,BSP3-1/2H	1	S.A	
EY137	6042-000002	EYELET	ID1.5,OD2,L2.8,Ni+SN,BSP3-1/2H	1	S.A	
EY138	6042-000002	EYELET	ID1.5,OD2,L2.8,Ni+SN,BSP3-1/2H	1	S.A	
EY139	6042-000002	EYELET	ID1.5,OD2,L2.8,Ni+SN,BSP3-1/2H	1	S.A	
EY140	6042-000002	EYELET	ID1.5,OD2,L2.8,Ni+SN,BSP3-1/2H	1	S.A	
EY141	6042-000002	EYELET	ID1.5,OD2,L2.8,Ni+SN,BSP3-1/2H	1	S.A	
EY142	6042-000002	EYELET	ID1.5,OD2,L2.8,Ni+SN,BSP3-1/2H	1	S.A	
EY143	6042-000002	EYELET	ID1.5,OD2,L2.8,Ni+SN,BSP3-1/2H	1	S.A	

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Loc. No.	Code No.	Description	Specification	Q'ty	SA/SNA	Remark
EY144	6042-000002	EYELET	ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	1	S.A	
EY145	6042-000002	EYELET	ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	1	S.A	
EY146	6042-000002	EYELET	ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	1	S.A	
EY147	6042-000002	EYELET	ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	1	S.A	
EY148	6042-000002	EYELET	ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	1	S.A	
EY149	6042-000002	EYELET	ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	1	S.A	
EY150	6042-000002	EYELET	ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	1	S.A	
EY151	6042-000002	EYELET	ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	1	S.A	
EY152	6042-000002	EYELET	ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	1	S.A	
EY153	6042-000002	EYELET	ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	1	S.A	
EY154	6042-000002	EYELET	ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	1	S.A	
EY155	6042-000002	EYELET	ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	1	S.A	
EY156	6042-000002	EYELET	ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	1	S.A	
EY157	6042-000002	EYELET	ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	1	S.A	
EY158	6042-000002	EYELET	ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	1	S.A	
EY159	6042-000002	EYELET	ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	1	S.A	
EY160	6042-000002	EYELET	ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	1	S.A	
EY161	6042-000002	EYELET	ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	1	S.A	
EY162	6042-000002	EYELET	ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	1	S.A	
EY165	6042-000002	EYELET	ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	1	S.A	
EY171	6042-000002	EYELET	ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	1	S.A	
EY172	6042-000002	EYELET	ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	1	S.A	
EY173	6042-000002	EYELET	ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	1	S.A	
EY174	6042-000002	EYELET	ID1.5,OD2,L2.8,NI+SN,BSP3-1/2H	1	S.A	
F101	2901-000297	FILTER-EMI ON BOARD	-,3A,-,3.5x5mm,TP,-	1	S.A	
F101	2901-000297	FILTER-EMI ON BOARD	-,3A,-,3.5x5mm,TP,-	1	S.A	
F801A	3602-000001	FUSE-CLIP	-,30mohm	1	S.A	
F801B	3602-000001	FUSE-CLIP	-,30mohm	1	S.A	
FD801A	3601-001228	FUSE-AXIAL LEAD	125V,10A,FAST-ACTING,EPO	1	S.A	
FD802	3601-000281	FUSE-CARTRIDGE	250V,4A,TIME-LAG,GLASS,5.	1	S.A	
△ FD802S	3601-001163	FUSE-AXIAL LEAD	125V,7A,-,EPOXY,2.4X7.1M	1	S.A	
△ FD803S	3601-001163	FUSE-AXIAL LEAD	125V,7A,-,EPOXY,2.4X7.1M	1	S.A	
GT101	BH71-40300A	PIN-HINGE	BRASS,D2.36!,HEAT/SINK,SN	1	S.N.A	
GT102	BH71-40300A	PIN-HINGE	BRASS,D2.36!,HEAT/SINK,SN	1	S.N.A	
GT103	BH71-40300A	PIN-HINGE	BRASS,D2.36!,HEAT/SINK,SN	1	S.N.A	
GT301	AA60-40012F	PIN-GT	4P,2.36PI,6/12/14mm,NYLON66,LOCKI	1	S.N.A	
GT801	AA60-40012G	PIN-GT	3P,2.36PI,10/5mm,NYLON66,LOCKING	1	S.N.A	
GT804	BH71-40300A	PIN-HINGE	BRASS,D2.36!,HEAT/SINK,SN	1	S.N.A	
GT805	BH71-40300A	PIN-HINGE	BRASS,D2.36!,HEAT/SINK,SN	1	S.N.A	
IC012	1203-001217	IC-POSI.ADJUST REG.	431,TO-92,3P,4.58MIL	1	S.A	
IC063	AA13-00116A	IC HYBRID	STR-W6750F,6,-20 to +115,TO-3P	1	S.A	
IC112	1103-001171	IC-EEPROM	24C161,2Kx8,DIP,8P,9.2x6.4mm,2	1	S.A	
IC202	1203-001943	IC-VOL. DETECTOR	7025,TO-92,3P,-,PLASTIC	1	S.A	
IC301	AA96-00623J	ASSY HEAT SINK P	AA62-00056A,SCREW,LA781	1	S.N.A	
IC602	AA96-04919A	ASSY HEAT SINK P	AA62-00161A,SCREW,LA420	1	S.N.A	
△ IC801S	AA96-50371T	ASSY HEAT SINK P	AA62-30181H,SCREW,STR-W	1	S.N.A	
IC802	AA96-00243Q	ASSY HEAT SINK P	SCREW,AA62-00045A,1203-	1	S.N.A	
IC804	AA96-00243K	ASSY HEAT SINK P	-,REGULATOR,AA62-000450	1	S.N.A	
ICV01	2904-001196	FILTER-SAW AV	44MHZ,SIP5K,ST,16.2DB,-,42	1	S.A	
ICV201	AA09-00463B	IC MICOM MTP	VCT4822,VCT49X3F-PY,F1,CT-2	1	S.N.A	
JA333	3722-001333	JACK-PIN	9P,NI,BLK,ANGLE	1	S.A	
JA333	3722-002556	JACK-PIN	3P,NI+Sn,GRN/BLU/RED,ANGLE	1	S.A	
L101	2701-000114	INDUCTOR-AXIAL	10UH,10%,2534	1	S.A	
L107	2701-000114	INDUCTOR-AXIAL	10UH,10%,2534	1	S.A	
L201	2701-000115	INDUCTOR-AXIAL	10UH,10%,3070	1	S.A	
L202	2701-000116	INDUCTOR-AXIAL	10UH,10%,4298	1	S.A	
L203	2701-000115	INDUCTOR-AXIAL	10UH,10%,3070	1	S.A	
L205	2701-000114	INDUCTOR-AXIAL	10UH,10%,2534	1	S.A	
L208	2701-000142	INDUCTOR-AXIAL	1UH,10%,2534	1	S.A	
L241	2701-000142	INDUCTOR-AXIAL	1UH,10%,2534	1	S.A	
L244	2701-000143	INDUCTOR-AXIAL	1UH,10%,3070	1	S.A	
L247	2701-000142	INDUCTOR-AXIAL	1UH,10%,2534	1	S.A	
L248	2702-001094	INDUCTOR-RADIAL	10uH,10%,4x6mm	1	S.A	
L2514	3301-000287	BEAD-AXIAL	,3.5x1.0x6.0mm,3000mA,TP,,50	1	S.N.A	
L2514	3301-000287	BEAD-AXIAL	,3.5x1.0x6.0mm,3000mA,TP,,50	1	S.N.A	
L2514	3301-000287	BEAD-AXIAL	,3.5x1.0x6.0mm,3000mA,TP,,50	1	S.N.A	
L2514	3301-000287	BEAD-AXIAL	,3.5x1.0x6.0mm,3000mA,TP,,50	1	S.N.A	
L2514	3301-000287	BEAD-AXIAL	,3.5x1.0x6.0mm,3000mA,TP,,50	1	S.N.A	

Loc. No.	Code No.	Description	Specification	Q'ty	SA/SNA	Remark
L2514	3301-000287	BEAD-AXIAL	,3.5x1.0x6.0mm,3000mA,TP,,50	1	S.N.A	
L2514	3301-000287	BEAD-AXIAL	,3.5x1.0x6.0mm,3000mA,TP,,50	1	S.N.A	
L2514	3301-000287	BEAD-AXIAL	,3.5x1.0x6.0mm,3000mA,TP,,50	1	S.N.A	
L2514	3301-000287	BEAD-AXIAL	,3.5x1.0x6.0mm,3000mA,TP,,50	1	S.N.A	
L256	2701-001040	INDUCTOR-AXIAL	10UH,10%,4514	1	S.A	
L302B	2701-001040	INDUCTOR-AXIAL	10UH,10%,4514	1	S.A	
L303B	2701-001034	INDUCTOR-AXIAL	22UH,10%,4514	1	S.A	
L424	2701-000142	INDUCTOR-AXIAL	1UH,10%,2534	1	S.A	
L701	2701-000177	INDUCTOR-AXIAL	33UH,10%,2534	1	S.A	
L702	2701-000177	INDUCTOR-AXIAL	33UH,10%,2534	1	S.A	
L703	2701-000177	INDUCTOR-AXIAL	33UH,10%,2534	1	S.A	
L704	2701-000177	INDUCTOR-AXIAL	33UH,10%,2534	1	S.A	
L705	2701-000177	INDUCTOR-AXIAL	33UH,10%,2534	1	S.A	
L706	2701-000177	INDUCTOR-AXIAL	33UH,10%,2534	1	S.A	
L707	2001-000281	R-CARBON	100OHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
L708	2001-000281	R-CARBON	100OHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
L709	2001-000281	R-CARBON	100OHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
L808	2701-001030	INDUCTOR-AXIAL	43UH,10%,4514	1	S.A	
L902	2701-000158	INDUCTOR-AXIAL	22UH,10%,2534	1	S.A	
L903	2701-000115	INDUCTOR-AXIAL	10UH,10%,3070	1	S.A	
LD901	AA96-30001C	ASSY LED GUIDE	-,AA61-50055A,DL-G7RA,-	1	S.N.A	
△ LX801S	AA29-00021A	FILTER LINE NOISE	SQE2222,18mH,0.25ohm,1	1	S.A	
M0014	AA94-16289A	ASSY PCB MAIN	CL21Z50MQ3XRCL,VALIANT	1	S.A	
M0014	AA97-17227A	ASSY AUTO-MAIN	CL21Z50MQ3XRCL,VALIANT	1	S.N.A	
M0018	AA97-17254A	ASSY MICOM	T-VALNKU-1001,-,-,-,-,-,-,-,V	1	S.N.A	
M0081	6003-000335	SCREW-TAPTITE	RH,+,-,2S,M3,L8,ZPC(WHT),S	1	S.N.A	
M0081	6003-000335	SCREW-TAPTITE	RH,+,-,2S,M3,L8,ZPC(WHT),S	1	S.N.A	
M0081	6003-000334	SCREW-TAPTITE	RH,+,-,2S,M3,L6,ZPC(WHT),S	1	S.N.A	
M0081	6003-000333	SCREW-TAPTITE	RH,+,-,2S,M3,L10,ZPC(WHT),	1	S.N.A	
M0081	6003-000333	SCREW-TAPTITE	RH,+,-,2S,M3,L10,ZPC(WHT),	1	S.N.A	
M0081	6003-000333	SCREW-TAPTITE	RH,+,-,2S,M3,L10,ZPC(WHT),	1	S.N.A	
M0081	6003-000333	SCREW-TAPTITE	RH,+,-,2S,M3,L10,ZPC(WHT),	1	S.N.A	
P803T	1404-001265	THERMISTOR-PTC	4.5OHM/100OHM,+30/-20%,22	1	S.A	
△ PC801S	0604-001032	PHOTO-COUPLER	TR,170-260%,300mW,DIP-4,ST	1	S.A	
Q201	0501-000010	TR-SMALL SIGNAL	KSC1008,NPN,800mW,TO-92,	1	S.A	
Q401	AA96-04920A	ASSY HEAT SINK P	AA62-00162A,SCREW,TT222	1	S.N.A	
Q402A	0501-000369	TR-SMALL SIGNAL	KSC2331-Y,NPN,1000mW,TO-	1	S.A	
Q404	AA96-04922A	ASSY HEAT SINK P	AA62-00164A,SCREW,KHB63	1	S.N.A	
Q409	0505-001288	FET-SILICON	KHB9D5N20P,N,200V,9.5A,0.4oh	1	S.A	
Q409	0505-000109	FET-SILICON	2N7000,N,60V,200mA,5ohm,400m	1	S.A	
Q409	0505-000109	FET-SILICON	2N7000,N,60V,200mA,5ohm,400m	1	S.A	
Q409	0505-000109	FET-SILICON	2N7000,N,60V,200mA,5ohm,400m	1	S.A	
Q701	0501-000283	TR-SMALL SIGNAL	KSA539,PNP,400mW,TO-92,T	1	S.A	
Q702	0501-000389	TR-SMALL SIGNAL	KSC815,NPN,400mW,TO-92,T	1	S.A	
Q805	0501-000389	TR-SMALL SIGNAL	KSC815,NPN,400mW,TO-92,T	1	S.A	
Q806	0501-000389	TR-SMALL SIGNAL	KSC815,NPN,400mW,TO-92,T	1	S.A	
Q808	0501-000010	TR-SMALL SIGNAL	KSC1008,NPN,800mW,TO-92,	1	S.A	
QV02	0501-000283	TR-SMALL SIGNAL	KSA539,PNP,400mW,TO-92,T	1	S.A	
QV03	0501-000283	TR-SMALL SIGNAL	KSA539,PNP,400mW,TO-92,T	1	S.A	
QV06	0501-000389	TR-SMALL SIGNAL	KSC815,NPN,400mW,TO-92,T	1	S.A	
QV07	0501-000389	TR-SMALL SIGNAL	KSC815,NPN,400mW,TO-92,T	1	S.A	
QV09	0501-000283	TR-SMALL SIGNAL	KSA539,PNP,400mW,TO-92,T	1	S.A	
QV201	0501-000283	TR-SMALL SIGNAL	KSA539,PNP,400mW,TO-92,T	1	S.A	
R201	2001-000832	R-CARBON	510OHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R202	2001-000832	R-CARBON	510OHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R203	2001-000832	R-CARBON	510OHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R204	2001-000832	R-CARBON	510OHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R205	2001-000613	R-CARBON	3.9KOHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R206	2001-000613	R-CARBON	3.9KOHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R207	2001-000008	R-CARBON	15KOHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R208	2001-000281	R-CARBON	100OHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R209	2001-000995	R-CARBON	820OHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R210	2001-000734	R-CARBON	4.7KOHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R211	2001-000977	R-CARBON	8.2KOHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R212	2001-000666	R-CARBON	33OHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R213	2001-000273	R-CARBON	100KOHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R214	2001-000989	R-CARBON	820KOHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R216	2001-000281	R-CARBON	100OHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	

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Loc. No.	Code No.	Description	Specification	Q'ty	SA/SNA	Remark
R217	2001-000281	R-CARBON	100OHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R218	2001-000969	R-CARBON	75OHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R219	2001-000554	R-CARBON	270OHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R220	2001-000232	R-CARBON	1.3KOHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R221	2001-000429	R-CARBON	1KOHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R223	2001-000281	R-CARBON	100OHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R240	2001-000221	R-CARBON	1.2KOHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R241	2001-000878	R-CARBON	6.2KOHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R242	2001-000666	R-CARBON	33OHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R244	2001-000890	R-CARBON	6.8KOHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R245	2001-000666	R-CARBON	33OHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R246	2001-000362	R-CARBON	150OHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R247	2001-000591	R-CARBON	3.3KOHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R248	2001-000977	R-CARBON	8.2KOHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R249	2001-000429	R-CARBON	1KOHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R250	2001-000020	R-CARBON(S)	22OHM,5%,1/2W,AA,TP,2.4X6.4M	1	S.A	
R251	2001-000281	R-CARBON	100OHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R252	2001-000429	R-CARBON	1KOHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R253	2001-000780	R-CARBON	470OHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R254	2001-000938	R-CARBON	68OHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R255	2001-000449	R-CARBON	2.2KOHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R256	2001-000554	R-CARBON	270OHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R258	2001-000221	R-CARBON	1.2KOHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R259	2001-000290	R-CARBON	10KOHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R260	2001-000780	R-CARBON	470OHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R261	2001-000281	R-CARBON	100OHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R262	2001-000362	R-CARBON	150OHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R264	2001-000362	R-CARBON	150OHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R265	2001-000020	R-CARBON(S)	22OHM,5%,1/2W,AA,TP,2.4X6.4M	1	S.A	
R266	2001-000449	R-CARBON	2.2KOHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R268	2001-000429	R-CARBON	1KOHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R270	2001-000290	R-CARBON	10KOHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R273	2001-000924	R-CARBON	680OHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R274	2001-000281	R-CARBON	100OHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R276	2001-000281	R-CARBON	100OHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R277	2001-000780	R-CARBON	470OHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R302	2004-001984	R-METAL(S)	26.7Kohm,1%,1/2W,AA,TP,2.4x6.	1	S.A	
R304	2003-000437	R-METAL OXIDE(S)	1.5ohm,5%,2W,AF,TP,4x12	1	S.A	
R305	2003-002070	R-METAL OXIDE	1ohm,5%,2W,AF,TP,3.9x10mm	1	S.A	
R306	2001-000016	R-CARBON(S)	1OHM,5%,1/2W,AA,TP,2.4X6.4MM	1	S.A	
R309	2003-000652	R-METAL OXIDE(S)	330ohm,5%,2W,AF,TP,4x12	1	S.A	
R310	2003-002009	R-METAL OXIDE(S)	390ohm,5%,2W,AF,TP,3.9x	1	S.A	
R311	2001-000290	R-CARBON	10KOHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R314	2004-005054	R-METAL(S)	39KOHM,1%,1/2W,AA,TP,2.4X6.4M	1	S.A	
R315	2004-005054	R-METAL(S)	39KOHM,1%,1/2W,AA,TP,2.4X6.4M	1	S.A	
R316	2004-001397	R-METAL(S)	4.7Kohm,1%,1/2W,AA,TP,2.4x6.4	1	S.A	
R401	2001-001153	R-CARBON(S)	47ohm,5%,1/2W,AA,TP,2.4x6.4m	1	S.A	
R402	2001-001153	R-CARBON(S)	47ohm,5%,1/2W,AA,TP,2.4x6.4m	1	S.A	
R404	2001-001114	R-CARBON(S)	270OHM,5%,1/2W,AA,TP,2.4X6.4	1	S.A	
R405	2001-000020	R-CARBON(S)	22OHM,5%,1/2W,AA,TP,2.4X6.4M	1	S.A	
R406	2004-001390	R-METAL(S)	1Kohm,2%,1/2W,AA,TP,2.4x6.4mm	1	S.A	
R407	2004-002022	R-METAL(S)	51Kohm,1%,1/2W,AA,TP,2.4x6.4m	1	S.A	
R408	2004-000412	R-METAL	18Kohm,1%,1/4W,AA,TP,2.4x6.4mm	1	S.A	
R409	2004-001402	R-METAL(S)	6.8Kohm,1%,1/2W,AA,TP,2.4x6.4	1	S.A	
R410	2001-000890	R-CARBON	6.8KOHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R411	2004-001377	R-METAL(S)	120Kohm,1%,1/2W,AA,TP,2.4x6.4	1	S.A	
R413	2008-000253	R-FUSIBLE(S)	0.47ohm,5%,1W,AF,TP,3.9x10m	1	S.A	
R414	2008-000253	R-FUSIBLE(S)	0.47ohm,5%,1W,AF,TP,3.9x10m	1	S.A	
R418	2008-001137	R-FUSIBLE(S)	3.3ohm,5%,1W,AF,TP,3.9x10mm	1	S.A	
R423	2003-000586	R-METAL OXIDE(S)	22Kohm,5%,2W,AF,TP,4x12	1	S.A	
R426	2003-002288	R-METAL OXIDE(S)	2.2KOHM,5%,2W,AF,TP,3.9	1	S.A	
R601	2001-000429	R-CARBON	1KOHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R602	2001-000290	R-CARBON	10KOHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R603	2001-001144	R-CARBON(S)	4.7KOHM,5%,1/2W,AA,TP,2.4X6.	1	S.A	
R606	2001-000591	R-CARBON	3.3KOHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R607	2001-000290	R-CARBON	10KOHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R608	2001-000290	R-CARBON	10KOHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R609	2001-000924	R-CARBON	680OHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	

Loc. No.	Code No.	Description	Specification	Q'ty	SA/SNA	Remark
R620	2001-000734	R-CARBON	4.7KOHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R621	2001-000232	R-CARBON	1.3KOHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R622	2001-000232	R-CARBON	1.3KOHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R623	2001-000429	R-CARBON	1KOHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R703	2001-000969	R-CARBON	75OHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R704	2001-000969	R-CARBON	75OHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R705	2001-000969	R-CARBON	75OHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R706	2001-000938	R-CARBON	68OHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R708	2001-000005	R-CARBON	390ohm,5%,1/8W,AA,TP,1.8x3.2mm	1	S.A	
R709	2001-000005	R-CARBON	390ohm,5%,1/8W,AA,TP,1.8x3.2mm	1	S.A	
R710	2001-000331	R-CARBON	12KOHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R711	2001-000780	R-CARBON	470OHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R712	2001-000660	R-CARBON	33KOHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R713	2001-000969	R-CARBON	75OHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R801	2001-001150	R-CARBON(S)	470KOHM,5%,1/2W,AA,TP,2.4X6.	1	S.A	
R802	2003-000586	R-METAL OXIDE(S)	22Kohm,5%,2W,AF,TP,4x12	1	S.A	
R803	2003-000586	R-METAL OXIDE(S)	22Kohm,5%,2W,AF,TP,4x12	1	S.A	
R804	2003-000586	R-METAL OXIDE(S)	22Kohm,5%,2W,AF,TP,4x12	1	S.A	
R805	2001-001088	R-CARBON(S)	1KOHM,5%,1/2W,AA,TP,2.4X6.4M	1	S.A	
R806	2001-001150	R-CARBON(S)	470KOHM,5%,1/2W,AA,TP,2.4X6.	1	S.A	
R807	2001-000037	R-CARBON(S)	330OHM,5%,1/2W,AA,TP,2.4X6.4	1	S.A	
R810	2001-001097	R-CARBON(S)	2.4KOHM,5%,1/2W,AA,TP,2.4X6.	1	S.A	
R811	2009-001010	R-METAL PLATE	0.2ohm,10%,5W,CL,TP,5x14x1	1	S.A	
R816	2004-001891	R-METAL(S)	133Kohm,1%,1/2W,AA,TP,2.5x6.5	1	S.A	
R817	2001-001088	R-CARBON(S)	1KOHM,5%,1/2W,AA,TP,2.4X6.4M	1	S.A	
R818	2001-001131	R-CARBON(S)	33KOHM,5%,1/2W,AA,TP,2.4X6.4	1	S.A	
R819	2004-001983	R-METAL(S)	2.49Kohm,1%,1/2W,AA,TP,2.4x6.	1	S.A	
R820	2001-001088	R-CARBON(S)	1KOHM,5%,1/2W,AA,TP,2.4X6.4M	1	S.A	
R821	2004-001373	R-METAL(S)	100Kohm,1%,1/2W,AA,TP,2.4x6.4	1	S.A	
R823	2003-002020	R-METAL OXIDE(S)	56Kohm,5%,2W,AF,TP,3.9x	1	S.A	
R829	2001-001078	R-CARBON(S)	15KOHM,5%,1/2W,AA,TP,2.4X6.4	1	S.A	
R830	2001-001078	R-CARBON(S)	15KOHM,5%,1/2W,AA,TP,2.4X6.4	1	S.A	
R831	2001-001078	R-CARBON(S)	15KOHM,5%,1/2W,AA,TP,2.4X6.4	1	S.A	
R833	2001-001153	R-CARBON(S)	47ohm,5%,1/2W,AA,TP,2.4x6.4m	1	S.A	
R836	2001-001138	R-CARBON(S)	390OHM,5%,1/2W,AA,TP,2.4X6.4	1	S.A	
R841	2001-000734	R-CARBON	4.7KOHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R843	2001-000020	R-CARBON(S)	22OHM,5%,1/2W,AA,TP,2.4X6.4M	1	S.A	
R881	2001-000449	R-CARBON	2.2KOHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R882	2001-000003	R-CARBON	330ohm,5%,1/8W,AA,TP,1.8x3.2mm	1	S.A	
R889	2001-001107	R-CARBON(S)	220ohm,5%,1/2W,AA,TP,2.4x6.4	1	S.A	
R895	2001-001152	R-CARBON(S)	47KOHM,5%,1/2W,AA,TP,2.4X6.4	1	S.A	
R896	2004-000412	R-METAL	18Kohm,1%,1/4W,AA,TP,2.4x6.4mm	1	S.A	
R902	2001-000005	R-CARBON	390ohm,5%,1/8W,AA,TP,1.8x3.2mm	1	S.A	
R903	2001-000347	R-CARBON	13KOHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R904	2001-000347	R-CARBON	13KOHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R906	2001-000734	R-CARBON	4.7KOHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R907	2001-000734	R-CARBON	4.7KOHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R908	2001-000281	R-CARBON	100OHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R909	2001-000281	R-CARBON	100OHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R910	2001-000429	R-CARBON	1KOHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R911	2001-000281	R-CARBON	100OHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R914	2001-000007	R-CARBON	3KOHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R915	2001-000449	R-CARBON	2.2KOHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R916	2001-000890	R-CARBON	6.8KOHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R917	2001-000347	R-CARBON	13KOHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
RM901	AA32-00015A	Module Remocon	FRP-3521H31,38KHZ,940MM,M	1	S.A	
△ RR09S	2001-000429	R-CARBON	1KOHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
△ RR10S	2001-000429	R-CARBON	1KOHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
△ RX801S	2002-000133	R-COMPOSITION	3.3Mohm,5%,1/2W,AA,TP,3.5x	1	S.A	
△ RY801S	2002-001012	R-COMPOSITION	8.2Mohm,5%,1/2W,AA,TP,3.7x	1	S.A	
T0010	AA27-00067A	COIL CHOKE	-,240uH,YL9N 12x20 C:6.0,0.12	1	S.A	
T0010	AA27-00422A	COIL CHOKE	DR 10 i _c 12 (C:6.0),I ROBOT2,	1	S.A	
T0066	AA62-00161A	HEAT SINK-ES	IROBOT2,A6063,T2.0.50*40,WH	1	S.N.A	
T0066	AA62-30181H	HEAT SINK-ES	-,AL6063 EXTR.,2,WHT,50MM,-	1	S.N.A	
T0077	AA41-01281A	PCB MAIN	VALIANT,FR-1,1L,A,1.6T,245*245,	1	S.N.A	
T0085	1201-002507	IC-AUDIO AMP	LA42032,SIP,13P,25.6x13.9mm	1	S.A	
T0087	1203-004541	IC-POSI.FIXED REG.	KIA78D33PI,TO-220IS,3	1	S.A	
T0087	1203-003954	IC-POSI.FIXED REG.	KA78R05CTU,TO-220F,4P	1	S.A	

Exploded View & Part List

Loc. No.	Code No.	Description	Specification	Q'ty	SA/SNA	Remark
T0087	1203-001944	IC-POSIFIXED REG.	78RM33,TO-220,3P,-,PL	1	S.A	
T0088	1204-002784	IC-VERTICAL PROCESSO	LA78141-E,TO220,7P,	1	S.A	
T0175	AA62-00045A	HEAT SINK-PS	-,T1.0,-,DREAM,-,-,-,-,	1	S.N.A	
T0175	AA62-00045A	HEAT SINK-PS	-,T1.0,-,DREAM,-,-,-,-,	1	S.N.A	
T0175	AA62-00056A	HEAT SINK-PS	-,T1.0,-,41*35*70,D2,-,-,	1	S.N.A	
T0175	AA62-00162A	HEAT SINK-PS	IROBOT2,A1050,T1.0,23*40,WH	1	S.N.A	
T0175	AA62-00164A	HEAT SINK-PS	IROBOT2,A1050,T1.0,41*50,WH	1	S.N.A	
T0245	0202-001492	SOLDER-WIRE FLUX	HSE-02 LFM48 SR-34 S,-,	0.025	S.N.A	
T0296	AA27-00075B	COIL LINEARITY	50uH,DR14x20,11mm,18x38mm	1	S.A	
T0313	3404-001004	SWITCH-TACT	12V,50mA,160gf,8.4x22.7mm,SP	1	S.A	
T0313	3404-001252	SWITCH-TACT	12VDC,50MA,130GF,7.5X7.1,1	1	S.A	
T0313	3404-001252	SWITCH-TACT	12VDC,50MA,130GF,7.5X7.1,1	1	S.A	
T0313	3404-001252	SWITCH-TACT	12VDC,50MA,130GF,7.5X7.1,1	1	S.A	
T0313	3404-001252	SWITCH-TACT	12VDC,50MA,130GF,7.5X7.1,1	1	S.A	
T0313	3404-001252	SWITCH-TACT	12VDC,50MA,130GF,7.5X7.1,1	1	S.A	
T0900	1404-001045	THERMISTOR-NTC	4.7ohm,4.565A,2900K,-,-,-	1	S.A	
T401	AA26-50001M	TRANS-H.DRIVE	-,,-,80mH,-,-,520uH,-,-,-	1	S.A	
T444	AA26-00291A	TRANS FBT	JF0501-91910A(FQH21A004),I ROB	1	S.A	
T801SA	AA26-00292A	TRANS SWITCHING	CT-21Z50,AC90-264V,PM7,1	1	S.N.A	
△ VP801S	1405-000187	VARISTOR	615Vdc,1250A,12.5x7mm,TP	1	S.A	
△ VX801S	1405-000187	VARISTOR	615Vdc,1250A,12.5x7mm,TP	1	S.A	
X201	2801-004019	CRYSTAL-UNIT	20.25MHz,30ppm,28-AAM,13pF,	1	S.A	
	0502-001073	TR-POWER	TT2222LS,NPN,3500mW,TO-220F,ST	1	S.A	
C501	2202-000216	C-CERAMIC,MLC-AXIAL	0.027NF,5%,50V,SL,TP	1	S.A	
C502	2202-000216	C-CERAMIC,MLC-AXIAL	0.027NF,5%,50V,SL,TP	1	S.A	
C503	2202-000216	C-CERAMIC,MLC-AXIAL	0.027NF,5%,50V,SL,TP	1	S.A	
C504	2202-000796	C-CERAMIC,MLC-AXIAL	1NF,10%,50V,Y5P,TP,3	1	S.A	
C505	2202-000796	C-CERAMIC,MLC-AXIAL	1NF,10%,50V,Y5P,TP,3	1	S.A	
C506	2401-000430	C-AL	10uF,20%,250V,GP,TP,10x16mm,5m	1	S.A	
C507	2401-000430	C-AL	10uF,20%,250V,GP,TP,10x16mm,5m	1	S.A	
C508	2201-000723	C-CERAMIC,DISC	4.7NF,20%,3KV,Y5U,TP,16X5	1	S.A	
C511	2202-000796	C-CERAMIC,MLC-AXIAL	1NF,10%,50V,Y5P,TP,3	1	S.A	
C512	2202-000263	C-CERAMIC,MLC-AXIAL	470pF,10%,50V,Y5P,TP	1	S.A	
C513	2202-000263	C-CERAMIC,MLC-AXIAL	470pF,10%,50V,Y5P,TP	1	S.A	
C514	2202-000263	C-CERAMIC,MLC-AXIAL	470pF,10%,50V,Y5P,TP	1	S.A	
CN330	3711-000577	HEADER-BOARD TO CABLE	BOX,10P,1R,2.5MM,S	1	S.A	
CR511	2002-001017	R-COMPOSITION	1Kohm,10%,1/2W,AA,TP,3.7x9	1	S.A	
D504	0402-000254	DIODE-RECTIFIER	RGP10J,600V,1A,DO-41,TP	1	S.A	
F101	2901-000297	FILTER-EMI ON BOARD	-,3A,-,3.5x5mm,TP,-	1	S.A	
GT501	BH71-40300A	PIN-HINGE	BRASS,D2.36!,HEAT/SINK,SN	1	S.N.A	
GT502	BH71-40300A	PIN-HINGE	BRASS,D2.36!,HEAT/SINK,SN	1	S.N.A	
GT503	BH71-40300A	PIN-HINGE	BRASS,D2.36!,HEAT/SINK,SN	1	S.N.A	
GT504	BH71-40300A	PIN-HINGE	BRASS,D2.36!,HEAT/SINK,SN	1	S.N.A	
L503A	2702-001092	INDUCTOR-RADIAL	2.2uH,10%,4x6mm	1	S.A	
LX085	AA27-90001B	COIL-SPARK,GAP	S-23,1.5KV,-,-,-,-,-,-,-,-,	1	S.A	
LX085	AA27-90001B	COIL-SPARK,GAP	S-23,1.5KV,-,-,-,-,-,-,-,-,	1	S.A	
LX085	AA27-90001B	COIL-SPARK,GAP	S-23,1.5KV,-,-,-,-,-,-,-,-,	1	S.A	
LX085	AA27-90001B	COIL-SPARK,GAP	S-23,1.5KV,-,-,-,-,-,-,-,-,	1	S.A	
M2893	BP39-00173B	LEAD CONNECTOR	HLP5687W,UL1007#22,UL/CSA	1	S.A	
PCB	AA41-01279A	PCB CRT	I ROBOT2,FR-4,1L,1.0,1.6T,69.5*7	1	S.N.A	
Q501	0501-000366	TR-SMALL SIGNAL	KSC2330-Y,NPN,1W,TO-92L,	1	S.A	
Q502	0501-000366	TR-SMALL SIGNAL	KSC2330-Y,NPN,1W,TO-92L,	1	S.A	
Q503	0501-000366	TR-SMALL SIGNAL	KSC2330-Y,NPN,1W,TO-92L,	1	S.A	
Q504	0501-000143	TR-SMALL SIGNAL	2N6520,PNP,625mW,TO-92,T	1	S.A	
Q505	0501-000143	TR-SMALL SIGNAL	2N6520,PNP,625mW,TO-92,T	1	S.A	
Q506	0501-000143	TR-SMALL SIGNAL	2N6520,PNP,625mW,TO-92,T	1	S.A	
R501H	2002-001017	R-COMPOSITION	1Kohm,10%,1/2W,AA,TP,3.7x9	1	S.A	
R502H	2002-001017	R-COMPOSITION	1Kohm,10%,1/2W,AA,TP,3.7x9	1	S.A	
R504	2001-000780	R-CARBON	470OHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R505	2001-000780	R-CARBON	470OHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R506	2001-000780	R-CARBON	470OHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R507	2001-000793	R-CARBON	47OHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R508	2001-000793	R-CARBON	47OHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R509	2001-000793	R-CARBON	47OHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R510	2001-000515	R-CARBON	220OHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R511	2001-000515	R-CARBON	220OHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R512	2001-000515	R-CARBON	220OHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	

Loc. No.	Code No.	Description	Specification	Q'ty	SA/SNA	Remark
R513	2003-002008	R-METAL OXIDE(S)	18Kohm,5%,2W,AF,TP,3.9x	1	S.A	
R514	2003-002008	R-METAL OXIDE(S)	18Kohm,5%,2W,AF,TP,3.9x	1	S.A	
R515	2003-002008	R-METAL OXIDE(S)	18Kohm,5%,2W,AF,TP,3.9x	1	S.A	
R516	2001-000679	R-CARBON	36KOHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R517	2001-000679	R-CARBON	36KOHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R518	2001-000679	R-CARBON	36KOHM,5%,1/8W,AA,TP,1.8X3.2MM	1	S.A	
R519	2001-001155	R-CARBON(S)	5.6KOHM,5%,1/2W,AA,TP,2.4X6.	1	S.A	
R520	2001-001062	R-CARBON(S)	10MOHM,5%,1/2W,AA,TP,2.4X6.4	1	S.A	
T0065	AA94-16233A	ASSY PCB CRT	I ROBOT2, K10C, TR DRIVE	1	S.A	
T0100	AA97-17155A	ASSY AUTO-CRT	K10C	1	S.N.A	
T0245	0202-001492	SOLDER-WIRE FLUX	HSE-02 LFM48 SR-34 S,-,	0.003	S.N.A	
T0245	AA39-20010D	LEAD CONNECTOR-ASSY	,1P,400,YFH800-01,S,	1	S.A	
△ V999S	3704-001197	SOCKET-CRT	8P+SEN,29PI,22.5PI,NI+SN,-	1	S.A	

ASSY P/MATERIAL

M0113	AA92-11966B	ASSY P/MATERIAL	21Z50	1	S.N.A	
T0376	6902-000001	BAG AIR	LDPE,TO.2,L1800,W1000,TRP,,,LDPE	0.008	S.N.A	
T0376	6902-000061	BAG AIR	LDPE,TO.2,L1000,W500,TRP,,,	0.03	S.N.A	
T0214	AA60-40006A	PIN-STAPLE	AUTO,33X17.8X2.4,H18,33X17.8X	6	S.N.A	
T0524	6902-000417	BAG PE	HDPE/NITRON/HDPE,TO.015/TO.	1	S.N.A	

ASSY BOX

M0003	AA92-12095W	ASSY BOX	CL21Z50MQ3XXAO	1	S.N.A	
	AA69-04029D	BOX-SET	21Z50-VE,CB,A1,DW,W645,D387,H506	1.01	S.N.A	

ASSY ACCESSORY

M0045	AA92-12273E	ASSY ACCESSORY	CL21Z50MQ3XXAO	1	S.N.A	
M0045	AA96-04982E	ASSY ACCESSORY	CL21Z50MQ3XXAO,VALIANT	1	S.N.A	
T0251	3721-000136	PLUG-CONVERSION	2P,4.0mm,N,NI	1	S.A	
T0524	6902-000009	BAG PE	HDPE,TO.03,L400,W240,TRP,8,2,PE M	1	S.N.A	
T0074	AA59-00385C	REMOCON	TOMORROW,TM85,S3C1860XP0-SKT1,30	1	S.A	
T0175	AA68-03727A	MANUAL FLYER-01,WARRANTY CARD	All,SAMSUN	1	S.N.A	
	AA68-03777A	MANUAL USERS-CARD,05	comm,Samsung,Englis	1	S.N.A	
T0511	AA68-03806H	MANUAL USERS	Comm,Samsung,Spanish,S.Amer	1	S.N.A	
T0511	AA68-03242L	MANUAL FLYER-SAFETY GUIDE	comm,Samsung,E	1	S.N.A	

ASSY COVER REAR

M0002	AA90-05822A	ASSY COVER REAR	21Z50,HIPS,HB,BK500,K16C	1	S.N.A	
T0069	AA60-00091J	SPACER-FELT	-,FELT,330X10,-,-,BLK,TO.5,-	2	S.N.A	
T0069	AA60-00091R	SPACER-FELT	-,FELT,250X10,,,BLK,TO.5,,	1	S.N.A	
M0006	AA63-01555D	COVER-REAR	21Z50,HIPS,HB,BK500,ASIA	1	S.N.A	
T0578	AA64-03660Z	INLAY AV	21Z30(NT),PS,TO.3,BLK,SHEET,K16	1	S.N.A	
T0066	AA64-04439G	INLAY-BACK	21Z50,PS,SHEET,BLK.SI-201LG,K	1	S.N.A	
T0522	AA65-30008A	CLAMPER CORE-CORD	-,PE,HB,-,BLK,-	1	S.N.A	

ASSY COVER FRONT

M0001	AA90-05790W	ASSY COVER FRONT	CL21Z50MQ3XXAO	1	S.N.A	
M0081	6003-001026	SCREW-TAPTITE	RH,+ ,B,M4,L15,ZPC(BLK),SWR	7	S.A	
M0081	6003-001026	SCREW-TAPTITE	RH,+ ,B,M4,L15,ZPC(BLK),SWR	2	S.A	
M0081	6003-001026	SCREW-TAPTITE	RH,+ ,B,M4,L15,ZPC(BLK),SWR	1	S.A	
M0081	6003-001268	SCREW-TAPTITE	TH,+ ,-,B,M4,L12,ZPC(WHT),S	1	S.N.A	
T0238	AA60-10050V	BOLT-HEX	-,SWRCH18A,M6,L30,HH,+ ,WC,-,Z	4	S.N.A	
T0003	AA96-04720F	ASSY COVER P-FRONT	21Z50,HIPS,HB,BKN1576	1	S.A	
M0081	6003-001019	SCREW-TAPTITE	RH,+ ,-,B,M4,L12,ZPC(BLK),S	1	S.A	
M0081	6003-001019	SCREW-TAPTITE	RH,+ ,-,B,M4,L12,ZPC(BLK),S	1	S.A	
T0069	AA60-00091G	SPACER-FELT	-,FELT,200X10,-,-,BLK,TO.5,-	2	S.N.A	

Exploded View & Part List

Loc. No.	Code No.	Description	Specification	Q'ty	SA/SNA	Remark
T0069	AA60-00091R	SPACER-FELT	,FELT,250X10,,,BLK,T0.5,,	1	S.N.A	
M0081	AA60-10002A	SCREW-TAPTITE	RH,+,-,M4,L12,ZPC(WHT),S	4	S.N.A	
T0607	AA61-40113A	STOPPER-PCB	501H,HIPS,-,-,HB,NTR,-	1	S.N.A	
CIS7	AA61-60003J	SPRING ETC-CS	-,SUS304,-,-,OD6,N7,OD6,-,	1	S.N.A	
M0112	AA63-01553E	COVER-FRONT	21Z50,HIPS,HB,GR503,BKN1576+	1	S.N.A	
	AA64-04417A	LOGO-BADGE	Z50,AL,1.2,1G,50mm,SILVER,SAM	1	S.N.A	
T0023	AA64-04429A	KNOB POWER	21Z50 / 21Z51,ABS,HB,BKN1576	1	S.N.A	
T0022	AA64-04430A	KNOB CONTROL	21Z50 / 21Z51,ABS,HB,BKN157	1	S.N.A	
T0299	AA64-04431A	WINDOW-RMC,LED	21Z50/ 21Z51,PC,CLEAR	1	S.N.A	
T0527	AA65-00011C	CLAMPER CORE-WIRE	ALL MODEL,NYLON 66,V2,	1	S.N.A	
T0382	BP61-00509C	HOLDER-CARE	PJT,ACRYL-FOAM,T0.25,W20.0mm	0.28	S.N.A	
T0175	AA96-04766A	ASSY SPEAKER P	8ohm,10W,R/B700mm,Y/B500m	1	S.A	
T0382	BP61-00495C	HOLDER-CARE	PJT,ACRYL-FOAM,T0.25,W30.0mm	0.2	S.N.A	

ASSY CPT

T0521	AA91-10516H	ASSY CPT	A51QGV991X201,+380,AA03-00533A,	1	S.N.A	
△ T0063	AA03-00533A	CRT COLOR	A51QGV991X201,+380mG,0.915,9.1	1	S.A	
T0089	AA27-00404A	COIL DEGAUSSING	ALUMINIUM,Narnia,7.5mH,6	1	S.A	
T0527	AA65-30107A	CLAMPER CORE-D,COIL	20-22 INCH,NYLON 66,	4	S.N.A	
M0148	3302-000006	MAGNET-RUBBER	AF,14G,1620-1980G,0.58-0.9	1	S.A	
T0603	AA96-04573A	ASSY TBC WIRE P	4*0.12TA*16,21,NTSC,3P	1	S.N.A	


ASSY FIXING

T0892	AA91-10754P	ASSY FIXING	CL21Z50MQ3XXAO	1	S.N.A	
T0016	AA65-30009A	CLAMPER CORE-FBT	-,ABS,V0,-,BLK,-	1	S.N.A	
T0527	AA65-30018A	CLAMPER CORE-WIRE	DONG-A,NYLON-66,-,-,-,	1	S.N.A	
△ T0066	AA96-20109B	ASSY POWER CORD	-,CP2/NO(4.0),H/C250,KKP	1	S.A	
T0061	3811-001609	WIRE-PVC CU	BCWA,300V,ROLL,-,#22,BLK	0.15	S.N.A	
T0268	AA39-10006X	CBF-POWER CORD	-,KKP419C,3P,-,-,BLK,-,	1	S.A	
T0010	AA61-20284A	HOLDER	P-CORD,PP,-,-,-,BLK,VO,KE-002	1	S.N.A	

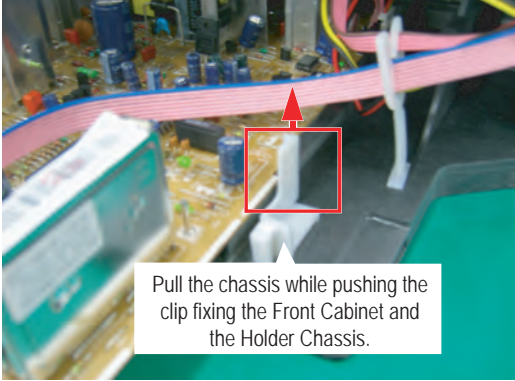
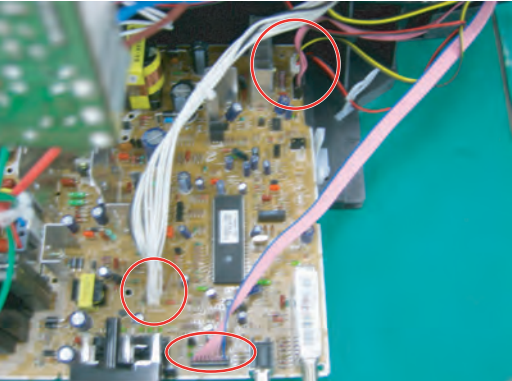
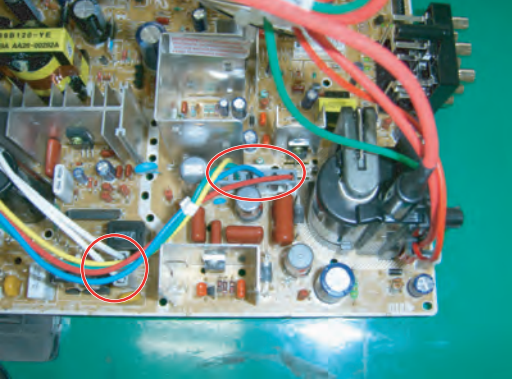
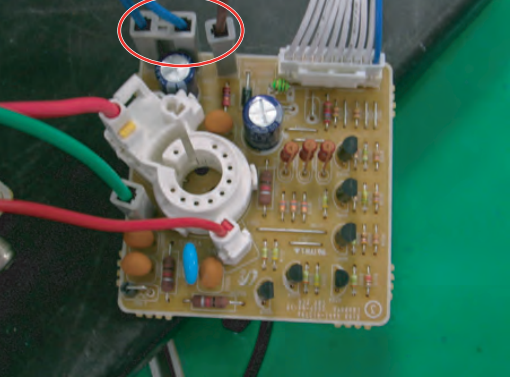
3. Disassembly & Reassembly

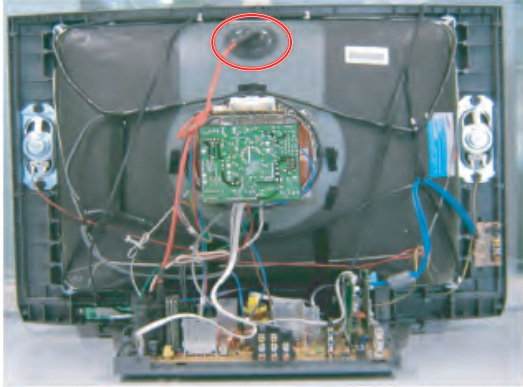
3-1 Overall Disassembly & Reassembly

3-1-1 Disassembling the Cabinet

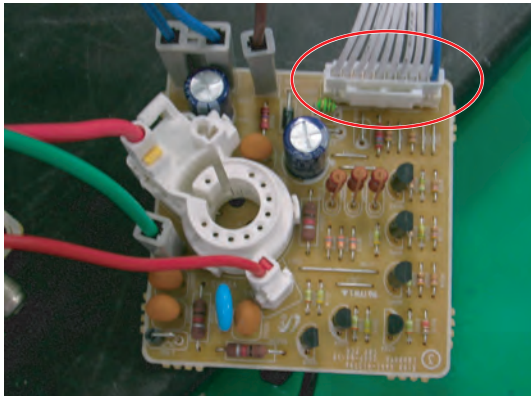
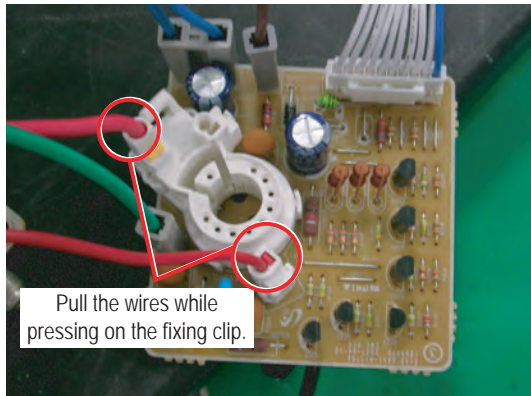
Part Name	Description	Description Photo
Back Cover	<p>① Remove the 9 screws fixing the Back Cover & Terminal Board. : RH, +, M4, L15,ZPC(BLK), SWRCH18A</p> <p>② Tap the Back Cover 2 or 3 times and pull the cover and remove it.</p> <p>⚠ Since there is a danger of injury from the remaining current and of damaging the product due to static electricity, make sure to remove the power cord and wait for a moment so that the remaining current is discharged completely before disassembling the product.</p>	

3-1-2 Disassembling the CRT and Chassis

Part Name	Description	Description Photo
Chassis Holder	<p>① Separate the Ass'y Holder chassis from the Front Cabinet.</p> <p>② Pull the Holder Chassis while pushing the catch up.</p> <p>⚠ If you pull it with excessive power, it may cause damage to the catch or connector. Therefore, pull it until the catch is out of the hole.</p>	 <p>Pull the chassis while pushing the clip fixing the Front Cabinet and the Holder Chassis.</p>
	<p>① Separate the connection cables connecting the speaker, Side AV Wire from the Front Cabinet and the Main & Micom Board.</p> <p>⚠ Since there is a hinge fixing the Wire Connector and Connector Header, if the wire is pulled with excessive power, it may damage the catch or connector. Therefore, pull it only after pressing the hinge down completely.</p>	
	<p>① Separate the D-Coil, DY-Cable and power cord from the Front Cabinet and Main Board.</p> <p>② Separate the power cord, DY-Cable by pushing the fixing catch to the side and pulling the wire up.</p>	
	<p>① Separate the CRT Ass'y from the CRT.</p> <p>② Separate the TBC wire, GND cables from the CRT Ass'y sequentially.</p>	

Part Name	Description	Description Photo
Chassis Holder	<p>① Separate the cable connecting the FBT and CRT from the CRT.</p> <p>⚠ Since a high voltage current resides inside the CRT, do not touch the CRT hole with metal or your body when separating the cable.</p>	

3-1-3 Disassembling the CRT Ass'y

Part Name	Description	Description Photo
CRT Ass'y	<p>① Separate the cables connecting the Main Ass'y and the CRT Ass'y.</p>	
	<p>① Separate the wires from the FBT of the Main Board and the CRT Ass'y.</p> <p>② To separate thick wire, pull the wires while pressing the push-type clip at the connector.</p> <p>⚠ Take care when separating the wires because pulling the wires by force may damage the socket. In addition, separate the wires on a flat and clean surface so as to prevent scratching of the material and the PCB.</p>	

4. Troubleshooting

4-1 Troubleshooting

4-1-1 First Checklist for Troubleshooting

1. Power LED: Check that the LED works when the power cord is connected to a 110V wall outlet.
2. LED Indicators: See table 4-1-2 Basic Troubleshooting: LED Diagnosis on the Front Panel.
3. In case of a power failure or abnormal screen, check the following items.
 - ① Check that the power cord is correctly connected to a 110V wall outlet.
 - ② Check that the Master Switch has been pressed.
 - ③ Check that the transmitter is turned on.
 - ④ Check that transmitter device selection is set to TV.
 - ⑤ Check that the signal cable is properly connected.
 - ⑥ Check that channel setting has been set.

4-1-2 Checkpoints by Error Mode

1. Troubleshooting Summary

Problem	Solution
The power does not turn on.	Check if the power cord is properly connected.
Air broadcasting does not work.	Check if the antenna is properly installed.
Cable broadcasting does not work.	Subscribe to a local cable broadcasting firm and get support.
Satellite broadcasting does not work.	Install a satellite antenna (Parabola) and connect it to the TV.

2. Menu & Remote Control

Problem	Solution
The remote control does not work.	<ul style="list-style-type: none"> ■ Press the Select Device button to select the TV or external device. ■ Replace the battery of the remote control with a new one. ■ Insert the battery making sure the polarity (+,-) is correct. ■ Check if the angle or the distance is sufficient, or if there is any interference between the product and the remote control. ■ Make sure the user has pressed the correct button. ■ To avoid direct sunlight to the receiving panel of the TV, remove any indoor lighting or change the location of the TV. ■ Check if the power switch at the back left of the TV is turned on..
Cannot change the channel with the remote control.	<ul style="list-style-type: none"> ■ Press the Select Device button to select the TV. ■ Change the channel using the remote control of the cable or satellite receiver.
Cannot select an A/V channel.	Press the TV/AV button and check if the AV item is grayed out. When the AV item is grayed out, you cannot select an A/V channel. Check if the connector is properly connected.
Cannot select a menu.	Check if the menu is grayed out. If a menu is grayed out, it cannot be selected.

3. Screen

Problem	Solution
The screen is black and there is no sound.	<ul style="list-style-type: none"> ■ Check if the power cord is properly connected. ■ Turn on the power. ■ Select an AV channel that corresponds to the external device.
Only the screen is blank/it is dark or too bright.	Adjust the screen brightness.
The screen is blue/the external channel is not displayed.	<ul style="list-style-type: none"> ■ Check if the connector is properly installed. ■ Select an AV channel that corresponds to the external device.
The screen overlaps (double/triple).	<ul style="list-style-type: none"> ■ Check if the antenna is properly installed. ■ Adjust the position, angle or direction of the antenna.
The screen is snowy or unclear. The picture quality gets worse when it is windy	<ul style="list-style-type: none"> ■ Check if the antenna has been bent or moved by the wind. ■ Check the antenna for its lifetime. (Normally 3 - 5 years, 1-2 years near the coast)
Dotted or semi-dotted lines are displayed on the screen.	Install the antenna as far away from the road as possible.
The screen is black and white.	<ul style="list-style-type: none"> ■ Adjust the color density. ■ Check if the connector is properly installed.
The colors of the screen are odd/strange.	Adjust the color tones.
Unusual lines appear on the screen.	Keep the antenna away from the power cord or connectors if possible.
Unusual lines appear on the screen when watching or recording to video.	Keep the video player as far away from the TV as possible.

4. Sound

Problem	Solution
There is no sound.	<ul style="list-style-type: none"> ■ Increase the volume. ■ Press the Mute button.
The sound is very low.	<ul style="list-style-type: none"> ■ Increase the volume. ■ Set the auto volume control to ON.
There is a lot of noise.	Keep the antenna away from the power cord or connectors if possible.
The selected language does not appear.	Press the Multiplex button to select the TV.

5. Channel

Problem	Solution
There are no channels available.	<ul style="list-style-type: none"> ■ Check if the antenna is properly installed. ■ Press the Auto Channel button to store channels. ■ Contact your local broadcasting service station.
Some channels are not available.	<ul style="list-style-type: none"> ■ Adjust the position, angle or direction of the antenna. ■ Activate the Reception Sensitivity Boost feature. ■ Contact your local broadcasting service station. ■ Use the number keys to select a specific channel and press Store/Clear to memorize it.
Only the UHF (14-69) channels are not available.	Check if the antenna is able to receive UHF signals.

6. Others

Problem	Solution
The TV makes a noise as if something is dropping inside.	This noise may occur when the plastic material inside the TV expands or contracts according to the seasonal temperature or humidity. This is like the noise from a furniture/cabinet/sink unit, and there is no need for concern.

7. Basic Troubleshooting: Diagnosis of LED on the Front Panel



- : Light is On
- ◐: Light is Blinking
- : Light is Off

Power	Description
○	This happens when the Master Switch is not pressed or the power cord is disconnected.
●	This happens when the power cord is connected.
○→◐→●	The LED blinks, while the unit is starting up or the unit is turning off.

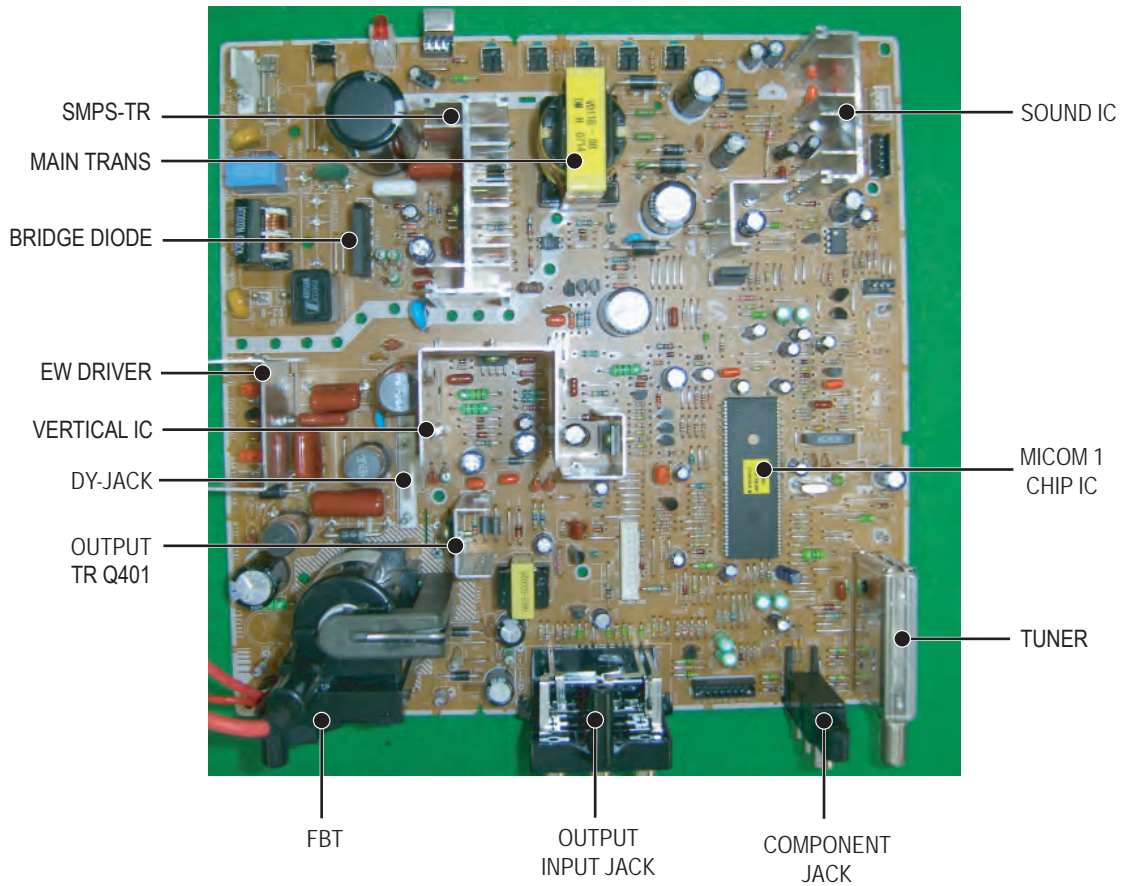
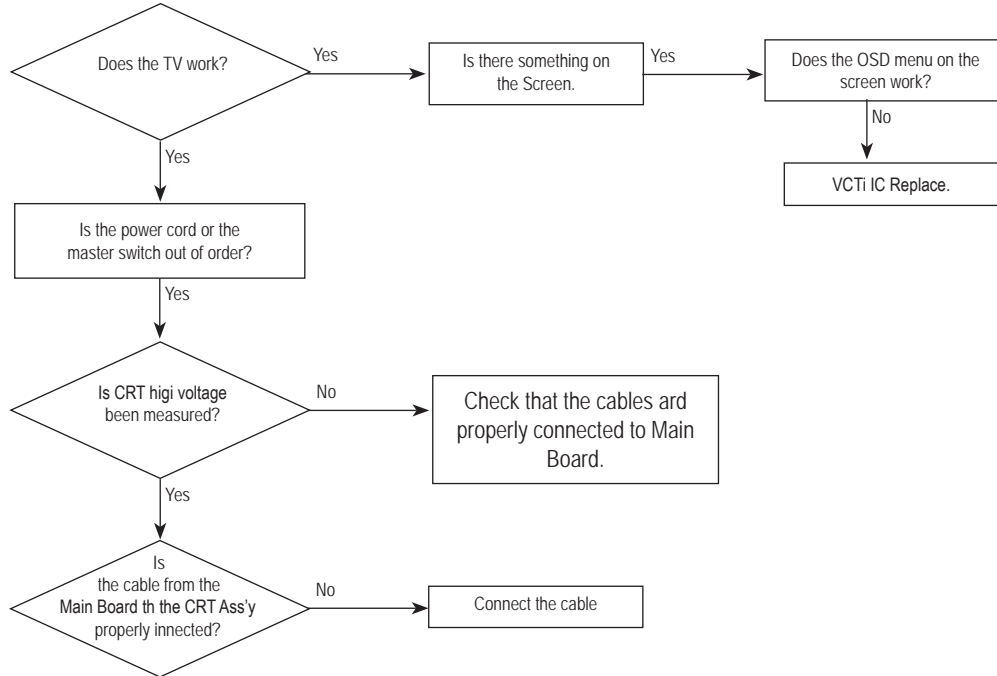
8. Troubleshooting by the Checksum

- **Diagnosis of trouble by the checksum is neither reliable nor convenient.**
 You can only use the checksum of the current direct-view TV to determine whether the software is corrupted or not. The Checksum value is determined according to the version of the software loaded on the set. Therefore, you can determine whether the software has been properly downloaded, if you know the correct checksum for that version of the software.

You can check the checksum according in the following order.
 Factory Mode → Checksum → Enter → Output Checksum (e.g. 0xab2b)

- **Checksum Examples**
 T-TIMNKU-1702: CHECKSUM =20AK

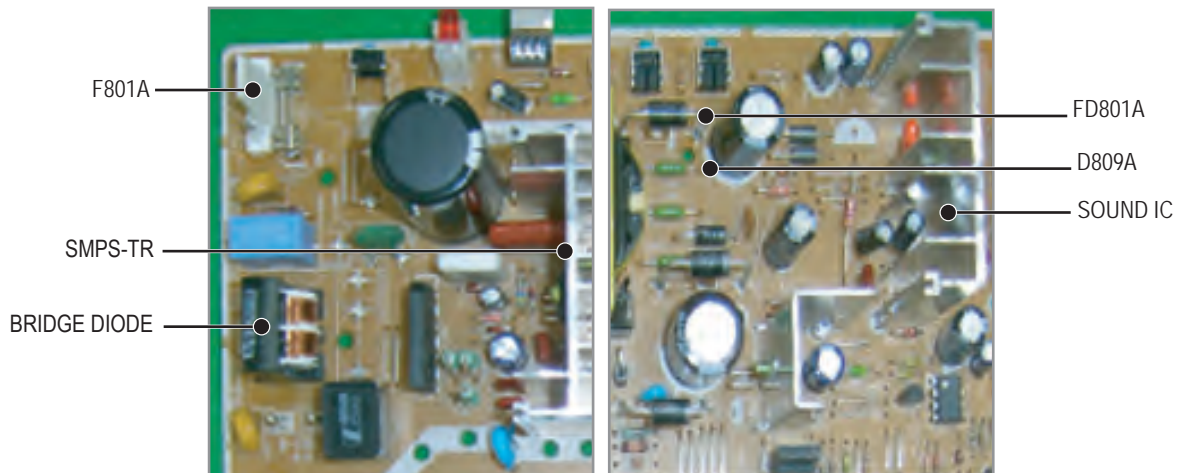
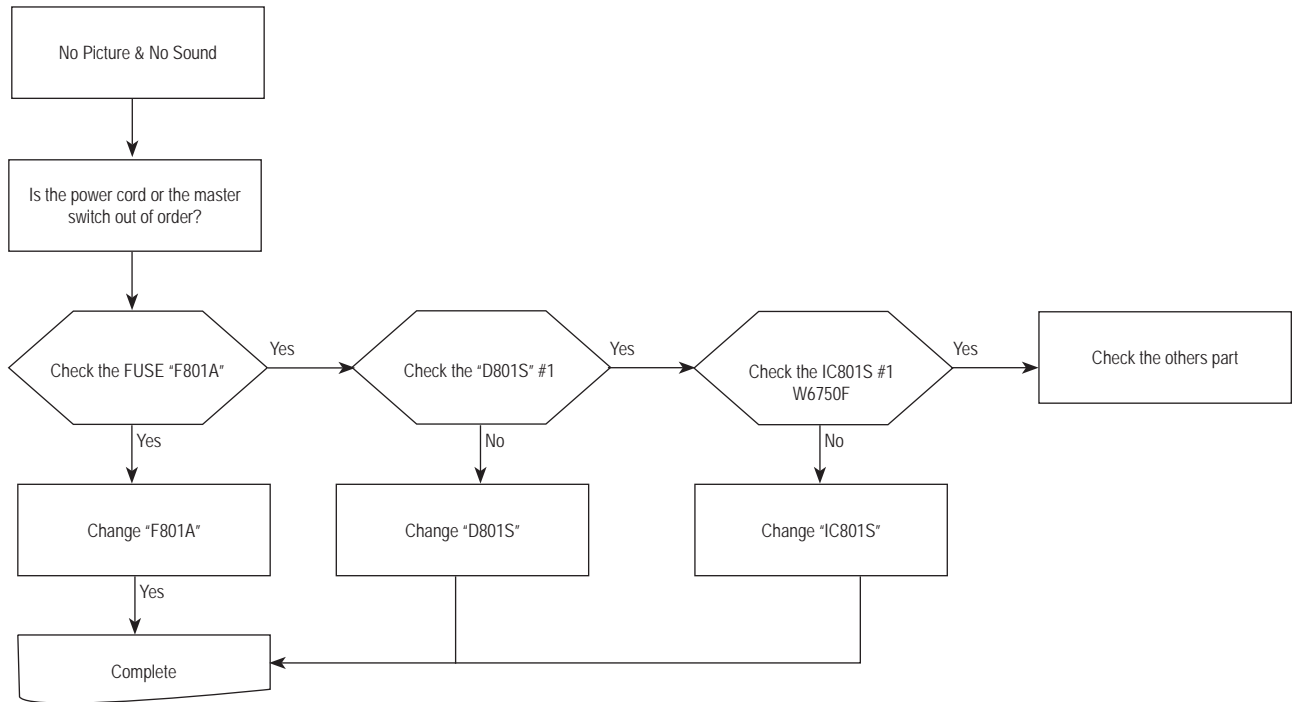
9. Flow Chart for Malfunction



4-1-3 Troubleshooting Procedures by ASS'Y

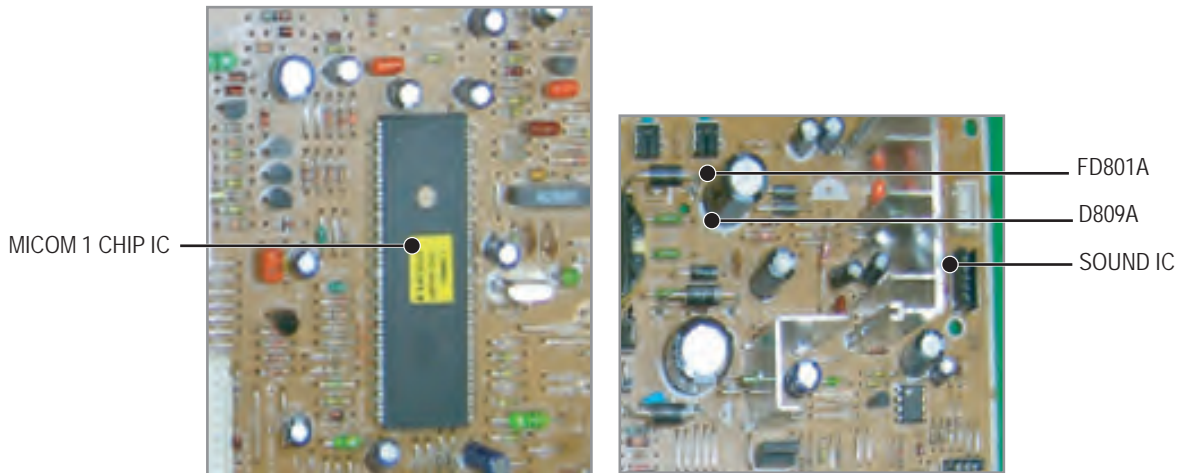
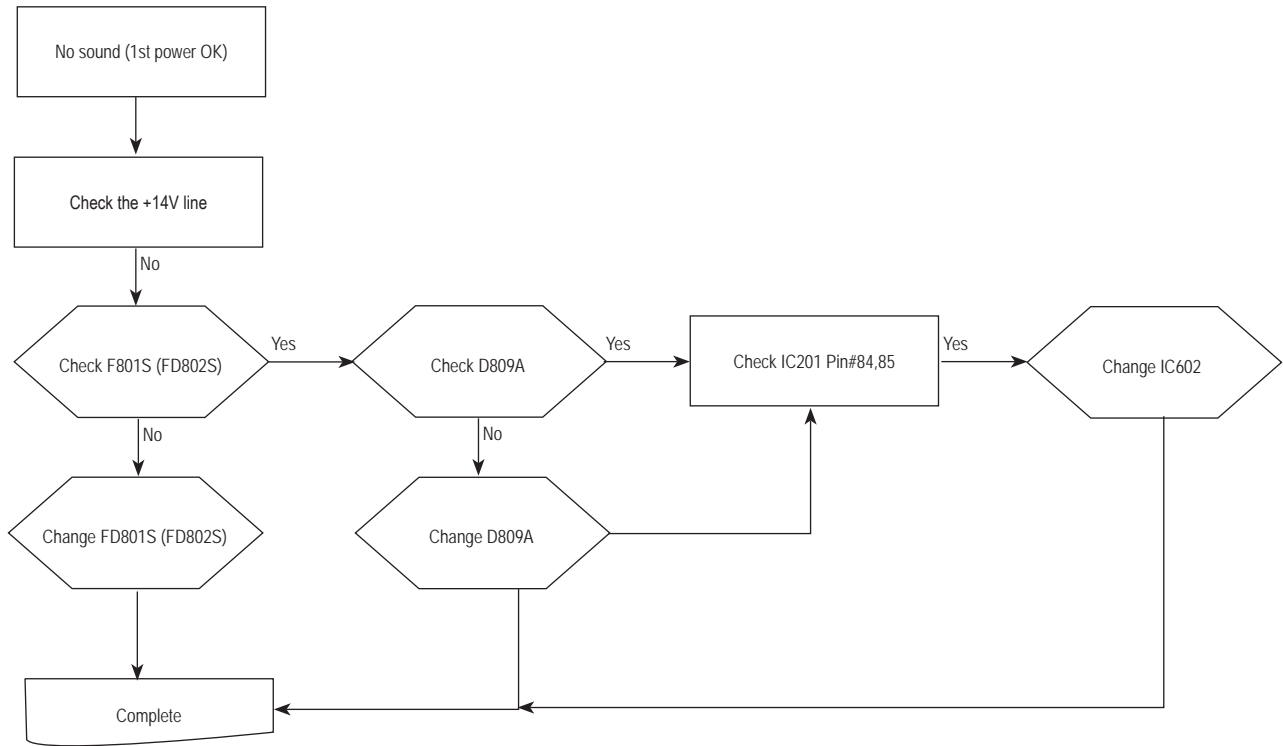
1 NO Power

- Power part of the Main Board Check.



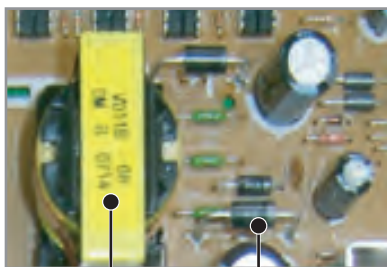
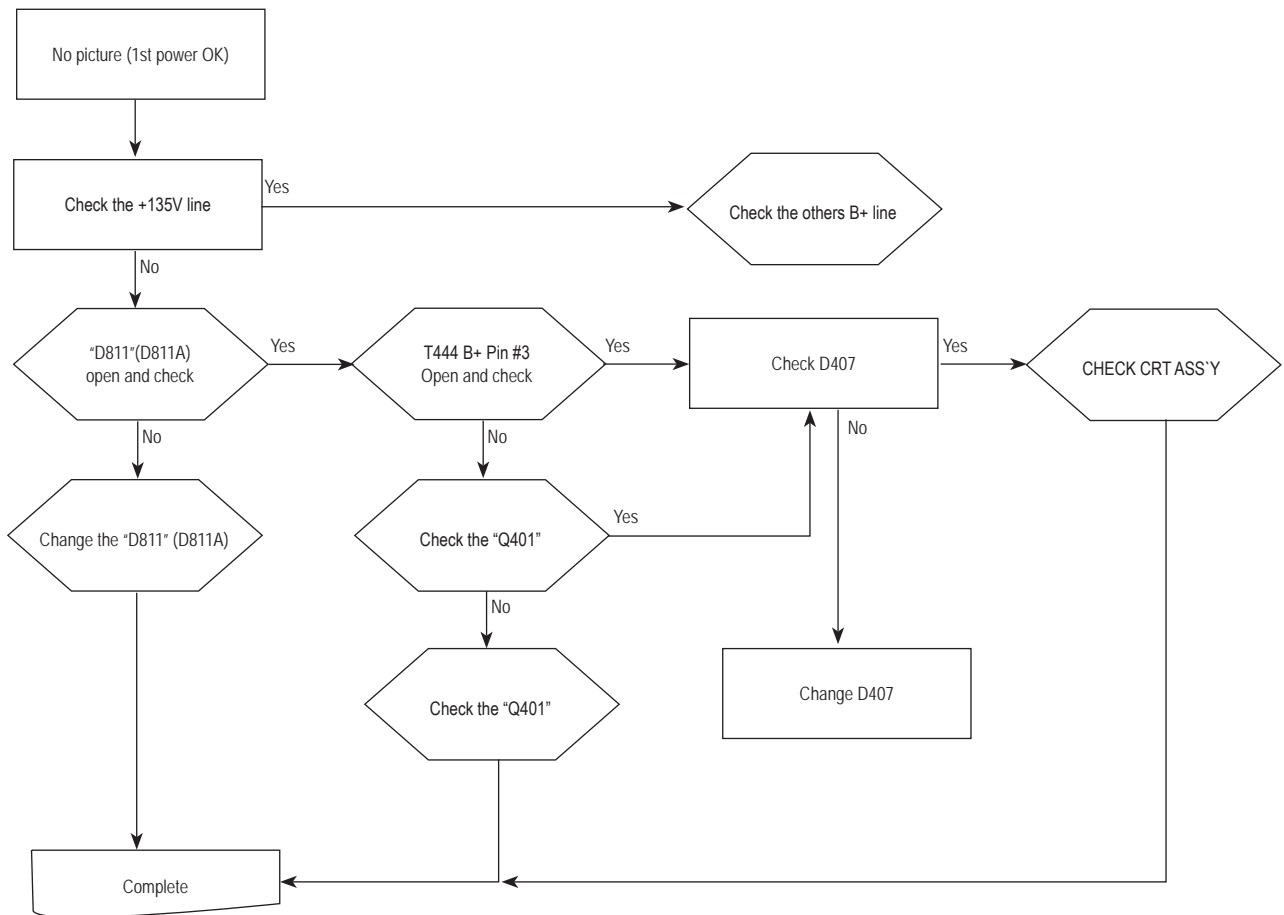
2. No Sound

- when the power is normal



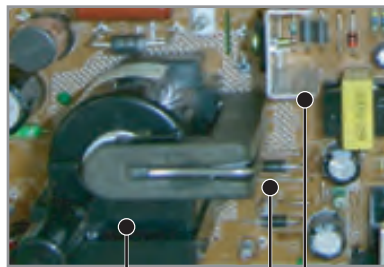
3. No Picture

- when the power is normal



MAIN TRANS

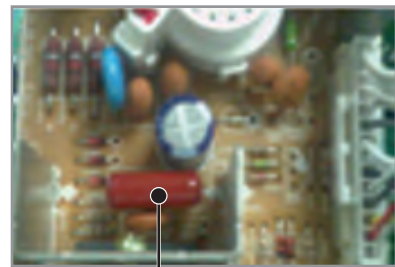
D811



FBT

D407

OUTPUT
TR Q401



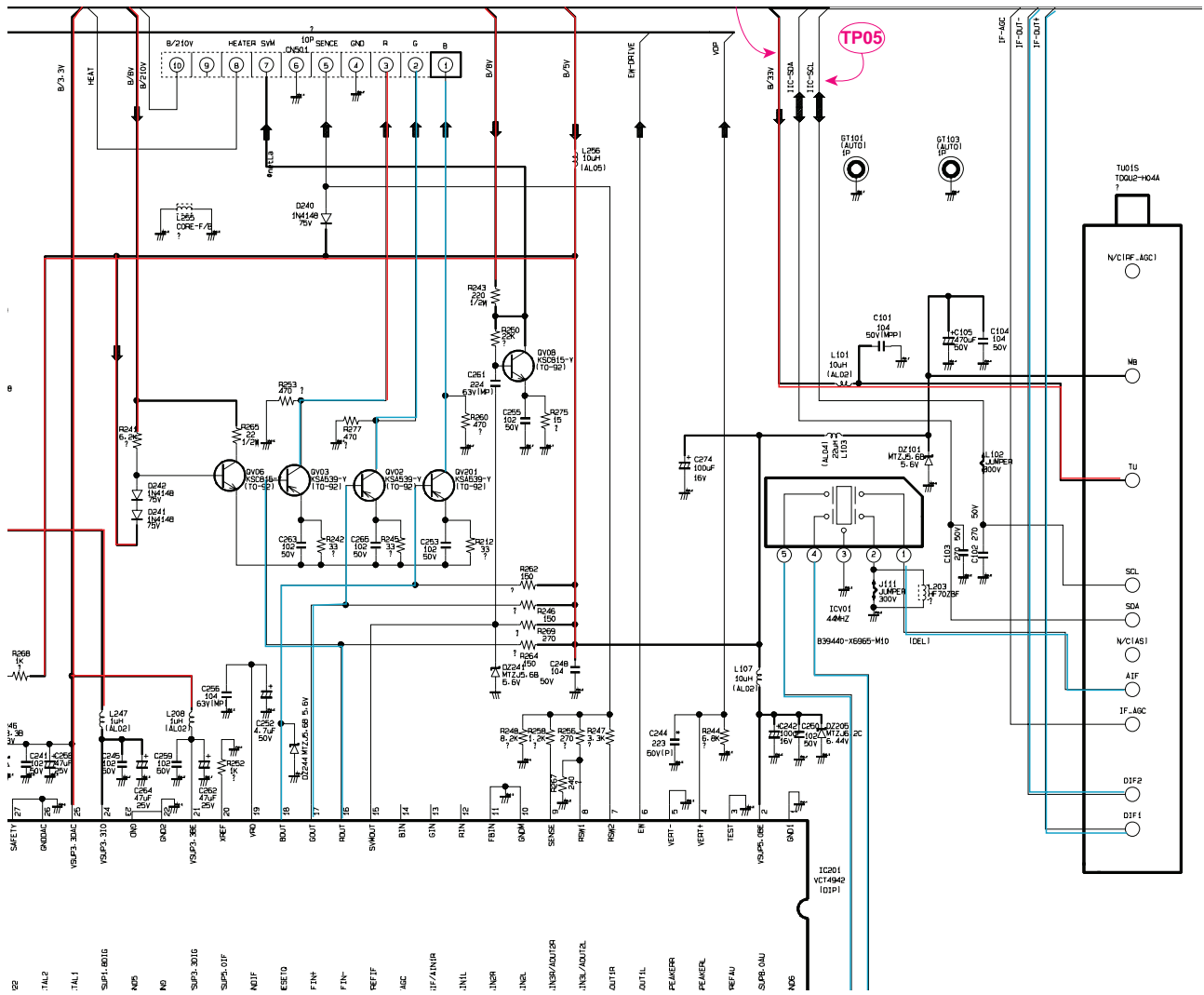
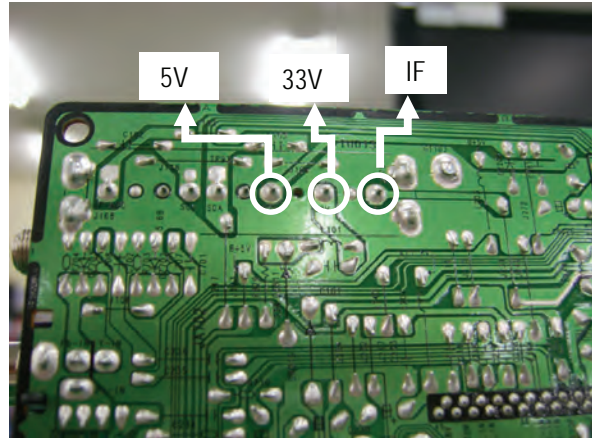
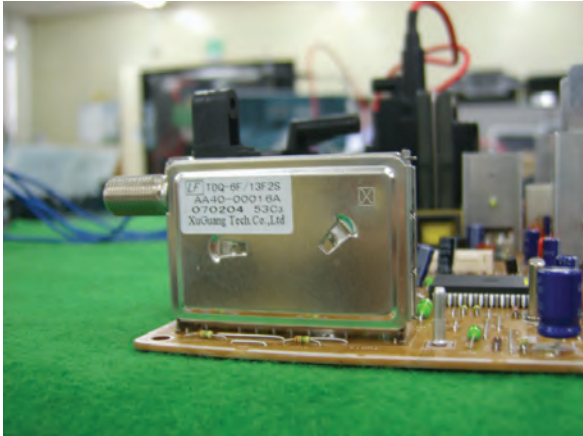
IC501

4-1-4 Troubleshooting by Blocks

1. Tuner Diagnosis

If there is no signal measured even though the RF signal received by the external antenna is input to the Main Board Tuner.

- Supplied Power: 5V, 9V, 33V
- RF Trouble Check: Check CVBS output
- AUDIO Trouble Check: Check SiF Signal output



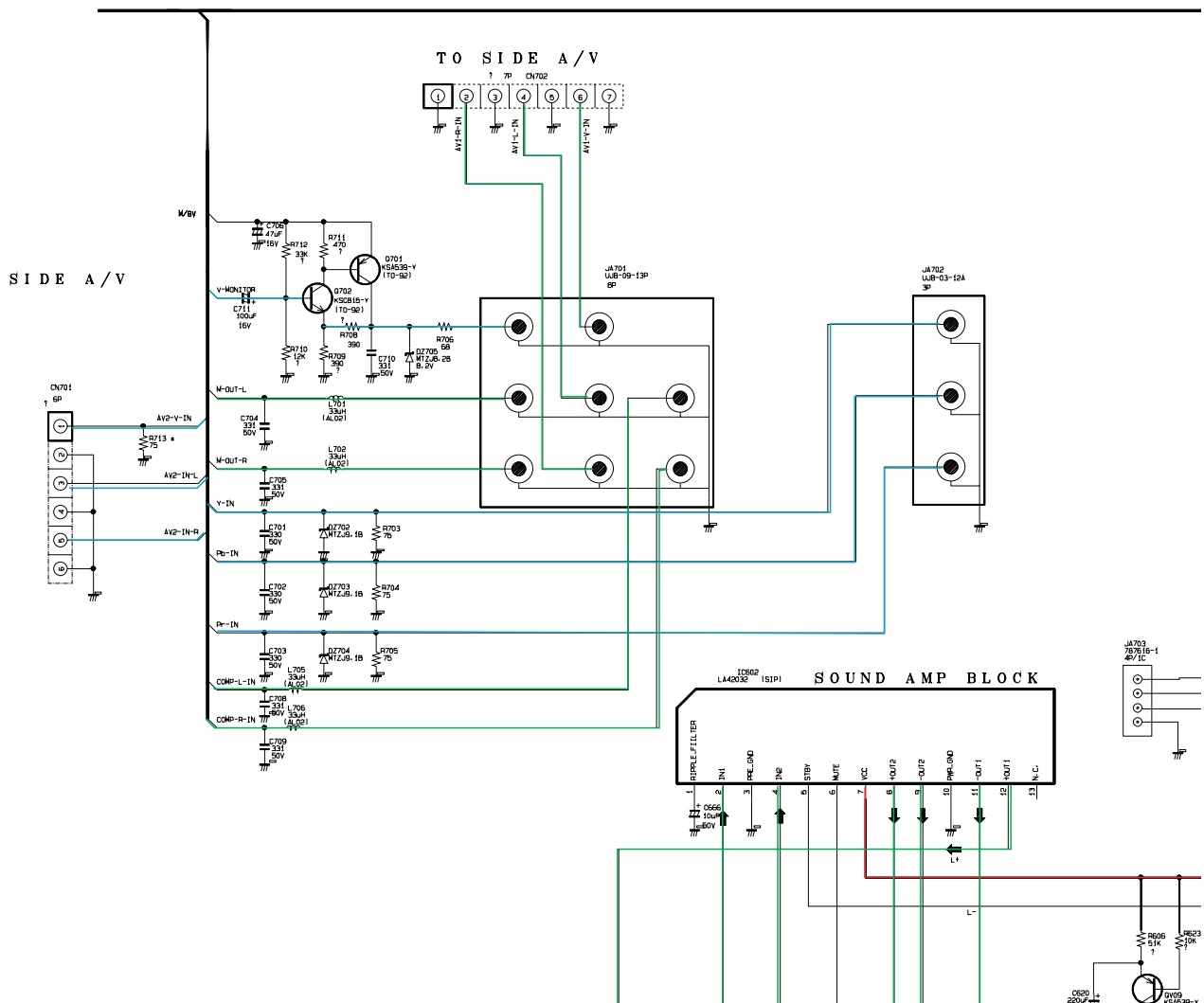
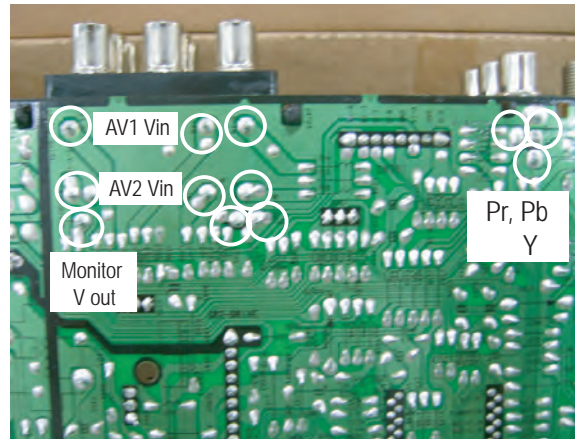
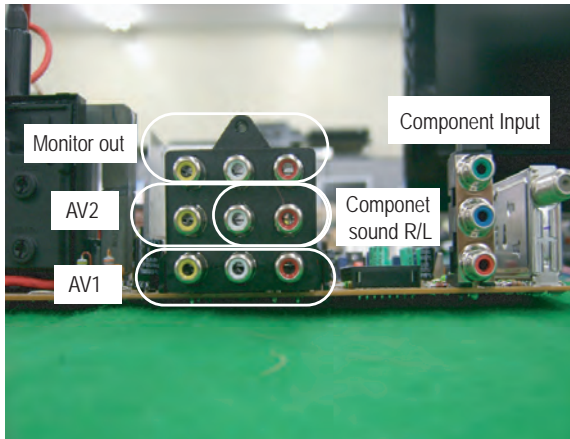
2. External Input Diagnosis

Component inputs and one monitor output (Video, Audio) are supported.

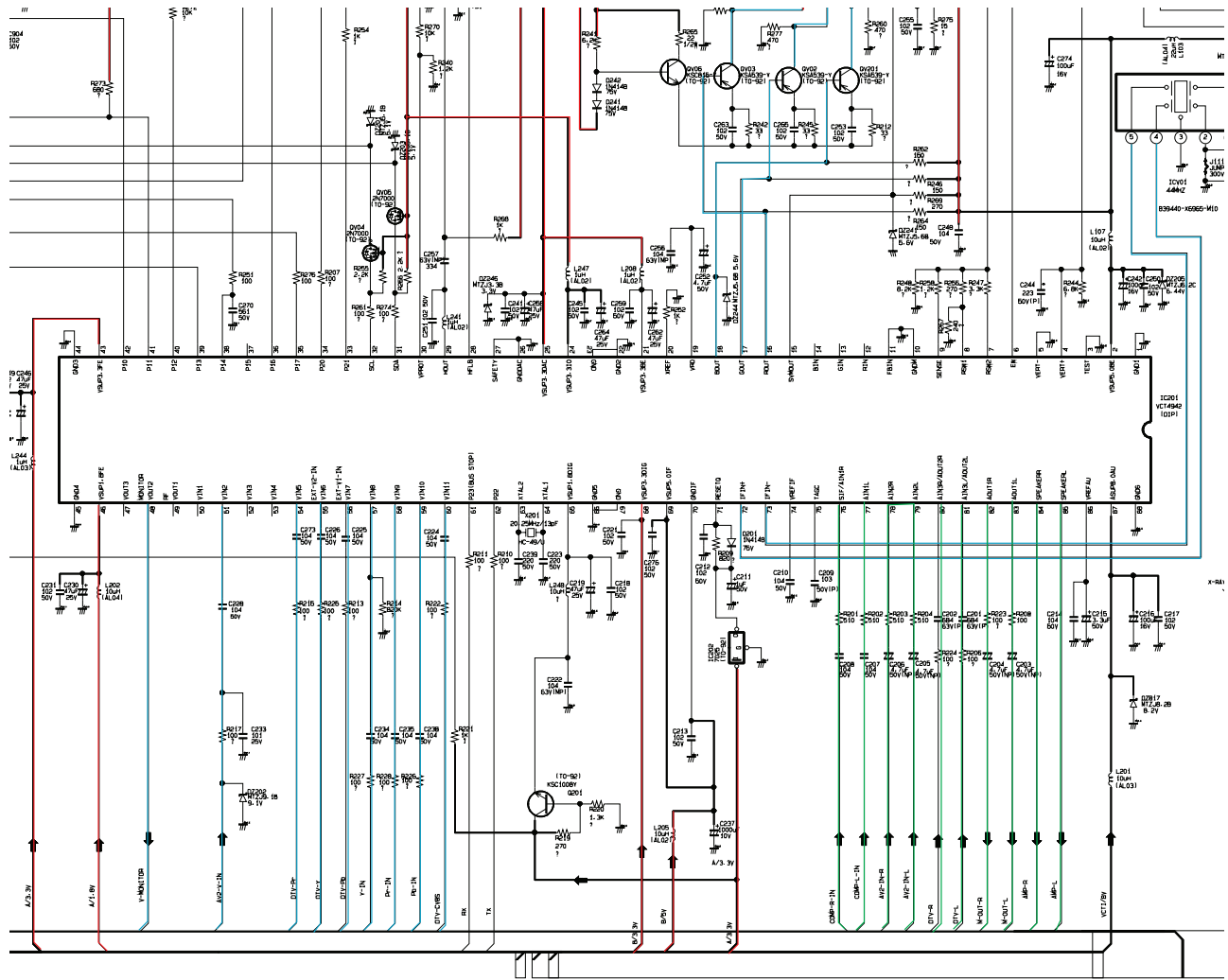
The signal is input to VCTi IC through the ports, and the signal selected in VCTi IC is output.

If the signal input and output are not detected, check the following.

- Supplied Power: VCTi IC(5V, 3.3V, 8V)
- Input Problem Check: Check the connecting jacks.
- Output Problem Check: Check the VCTi IC

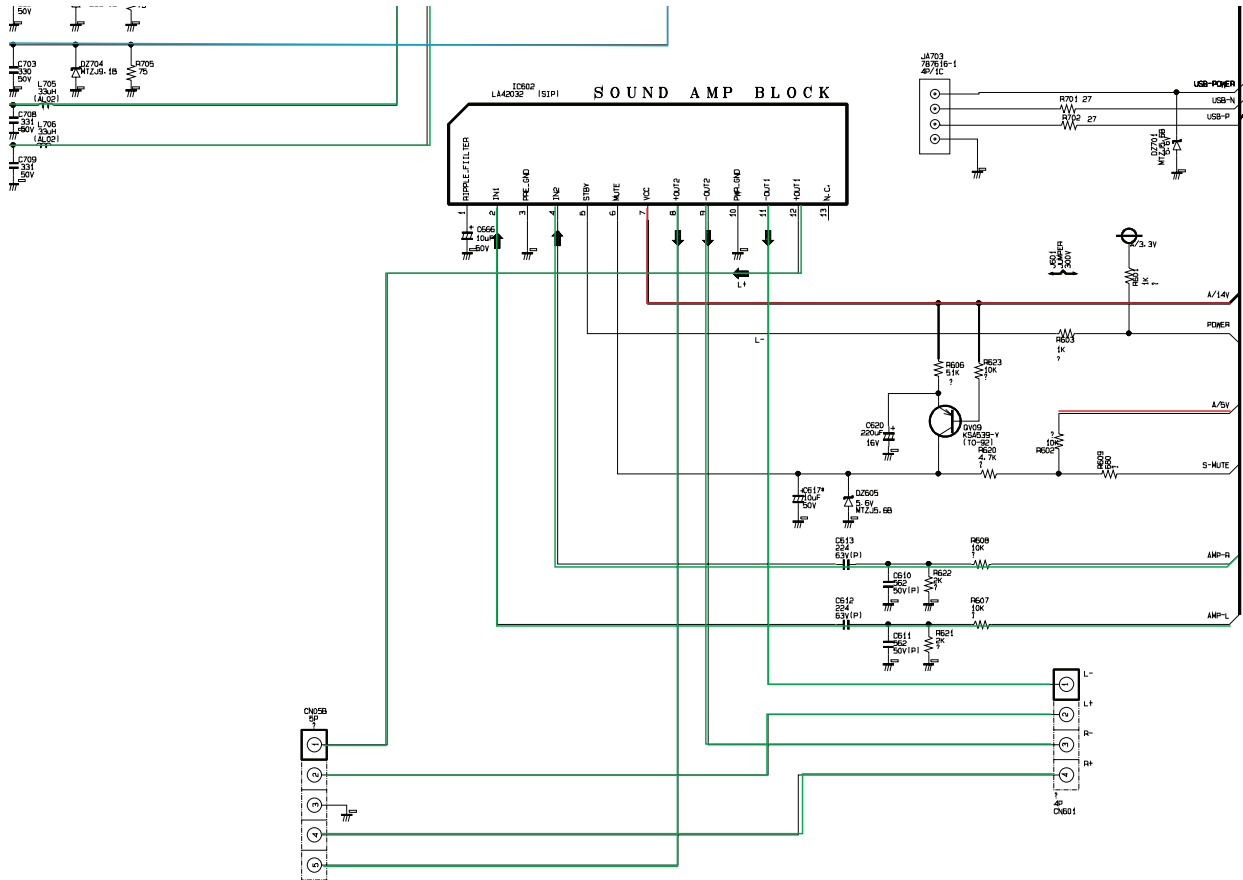


3. VCT49X3F Diagnosis IF+MICOM+VIDEO+MSP+Switching



4. LA42032 Diagnosis

- Supplied Power: 14V
- Input Problem Check: L/R
- Output Problem Check: L+, L-, R+, R-



4-2 Adjustment

4-2-1 Service Instruction

1. General Adjustment :

In general, a color TV can provide ideal visual quality by adjusting the basic settings such as the vertical size, horizontal size, focus, etc.

Display a black and white picture on the screen to check if the picture is clearly displayed.

If there are some 'spotted' points on the screen when displaying a black and white picture, degauss the screen using the degauss coil. If the spotted points remain, re-adjust the purity and the convergence.

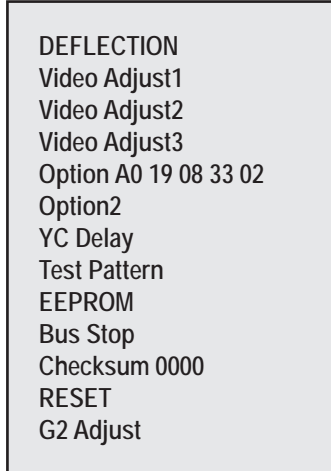
This completes the basic performance examination.

4-2-2 How to Access Service Mode

1. To enter Service Mode, press the keys on the remote control according to the following sequence. (in Stand-by status)



2. The initial screen of Service Mode.



3. Functions of the Keys within Service Mode.

MENU	Show all menus
▲ / ▼	Move the cursor to select an item.
◀ / ▶	Adjust the selected configuration value

4. W/B Setting

No	Item	Data	Required Adjustment
1	White Balance	x:275± 3 y:275± 3 Y:38± 0.3	White Balance (Standard Data)
		x:265± 3 y:265± 3 Y:1.8± 0.2	

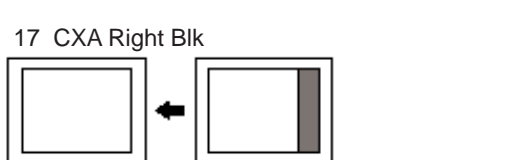
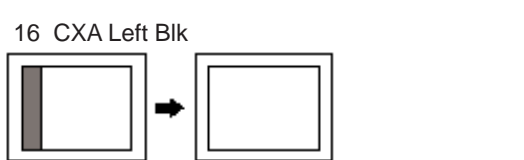
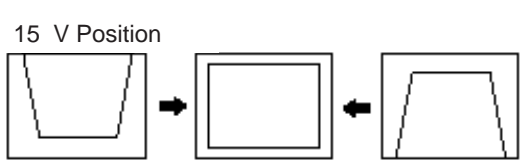
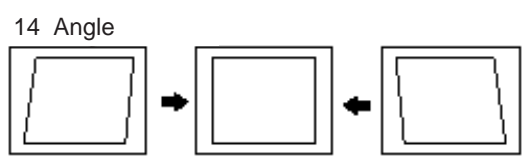
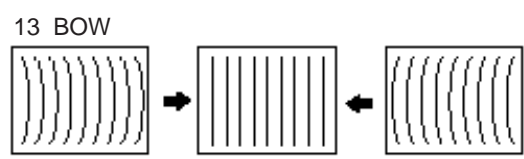
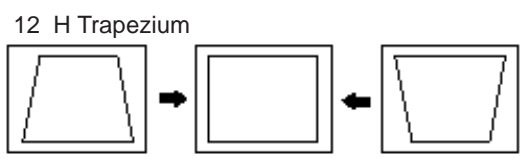
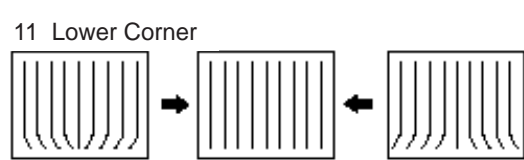
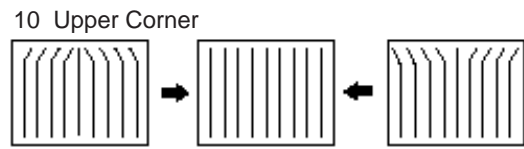
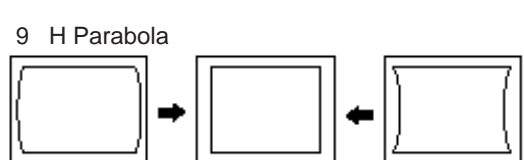
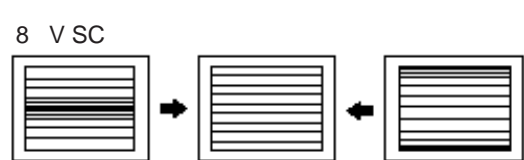
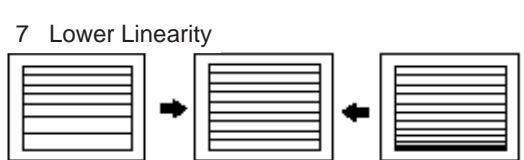
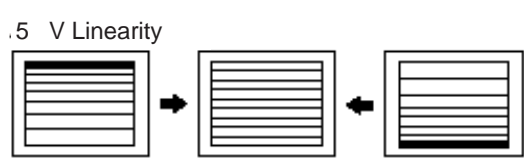
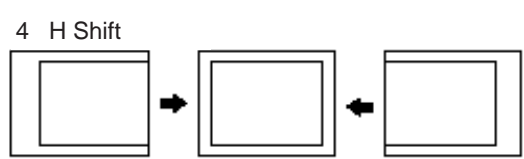
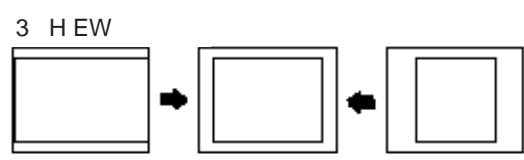
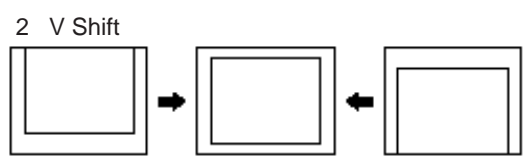
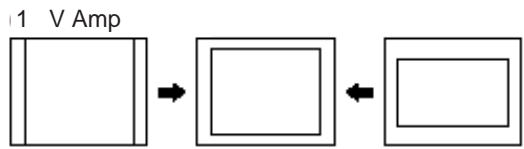
4-2-3 Factory Data ♦ *The underlined are items applied during the service adjustment. None of the others should be adjusted.*

1. Option1

No	Item	Data
1	System	CL
2	ACS	Off
3	AV Jack	2RCA+DVD
4	Tilt	Off
5	Vchip	Off
6	Caption	On
7	PIP	Off
8	LNA	Off
9	Auto On	Off
10	StandBy LED	On
11	Philippines(AV MULTI)	Off
12	Osd Language	English
13	FM Radio	Off
14	Antenna Disp	Off
15	Hi-Deviation	Off
16	Plug & Play	On
17	DNle Jr	Off
18	Volume Curve	Small
19	Color Matrix	Japan
20	PWM/Parabola	Parabola

2. Option2

No	Item	Data
21	Hotel mode	Off
22	Child Lock	Off
23	Air/Cable On	Off
24	MaxBeam Check	On
25	Ser data sum	Off
26	Zoom Option	On



3. Deflection(NT 60Hz)

No	Item	Data	Min	Max	Initial value
1	<u>V Amp</u>	ADJ	-128	127	29
2	<u>V Shift</u>	ADJ	-128	127	-24
3	<u>H EW</u>	ADJ	-128	127	31
4	<u>H Shift</u>	ADJ	32	180	103
5	<u>V Linearity</u>	ADJ	-128	127	3
6	V SC	FIX	-128	127	28
7	<u>H Parabola</u>	ADJ	-128	127	55
8	<u>Upper Corner</u>	ADJ	-128	127	-17
9	<u>Lower Corner</u>	ADJ	-128	127	-31
10	Upper Corner6	FIX	-128	127	13
11	Lower Corner6	FIX	-128	127	17
12	<u>H Trapezium</u>	ADJ	-128	127	10
13	<u>Bow</u>	ADJ	-128	127	0
14	Angle	FIX	-128	127	0
15	EHT Time	FIX	0	255	1
16	EHT Threshold	FIX	0	255	10
17	EHT Vertical	FIX	-128	127	0
18	EHT Horizontal	FIX	-128	127	9
19	EHT Vertical2	FIX	-128	127	-1
20	EHT Horizontal2	FIX	-128	127	5

4. Deflection(PAL 50Hz)

No	Item	Data	Min	Max	Initial value
1	<u>V Amp</u>	ADJ	-128	127	4
2	<u>V Shift</u>	ADJ	-128	127	-6
3	<u>H EW</u>	ADJ	-128	127	0
4	<u>H Shift</u>	ADJ	32	180	-16
5	<u>V Linearity</u>	ADJ	-128	127	0
6	V SC	FIX	-128	127	0
7	<u>H Parabola</u>	ADJ	-128	127	3
8	<u>Upper Corner</u>	ADJ	-128	127	-8
9	<u>Lower Corner</u>	ADJ	-128	127	-5
10	<u>Upper Corner6</u>	ADJ	-128	127	4
11	<u>Lower Corner6</u>	ADJ	-128	127	2
12	<u>H Trapezium</u>	ADJ	-128	127	-5
13	Bow	FIX	-128	127	0
14	Angle	FIX	-128	127	0
15	EHT Time	FIX	0	255	20
16	EHT Threshold	FIX	0	255	5
17	EHT Vertical	FIX	-128	127	0
18	EHT Horizontal	FIX	-128	127	0
19	EHT Vertical2	FIX	-128	127	-7
20	EHT Horizontal2	FIX	-128	127	2
21	PAL VERPOS	FIX	0	127	18
22	PAL VERWIDTH	FIX	0	127	127

5. Video Adjust1

No	Item	Data	Min	Max	Initial value
1	<u>R Cutoff</u>	ADJ	0	255	127
2	G Cutoff	FIX	0	255	127
3	<u>B Cutoff</u>	ADJ	0	255	127
4	<u>R Drive</u>	ADJ	0	255	127
5	G Drive	FIX	0	255	127
6	<u>B Drive</u>	ADJ	0	255	127
7	<u>Sub Bright</u>	ADJ	0	100	45
8	<u>Sub Contrast</u>	ADJ	0	63	37
9	Sub Color	FIX	0	23	7
10	Sub Tint	FIX	0	100	57
11	AKB Option	FIX	0	1	1
12	BCL Threshold	FIX	-128	127	9
13	BCL Gain	FIX	0	255	200
14	BCL Time	FIX	0	255	255
15	Sub Sharpness	FIX	0	15	7
16	Pilot Low	FIX	10	127	5
17	Pilot High	FIX	10	127	13
18	V-Mute(x100ms)	FIX	0	15	3
19	BCL TCUP	FIX	0	65	50

6. Video Adjust2

No	Item	Data	Min	Max	Initial value
1	VSU	FIX	0	15	2
2	Melody Volume	FIX	0	20	5
3	HB Start	FIX	0	255	140
4	HB Stop	FIX	0	255	130
5	RF AGC	FIX	0	15	4
6	VM Gain	FIX	0	63	0
7	VM Delay	FIX	0	15	7
8	V Peaking	FIX	0	15	6
9	BLE Tilt	FIX	0	15	4
10	BLE Gain	FIX	0	3	1
11	BLE Mode	FIX	0	3	2
12	BLE Break	FIX	0	7	5
13	CTI Gain	FIX	0	15	1
14	CTI Coring	FIX	0	15	6
15	LTI Gain	FIX	0	15	5
16	D-EHT Time	FIX	0	255	5
17	DCT Ratio	FIX	0	255	85
18	VSP COMB	FIX	0	3	3

7. Video Adjust3

No	Item	Data	Min	Max	Initial value
1	NR Off Value	FIX	0	31	3
2	Gamma Mode	FIX	0	1	1
3	Gamma Correction	FIX	-255	255	80
4	BST StartPoint	FIX	0	255	127
5	BST Gain(B)	FIX	-64	63	100
6	DPWL Gain	FIX	0	255	120
7	DPWL Start	FIX	-64	0	150
8	PIP Contrast	FIX	0	15	6
9	PIP Tint	FIX	-32	31	57
10	PIP Color	FIX	0	15	5
11	PIP PAL V.Pos	FIX	0	255	24
12	PIP NTSC V.Pos	FIX	0	255	23
13	PIP H.Pos	FIX	0	255	39
14	PIP R Cutoff	FIX	0	15	3
15	PIP B Cutoff	FIX	0	255	3
16	PIP R Drive	FIX	0	255	157
17	PIP B Drive	FIX	0	255	158
18	NTSC VERPOS	FIX	0	170	18
19	NTSC VERWIDTH	FIX	0	170	101

8. EEPROM(NTSC)

No	Item	Data	Min	Max	Initial value
0	Dynamic Contrast	FIX	0	255	100
1	Dynamic Brightness	FIX	0	255	45
2	Dynamic Sharpness	FIX	0	255	65
3	Dynamic Color	FIX	0	255	43
4	Dynamic Tint	FIX	0	255	50
5	Standard Contrast	FIX	0	255	82
6	Standard Brightness	FIX	0	255	45
7	Standard Sharpness	FIX	0	255	50
8	Standard Color	FIX	0	255	43
9	Standard Tint	FIX	0	255	50
10	Movie Contrast	FIX	0	255	50
11	Movie Brightness	FIX	0	255	55
12	Movie Sharpness	FIX	0	255	25
13	Movie Color	FIX	0	255	40
14	Movie Tint	FIX	0	255	50
15					255
16					255
17					255
18					255
19	DVD SUB TINT	FIX	0		10
20	16:9 V-SHIFT	FIX	0	100	15
21	16:9 PARAVOLA	FIX	0	100	5
22	PIP BRIGHTNESS	FIX	0	15	0
23	Double TTX Contrast	FIX			255
24	TTX V Position	FIX	0	255	255
25	TTX H Position	FIX	0	255	255
26	TTX Contrast	FIX	0	255	255
27	TTX Brightness	FIX	0	255	255
28	OSD Contrast	FIX	0	255	120
29	OSD Brightness	FIX	0	255	25
30	Double TTX H Position	FIX	0	255	255
31	Standard Equ100(Std BASS)	FIX	0	8	50
32	Standard Equ300 (Std TREBLE)	FIX	0	13	50
33	Standard Equ1K (Music BASS)	FIX	0	14	85
34	Standard Equ3K (Music TREBLE)	FIX	0	13	70

No	Item	Data	Min	Max	Initial value
35	Standard 10K(Movie BASS)	FIX	0	12	95
36	Music Equ100 (Movie TREBLE)	FIX	0	18	50
37	Music Equ300 (Speech BASS)	FIX	0	14	40
38	Music Equ1K (Speech TREBLE)	FIX	0	11	50
39	Music Equ3K	FIX	0	14	255
40	Music 10K	FIX	0	18	255
41	Movie Equ100	FIX	0	22	255
42	Movie Equ300	FIX	0	15	255
43	Movie Equ1K	FIX	0	11	255
44	Movie Equ3K	FIX	0	12	255
45	Movie 10K	FIX	0	13	255
46	Speech Equ100	FIX	0	6	255
47	Speech Equ300	FIX	0	11	255
48	Speech Equ1K	FIX	0	14	255
49	Speech Equ3K	FIX	0	13	255
50	Speech 10K	FIX	0	11	255
51	Brightness(RGB/DVD)	FIX	0	255	6
52	Contrast(RGB/DVD)	FIX	0	63	42
53	U Saturation(RGB/DVD)	FIX	0	63	44
54	V saturation(RGB/DVD)	FIX	0	63	43
55	V/FBL Delay	FIX	0	255	85
56	CrCb Delay	FIX	0	255	84
57	d/w h-position	FIX	0	255	255
58	d/w -blanking 1	FIX	0	255	255
59	d/w -blanking 2	FIX	0	255	255
60	PIP G CUTOFF	FIX	0	255	4
61	PIP G DRIVE	FIX	0	255	170
62	OSD/PIP BRIGHT BALANCE	FIX	0	31	31
63	PIP BRIGHT OFFSET	FIX	0	255	86
64	MDB_STRENGTH	FIX	0	127	68
65	MDB_HARMONIC	FIX	0	127	37
66	MDB_HP	FIX	0	30	9
67	MDB_LP	FIX	0	30	11
68	MDB_LIM	FIX	0	255	87
69	MDB_CUTOFF	FIX	0	40	255
70	EHT POSITION 1	FIX	0	255	5

No	Item	Data	Min	Max	Initial value
71	EHT POSITION 2	FIX	0	255	249
72	3.4CH SLLTHD (TV-NO NOISE)	FIX	0	3	0
73	CH SLLTHD (TV-NO NOISE)	FIX	0	3	0
74	LNA Operating Point	FIX	0	255	166
75	SLLTHDV(TV NO NOISE)	FIX	0	6	0
76	LNA Default	FIX	0	1	0
77	LNA SWITCH	FIX	0	1	0
78	LMIXOFS	FIX	0	13	13
79	H-OUTDEL	FIX	0	255	72
80	CR-P Initial	FIX	0	255	4
81	CR-I Initial	FIX	0	255	5
82	DRX_CR_AMP_TH	FIX	0	255	10
83	Over Modulation Return Counter	FIX	0	255	100
84	VCR Mode Counter	FIX	0	255	5
85	VID_AMP_HEAD_BS (In the modulation)	FIX	0	255	40
86	CR_P (In the Over Modulation)	FIX	0	255	4
87	THRSEL(picture shaking when weak signal)	FIX	0	255	2
88	SLLTHDVP	FIX	0	255	1
89	EPP_BC_MIN_LIMIT	FIX	0	255	150

9. Video Adjust COMP

No	Item	Data	Min	Max	Initial value
1	<u>R Cutoff Comp</u>	ADJ	0	32	11
2	G Cutoff Comp	FIX	0	32	0
3	<u>B Cutoff Comp</u>	ADJ	0	32	2
4	<u>R Drive Comp</u>	ADJ	0	32	0
5	G Drive Comp	FIX	0	32	0
6	<u>B Drive Comp</u>	ADJ	0	32	0
7	<u>Sub Bright Comp</u>	ADJ	0	32	23
8	<u>Sub Contrast Compa</u>	ADJ	0	32	0

10. YC Delay

No	Item	Data	Min	Max	Initial value
1	PAL Delay	FIX	-8	7	0
2	SECAM Delay	FIX	-8	7	0
3	NTSC Delay	FIX	-8	7	-3
4	PAL(AV) Delay	FIX	-8	7	0
5	SECAM(AV) Delay	FIX	-8	7	0
6	NTSC(AV) Delay	FIX	-8	7	0

11. Test Pattern

No	Item	Data	Min	Max	Initial value
1	Test Pattern	Fix	-	-	0

12. G2 Adjust

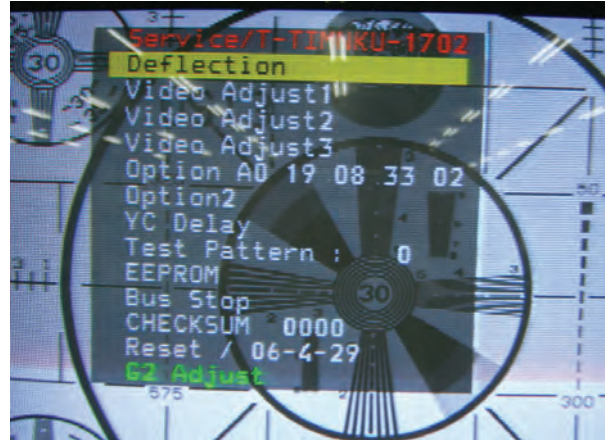
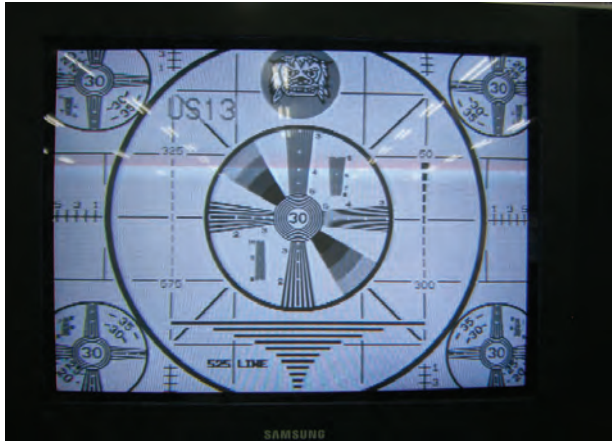
No	Item	Data	Min	Max	Initial value
1	Read Cut	-	0	255	-
2	Read Drive	-	0	255	-
3	IBRM	FIX	0	255	200
4	WDRM	FIX	0	255	50
5	CDL	FIX	0	255	180
6	COLR G B	FIX	0	255	50/50/50

4-2-4 Service Adjustment

1. Adjusting the Picture Size

Since the K16C chassis includes a deflection adjustment of the Factory Data, adjustments must be performed according to the following procedures when replacing the Main Board.

1. Display the Lion pattern.
2. Press "Power Off → Mute → 1 → 8 → 2 → Power On" using the remote control and enter Factory Mode.

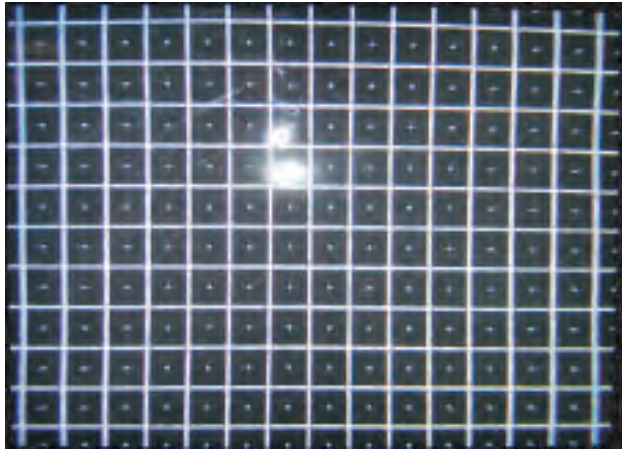


3. Enter Deflection Mode.
4. Adjust the V-AMP, V-SHIFT, H-EW and H-SHIFT items so that the width becomes 5 and the height becomes 4.



2. Adjusting the Picture Straight Lines

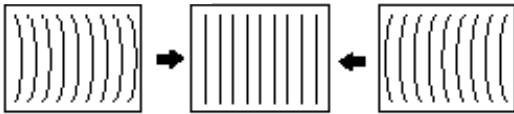
1. Display the Cross Hatch pattern.



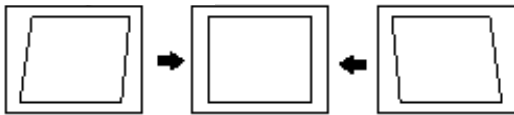
2. Adjust settings other than V-AMP, V-SHIFT, H-EW and H-SHIFT so that straight lines are displayed without curves.

3. Adjust BOW and the Angle settings so that the center line becomes a straight line.

13 BOW

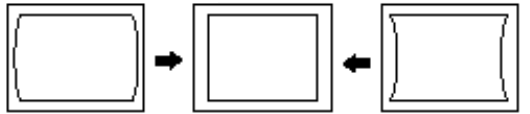


14 Angle



4. Adjust the H-Parabola and H-Trapezium settings so that the left and right lines become straight.

9 H Parabola

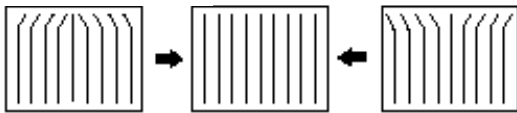


12 H Trapezium

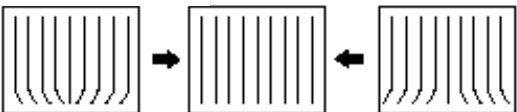


5. Adjust the Upper Corner and the Low Corner settings so that the end of the lines become straight.

10 Upper Corner

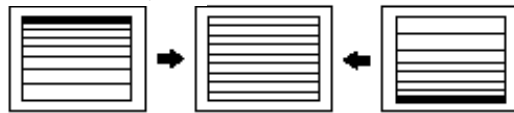


11 Lower Corner



6. Adjust the V-Linearity and V-SC settings so that the intervals of the horizontal lines become uniform

5 V Linearity



8 V SC



7. When the adjustments are complete, display the Lion pattern and check that the picture size has not been changed. If there is no change, finish the adjustments.

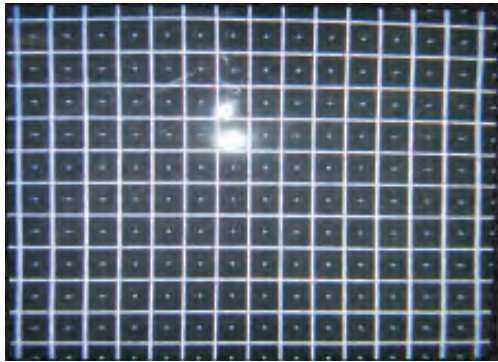
4-2-5 Replacements & Calibration

No	Item	Data	Remark
1	Main B/D	Adjust Tilt, Adjust Screen, Adjust Focus, Adjust Factory Data, Adjust W/B	Toshiba Mode
2	Power B/D	Adjust Screen, Adjust Focus	Toshiba Mode
3	CRT Assy	-	-
4	FBT	Adjust Screen, Adjust Focus	Toshiba Mode
5	SUB	-	-

■ Adjusting the Focus

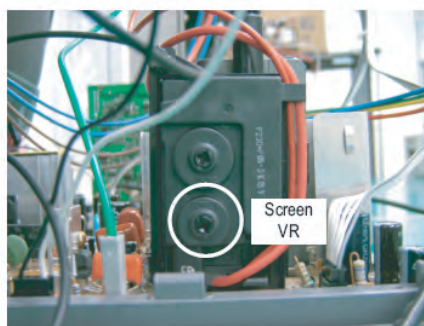
You must adjust the settings in the following order for the K16C chassis when replacing the CRT PCB, FBT, or CRT.

1. Display the Cross Hatch pattern.
2. Set the Screen Adjustment to "OK".
3. Turn the Focus VR so that the horizontal and vertical lines are clearly displayed.
4. Check the Focus for the entire screen and adjust the Focus VR if necessary.



■ Adjusting the Screen Voltage

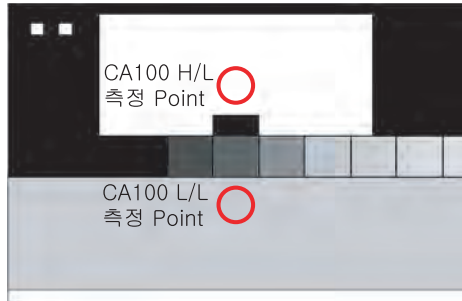
1. Select: **Power OFF** → **Mute** → **1** → **8** → **2** → **POWER ON**
2. Initialize all settings to the values appropriate to the corresponding model.
3. Display the Toshiba pattern.



4. First check IBRM in "G2 Adjust" of Factory and adjust Screen VR until the color of IBRM item turns green.

■ Adjusting the White Balance

1. Select **Power OFF** → **Mute** → **1** → **8** → **2** → **POWER ON**
2. Initialize all settings to the values appropriate to the corresponding model.
3. Display the Toshiba pattern and adjust the White Balance using CA100 with the coordinates of the corresponding model.



[CA100]

4. Enter Video Adjust1 of Service Mode. Adjust Low/Light.
 - Adjust Sub Bright to set Y.
 - Adjust B Cutoff to set y.
 - Adjust R Cutoff to set x.
5. Enter Video Adjust1 of Service Mode. Adjust High/Light.
 - Adjust Sub Contrast to set Y.
 - Adjust B Drive to set y.
 - Adjust R Drive to set x.
6. Check Low/Light and readjust it if its value has been changed.
7. If you have readjusted Low/Light, readjust High/Light until the two values are identical to the coordinates of the corresponding model.

※ White Balance Standard Data

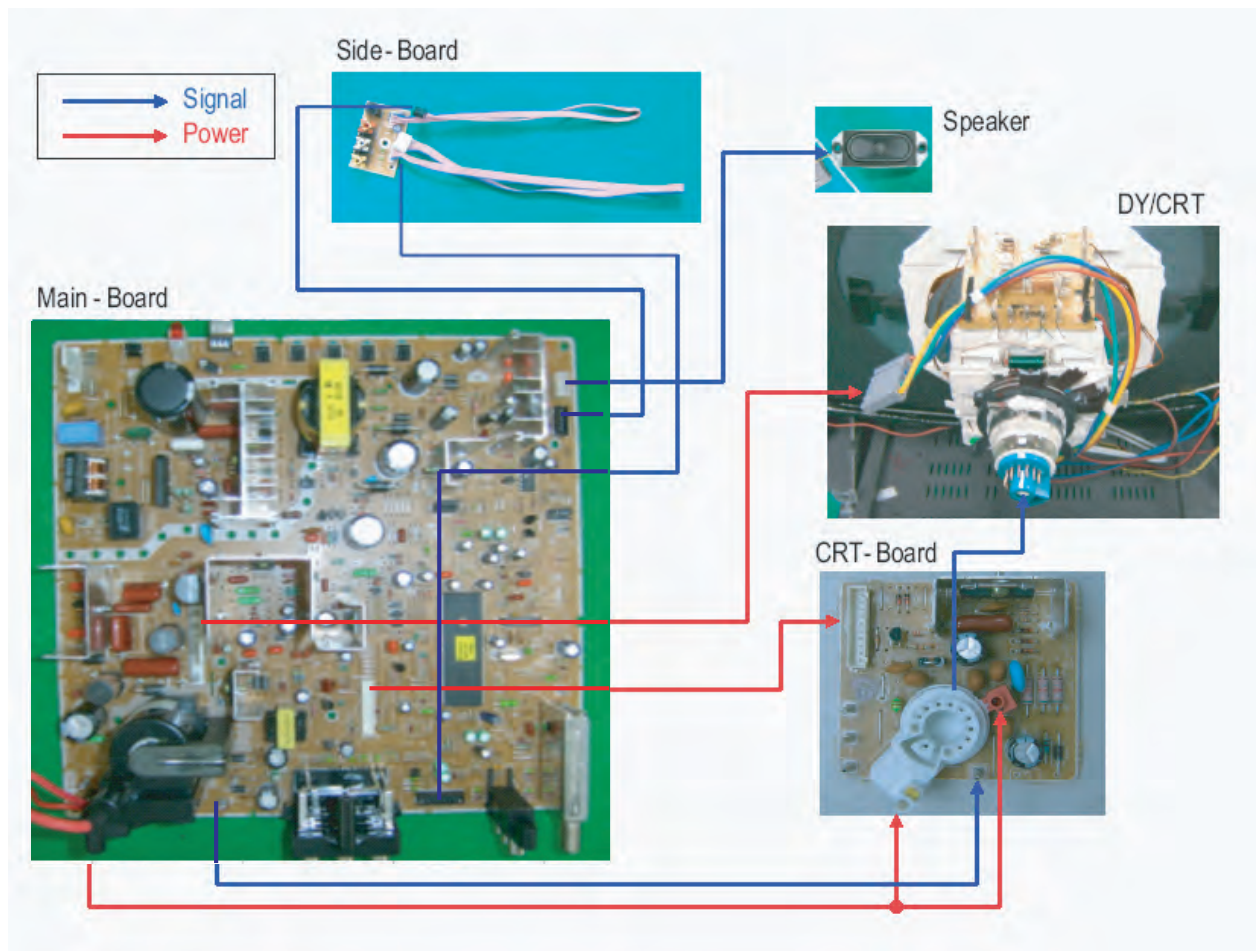
No	Item	Data	Required Adjustment
1	White Balance	x:275± 3 y:275± 3 Y:38± 0.3	White Balance (Standard Data)
		x:265± 3 y:265± 3 Y:1.8± 0.2	

■ Check List for the Screen Voltage and White Balance Adjustment

1. The Screen Voltage and White Balance are connected to each other, and both of them have to be configured to the correct values.
2. Adjust the White Balance after the Screen Voltage was adjusted, and check if the Screen Voltage is normal after adjusting the White Balance.
3. If the White Balance is readjusted, check the Screen Voltage again.
4. When the adjustment is finished, check the following checklist.
 - f there is a spot on the screen when turning the TV set off/on, adjust the Screen Voltage again.
 - f there is a ghost line on the screen, adjust the Screen Voltage again.





6. Wiring Diagram

6-1 Overall Wiring

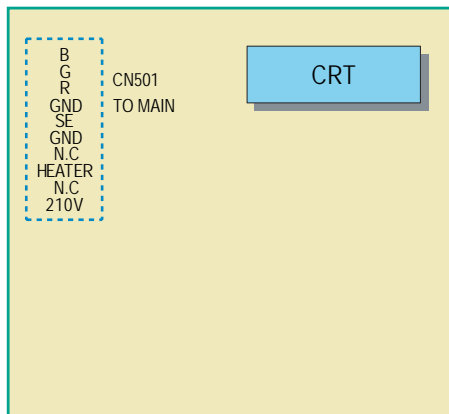
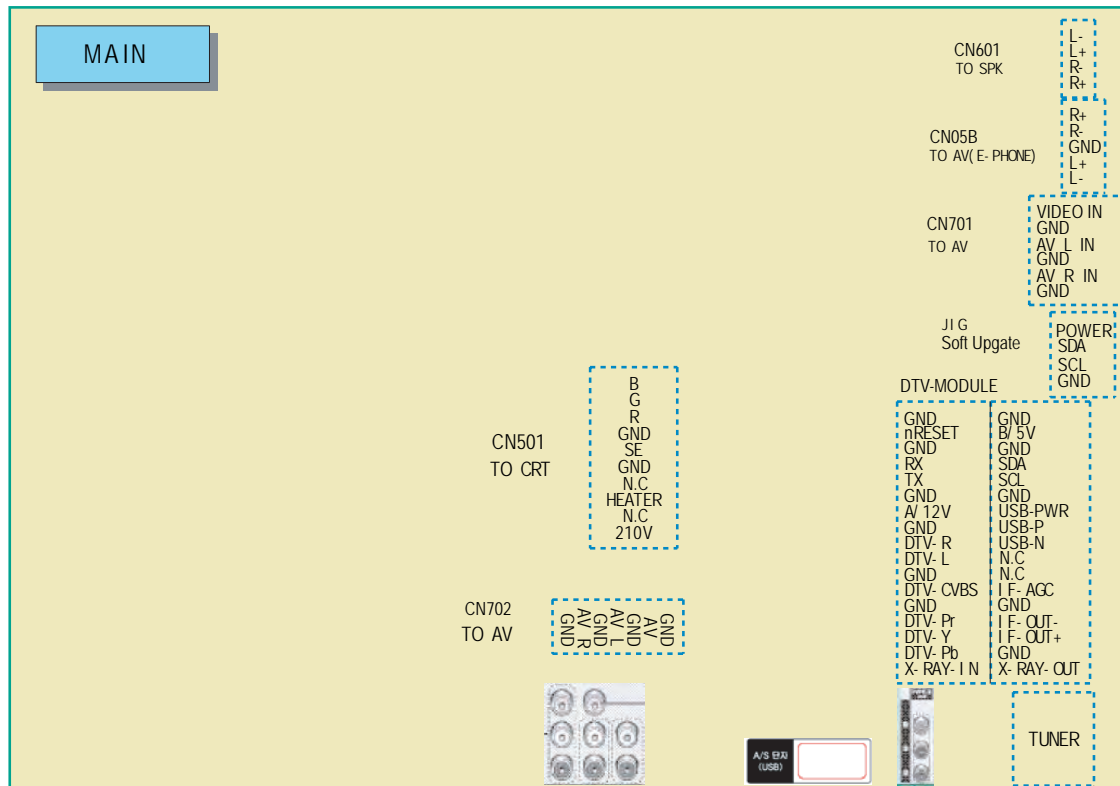


Wiring Diagram

※ The code number of cable(Lead-connector) can be changed, see "5. Exploded View & Part List."

Use	① CRT Board↔Main Board	② Power Code	③ Speaker Wire
Code	BP39-00173B	AA96-20107C	AA96-04766A
Photo			
Use	④ CRT Board↔Main Board		
Code	AA39-20010D		
Photo			

6-2 Pin Connection



6-2-1 Main Board Connector Pin

CN501

CRT Board connection

Pin No.	Pin Name
1	B
2	G
3	R
4	GND
5	SENCE
6	GND
7	SYN
8	HEATER
9	GND
10	200V

CN05B

Side-AV connection

Pin No.	Pin Name
1	L+
2	L+
3	GND
4	R+
5	R-

CN701

Side-AV connection

Pin No.	Pin Name
1	AV2 Video In
2	GND
3	AV2 L In
4	GND
5	AV2 R In
6	GND

CN601

Speaker connection

Pin No.	Pin Name
1	L+
2	L+
3	R+
4	R-

CN501

CRT Board connection

Pin No.	Pin Name
1	GND
2	AV R IN
3	GND
4	AV L IN
5	GND
6	VIDEO IN
7	GND

CN501

Pin No.	Pin Name
1	B
2	G
3	R
4	GND
5	SENCE
6	GND
7	SYN
8	HEATER
9	GND
10	200V

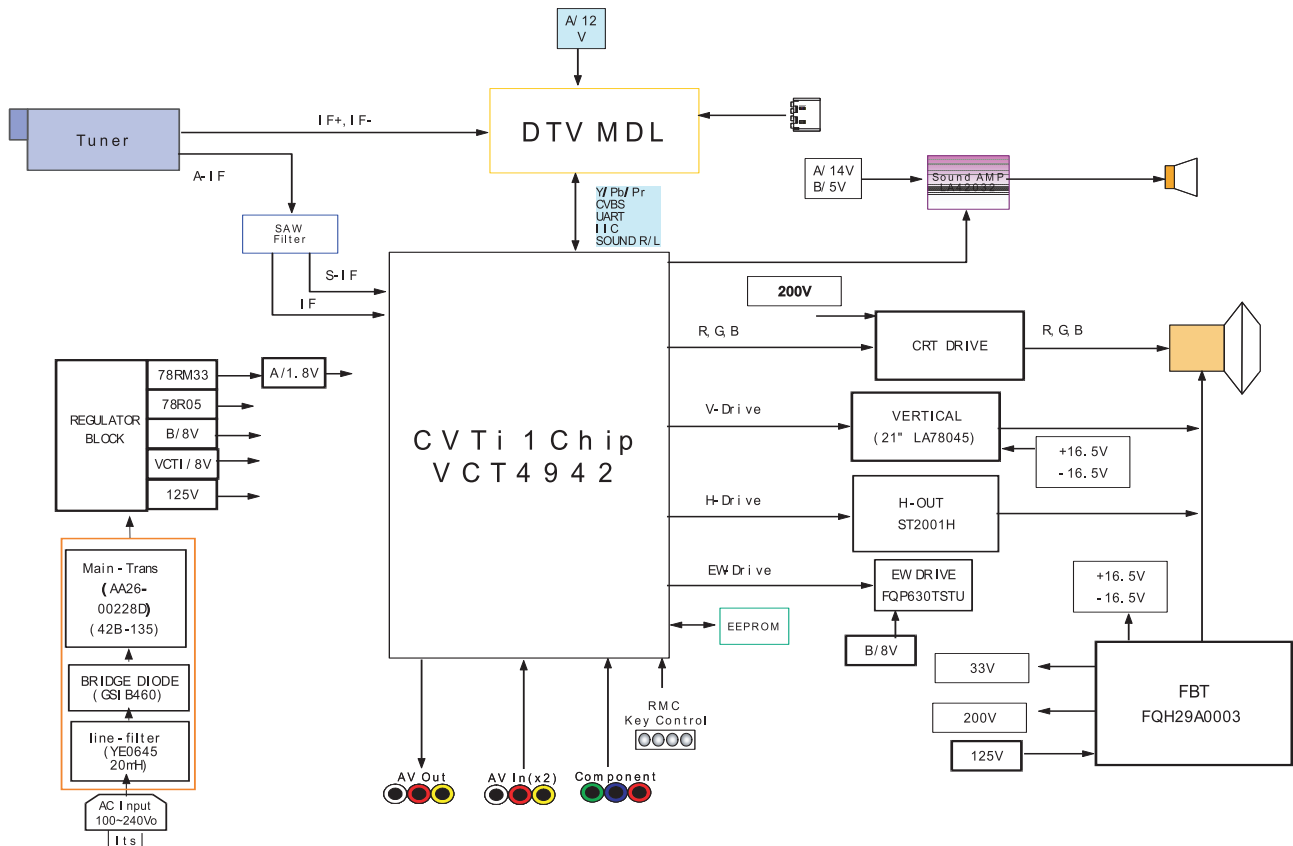
6-2-2 Connector role

Loc. No.	Description
CN501	Main Board and CRT Board connect
CN05B	Main Board and Side-AV to E-Phone connect
CN701	Main Board and Side-AV connect
CN601	Main Board and Speaker connect
CN702	Main Board and Side-AV connect

7. Schematic Diagram

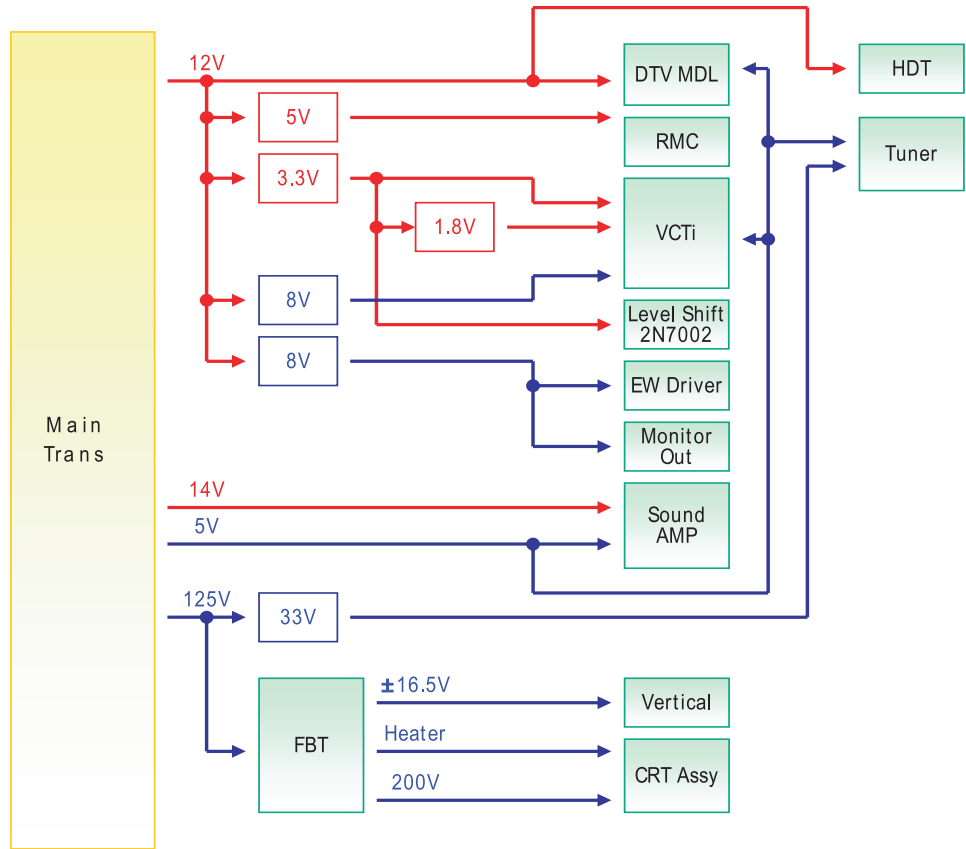
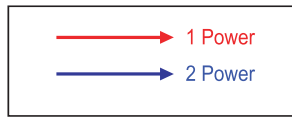
7-1 Circuit Description

7-1-1 Overall Block Description



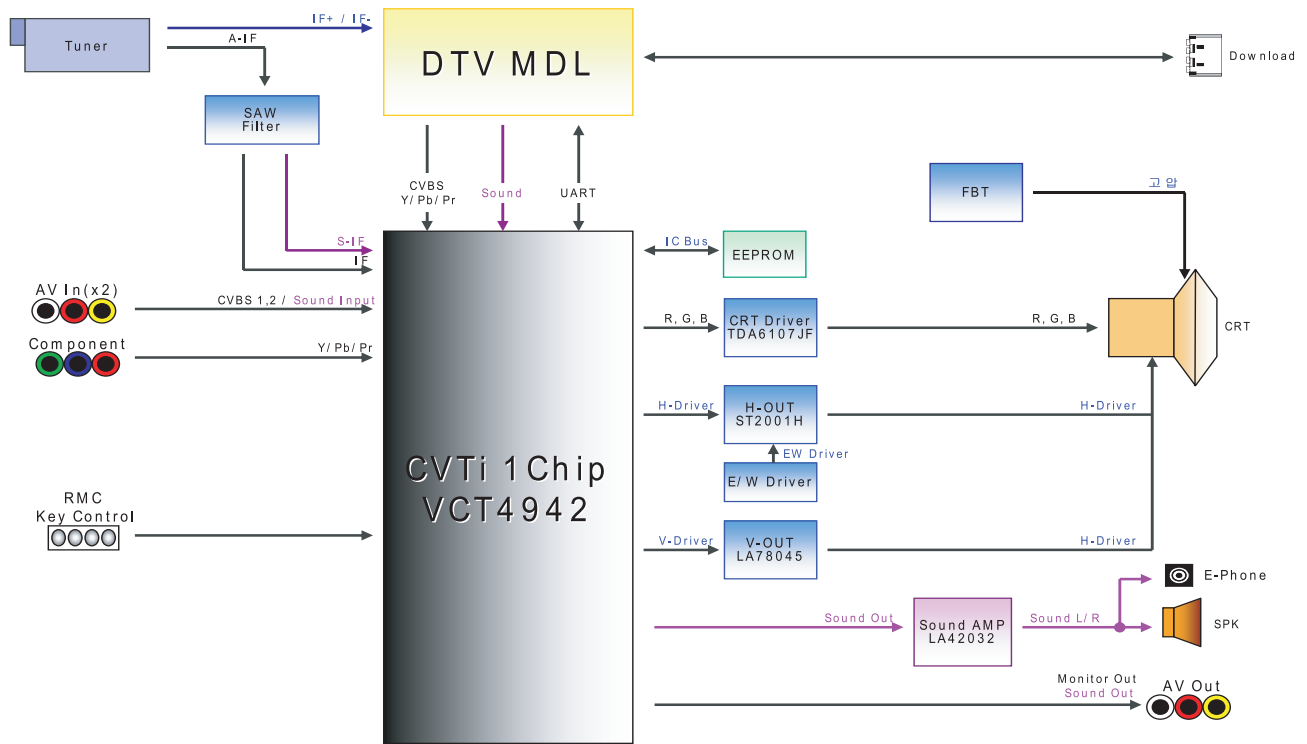
Part	Function
VCTi 1Chip	Treat IF+MICOM+VIDEO+MSP+Switching function.
DTV Module	Treat Channel, MPEG Decoder, AC-3 Decoder, CPU, Scaler, Video DAC, Audio function related to DTV signal.
VIDEO	Output video signal , input by Main Tuner and external equipment through VCTi Chip, as the final CRT R/G/B
SOUND	Output as Speaker through Audio Processing block and Sound AMP inside VCTi

7-1-2 Power Signal

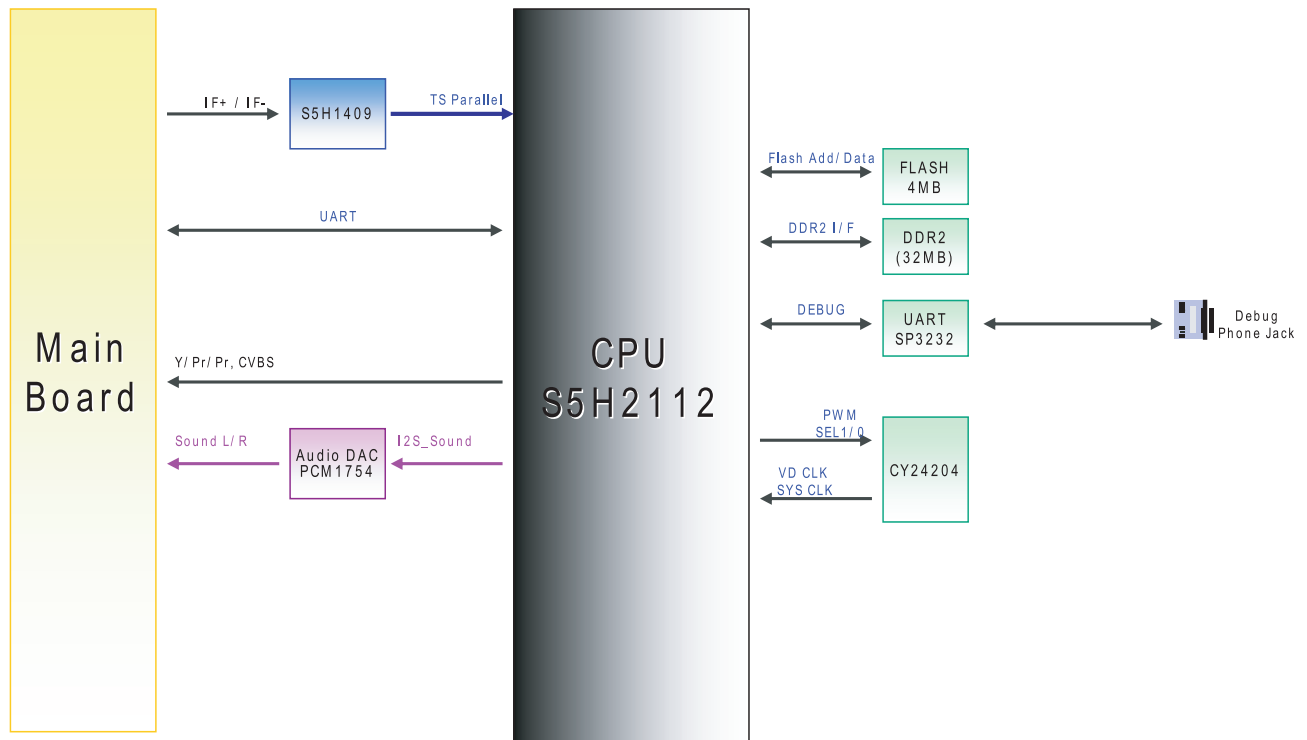


7-1-3 Partial Block Diagram

1. Main Block Description



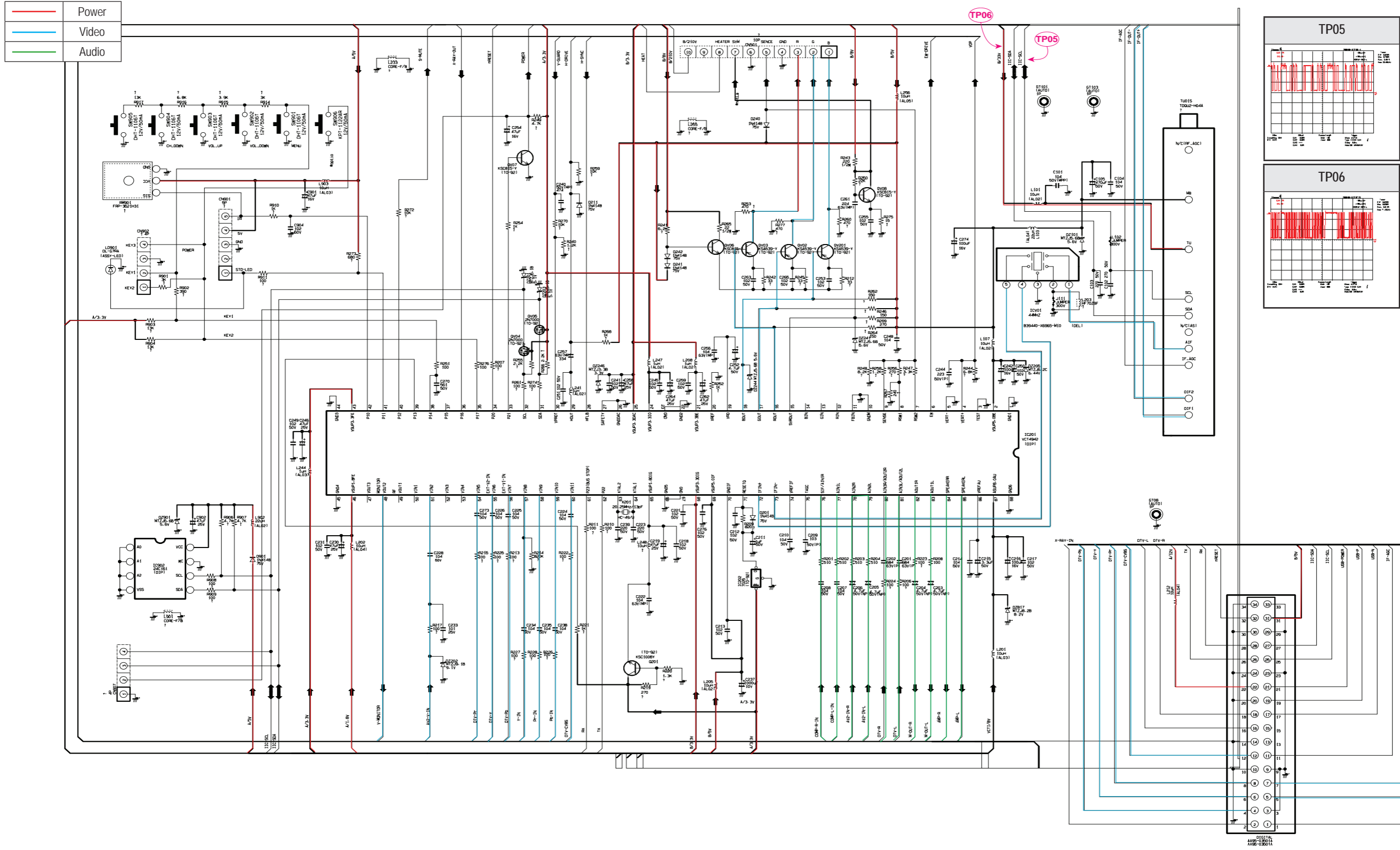
2. DTV MDL Block Description



7-2 Schematic Diagram

7-2-1 Main Board

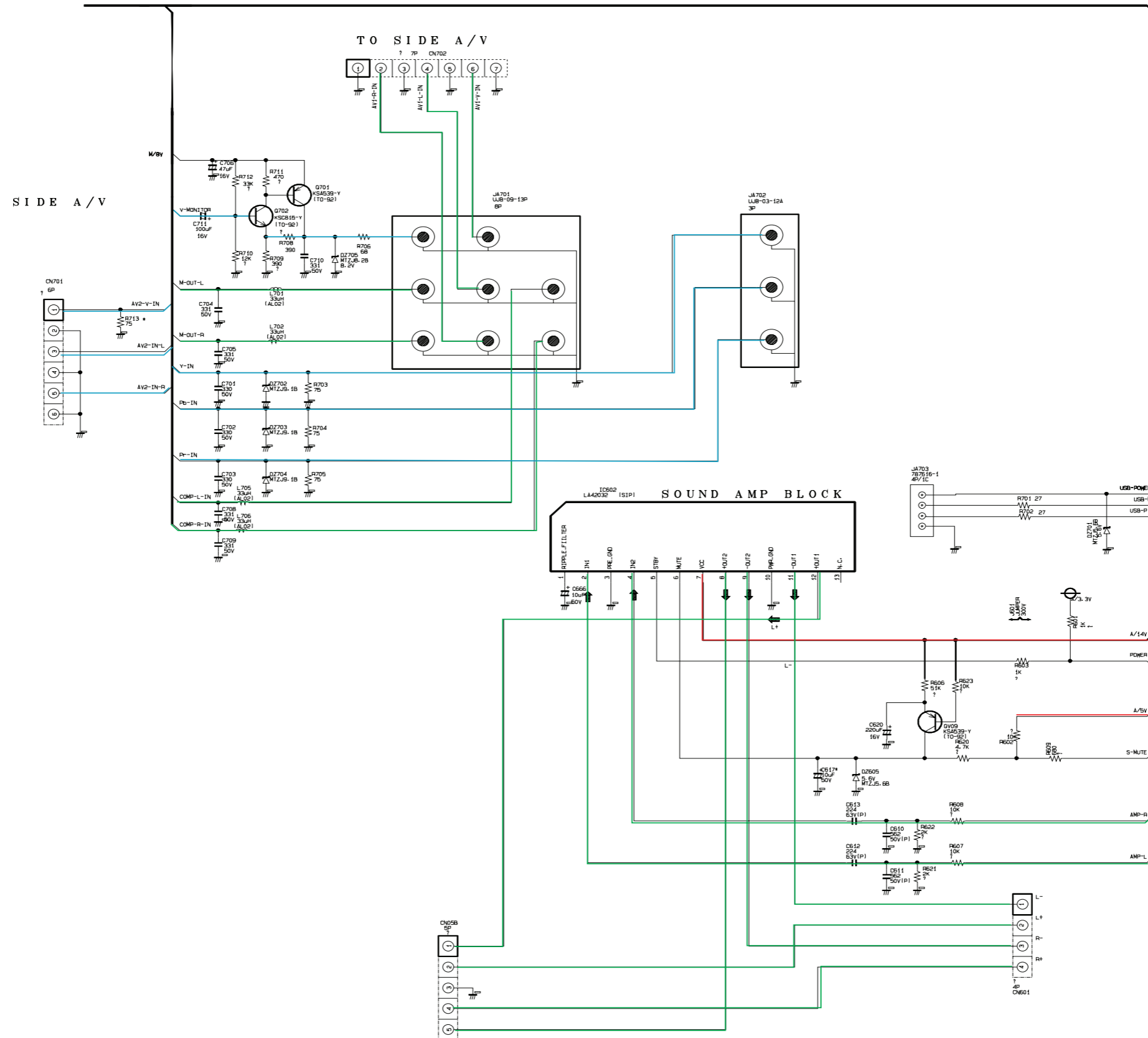
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7-2-2 A/V & Sound Block

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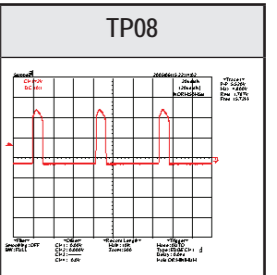
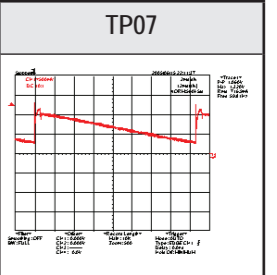
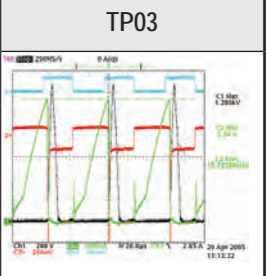
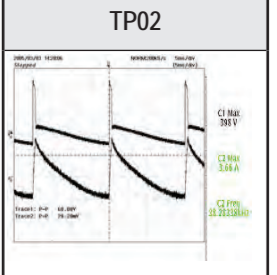
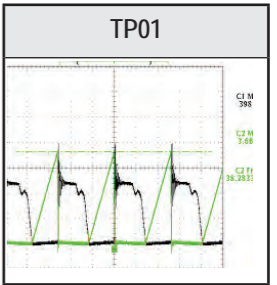
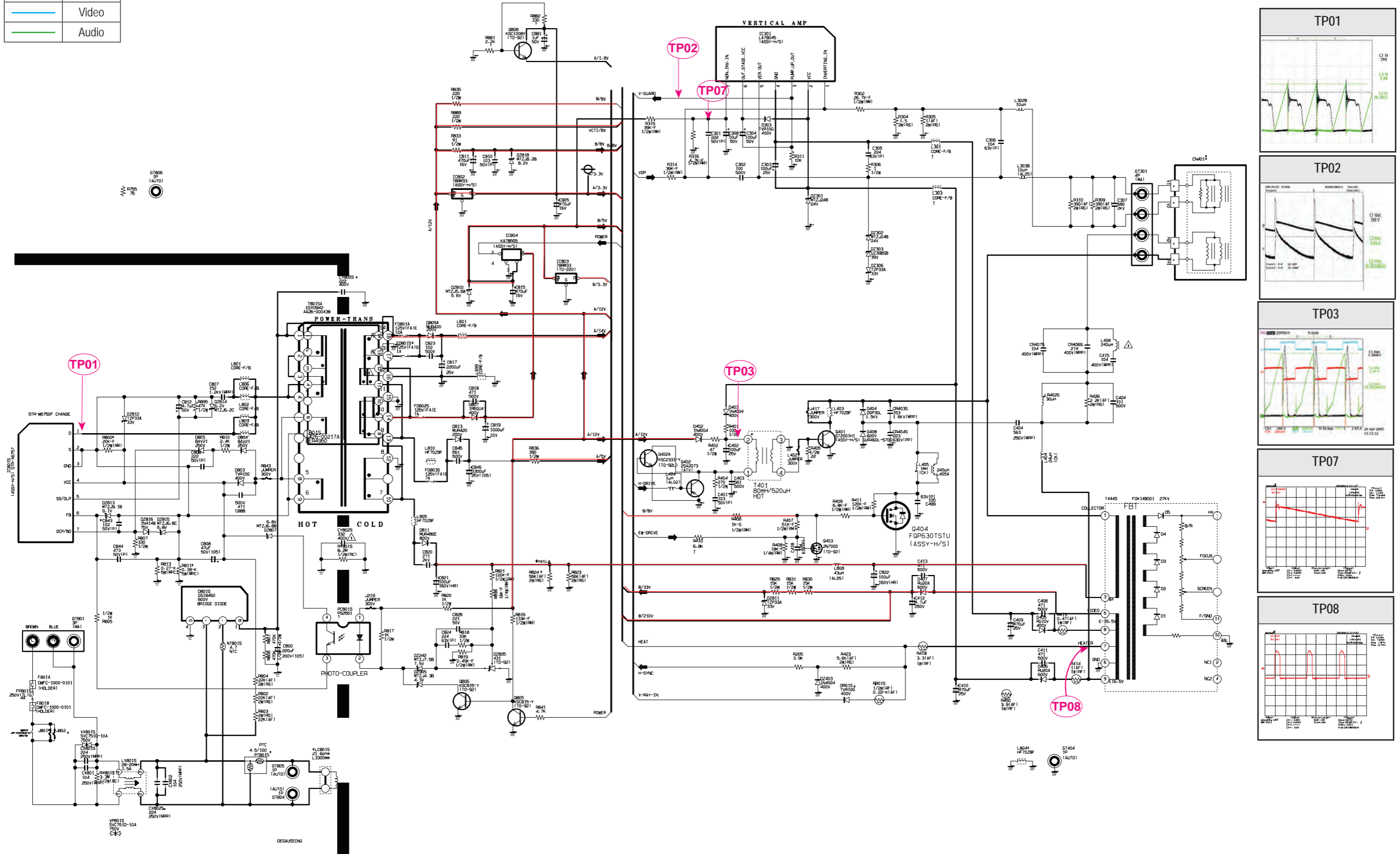
—	Power
—	Video
—	Audio



7-2-3 Power & Deflection

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—	Power
—	Video
—	Audio

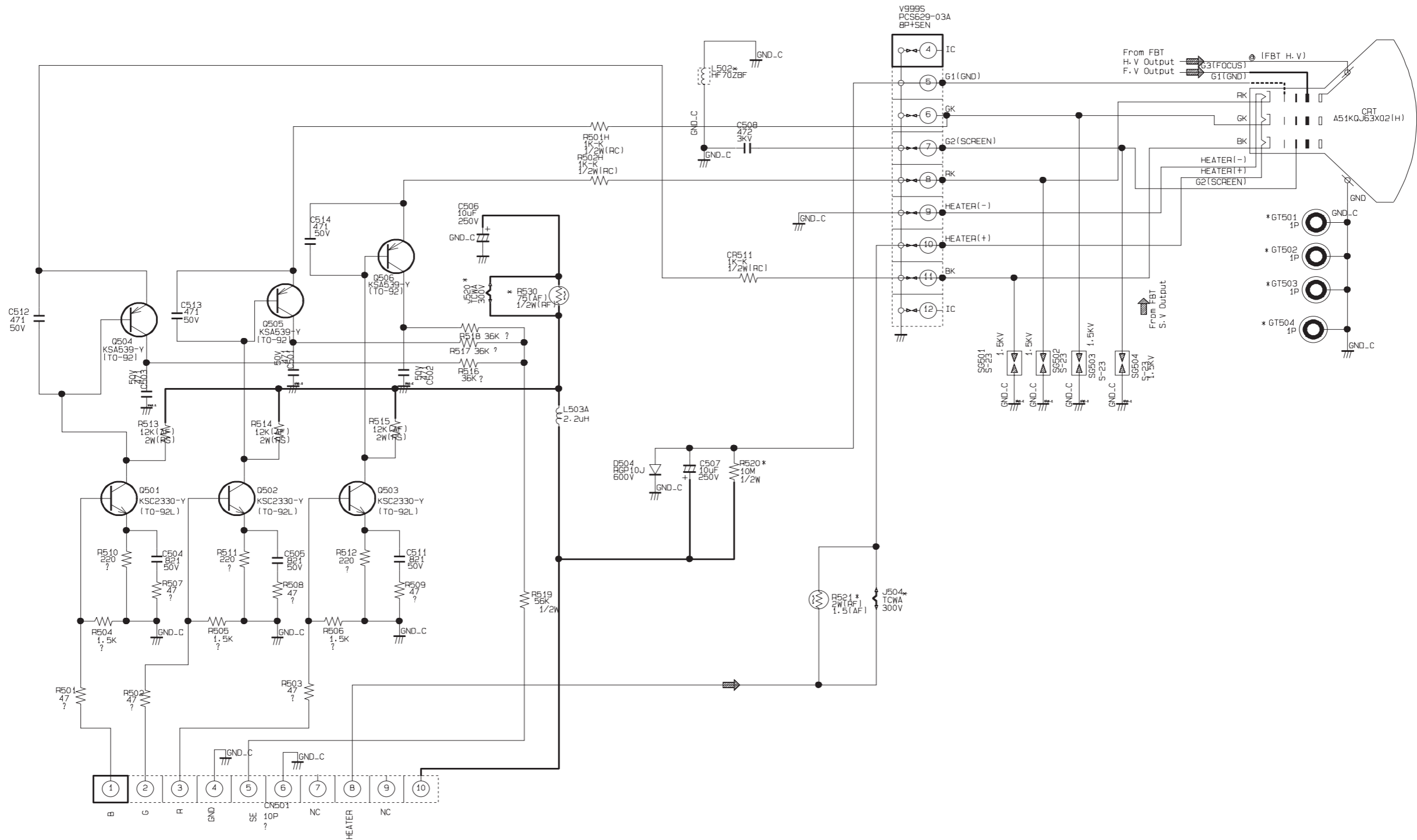


7-2-4 CRT Block

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	Power
	Video
	Audio

CRT (MAIN SUB CRT)



7-2-4 AV Board

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	Power
	Video
	Audio

