

SAMSUNG

COLOR TELEVISION RECEIVER

Chassis : KS3A(P) (REV. 2)
Model : CS29A5HT8X/BWT
CS29A5HT8X/NWT
CS29A5HT8X/VWT
CZ21A8VW8X/ELS

RTV servis Horvat

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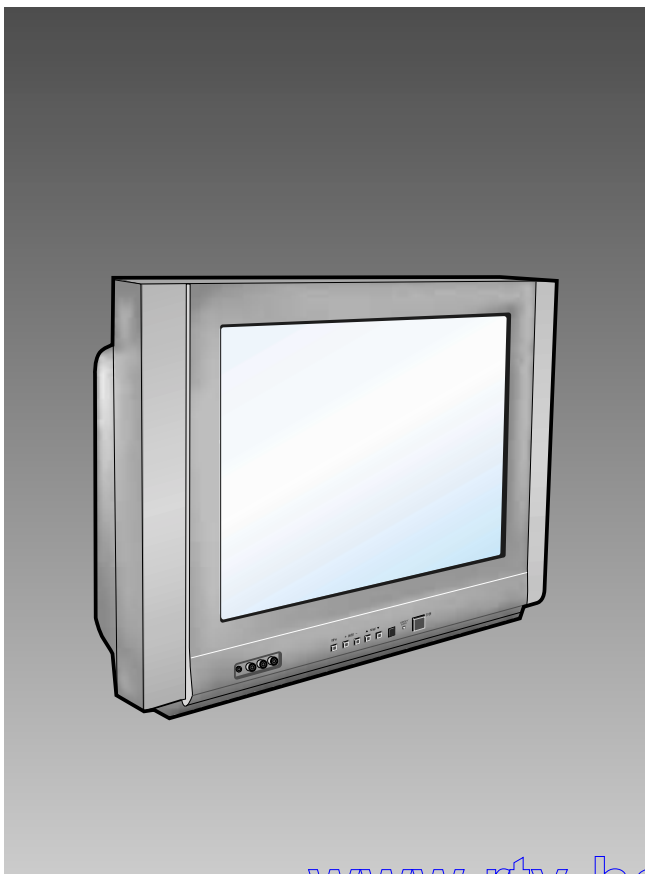
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SERVICE Manual

COLOR TELEVISION RECEIVER



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1. Precautions

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

1-1 Safety Precautions

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

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

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

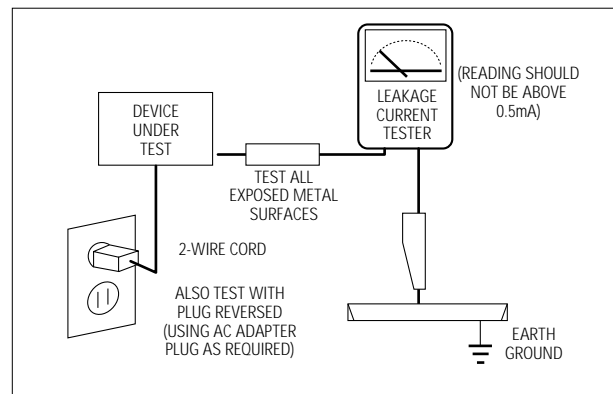




Fig. 1-1 AC Leakage Test

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

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

1-1 Safety Precautions (Continued)

9. High voltage is maintained within specified limits by close-tolerance, safety-related components and adjustments. If the high voltage exceeds the specified limits, check each of the special components.
10. Design Alteration Warning:
Never alter or add to the mechanical or electrical design of this unit. Example: Do not add auxiliary audio or video connectors. Such alterations might create a safety hazard. Also, any design changes or additions will void the manufacturer's warranty.
11. Hot Chassis Warning:
Some TV receiver chassis are electrically connected directly to one conductor of the AC power cord. If an isolation transformer is not used, these units may be safely serviced only if the AC power plug is inserted so that the chassis is connected to the ground side of the AC source.
- To confirm that the AC power plug is inserted correctly, do the following: Using an AC voltmeter, measure the voltage between the chassis and a known earth ground. If the reading is greater than 1.0V, remove the AC power plug, reverse its polarity and reinsert. Re-measure the voltage between the chassis and ground.
12. Some TV chassis are designed to operate with 85 volts AC between chassis and ground, regardless of the AC plug polarity. These units can be safely serviced only if an isolation transformer inserted between the receiver and the power source.
13. Some TV chassis have a secondary ground system in addition to the main chassis ground. This secondary ground system is not isolated from the AC power line. The two ground systems are electrically separated by insulating material that must not be defeated or altered.
14. Components, parts and wiring that appear to have overheated or that are otherwise damaged should be replaced with parts that meet the original specifications. Always determine the cause of damage or overheating, and correct any potential hazards.
15. Observe the original lead dress, especially near the following areas: Antenna wiring, sharp edges, and especially the AC and high voltage power supplies. Always inspect for pinched, out-of-place, or frayed wiring. Do not change the spacing between components and the printed circuit board. Check the AC power cord for damage. Make sure that leads and components do not touch thermally hot parts.
16. Picture Tube Implosion Warning:
The picture tube in this receiver employs "integral implosion" protection. To ensure continued implosion protection, make sure that the replacement picture tube is the same as the original.
17. Do not remove, install or handle the picture tube without first putting on shatterproof goggles equipped with side shields. Never handle the picture tube by its neck. Some "in-line" picture tubes are equipped with a permanently attached deflection yoke; do not try to remove such "permanently attached" yokes from the picture tube.
18. Product Safety Notice:
Some electrical and mechanical parts have special safety-related characteristics which might not be obvious from visual inspection. These safety features and the protection they give might be lost if the replacement component differs from the original—even if the replacement is rated for higher voltage, wattage, etc.
- Components that are critical for safety are indicated in the circuit diagram by shading, () or (). Use replacement components that have the same ratings, especially for flame resistance and dielectric strength specifications. A replacement part that does not have the same safety characteristics as the original might create shock, fire or other hazards.

1-2 Servicing Precautions

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

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

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

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

1-3 Precautions for Electrostatically Sensitive Devices (ESDs)

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

2. Reference Information

2-1 Tables of Abbreviations and Acronyms

Table 2-1 Abbreviations

A	Ampere	MV	Megavolt
Ah	Ampere-hour	MW	Megawatt
Å	Angstrom	MΩ	Megohm
dB	Decibel	m	Meter
dBm	Decibel Referenced to One Milliwatt	μA	Microampere
°C	Degree Celsius	μF	Microfarad
°F	Degree Fahrenheit	μH	Microhenry
°K	degree Kelvin	μm	Micrometer
F	Farad	μs	Microsecond
G	Gauss	μW	Microwatt
GHz	Gigahertz	mA	Milliampere
g	Gram	mg	Milligram
H	Henry	mH	Millihenry
Hz	Hertz	ml	Milliliter
h	Hour	mm	Millimeter
ips	Inches Per Second	ms	Millisecond
kWh	Kilowatt-hour	mV	Millivolt
kg	Kilogram	nF	Nanofarad
kHz	Kilohertz	Ω	Ohm
kΩ	Kilohm	pF	Picofarad
km	Kilometer	lb	Pound
km/h	Kilometer Per Hour	rpm	Revolutions Per Minute
kV	Kilovolt	rps	Revolutions Per Second
kVA	Kilovolt-ampere	s	Second (Time)
kW	Kilowatt	V	Volt
l	Liter	VA	Volt-ampere
MHz	Megahertz	W	Watt
		Wh	Watt-hour

Table 2-2 Table of Acronyms

ABL	Automatic Brightness Limiter	I/O	Input/output
AC	Alternating Current	L	Left
ACC	Automatic Chroma Control	L	Low
AF	Audio Frequency	LED	Light Emitting Diode
AFC	Automatic Frequency Control	LF	Low Frequency
AFT	Automatic Fine Tuning	MOSFET	Metal-Oxide-Semiconductor-Field-Effect-Tr
AGC	Automatic Gain Control	MTS	Multi-channel Television Sound
AM	Amplitude Modulation	NAB	National Association of Broadcasters
ANSI	American National Standards Institute	NEC	National Electric Code
APC	Automatic Phase Control	NTSC	National Television Systems Committee
APC	Automatic Picture Control	OSD	On Screen Display
A/V	Audio-Video	PCB	Printed Circuit Board
AVC	Automatic Volume Control	PLL	Phase-Locked Loop
BAL	Balance	PWM	Pulse Width Modulation
BPF	Bandpass Filter	QIF	Quadrature Intermediate Frequency
B-Y	Blue-Y	R	Right
CATV	Community Antenna Television (Cable TV)	RC	Resistor & Capacitor
CB	Citizens Band	RF	Radio Frequency
CCD	Charge Coupled Device	R-Y	Red-Y
CCTV	Closed Circuit Television	SAP	Second Audio Program
Ch	Channel	SAW	Surface Acoustic Wave(Filter)
CRT	Cathode Ray Tube	SIF	Sound Intermediate Frequency
CW	Continuous Wave	SMPS	Switching Mode Power Supply
DC	Direct Current	S/N	Signal/Noise
DVM	Digital Volt Meter	SW	Switch
EIA	Electronics Industries Association	TP	Test Point
ESD	Electrostatic Discharge	TTL	Transistor Transistor Logic
ESD	Electrostatically Sensitive Device	TV	Television
FBP	Feedback Pulse	UHF	Ultra High Frequency
FBT	Flyback Transformer	UL	Underwriters Laboratories
FF	Flip-Flop	UV	Ultraviolet
FM	Frequency Modulation	VCD	Variable-Capacitance Diode
FS	Fail Safe	VCO	Voltage Controlled Oscillator
GND	Ground	VCXO	Voltage Controlled Crystal Oscillator
G-Y	Green-Y	VHF	Very High Frequency
H	High	VIF	Video Intermediate Frequency
HF	High-Frequency	VR	Variable Resistor
HI-FI	High Fidelity	VTR	Video Tape Recorder
IC	Inductance-Capacitance	VTVM	Vacuum Tube Voltmeter
IC	Integrated Circuit	TR	Transistor
IF	Intermediate Frequency		

2-2 IC Line Up

Table 2 - 3 IC Line - Up					
NO	BOARD	LOC. NO	SPEC	DESCRIPTION	REMARK
1	MAIN	IC201S	VDP3112B	Video Processor	Refer to Table 2-3-1
		IC601	MSP3411G	Multistandard Sound Processor	Refer to Table 2-3-2
		IC901	SDA555X	MICOM, TTX(MTP)	
		IC902	KS24L161	EEPROM	
		IC602	TDA7297	Audio AMP	Refer to Table 2-3-3
		HIC201	DRGB001	RGB Drive AMP Hybrid IC	VM Option
		HIC202			
		HIC203			
		HIC204			
		HIC401	DDR1001	100Hz Horizontal Pulse AMP	Option
		IC301	LA7845	Vertical IC	
		Q402	KSC2073-H2	Horizontal Drive IC	HC401
		Q401	KSD5703		
		D414	FMP-3FU		
		IC401	KA393	E/W Drive IC	
		Q404	IRF620		
		IC801S	3S1265R	SPS Controllor	
		D801S	RBV606	Bridge Diode	
		PC801S	PC123Y	Photo Coupler	
		IC802	KA78R05	5V Controlled Regulator	HC801
		D805	FML-G12S	Rectifier Diode	
		D806			
		D807			
		D802	FMG-G2CS		
		IC201	KA78RM33	3.3V Regulator	VDPY
		IC804	KA7806	6V Regulator	
		IC803	KA78R08	8V Controlled Regulator	
		IC903	KA78RM33	3.3V Regulator	
		IC904	KIA7025AP	MICOM Reset IC	
		Q909	2N7000	IIC Level Shifter	
		Q910			
		TU01S	TCLS3101PD09A9(S)	Main Tuner with IF Block	Refer to Table 2-3-4
TU02S	TCPN3081PD09A(S)	Sub Tuner with IF Block	Refer to Table 2-3-5		

Table 2 - 3 IC Line - Up						
NO	BOARD	LOC. NO	SPEC	DESCRIPTION	REMARK	
1	MAIN	T801S	AA26-00046A	Trans Switching	Refer to Table 2-3-6	
		T444S	FUJ-29B001	Trans FBT	Refer to Table 2-3-7	
2	CRT	IC501	TDA6111Q	Video Output AMP R.G.B Drive		
		IC502				
		IC503				
		QF04	2SC2344	Push-Pull (VM)	Option	
		QF05	2SA1011			
		QG02	KSA940	TR-Power (TILT)		
		QG03	KSD2073-H2			
ICG01	KA4558	OP-AMP (TILT)				
3	DOUBLE FOCUS	ICH01	KA4558	OP-AMP		Option
		QH01	2SC4636RB	TR-Power		Option
4	V-S/W	ICS01	TEA6425	Video Switching IC with Adder Output	Option	
5	PIP	ICP01	SDA9489X	High-end Picture-In Picture IC		
		ICP02	EZ1086CM	3.3V Regulator		

 **Table 2-3-1 VIDEO IC (IC201S)**

SPEC	FUNCTION	REMARK
VDP3108B	50Hz Basic	
VDP3112B	50Hz, 2H Comb Filtr	
VDP3120B	50Hz, 2H Comb Filter, Horizontal Scaler	
VDP3130Y	50Hz, 2H Comb Filter, DVD Input	
VDP3140D	100Hz	

 **Table 2-3-2 SOUND IC (IC601)**

SPEC	FUNCTION	REMARK
MSP3400D	Multistandard, A2 Stereo	
MSP3410D	Multistandard, A2 Stereo, Nicam	
MSP3411G	Multistandard, A2 Stereo, Nicam, Virtual Dolby	

 **Table 2-3-3 SOUND AMP (IC602)**

SPEC	FUNCTION	REMARK
TDA7297	15W x 2CH, 10W x 2CH	


 **Table 2-3-4 1'st TUNER (TU01S)**

SPEC	FUNCTION	REMARK
TCLS3101PD09A(S)	CS with LNA Function	Main
TCPS3001PD09D(S)	CS	
TCPS3001PD09E(S)	CS	India

Note TCPS3001PD09A(S) is out-of-date, TCPS3001PD09D(S) which is up-to-date has the same function.

 **Table 2-3-5 2'nd TUNER (TU02S)**

SPEC	FUNCTION	REMARK
TCPS3000PC09B(S)	CS	Sub

 **Table 2-3-6 TRANS**

SPEC	FUNCTION	REMARK
FUJ-29B001	29"	
FUH-29A001B	21"	

 **Table 2-3-7 TRANS FLYBACK (FBT)**

SPEC	FUNCTION	REMARK
AA26-00046A	29"	
AA26-00044C	21"	

3. Specifications

Television System	CS	PAL/SECAM-B/G,D/K,L,I, NTSC-M	
Antena Input		75ohms, Coaxial Cable	
Power	Consumption	100W (Applied When 29" Flat)	
	Requirements	220V Only	
		Free Voltage	Not Present R815
Frequency	50/60Hz		
Sound	Output	15W x 2CH	29 Inch
		10W x 2CH	21 Inch
		5W x 2CH	
	Effect	Vitual Dolby	Option
		Turbo Sound	
Pseudo Stereo			
Jacks	Front (AV2)	RCA Input	
		S-VHS	Option
		Head-Phone	
	Back	2Scart Input/Output	AV1 : Scart I/O, RGB Input, RF Out AV2 : Scart I/O, Monitor Out
		DVD Input(YPbPr)	Option
		AV2 Monitor Audio Output	Option
		S-VHS	Option

Specifications are subject to change.



Specifications for Model Name (Ex. CS29A6??8X/HAC)

	Function	NOTE
N	NICAM	"NICAM" means that A2 STEREO + NICAM
P	2 TUNER PIP	
PF	2 TUNER PIP, NICAM, TTX	
PT	2 TUNER PIP, A2 STEREO, TTX	
PW	2 TUNER PIP, A2 STEREO	
MT	2 TUNER MULTI PIP, A2 STEREO,	
NT	NICAM, TTX	
WT	A2 STEREO, TTX	
GW	1 TUNER PIP, A2 STEREO, TTX	

4. Alignment and Adjustments

4-1 General Alignment Instructions

1. Usually, a color TV-VCR needs only slight touch-up adjustment upon installation. Check the basic characteristics such as height, horizontal and vertical sync and focus.
2. Observe the picture for good black and white details. There should be objectionable color shading; if color shading is present, demagnetize, perform purity and convergence adjustments described below.
3. Use the specified test equipment or its equivalent.
4. Correct impedance matching is essential.
5. Avoid overload. Excessive signal from a sweep generator might overload the front-end of the TV. When inserting signal markers, do not allow the marker generator to distort test results.
6. Connect the TV only to an AC power source with voltage and frequency as specified on the backcover nameplate.
7. Do not attempt to connect or disconnect any wires while the TV is turned on. Make sure that the power cord is disconnected before replacing any parts.
8. To protect against shock hazard, use an isolation transformer.

4-2 Automatic Degaussing

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

The degaussing coil operates for about 1 second after the power is switched ON. If the set is moved or turned in a different direction, the power should be OFF for at least 10 minutes.

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

If color shading persists, perform the following Color purity and Convergence adjustments.

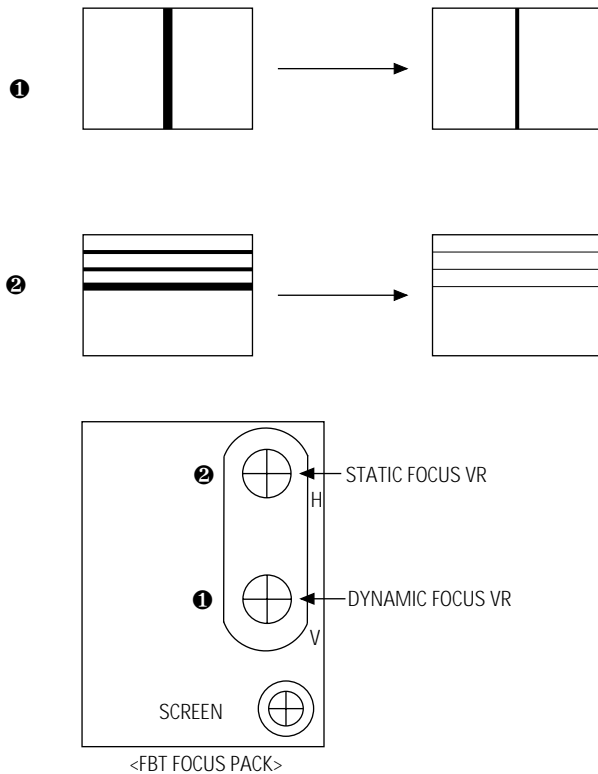
4-3 High voltage Check

CAUTION : There is no high voltage adjustment on this chassis. The B+ power supply should be +135 volts (with full color- bar input and normal picture level).

1. Connect a digital voltmeter to the second anode of the picture tube.
2. Turn on the TV. Set the Brightness and Contrast controls to minimum (zero beam current).
3. Adjust the Brightness and contrast controls to both extremes. Ensure that the high voltage does not exceed 32 KV under any conditions.

4-4 Dynamic Focus Adjustment

1. A dynamic focus adjustment should be done after replacing the CRT PCB, FBT or CRT.
2. Input a crosshatch pattern.
3. Enter " STANDARD " in video mode.
4. Turn the Dynamic focus VR fully clockwise (maximum). (❶)
5. Turn the Static focus VR fully counterclockwise (maximum). (❷)
6. Slowly turn the static focus VR counterclockwise. Adjust until the vertical line in the middle of the screen has maximum clarity. (❶)
7. Slowly turn the dynamic focus VR (clockwise) and adjust the 3rd horizontal line for maximum clarity. (❷)
8. Repeat 4-7, if necessary.



4-5 SCREEN Adjustment

1. Input Toshiba Pattern
2. Enter "Service Mode".(Refer to "Service Mode")
3. Select "G2-Adjust".
4. Set the values as below.

29 Inch	21 Inch
IBRM = 220	IBRM = 220
WDRV = 35	WDRV = 35
CDL = 220	CDL = 165
COLR G B = 150 150 150	COL = 70

5. Turn the SCREEN VR until "MRCR G B" and "MRWDG" are green and those value are about 100.
(The incorrect SCREEN Voltage may result that "MRCR G B" and "MRWDG" should be red)

Note 1. When you do not have Toshiba Pattern, follow this method.

1. Set the TV on the condition that AV mode no signal(black)
2. Enter the "Menu" and set the mode to blue screen off.
3. Enter the "Service Mode".
4. Select " G2-Adjust".
5. Set the values as below.

IBRM = 220
WDRV = 35
CDL = 220
COLR G B = 150 150 150

6. Turn the SCREEN VR until the value of " MRCR G B" is about 120. Do not mind that the "OSD" Color is red.

■ After completing G2-Adjust, follow this procedure.

- ① Enter the "Video Adjust 1".
- ② Choose any item in menu. (ex. Select "Red Cutoff")
- ③ Change the value of item you select, and recover the value.

For example, when the value of "Red Cutoff" is 127, change the value to 128 and restore the value to 127.

If you do not follow this procedure, the picture may be abnormal.
 For example, when the TV set is on, the picture becomes brighter gradually.

4-6 E²PROM (IC902) Replacement

1. When IC902 is replaced, all adjustment data revert to the initial values.
So, all adjustment values when servicing should be readjusted.
2. After IC902 is replaced, connect the AC power supply cord.
3. Turn the power switch ON.
4. In stand-by, warm up the TV for at least 10 seconds.
5. Power on the TV.

4-7 White Balance Adjustment

- Equipment : Color-Analyzer (CA-100)
- Input Signal : Pattern signal (Toshiba pattern)

1. Select STANDARD from the menu.
2. Input an 100% White pattern.
3. Enter the "Service Mode". (Refer to "4-8 Service Mode")
4. Warm up the TV set at least for 30 minutes.
5. Input a Toshiba pattern signal.
6. Enter the "Video Adjust1".
 - Adjust "Sub Contrast" so that Y (luminance) becomes $40 \text{ ft} \pm 3$.
 - Use "Red Drive" and "Blue Drive" to adjust High-Light (x : 290, y : 300)
 - Adjust "Sub Bright" so that Y (luminance) becomes $1.3 \text{ ft} \pm 0.3$.
 - Use "Red Cutoff" and "Blue Cutoff" to adjust Low-Light (x : 290, y : 300).
7. Adjust CA-100 so that the final adjustment value can be fixed.
8. Use the Channel Up/Down (▲/▼) buttons to move the cursor on the adjustment modes.
9. Use the Volume +/- buttons to change the adjustment value.

4-8 Factory Adjustment

4-8-1 Service Mode

1. To enter the "Service Mode", Press the remote-control keys in this sequence :

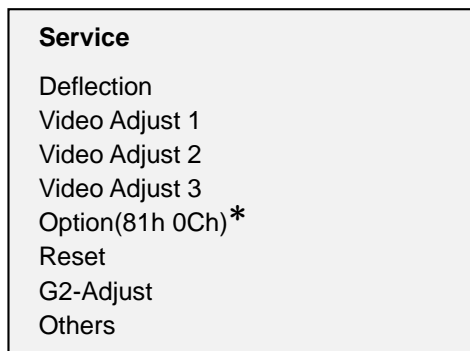
- If you do not have Factory remote-control



- If you have Factory remote-control



2. After the Service Mode is entered, the initial screen is as shown in the figure below.



* These hexa digits are check sum value which depends on the MICOM.
If check sum value is changed, the value of E²PROM Data newly initialed.

3. Use the Channel Up/Down buttons to move the cursor in the adjustment parameters.

Note 2.

- When CRT, CRT PCB, FBT, E²PROM (sometimes MICOM) is replaced, the adjustment values should be controlled.
- After the Service adjustment is completed, Do not select "Reset" in the service mode menu. (After above procedure is done, power is on initially and the "Plug and Play" will be operated.)

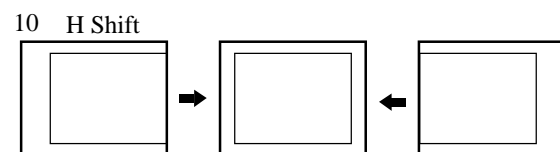
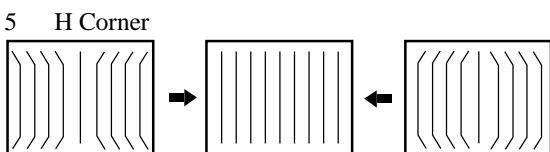
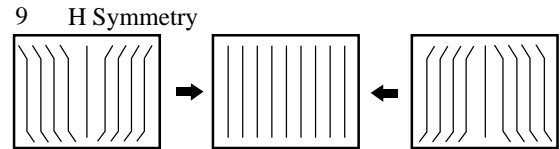
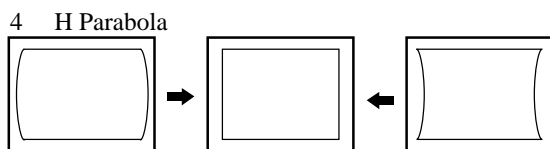
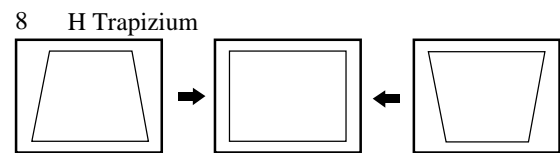
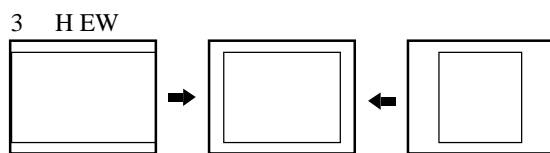
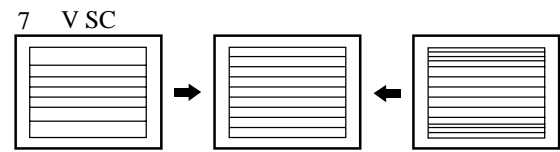
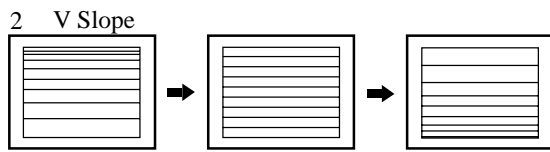
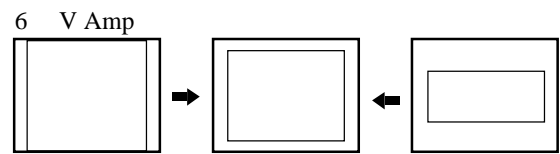
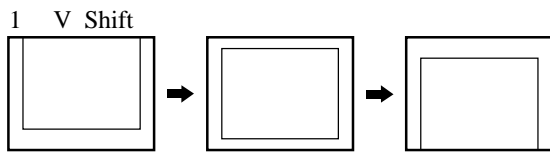
4-8-2 Memory Data

4-8-2(A) DEFLECTION (GEOMETRIC ADJUSTMENT VALUE)

	Fixed Value
--	-------------

No.	OSD	Range	Initial Value	Function	Remark
1	V Shift	-128 ~127	-30	Adjust Vertical Picture Position	
2	V Amp	-128 ~127	-7	Adjust Vertical Picture Size	
3	V Slope	-128 ~127	-3	Adjust Vertical Slope Correction	
4	V SC	-128 ~127	-17	Adjust Vertical S-Correction	Not to be adjusted
5	H EW	-128 ~127	73	Adjust Horizontal Picture Size	
6	H Trapizium	-128 ~127	-47	Adjust Horizontal Trapeziod	
7	H Parabola	-128 ~127	-7	Adjust Horizontal Parabola Wave	
8	H Symmetry	-128 ~127	13	Adjust Horizontal Symmetry	Not to be adjusted
9	H Corner	-128 ~127	23	Adjust Horizontal Corner	
10	H Shift	-128 ~127	13	Adjust Horizontal Position	
11	PIP Contrast	0 ~ 15	8	Adjust PIP Contrast	
12	PIP Tint	0 ~ 63	0	Adjust PIP Tinit	
13	PIP PAL V Pos	0 ~ 255	26	Adjust PIP Vertical Position (Main Picture is PAL)	
14	PIP NTSC V Pos	0 ~ 255	23	Adjust PIP Vertical Position (Main Picture is NTSC)	
15	PIP H Pos	0 ~ 255	30	Adjust PIP Horizontal Position	
16	PIP BLKLG	0 ~ 15	6	Adjust PIP Green Cutoff Level	

4-8-2(B) SCREEN CHANGE (I2C BUS GEOMETRIC ADJUSTMENT)



4-8-2(C) VIDEO ADJUST 1

Fixed Value

No.	OSD	Range	Initial Value	Function	Remark
1	Red Cutoff	0 ~255	127	Adjust Red Cutoff Level	Low Light
2	Green Cutoff	0 ~255	127	Adjust Green Cutoff Level	
3	Blue Cutoff	0 ~255	127	Adjust Blue Cutoff Level	
4	Red Drive	0 ~255	127	Adjust Red Output Gain	High Light
5	Green Drive	0 ~255	127	Adjust Green Output Gain	
6	Blue Drive	0 ~255	127	Adjust Blue Output Gain	
7	Sub Bright	0 ~ 200	100	Adjust Brightness Level	Low Light
8	Sub Contrast	0 ~ 13	50	Adjust Contrast Level	High Light
9	Sub Color	0 ~ 27	27	Adjust Color Level	Not to be adjusted
10	Sub Tint	0 ~ 100	80	Adjust Tint	
11	BCL Threshold	0 ~ 255	65	Adjust Beam Control Limit Refer to Note 3	
12	BCL Gain	0 ~ 15	8		
13	BCL Time	0 ~ 15	9		
14	TTX Contrast	0 ~ 255	90	Adjust OSD/TTX Contrast	
15	YC Delay	0 ~ 8	*	Refer to Table 1	

Note 3. Beam Control Limit Characteristic

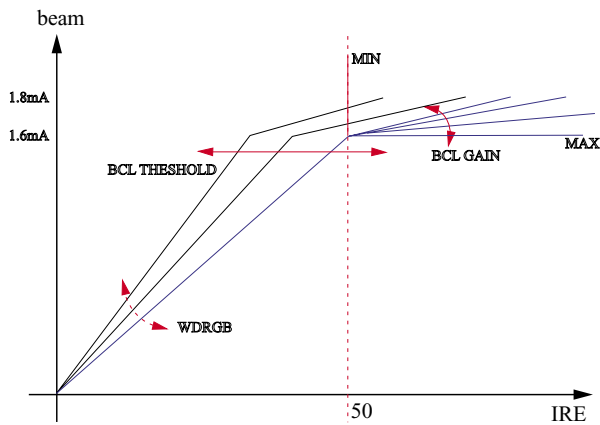


Table 1. YC Delay Adjustment Table

YC Delay	PAL					SECAM					NTSC	
	Def.	BG	DK	I	L	Def.	BG	DK	I	L	Def.	M
Value	4	3	6	6	7	1	1	5	8	5	4	3

✍ The "Def." means that TV is in AV mode.

4-8-2(D) VIDEO 2 ADJUST

Fixed Value

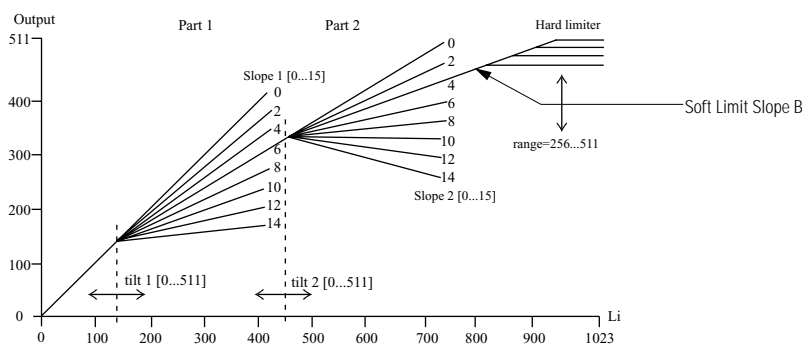
No.	OSD	Range	Initial Value	Function	Remark
1	B stretch-BTHR	0 ~ 55	50	Black Stretch Threshold	
2	B stretch-BTLT	0 ~ 15	8	Black Stretch Tilt Position	
3	B stretch-BAM	0 ~ 31	4	Black Stretch Amount	
4	Coring	10 ~ 31	20	Luma Peaking Filter Coring	
5	RGB Bright	0 ~ 255	45	OSD/TTX RGB Bright	
6	RGB Contrast	0 ~ 255	15	OSD/TTX RGB Contrast	
7	EHT Time	0 ~ 15	0	Electronic High Tension Response Time	
8	EHT Compensation	0 ~ 255	90	Electronic High Tension Coefficient	

Coring : The Value of Center Frequency for the active bandwidth.

4-8-2(E) VIDEO 3 ADJUST

No.	OSD	Range	Initial Value	Function	Remark
1	Peak Threshold	0 ~ 255	185	White Peak Level Threshold	Refer to Note Below
2	Soft Limit Slope B	0 ~ 15	4	Refer to Picture Below	
3	Hard Limit	0 ~ 255	255		
4	Peak Video Ref	0 ~ 4	0	White Peak Level Threshold Reference	
5	Peak Video Gain	0 ~ 5	0	White Peak Level Threshold Gain	
6	ACC-REF(PAL/NTSC)	0 ~ 40	33	Auto Color Control	
7	ACCR(SECAM)	0 ~ 39	39		






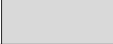
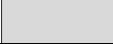
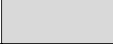
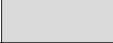
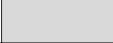

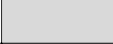



Note 4. Soft Limit & Hard Limit



"Soft Limit" is that Limiting the peak white without feed-back, but "Peak Limit" is that with feed-back for white peak level

4-8-2(E) OPTION

 Fixed Value

No.	OSD	Initial Value 	Function	Remark
1	Language		Arab, Iran, Lybya, CIS	OSD Language
2	Sound		A2/NICAM, V-Dolby, Mono, L-Stereo	Depending on IC601 Refer to Note 5
3	CRT		4:3, Wide, Q(12.8:9), 4:3-16:9, Q-16:9	S:S-VHS, D:DVD
4	AV Mode		2Scart, 2Scart+S, 1RCA, 2RCA, 2RCA+S, 2RCA+D, 2RCA+S+D, 1Scart	
5	X-Ray		Off, On	
6	Tilt Control		Off, On	
7	Auto FM		Off, On	
8	PIP		2-Tuner, 1-Tuner, Off	
9	Txt Language		Arabic, Farsi, Arab-Hebrew, West Europe, East Europe, Russian, Greek-Turkey	
10	LNA		Off, On	When PIP is "2-Tuner", set to "ON"
11	Equalizer		Off, On	
12	High Deviate		Off, On	
13	TTX On/Off		Off, On	
14	AV by CH key		Off, On	Without "TV/VIDEO" key in the front panel, set to "On"

 Initial Value : Refer to Note 6 on the next page.

Note 5.

Sound	IC601
A2/NICAM	MSP3400D, MSP3410D
V-DOLBY	MSP3411G
Mono	Not used this mode for KS3A Chassis
L-Stereo	

Note 6. Option.

	CS29A5WT8X/UMG	CS29A6PF8X/HAC	CS29A6WT8X/BWT	CS29A5MT9X/BWT
Description	Initial Vaue	Initial Vaue	Initial Vaue	Initial Vaue
LANGUAGE	Arab	Arab	CIS	CIS
SOUND	V-Dolby	V-Dolby	A2/Nicam	A2/Nicam
CRT	4:3	4:3	4:3	4:3
AV MODE	2 RCA + S	2 RCA + S	2 SCART + S	2 SCART + S
X-RAY	OFF	OFF	OFF	OFF
TILT CONTROL	ON	ON	ON	ON
AUTO FM	ON	ON	ON	ON
PIP	OFF	2-Tuner	OFF	2-Tuner
TEXT LANGUAGE	Arabic	Farsi	RUSSIAN	RUSSIAN
LNA	OFF	ON	OFF	ON
EQUALIZER	ON	ON	ON	ON
HIGH DEVIATE	ON	ON	ON	ON
TTX ON/OFF	ON	ON	ON	ON
AV BY CH KEY	ON	OFF	OFF	ON
OPTION BYTE	84 CC D8	85 DC 5E	83 AC 28	83 AC AE

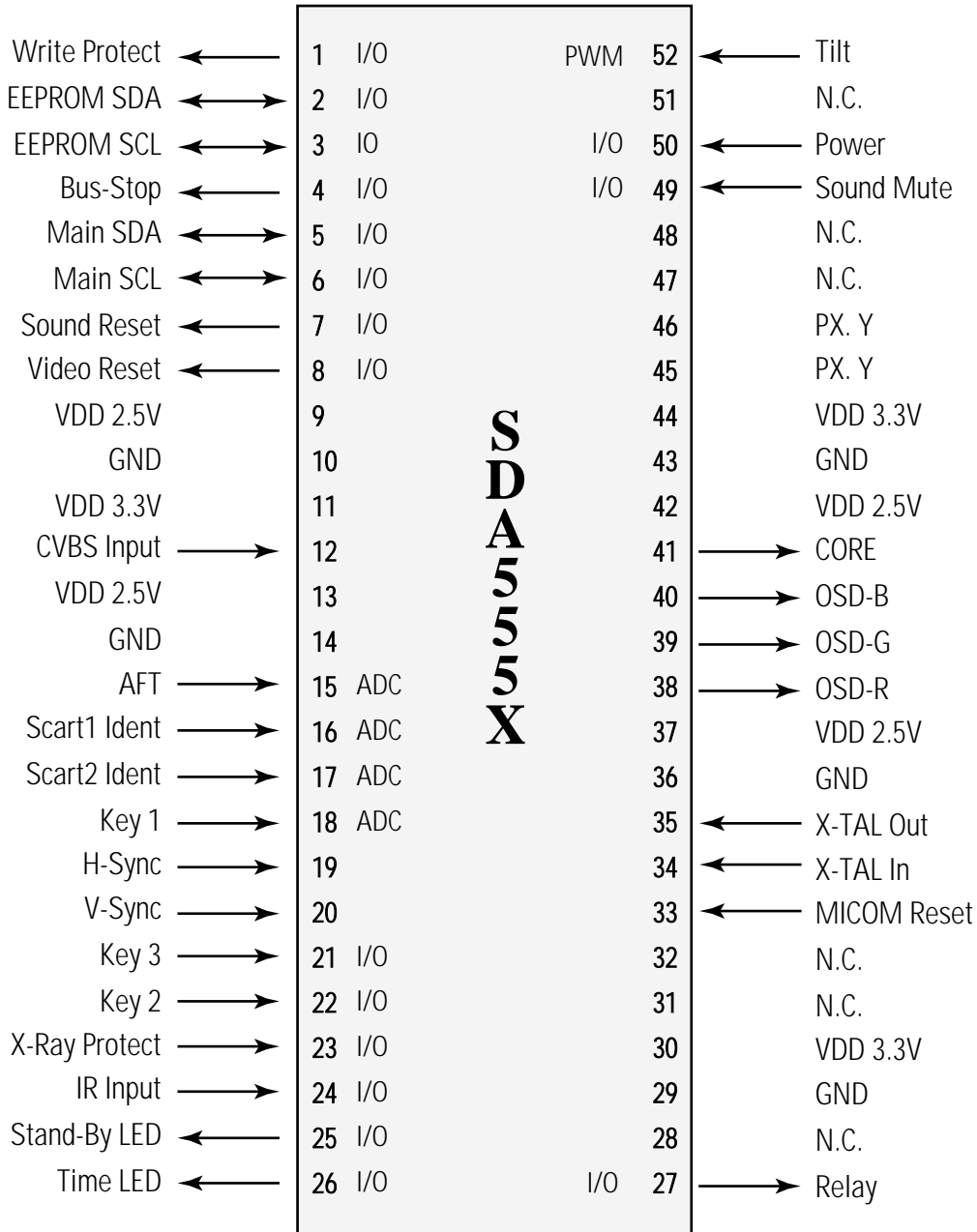
4-8-2(F) OTHERS

 Fixed Value

No.	OSD	Range	Initial Value	Function	Remark
1	VSU	96 ~ 111	98	Vertical Set Up Time	
2	H QEW	-30 ~ 30	0		
3	H ZOOM Parabola	-30 ~ 30	8	Adjust Horizontal Parabola in Zoom Mode	
4	H 16:9 Parabola	-30 ~ 30	-15	Adjust Horizontal Parabola in 16:9 Mode	
5	TTX H Shift	-30 ~ 30	6	Adjust Horizontal OSD/TTX Position	
6	Mono Sound System	BG/DK/I/M	BG		
7	V Slice Level	0 ~ 3	2		
8	Melody Volumn	0 ~ 20	8	Adjust Melody Volumn	

4-9 MICOM

4-9-1 Pin Layout



4-9-2 Pin Assignment Specification

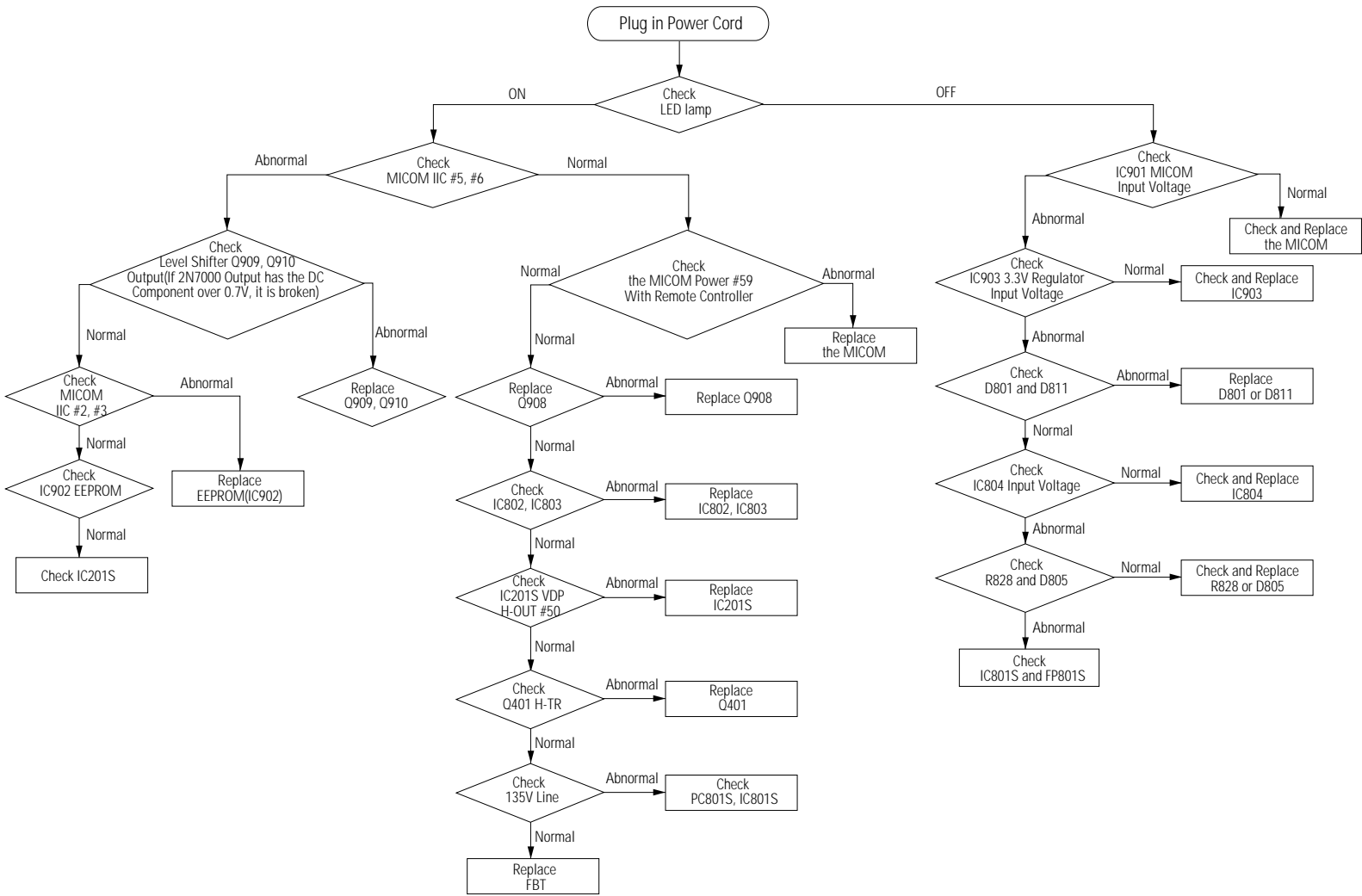
PIN NO	FUNCTION	ASSIGN	IN/OUT	ACTIVE H/L	DESCRIPTION
1	I/O	Write Protect	Out	Low	EEPROM Write Protection
2	I/O	ROM SDA	I/O		EEPROM Serial Data Line
3	I/O	ROM SCL	I/O		EEPROM Serial Clock Line
4	I/O	Bus Stop	In	Low	Disable Micom IIC
5	I/O	Main SDA	I/O		Peripheral IC Serial Data Line
6	I/O	Main SCL	I/O	Low	Peripheral IC Serial Clock Line
7	I/O	Sound Reset	Out	Low	MSP IC Initial Control
8	I/O	Video Reset	Out		VDP IC Initial Control
9	Vdd	VDD 2.5V			
10	GND				
11	Vdd	VDD 3.3V			
12	CVBS	CVBS Input	In		TTX CVBS Input
13	Vdd	VDD 2.5V			Analog B+
14	GND				Analog Ground
15	ADC	AFT	In		Auto Fine Tuning Control
16	ADC	SC1-ID	In		Scart1 Ident
17	ADC	SC2-ID	In		Scart2 Ident
18	ADC	Key1	In		Key1 Input
19	HS	H-Sync	In		Horizontal Sync Input
20	VS	V-Sync	In		Vertical Sync Input
21	I/O	Key3	In		Key3 Input
22	I/O	Key2	In		Key2 Input
23	I/O	X-Ray	In		X-Ray Protection
24	I/O	IR-In	In		Remocon Signal Input
25	I/O	STD-LED	Out		LED Drive Output(Red)
26	I/O	TIM-LED	Out		LED Drive Output(Green)

4-9-2 Pin Assignment Specification (Continued)

PIN NO	FUNCTION	ASSIGN	IN/OUT	ACTIVE H/L	DESCRIPTION
27	I/O	Relay	Out	Low	Activate Degaussing Coil
28	N.C.				Not Used (Programmed Gound Level)
29	GND				Analog Ground
30	Vdd	VDD 3.3V			Not Used (Programmed Gound Level)
31	N.C.				Not Used (Programmed Gound Level)
32	N.C.				Micom Hardware Reset
33	Reset	Reset	In	Low	Crystal Oscillation Input
34	X-In	X-TAL In	In	6MHz	Crystal Oscillation Output
35	X-Out	X-TAL Out	Out	6MHz	Analog Ground
36	GND				Analog B+
37	Vdd	VDD 2.5V			OSD/TTX Output (Red)
38	R	OSD-R	Out		OSD/TTX Output (Green)
39	G	OSD-G	Out		OSD/TTX Output (Blue)
40	B	OSD-B	Out		Fast Blank/Half Contrast Output
41	COR	CORE	Out		
42	Vdd	VDD 2.5V			
43	GND				
44	Vdd	VDD 3.3V			
45	I/O	PX.Y	In		When The Caption Function Adopted, Used.
46	I/O	PX.Y	Out		
47	N.C.				Not Used (Programmed Gound Level)
48	N.C.				
49	I/O	S-Mute	Out	High	Sound Amp Mute
50	I/O	Power	Out	Low	Picture On/Off Control
51	N.C.				Not Used (Programmed Gound Level)
52	I/O	Tilt	Out	PWM	Tilt Control Output

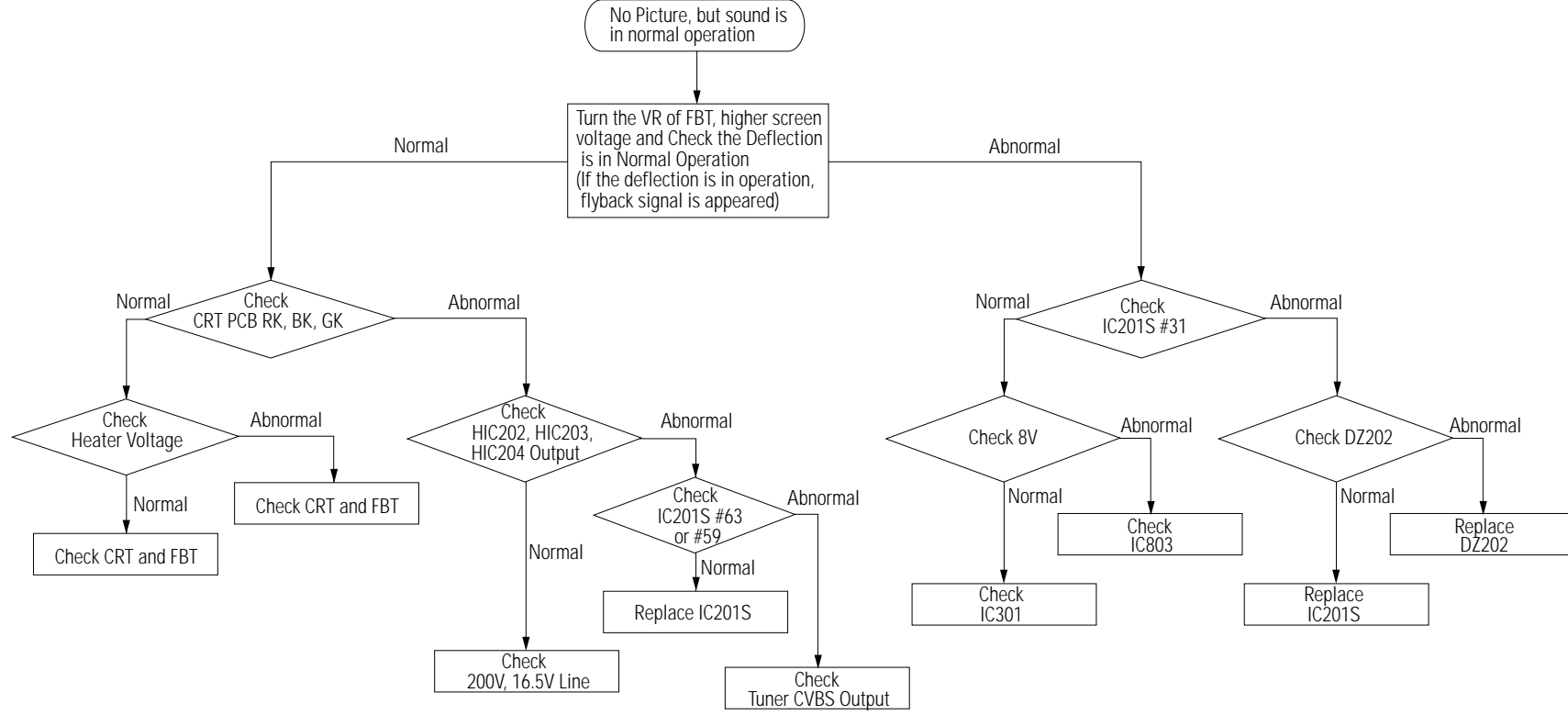
5. Troubleshooting

5-1 No Power

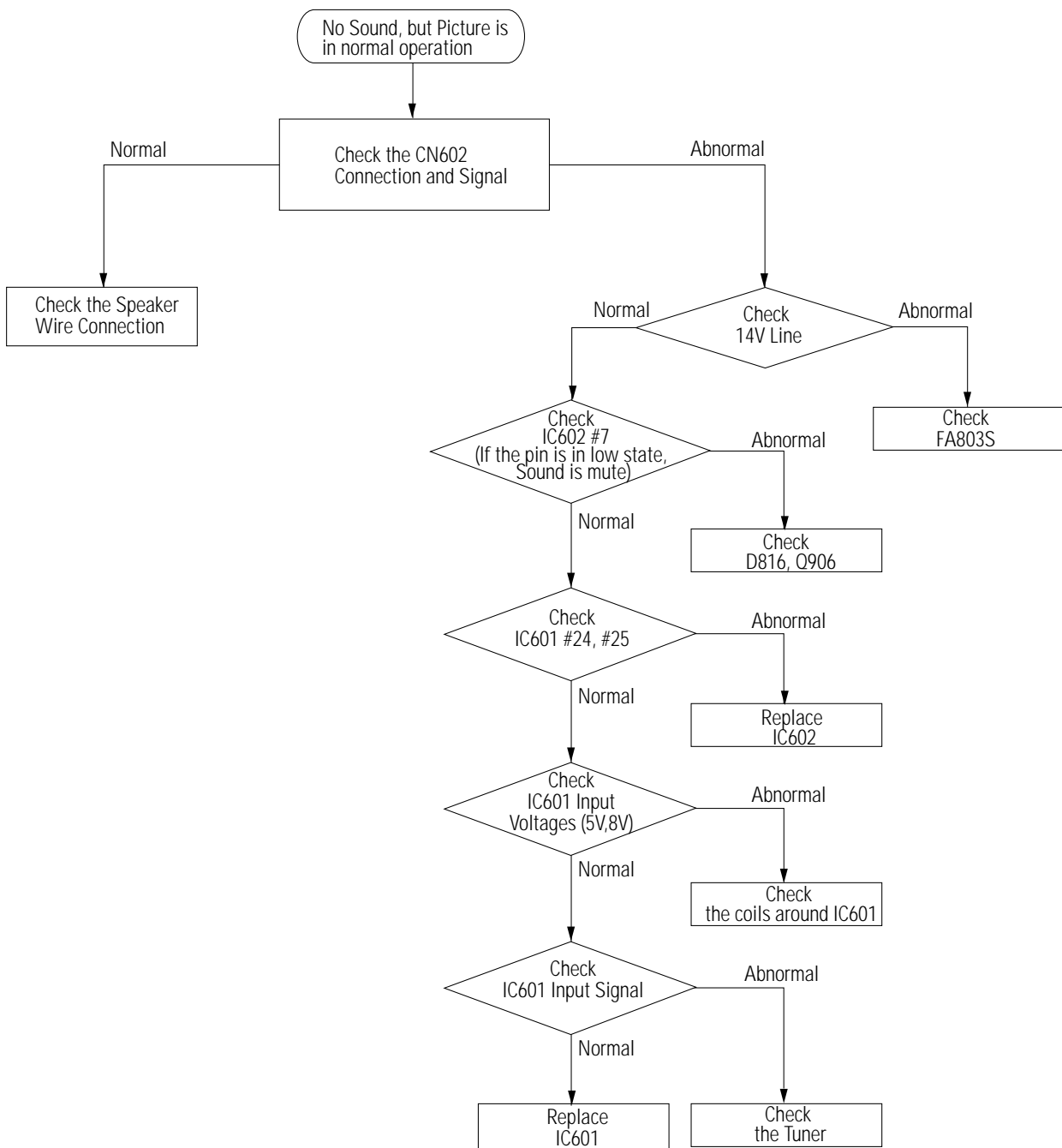


Note : When you check whether any component is normal, you must let the output pin be open in order not to be affected by the side of output.

5-2 No Picture



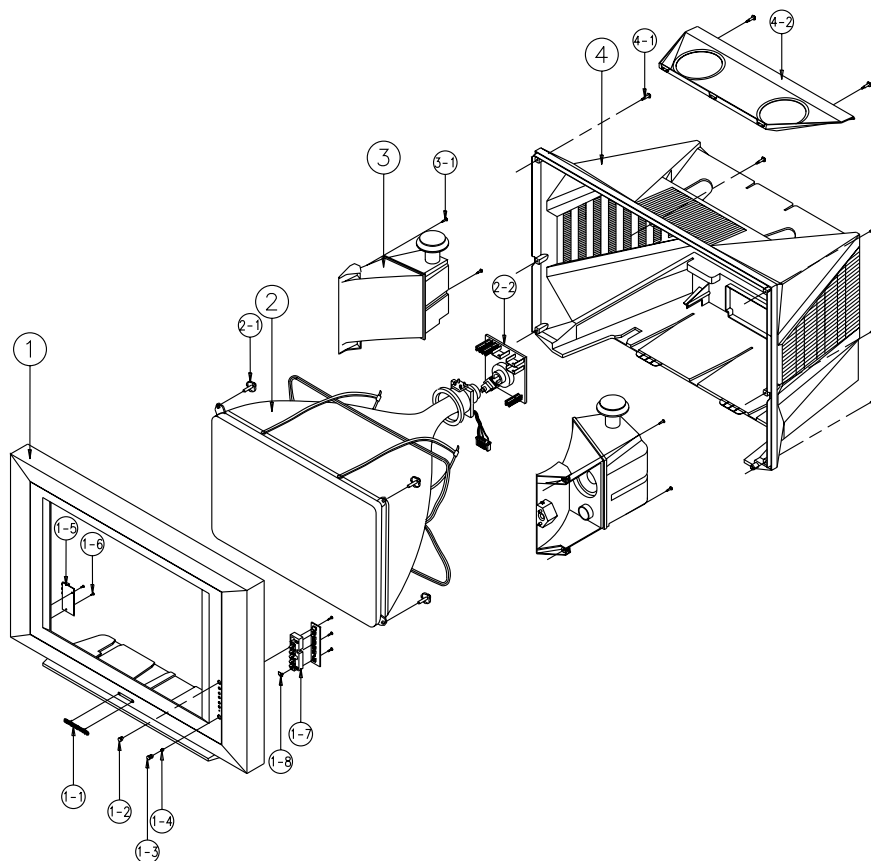
5-3 No Sound



6. Exploded View & Parts List

6-1 CS29A5HT8X/BWT

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No	Code No	Description;Specification	Q'ty	Remark
1	AA91-00113W	ASSY CABINET FRONT;- ,29A5 KS3A CIS,S704+	1	
	AA64-31106S	CABINET FRONT:29A5 KS3A,S704P+G802P PLAN	1	
1-1	AA64-70117B	BADGE-BRAND;AL,SS,SILVER,L65,R2000,-,-	1	
1-2	AA64-40455A	WINDOW-REMOCON;- ,725A,- ,PC,- ,VIOLET,-	1	
1-3	AA64-10709A	KNOB-MASTER;- ,295A,VT803M MASTER,ABS,HB,	1	
1-4	AA61-60005D	SPRING-CS;- ,SUS304,0.4,OD5.5,H9,N4,-,-,-	1	
1-5	AA95-00872A	ASSY-PCB,A/V SIDE;- ,29A6,29A5,100HZ,KS3A	1	
1-6	6002-000522	SCREW-TAPPING;TH,+2,M4,L15,ZPC(BLK),SWR	2	
1-7	AA64-10710A	KNOB-CONTROL;- ,725A,- ,ABS,HB,GRAY	1	
1-8	AA64-40456B	INDICATOR-LED;- ,295A,- ,ACRYL,- ,CLR,-	1	
1-9	6002-000514	SCREW-TAPPING;RH,+2,M4,L15,ZPC(BLK),SWR	3	
2	AA03-00076A	CRT-COLOR;- ,A68QCP891X004(C),+380MG,29IN	1	
2-1	AA60-10050V	SCREW-ASSY;WC,HH,+M6,L30,SWRCH18A,ZPC(S	4	
2-2	3704-001032	SOCKET-CRT;8P,29PI,35.5PI,AU30U	1	
3	AA91-00333B	ASSY HOLDER SPK;- ,PP,8ohm/15W,BLK,AA91-0	1	
3-1	AA60-10050A	SCREW-ASSY;WP,RH,+M4,L25,SWRCH18A,- ,ZPC	4	
4	AA64-31107C	CABINET-BACK;- ,29A5,- ,HIPS,V2,BLK,-,-	1	
4-1	AA60-10050T	SCREW-TAPPING;RH,+2S,M4,L20,ZPC(BLK),SW	7	
4-2	AA63-30213C	COVER-TOP,SPK;- ,725A,- ,HIPS,V2,BLK,-,-	1	

Table with 5 columns: Level, Loc. No., Code No., Description ; Specification, Remark. It lists various electronic components like capacitors, resistors, diodes, and inductors with their respective part numbers and specifications.

Electrical Parts List

Level	Loc. No.	Code No.	Description ; Specification	Remark	Level	Loc. No.	Code No.	Description ; Specification	Remark
....4	L904	2702-001094	INDUCTOR-RADIAL:10uH,10%,6x4mm		....4	R407	2001-001114	R-CARBON(S):2700HM,5%,1/2W,AA,TP2.4X6.4	
....4	L905	2001-000995	R-CARBON:820OHM,5%,1/8W,AA,TP1.8X3.2MM		....4	R409	2003-001018	R-METAL OXIDE(S):220ohm,5%,2W,AF,TP3.9x	
....4	L907	2701-000114	INDUCTOR-AXIAL:10uH,10%,2.5x3.4mm		....4	R410	2003-001018	R-METAL OXIDE(S):220ohm,5%,2W,AF,TP3.9x	
....4	L908	2701-000191	INDUCTOR-AXIAL:47uH,10%,2.5x3.4mm		....4	R411	2001-000028	R-CARBON(S):100OHM,5%,1/2W,AA,TP2.4X6.4	
....4	L909	2701-000191	INDUCTOR-AXIAL:47uH,10%,2.5x3.4mm		....4	R412	2001-000020	R-CARBON(S):220OHM,5%,1/2W,AA,TP2.4X6.4MM	
....4	PCB	AA41-00168F	PCB-MAIN:CS29A6,FR-1,1L,F,1.6T,330x245,	S.N.A	....4	R413	2008-001018	R-FUSIBLE(S):0.47ohm,10%,2W,AF,TP3.9x10	
....4	Q201	0501-000389	TR-SMALL SIGNAL:KSC815,NPN,400mW,TO-92,T		....4	R414	2008-000253	R-FUSIBLE(S):0.47ohm,5%,1W,AF,TP3.9x10m	
....4	Q202	0501-000389	TR-SMALL SIGNAL:KSC815,NPN,400mW,TO-92,T		....4	R415	2001-001093	R-CARBON(S):2.2KOHM,5%,1/2W,AA,TP2.4X6.	
....4	Q203	0501-000389	TR-SMALL SIGNAL:KSC815,NPN,400mW,TO-92,T		....4	R417	2004-001397	R-METAL(S):4.7Kohm,1%,1/2W,AA,TP2.4x6.4	
....4	Q204	0501-000389	TR-SMALL SIGNAL:KSC815,NPN,400mW,TO-92,T		....4	R418	2001-001159	R-CARBON(S):510OHM,5%,1/2W,AA,TP2.4X6.4	
....4	Q601	0501-000389	TR-SMALL SIGNAL:KSC815,NPN,400mW,TO-92,T		....4	R420	2004-004015	R-METAL(S):9.1Kohm,1%,1/2W,AA,TP2.5x6.5	
....4	Q701	0501-000389	TR-SMALL SIGNAL:KSC815,NPN,400mW,TO-92,T		....4	R421	2001-001093	R-CARBON(S):2.2KOHM,5%,1/2W,AA,TP2.4X6.	
....4	Q802	0501-000369	TR-SMALL SIGNAL:KSC2331-Y,NPN,1000mW,TO-		....4	R422	2001-000020	R-CARBON(S):220OHM,5%,1/2W,AA,TP2.4X6.4MM	
....4	Q901	0501-000389	TR-SMALL SIGNAL:KSC815,NPN,400mW,TO-92,T		....4	R423	2004-004048	R-METAL(S):3.9Kohm,1%,1/2W,AA,TP2.5x6.5	
....4	Q902	0501-000389	TR-SMALL SIGNAL:KSC815,NPN,400mW,TO-92,T		....4	R424	2008-001018	R-FUSIBLE(S):0.47ohm,10%,2W,AF,TP3.9x10	
....4	Q903	0501-000389	TR-SMALL SIGNAL:KSC815,NPN,400mW,TO-92,T		....4	R425	2008-001011	R-FUSIBLE(S):0.18ohm,10%,2W,AF,TP3.9x10	
....4	Q906	0501-000389	TR-SMALL SIGNAL:KSC815,NPN,400mW,TO-92,T		....4	R426	2003-000540	R-METAL OXIDE(S):1Kohm,5%,2W,AF,TP4x12m	
....4	Q908	0501-000389	TR-SMALL SIGNAL:KSC815,NPN,400mW,TO-92,T		....4	R433	2003-001042	R-METAL OXIDE(S):5.6kohm,5%,2W,AF,TP3.9	
....4	Q909	0505-000109	FET-SILICON:2N7000,N,60V,200mA,5ohm,400m		....4	R434	2003-002064	R-METAL OXIDE:7.5ohm,5%,2W,AF,TP10x3.9m	
....4	Q910	0505-000109	FET-SILICON:2N7000,N,60V,200mA,5ohm,400m		....4	R601	2001-000429	R-CARBON:1KOHM,5%,1/8W,AA,TP1.8X3.2MM	
....4	R102	2001-000281	R-CARBON:100OHM,5%,1/8W,AA,TP1.8X3.2MM		....4	R602	2001-000429	R-CARBON:1KOHM,5%,1/8W,AA,TP1.8X3.2MM	
....4	R103	2001-000281	R-CARBON:100OHM,5%,1/8W,AA,TP1.8X3.2MM		....4	R603	2001-000429	R-CARBON:1KOHM,5%,1/8W,AA,TP1.8X3.2MM	
....4	R105	2001-000702	R-CARBON:39KOHM,5%,1/8W,AA,TP1.8X3.2MM		....4	R604	2001-000281	R-CARBON:100OHM,5%,1/8W,AA,TP1.8X3.2MM	
....4	R106	2001-000864	R-CARBON:56KOHM,5%,1/8W,AA,TP1.8X3.2MM		....4	R605	2001-000281	R-CARBON:100OHM,5%,1/8W,AA,TP1.8X3.2MM	
....4	R202	2001-000290	R-CARBON:10KOHM,5%,1/8W,AA,TP1.8X3.2MM		....4	R606	2001-000290	R-CARBON:10KOHM,5%,1/8W,AA,TP1.8X3.2MM	
....4	R203	2001-000281	R-CARBON:100OHM,5%,1/8W,AA,TP1.8X3.2MM		....4	R607	2001-000613	R-CARBON:3.9KOHM,5%,1/8W,AA,TP1.8X3.2M	
....4	R204	2001-000281	R-CARBON:100OHM,5%,1/8W,AA,TP1.8X3.2MM		....4	R608	2001-000613	R-CARBON:3.9KOHM,5%,1/8W,AA,TP1.8X3.2M	
....4	R205	2001-000290	R-CARBON:10KOHM,5%,1/8W,AA,TP1.8X3.2MM		....4	R609	2001-000290	R-CARBON:10KOHM,5%,1/8W,AA,TP1.8X3.2MM	
....4	R206	2001-000290	R-CARBON:10KOHM,5%,1/8W,AA,TP1.8X3.2MM		....4	R610	2001-000281	R-CARBON:100OHM,5%,1/8W,AA,TP1.8X3.2MM	
....4	R207	2001-000221	R-CARBON:1.2KOHM,5%,1/8W,AA,TP1.8X3.2M		....4	R611	2001-000281	R-CARBON:100OHM,5%,1/8W,AA,TP1.8X3.2MM	
....4	R208	2001-000405	R-CARBON:180OHM,5%,1/8W,AA,TP1.8X3.2MM		....4	R612	2001-000281	R-CARBON:100OHM,5%,1/8W,AA,TP1.8X3.2MM	
....4	R209	2001-000429	R-CARBON:1KOHM,5%,1/8W,AA,TP1.8X3.2MM		....4	R613	2001-000281	R-CARBON:100OHM,5%,1/8W,AA,TP1.8X3.2MM	
....4	R210	2001-000812	R-CARBON:5.6KOHM,5%,1/8W,AA,TP1.8X3.2M		....4	R614	2001-000780	R-CARBON:470OHM,5%,1/8W,AA,TP1.8X3.2MM	
....4	R211	2001-000290	R-CARBON:10KOHM,5%,1/8W,AA,TP1.8X3.2MM		....4	R615	2001-000780	R-CARBON:470OHM,5%,1/8W,AA,TP1.8X3.2MM	
....4	R212	2004-000218	R-METAL:10Kohm,1%,1/8W,AA,TP1.8x3.2mm		....4	R616	2001-000780	R-CARBON:470OHM,5%,1/8W,AA,TP1.8X3.2MM	
....4	R214	2001-000411	R-CARBON:18KOHM,5%,1/8W,AA,TP1.8X3.2MM		....4	R617	2001-000780	R-CARBON:470OHM,5%,1/8W,AA,TP1.8X3.2MM	
....4	R215	2001-000522	R-CARBON:22KOHM,5%,1/8W,AA,TP1.8X3.2MM		....4	R620	2001-000290	R-CARBON:10KOHM,5%,1/8W,AA,TP1.8X3.2MM	
....4	R216	2001-000429	R-CARBON:1KOHM,5%,1/8W,AA,TP1.8X3.2MM		....4	R621	2001-000577	R-CARBON:2KOHM,5%,1/8W,AA,TP1.8X3.2MM	
....4	R224	2001-000780	R-CARBON:470OHM,5%,1/8W,AA,TP1.8X3.2MM		....4	R622	2001-000577	R-CARBON:2KOHM,5%,1/8W,AA,TP1.8X3.2MM	
....4	R225	2001-000780	R-CARBON:470OHM,5%,1/8W,AA,TP1.8X3.2MM		....4	R627	2001-000281	R-CARBON:100OHM,5%,1/8W,AA,TP1.8X3.2MM	
....4	R226	2001-000780	R-CARBON:470OHM,5%,1/8W,AA,TP1.8X3.2MM		....4	R628	2001-000281	R-CARBON:100OHM,5%,1/8W,AA,TP1.8X3.2MM	
....4	R228	2001-000117	R-CARBON(S):680OHM,5%,1/2W,AA,TP2.4X6.4MM		....4	R629	2001-000290	R-CARBON:10KOHM,5%,1/8W,AA,TP1.8X3.2MM	
....4	R231	2001-000281	R-CARBON:100OHM,5%,1/8W,AA,TP1.8X3.2MM		....4	R701	2001-000969	R-CARBON:750HM,5%,1/8W,AA,TP1.8X3.2MM	
....4	R232	2001-000281	R-CARBON:100OHM,5%,1/8W,AA,TP1.8X3.2MM		....4	R702	2001-000969	R-CARBON:750HM,5%,1/8W,AA,TP1.8X3.2MM	
....4	R233	2901-000297	FILTER-EMI ON BOARD:-3A,-,-3.5x5,TP-		....4	R703	2001-000969	R-CARBON:750HM,5%,1/8W,AA,TP1.8X3.2MM	
....4	R235	2001-000515	R-CARBON:220OHM,5%,1/8W,AA,TP1.8X3.2MM		....4	R704	2001-000969	R-CARBON:750HM,5%,1/8W,AA,TP1.8X3.2MM	
....4	R236	2001-000515	R-CARBON:220OHM,5%,1/8W,AA,TP1.8X3.2MM		....4	R705	2001-000969	R-CARBON:750HM,5%,1/8W,AA,TP1.8X3.2MM	
....4	R237	2001-000515	R-CARBON:220OHM,5%,1/8W,AA,TP1.8X3.2MM		....4	R706	2001-000281	R-CARBON:100OHM,5%,1/8W,AA,TP1.8X3.2MM	
....4	R238	2001-000515	R-CARBON:220OHM,5%,1/8W,AA,TP1.8X3.2MM		....4	R707	2001-000281	R-CARBON:100OHM,5%,1/8W,AA,TP1.8X3.2MM	
....4	R241	2001-000938	R-CARBON:680HM,5%,1/8W,AA,TP1.8X3.2MM		....4	R708	2001-000281	R-CARBON:100OHM,5%,1/8W,AA,TP1.8X3.2MM	
....4	R242	2001-000969	R-CARBON:750HM,5%,1/8W,AA,TP1.8X3.2MM		....4	R709	2001-000938	R-CARBON:680HM,5%,1/8W,AA,TP1.8X3.2MM	
....4	R243	2001-000290	R-CARBON:10KOHM,5%,1/8W,AA,TP1.8X3.2MM		....4	R710	2001-000938	R-CARBON:680HM,5%,1/8W,AA,TP1.8X3.2MM	
....4	R244	2001-000786	R-CARBON:47KOHM,5%,1/8W,AA,TP1.8X3.2MM		....4	R711	2001-000969	R-CARBON:750HM,5%,1/8W,AA,TP1.8X3.2MM	
....4	R245	2001-000290	R-CARBON:10KOHM,5%,1/8W,AA,TP1.8X3.2MM		....4	R712	2001-000969	R-CARBON:750HM,5%,1/8W,AA,TP1.8X3.2MM	
....4	R246	2001-000290	R-CARBON:10KOHM,5%,1/8W,AA,TP1.8X3.2MM		....4	R715	2001-000290	R-CARBON:10KOHM,5%,1/8W,AA,TP1.8X3.2MM	
....4	R247	2001-000515	R-CARBON:220OHM,5%,1/8W,AA,TP1.8X3.2MM		....4	R716	2001-000290	R-CARBON:10KOHM,5%,1/8W,AA,TP1.8X3.2MM	
....4	R248	2001-000003	R-CARBON:330ohm,5%,1/8W,AA,TP1.8x3.2mm		....4	R717	2001-000702	R-CARBON:39KOHM,5%,1/8W,AA,TP1.8X3.2MM	
....4	R249	2001-000003	R-CARBON:330ohm,5%,1/8W,AA,TP1.8x3.2mm		....4	R718	2001-000702	R-CARBON:39KOHM,5%,1/8W,AA,TP1.8X3.2MM	
....4	R250	2001-000003	R-CARBON:330ohm,5%,1/8W,AA,TP1.8x3.2mm		....4	R719	2001-000969	R-CARBON:750HM,5%,1/8W,AA,TP1.8X3.2MM	
....4	R252	2001-000429	R-CARBON:1KOHM,5%,1/8W,AA,TP1.8X3.2MM		....4	R723	2001-000281	R-CARBON:100OHM,5%,1/8W,AA,TP1.8X3.2MM	
....4	R253	2001-000734	R-CARBON:4.7KOHM,5%,1/8W,AA,TP1.8X3.2M		....4	R724	2001-000734	R-CARBON:4.7KOHM,5%,1/8W,AA,TP1.8X3.2M	
....4	R254	2001-000429	R-CARBON:1KOHM,5%,1/8W,AA,TP1.8X3.2MM		....4	R725	2001-000734	R-CARBON:4.7KOHM,5%,1/8W,AA,TP1.8X3.2M	
....4	R301	2001-001054	R-CARBON(S):1.6KOHM,5%,1/2W,AA,TP2.4X6.		....4	R726	2001-000429	R-CARBON:1KOHM,5%,1/8W,AA,TP1.8X3.2MM	
....4	R302	2004-001403	R-METAL(S):7.5Kohm,1%,1/2W,AA,TP2.4x6.4		....4	R802	2003-001025	R-METAL OXIDE(S):15Kohm,5%,2W,AF,TP3.9x	
....4	R303	2001-000016	R-CARBON(S):1OHM,5%,1/2W,AA,TP2.4X6.4MM		....4	R803	2003-001025	R-METAL OXIDE(S):15Kohm,5%,2W,AF,TP3.9x	
....4	R304	2003-002228	R-METAL OXIDE(S):0.47ohm,5%,2W,AG,TP3.9		....4	R804	2003-001025	R-METAL OXIDE(S):15Kohm,5%,2W,AF,TP3.9x	
....4	R305	2003-002157	R-METAL OXIDE:220OHM,5%,2W,AG,TP6x16MM		....4	R805	2001-001150	R-CARBON(S):47KOHM,5%,1/2W,AA,TP2.4X6.	
....4	R306	2003-002157	R-METAL OXIDE:220OHM,5%,2W,AG,TP6x16MM		....4	R806	2001-001150	R-CARBON(S):47KOHM,5%,1/2W,AA,TP2.4X6.	
....4	R309	2001-000290	R-CARBON:10KOHM,5%,1/8W,AA,TP1.8X3.2MM		....4	R807	2006-001083	R-CEMENT:120ohm,5%,5W,CJ,TP14x10x27mm	
....4	R310	2001-000290	R-CARBON:10KOHM,5%,1/8W,AA,TP1.8X3.2MM		....4	R808	2001-001079	R-CARBON(S):150HM,5%,1/2W,AA,TP2.4X6.4M	
....4	R313	2004-001137	R-METAL:6.8Kohm,1%,1/8W,AA,TP1.8x3.2m		....4	R809	2001-000022	R-CARBON(S):330HM,5%,1/2W,AA,TP2.4X6.4M	
....4	R314	2004-001893	R-METAL(S):22Kohm,1%,1/2W,AA,TP2.5x6.5m		....4	R810	2001-001178	R-CARBON(S):680OHM,5%,1/2W,AA,TP2.4X6.4	
....4	R401	2003-000586	R-METAL OXIDE(S):22Kohm,5%,2W,AF,TP4x12		....4	R811	2004-001408	R-METAL(S):91Kohm,1%,1/2W,AA,TP2.4x6.4m	
....4	R402	2003-000586	R-METAL OXIDE(S):22Kohm,5%,2W,AF,TP4x12		....4	R812	2001-000780	R-CARBON:470OHM,5%,1/8W,AA,TP1.8X3.2MM	
....4	R404	2001-001038	R-CARBON(S):0.56OHM,5%,1/2W,AA,TP2.4X6.		....4	R813	2001-001153	R-CARBON(S):47OHM,5%,1/2W,AA,TP2.4X6.4M	
....4	R405	2008-001018	R-FUSIBLE(S):0.47ohm,10%,2W,AF,TP3.9x10		....4	R816	2001-000429	R-CARBON:1KOHM,5%,1/8W,AA,TP1.8X3.2MM	

Table with columns: Level, Loc. No., Code No., Description ; Specification, Remark. Contains a list of parts such as R-CARBON:1KOHM,5%,1/8W,AA,TP,1.8X3.2MM and various resistors.

Table with columns: Level, Loc. No., Code No., Description ; Specification, Remark. Contains a list of parts such as IC-VIDEO AMP:6111,SIP9P,-,SINGLE,-,PLAS and various capacitors and diodes.

Level	Loc. No.	Code No.	Description ; Specification	Remark
...
....4	DZF02	0403-001039	DIODE-ZENER:MA2560,56V,52-60V,1W,DO-41,T	
....4	L501	2701-000178	INDUCTOR-AXIAL:33uH,10%,3x7mm	
....4	L503	2901-000297	FILTER-EMI ON BOARD:-,3A,-,-,3.5x5,TP-	
....4	L504	2901-000297	FILTER-EMI ON BOARD:-,3A,-,-,3.5x5,TP-	
....4	L505	3301-000287	CORE-FERRITE BEAD-AA,3.5x1.0x6.0mm,1500,	
....4	LF01	3301-000287	CORE-FERRITE BEAD-AA,3.5x1.0x6.0mm,1500,	
....4	LF02	2701-000112	INDUCTOR-AXIAL:100uH,10%,3x7mm	
....4	LF04	2901-000297	FILTER-EMI ON BOARD:-,3A,-,-,3.5x5,TP-	
....4	LF05	2901-000297	FILTER-EMI ON BOARD:-,3A,-,-,3.5x5,TP-	
....4	Q502	0501-000283	TR-SMALL SIGNAL:KSA539,PNP,400mW,TO-92,T	
....4	Q503	0501-000283	TR-SMALL SIGNAL:KSA539,PNP,400mW,TO-92,T	
....4	Q504	0501-000283	TR-SMALL SIGNAL:KSA539,PNP,400mW,TO-92,T	
....4	QF01	0501-000389	TR-SMALL SIGNAL:KSC815,NPN,400mW,TO-92,T	
....4	QF02	0501-000389	TR-SMALL SIGNAL:KSC815,NPN,400mW,TO-92,T	
....4	QF03	0501-000369	TR-SMALL SIGNAL:KSC2331-Y,NPN,1000mW,TO-	
....4	QG02	0502-000244	TR-POWER:KSA940,PNP,1.5W,TO-220,-,40-14	
....4	QG03	0502-001007	TR-POWER:KSC2073-H2,NPN,25W,TO-220,ST,6	
....4	R501	2001-000429	R-CARBON:1KOHM,5%,1/8W,AA,TP1.8X3.2MM	
....4	R502	2001-001093	R-CARBON(S):2.2KOHM,5%,1/2W,AA,TP2.4X6.	
....4	R503	2001-000085	R-CARBON(S):100KOHM,5%,1/2W,AA,TP2.4X6.	
....4	R505	2002-001008	R-COMPOSITION:1.8Kohm,10%,1/2W,AA,TP3.7	
....4	R506	2001-000429	R-CARBON:1KOHM,5%,1/8W,AA,TP1.8X3.2MM	
....4	R507	2001-001093	R-CARBON(S):2.2KOHM,5%,1/2W,AA,TP2.4X6.	
....4	R508	2001-000085	R-CARBON(S):100KOHM,5%,1/2W,AA,TP2.4X6.	
....4	R510	2002-001008	R-COMPOSITION:1.8Kohm,10%,1/2W,AA,TP3.7	
....4	R512	2001-001093	R-CARBON(S):2.2KOHM,5%,1/2W,AA,TP2.4X6.	
....4	R513	2001-000085	R-CARBON(S):100KOHM,5%,1/2W,AA,TP2.4X6.	
....4	R515	2002-001008	R-COMPOSITION:1.8Kohm,10%,1/2W,AA,TP3.7	
....4	R517	2001-001062	R-CARBON(S):10MOHM,5%,1/2W,AA,TP2.4X6.4	
....4	R518	2003-002171	R-METAL OXIDE(S):150ohm,5%,2W,AG,TP3.9x	
....4	R519	2002-001009	R-COMPOSITION:2.7Kohm,10%,1/2W,AA,TP3.7	
....4	R521	2001-000660	R-CARBON:33KOHM,5%,1/8W,AA,TP1.8X3.2MM	
....4	R522	2001-000449	R-CARBON:2.2KOHM,5%,1/8W,AA,TP1.8X3.2M	
....4	R526	2004-000500	R-METAL:2.7Kohm,1%,1/8W,AA,TP1.8x3.2m	
....4	R527	2004-000433	R-METAL:1Kohm,1%,1/8W,AA,TP1.8x3.2mm	
....4	R542	2001-000832	R-CARBON:510OHM,5%,1/8W,AA,TP1.8X3.2MM	
....4	R543	2001-000832	R-CARBON:510OHM,5%,1/8W,AA,TP1.8X3.2MM	
....4	R544	2001-000832	R-CARBON:510OHM,5%,1/8W,AA,TP1.8X3.2MM	
....4	R546	2001-000832	R-CARBON:510OHM,5%,1/8W,AA,TP1.8X3.2MM	
....4	RF02	2001-000734	R-CARBON:4.7KOHM,5%,1/8W,AA,TP1.8X3.2M	
....4	RF03	2001-000362	R-CARBON:150OHM,5%,1/8W,AA,TP1.8X3.2MM	
....4	RF04	2001-000449	R-CARBON:2.2KOHM,5%,1/8W,AA,TP1.8X3.2M	
....4	RF05	2001-000522	R-CARBON:22KOHM,5%,1/8W,AA,TP1.8X3.2MM	
....4	RF06	2001-000989	R-CARBON:820KOHM,5%,1/8W,AA,TP1.8X3.2M	
....4	RF07	2001-000904	R-CARBON:620OHM,5%,1/8W,AA,TP1.8X3.2MM	
....4	RF08	2001-000313	R-CARBON:11KOHM,5%,1/8W,AA,TP1.8X3.2MM	
....4	RF09	2001-000221	R-CARBON:1.2KOHM,5%,1/8W,AA,TP1.8X3.2M	
....4	RF10	2001-000241	R-CARBON:1.5KOHM,5%,1/8W,AA,TP1.8X3.2M	
....4	RF11	2001-000241	R-CARBON:1.5KOHM,5%,1/8W,AA,TP1.8X3.2M	
....4	RF12	2001-000221	R-CARBON:1.2KOHM,5%,1/8W,AA,TP1.8X3.2M	
....4	RF13	2001-001179	R-CARBON(S):68KOHM,5%,1/2W,AA,TP2.4X6.4	
....4	RF14	2001-001071	R-CARBON(S):12KOHM,5%,1/2W,AA,TP2.4X6.4	
....4	RF15	2001-001100	R-CARBON(S):2.7OHM,5%,1/2W,AA,TP2.4X6.4	
....4	RF16	2001-001179	R-CARBON(S):68KOHM,5%,1/2W,AA,TP2.4X6.4	
....4	RF17	2001-001100	R-CARBON(S):2.7OHM,5%,1/2W,AA,TP2.4X6.4	
....4	RF18	2003-000458	R-METAL OXIDE(S):100ohm,5%,2W,AF,TP4x12	
....4	RF19	2003-001023	R-METAL OXIDE(S):120ohm,5%,2W,AF,TP3.9x	
....4	RF20	2003-002214	R-METAL OXIDE(S):680ohm,5%,2W,AG,TP3.9x	
....4	RF21	2003-002214	R-METAL OXIDE(S):680ohm,5%,2W,AG,TP3.9x	
....4	RF22	2003-002214	R-METAL OXIDE(S):680ohm,5%,2W,AG,TP3.9x	
....4	RF23	2003-000746	R-METAL OXIDE(S):56ohm,5%,2W,AF,TP4x12m	
....4	RF24	2003-000746	R-METAL OXIDE(S):56ohm,5%,2W,AF,TP4x12m	
....4	RF25	2003-002009	R-METAL OXIDE(S):390ohm,5%,2W,AF,TP3.9x	
....4	RG01	2004-001397	R-METAL(S):4.7Kohm,1%,1/2W,AA,TP2.4x6.4	
....4	RG02	2004-002022	R-METAL(S):51Kohm,1%,1/2W,AA,TP2.4x6.4m	
....4	RG03	2004-001987	R-METAL(S):4.3Kohm,1%,1/2W,AA,TP2.4x6.4	
....4	RG04	2004-002022	R-METAL(S):51Kohm,1%,1/2W,AA,TP2.4x6.4m	
....4	RG05	2001-001163	R-CARBON(S):560OHM,5%,1/2W,AA,TP2.4X6.4	
....4	RG06	2001-001100	R-CARBON(S):2.7OHM,5%,1/2W,AA,TP2.4X6.4	
....4	RG07	2001-001100	R-CARBON(S):2.7OHM,5%,1/2W,AA,TP2.4X6.4	
....4	RG08	2001-001163	R-CARBON(S):560OHM,5%,1/2W,AA,TP2.4X6.4	
....4	SG501	AA27-00084A	COIL:S-23,-,-,-,-,-,S-23,5000Mohm	
....4	SG502	AA27-00084A	COIL:S-23,-,-,-,-,-,S-23,5000Mohm	
....4	SG503	AA27-00084A	COIL:S-23,-,-,-,-,-,S-23,5000Mohm	
....4	SG504	AA27-00084A	COIL:S-23,-,-,-,-,-,S-23,5000Mohm	
....3	0202-000187		SOLDER-WIRE FLUX:-,RS60S,D1 2.63Sn/37Pb	S.N.A

Level	Loc. No.	Code No.	Description ; Specification	Remark
...
1	*	AA91-00368C	ASSY TERMINAL BOARD:-,HIPS,V0,BLK,KS3A S	
..2		AA63-40254B	TERMINAL-BOARD,ANT:-,HIPS HB,BLK KCT55A,	S.N.A
..2		AA64-01036D	INLAY BACK:29A5,PS SHEET,TO.5,-,BLK,-,SC	S.N.A
ASSY CHASSIS PART				
1	*	AA90-30213D	ASSY CHASSIS PART:KS3A,295A	S.N.A
..2	AV	AA65-00011C	CLAMP-WIRE:ALL MODEL,NYLON 66,V2,NTR,25M	S.N.A
..2	D-FOCU	6003-001023	SCREW-TAPTITE:RWH,+ ,B,M3,L10,ZPC(YEL),SW	
..2	PM+HC	6003-001023	SCREW-TAPTITE:RWH,+ ,B,M3,L10,ZPC(YEL),SW	
..2	TB+HC	6003-001023	SCREW-TAPTITE:RWH,+ ,B,M3,L10,ZPC(YEL),SW	
..2		AA61-20254A	HOLDER-CHASSIS:-,CS-622A,HIPS,V0,BLK,-	S.N.A
ASSY-PCB,A/V SIDE				
1	*	AA95-00872A	ASSY-PCB,A/V SIDE:-,29A6,29A5,100HZ,KS3A	
..2	C701	2202-000121	C-CERAMIC,MLC-AXIAL:100pF,10%,50V,Y5P,TP	
..2	C702	2202-000121	C-CERAMIC,MLC-AXIAL:100pF,10%,50V,Y5P,TP	
..2	C703	2202-000231	C-CERAMIC,MLC-AXIAL:330pF,10%,50V,Y5P,TP	
..2	C704	2202-000231	C-CERAMIC,MLC-AXIAL:330pF,10%,50V,Y5P,TP	
..2	C705	2401-002009	C-AL:100uF,20%,16V,G/PT,6.3x7.5	
..2	C706	2401-002009	C-AL:100uF,20%,16V,G/PT,6.3x7.5	
..2	C707	2202-000231	C-CERAMIC,MLC-AXIAL:330pF,10%,50V,Y5P,TP	
..2	C708	2202-000231	C-CERAMIC,MLC-AXIAL:330pF,10%,50V,Y5P,TP	
..2	CN701	AA39-20068G	LEAD CONNECTOR-ASSY:-,YBNH025-08,67096-0	
..2	CN702	AA39-20070J	LEAD CONNECTOR-ASSY:-,7P,-,YBNH2	
..2	CN703	AA39-20069A	LEAD CONNECTOR-ASSY:-,YBNH025-05,67096-0	
..2	CN704	AA39-00070A	LEAD CONNECTOR-ASSY:-,YB	
..2	JA701	3722-001031	JACK-RCA:3P,6MM,#18,AU	
..2	JH701	3722-000143	JACK-PHONE:1P(VER),3.4mm,AG,BLK,NO	
..2	JS701	3722-001163	JACK-VHS:4P,12mm,AU,BLK,N	
..2	L701	2701-000114	INDUCTOR-AXIAL:10uH,10%,2.5x3.4mm	
..2	L702	2701-000114	INDUCTOR-AXIAL:10uH,10%,2.5x3.4mm	
..2	L703	2701-000114	INDUCTOR-AXIAL:10uH,10%,2.5x3.4mm	
..2	L704	2701-000114	INDUCTOR-AXIAL:10uH,10%,2.5x3.4mm	
..2	L705	2701-000168	INDUCTOR-AXIAL:3.3uH,5%,2.5x3.4mm	
..2	L706	2701-000168	INDUCTOR-AXIAL:3.3uH,5%,2.5x3.4mm	
..2	L707	3301-000287	CORE-FERRITE BEAD-AA,3.5x1.0x6.0mm,1500,	
..2	L708	3301-000287	CORE-FERRITE BEAD-AA,3.5x1.0x6.0mm,1500,	
..2	L709	2701-000114	INDUCTOR-AXIAL:10uH,10%,2.5x3.4mm	
..2	PCB	AA41-00155B	PCB-SIDE AV:CS29A6,FR-1,1L,B,1.6T,245x24	S.N.A
..2	R701	2001-000028	R-CARBON(S):1000HM,5%,1/2W,AA,TP2.4X6.4	
..2	R702	2001-000028	R-CARBON(S):1000HM,5%,1/2W,AA,TP2.4X6.4	
..2		0202-000187	SOLDER-WIRE FLUX:-,RS60S,D1 2.63Sn/37Pb	S.N.A
..2		AA63-10002A	BAND-TIE:-,NYLON66 V2,-,-,L100,NTR,-,-	S.N.A
ASSY-POWER,CORD				
1	*	AA96-20130C	ASSY-POWER,CORD:-,CP2/NO(4.0R),H/C300MM,	
..2		AA61-20284A	HOLDER:-,P-CORD,PPV0,BLK,KE-002	S.N.A
..2		AA39-10003B	POWER-CORD:-,KJP-140,KLCE-2F,2.4m,HOUS,S	
..2		3811-00040I	WIRE-PVC CU:BCWA,300V,ROLL,17/0.16mm,#22	S.N.A
ASSY PCB CONTROL				
1	*	AA95-00681A	ASSY PCB CONTROL:-,KS3A,29A5(50HZ),PAL	
..2	CN811	AA39-20179F	LEAD CONNECTOR-ASSY:-,3(2)P,-,YF	
..2	CNY01	AA39-20546E	LEAD CONNECTOR-ASSY:-,5P,-,YBNH2	
..2	CNY02	AA39-00106B	LEAD CONNECTOR-ASSY:-,4P,-,YBNH2	
..2	CY01	2401-002144	C-AL:47uF,20%,16V,G/PT,5x11,5	
..2	LDY01	0601-000198	LED-ROUND,RED/GRN,5.0mm,630/565nm	
..2	PCB	AA41-00299B	PCB-CONTROL:CS29A5VW,FR,1,1L,B,1.6T,245x	S.N.A

Level	Loc. No.	Code No.	Description ; Specification	Remark	Level	Loc. No.	Code No.	Description ; Specification	Remark
..2	RMV01	AA59-60002B	MODULE-REMOCON;-;ORC-50HF,38KHZ,940MM,ME						
..2	SCREW	6001-000057	SCREW-MACHINE:RH,+,M3,L6,ZPC(BLK),SWRCH1	S.N.A					
△	..2	SW811S	3403-000179 SWITCH-PUSH:250V,5A,DPST,-,JPW-2104B						
..2	SWY02	3404-000176	SWITCH-TACT:12V,50mA,120gf,6x6mm,SPST		1	*	AA94-02886A	ASSY ACCESSORY;CS29A5HT8X/BWT,KS3A,RUSSI	S.N.A
..2	SWY03	3404-000176	SWITCH-TACT:12V,50mA,120gf,6x6mm,SPST						
..2	SWY04	3404-000176	SWITCH-TACT:12V,50mA,120gf,6x6mm,SPST		..2		AA68-01316A	MANUAL USERS;CS29A5HT8X/BWT,-,RUS,-,W/P1	
..2	SWY05	3404-000176	SWITCH-TACT:12V,50mA,120gf,6x6mm,SPST		..2		AA68-01120A	MANUAL SERVICE;-;CIS,A4,6PAGE(FOLD),W/	S.N.A
..2	SWY06	3404-000176	SWITCH-TACT:12V,50mA,120gf,6x6mm,SPST						
..2	AA99-20083B		ASSY-PCB SUB,AUTO: AA95-00681A ,V	S.N.A					
..3	DZY01	0403-000508	DIODE-ZENER:MTZJ5.6B,5.6V,5.45-5.73V,500						
..3	DZY02	0403-000508	DIODE-ZENER:MTZJ5.6B,5.6V,5.45-5.73V,500						
..3	LY01	2701-000136	INDUCTOR-AXIAL:18uH,10%,2.5x3.4mm						
..3	RY01	2001-000020	R-CARBON(S);220HM,5%,1/2W,AA,TP2.4X6.4M						
..3	RY02	2001-000577	R-CARBON;2KOHM,5%,1/8W,AA,TP1.8X3.2MM		1	*	AA59-00116A	REMOCON;-;TM57,D3/D4,37,L/GRAY,S/S,EX,	
..3	RY03	2001-000007	R-CARBON;3KOHM,5%,1/8W,AA,TP1.8X3.2MM						
..3	RY04	2001-000878	R-CARBON;6.2KOHM,5%,1/8W,AA,TP1.8X3.2M						
..3	RY05	2001-000009	R-CARBON;20KOHM,5%,1/8W,AA,TP1.8X3.2MM						
..2	AA98-00056A		ASSY SUB PART;KS3A,PCB,CONTROL,ALL,-	S.N.A					
..3	0202-000187		SOLDER-WIRE FLUX;-;RS60S,D1.2,63Sn/37Pb	S.N.A					

ASSY ACCESSORY

REMOCON

ASSY CABINET FRONT

1	*	AA91-00113W	ASSY CABINET FRONT;-;29A5 KS3A CIS,S704+	
..2	KNOPOW	AA61-60005D	SPRING-CS;-;SUS304,0.4,OD5.5,H9,N4,-,-,-	
..2		AA64-60445V	INLAY AV;29A5,PS SHEET,-,-,BLK,-,KS3A E	
..2		AA64-60446C	INLAY-PC,JACK;29A6,L/GRAY,PS SHEET,T0.5	S.N.A
..2		AA64-70117B	BADGE-BRAND;AL,SS,SILVER,L65,R2000,-,-	S.N.A
..2		AA65-00011C	CLAMP-WIRE;ALL MODEL,NYLON 66,V2,NTR,25M	S.N.A
..2		AA65-30105A	CLAMP-WIRE;NYLON 66,V2,NTR,15MM,ALL MODE	S.N.A
..2		AA64-40456B	INDICATOR-LED;-;295A,-,ACRYL,-,CLR,-	
..2		AA64-10709A	KNOB-MASTER;-;295A,VT803M MASTER,ABS,HB,	
..2		AA64-10710A	KNOB-CONTROL;-;725A,-,ABS,HB,GRAY	
..2		AA64-31106S	CABINET FRONT;29A5 KS3A,S704P+G802P PLAN	
..2		AA64-40455A	WINDOW-REMOCON;-;725A,-,PC,-,VIOLET,-	

ASSY CABINET

1	*	AA90-00376D	ASSY CABINET;25A6,CS29A5HT8X/BWT	
..2	BRK+CF	6002-000514	SCREW-TAPPING;RH,+,2,M4,L15,ZPC(BLK),SWR	S.N.A
..2	CABBAC	AA60-00091J	SPACER-FELT;-;FELT,330X10,-,-,BLK,T0.5,-	S.N.A
..2	CB+TER	AA60-10050T	SCREW-TAPPING;RH,+,2S,M4,L20,ZPC(BLK),SW	
..2	CF+AV	6002-000522	SCREW-TAPPING;TH,+,2,M4,L15,ZPC(BLK),SWR	
..2	CF+CB	AA60-10050T	SCREW-TAPPING;RH,+,2S,M4,L20,ZPC(BLK),SW	
..2	CP+CF	6002-000514	SCREW-TAPPING;RH,+,2,M4,L15,ZPC(BLK),SWR	S.N.A
..2	CRT	AA63-60004G	SPACER-GUM,CRT;NTR RUBBER,T3.0,GRY,-,-,-	S.N.A
..2	CRT+CF	AA60-10050V	SCREW-ASSY;WC,HH,+,M6,L30,SWRCH18A,ZPC(S	S.N.A
..2	CTS+CB	AA60-10050T	SCREW-TAPPING;RH,+,2S,M4,L20,ZPC(BLK),SW	
..2	D-COIL	AA65-30113A	CLAMP-D,COIL;NYLON 66,V2,BLK,TVI 25-29,-	S.N.A
..2	DOME	AA60-10050A	SCREW-ASSY;WPRH,+,M4,L25,SWRCH18A,-,ZPC	S.N.A
..2	TER+RJ	6002-000514	SCREW-TAPPING;RH,+,2,M4,L15,ZPC(BLK),SWR	S.N.A
..2		AA65-30017A	CLAMP-D,COIL;NYLON-66,VO,NTR,DADH300,25	S.N.A
..2		AA65-30008A	CLAMP-CORD;PE,HB,BLK,-,-,-	S.N.A
..2		AA61-10054A	BRACKET-CRATER;-;6277,STS304,T0.5,-,-,-	S.N.A
..2		AA63-10007C	BAND-PP;-,-,-,W18,-,CLEAR,1G,-	S.N.A
..2		AA63-30213C	COVER-TOPSPK;-;725A,-,HIPS,V2,BLK,-,-	S.N.A
..2		AA64-01230B	INLAY-COVER;D2,D3,PVC-SHEET,T0.4,94V0,-,	S.N.A
..2		AA64-31107C	CABINET-BACK;-;29A5,-,HIPS,V2,BLK,-,-	

ASSY HOLDER SPK

1	*	AA91-00333B	ASSY HOLDER SPK;-;PP8ohm/15W,BLK,AA91-0	
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ASSY-CRT

1	*	AA94-01251A	ASSY-CRT;A68QCP891X004(C),+380MG,29INCH	
△	..2	AA03-00076A	CRT-COLOR;-;A68QCP891X004(C),+380MG,29IN	

7-2 CZ21A8VW8X/ELS

Level	Loc. No.	Code No.	Description ; Specification	Remark	Level	Loc. No.	Code No.	Description ; Specification	Remark
ASSY PCB MAIN(OPT)									
1	*	AA94-02037Z	ASSY PCB MAIN(OPT);CZ21A8VW8X/ELS,KS3A,4		△...3	IC301	AA96-50406A	ASSY H/S,-,AA62-30180K,LA7845,-	
					...4		0205-000129	GREASE-SILICON:SC102,JAPAN	S.N.A
					...4		1204-000517	IC-VERTICAL DEF.:LA7845,SIP,7P,-,PLASTIC	
					...4		6003-000333	SCREW-TAPTITE:RH,+2S,M3,L10,ZPC(YEL),SW	
					...4		AA62-30180K	HEAT SINK-ES,-A6063 EXTR,-,VHHT,50/13,-,	S.N.A
					△...3	IC401	1202-000103	IC-VOLTAGE COMP:393,DIP8P,300ML,DUAL,	
					△...3	IC501	1201-000539	IC-VIDEO AMP:6101,ZIP9P,-,SINGLE,-,PLAS	
					△...3	IC502	1201-000539	IC-VIDEO AMP:6101,ZIP9P,-,SINGLE,-,PLAS	
					△...3	IC503	1201-000539	IC-VIDEO AMP:6101,ZIP9P,-,SINGLE,-,PLAS	
					△...3	IC601	1204-001775	IC-SOUND PROCESSOR:MSP3410D-C5 9458 ,SDI	
					△...3	IC603	1203-001697	IC-VOLTAGE REGULATOR:78R08,TO-220,4P,-,P	
					△...3	IC902	1103-001171	IC-EEPROM:L51DC,16KBIT,DIP8P,300ML,10m	
					...3	L403	AA27-00101A	COIL LINEARITY:58uH,58uH,DR14x15 C:6,0,1	
					...3	L405	AA27-00096A	COIL HORIZ. WIDTH:,-,10.0mH,DR15 X 27.5,U	
					...3	L408	AA27-00097A	COIL HORIZ. WIDTH:,-,700uH,DR15 X 27.5,US	
					...3	L808	AA27-00098A	COIL CHOKE:,-,24uH,10%,-,0.1,3.0A,DR10X	
					...3	LD901	AA96-00461A	ASSY LED GUIDE,-,SL-255D,RED/GRN	
					△...3	LX801S	AA29-30002N	FILTER-LINE NOISE,-,16MH,1.5A,AC100-260V	
					△...3	LX802S	AA29-30002N	FILTER-LINE NOISE,-,16MH,1.5A,AC100-260V	
					...3	NT802S	1404-001045	THERMISTOR-NTC:4.70HM,15%,2900K,35.0MW,T	
					△...3	PC801S	0604-001038	PHOTO-COUPLER:TR:130-260%,200mW,DIP-4,ST	
					△...3	PT801S	1404-001156	THERMISTOR-PTC:90HM,+30%/-20%,220VRMS,27	
					...3	RM901	AA59-60001U	MODULE-REMOCON:-,ORC-50VF/SR-12V,38KHz,9	
					△...3	SW801S	3403-000179	SWITCH-PUSH:250V,5A,DPST,-,JPW-2104B	
					△...3	T401	AA26-50001L	TRANS-HORIZ.DRIVE:,-,29mH,133uH,4.5uH,EI2	
					△...3	TU01S	AA40-00015A	TUNER-F/S:TCPW3001PD09A(S),PAL/SECAM,TR,	
					△...3	V999S	3704-001105	SOCKET-CRT:11P,20P1,26.5PI,NI,-	
					...3	AA99-10182Q	ASSY-PCB MAIN,AUTO: AA99-30186Z ,V	S.N.A	
					...4	C102	2401-001513	C-AL:47uF,20%,16V,WT,TP5x11,5	
					...4	C103	2301-000383	C-FILM,PEF:10nF,5%,50V,TP6x7x3.2mm,5mm	
					...4	C104	2401-003578	C-AL:1000uF,20%,10V,GP,TP8x20mm,5	
					...4	C105	2301-000383	C-FILM,PEF:10nF,5%,50V,TP6x7x3.2mm,5mm	
					...4	C106	2401-000611	C-AL:1uF,20%,50V,WT,TP5x11,5	
					...4	C113	2202-000127	C-CERAMIC,MLC-AXIAL:10nF,+80-20%,25V,Y5V	
					...4	C115	2202-000121	C-CERAMIC,MLC-AXIAL:100pF,10%,50V,Y5P,TP	
					...4	C116	2202-000121	C-CERAMIC,MLC-AXIAL:100pF,10%,50V,Y5P,TP	
					...4	C201	2401-000603	C-AL:1uF,20%,50V,GP,TP5x11,5	
					...4	C202	2401-002235	C-AL:10uF,20%,16V,GP,TP5x11mm,5mm	
					...4	C205	2401-002235	C-AL:10uF,20%,16V,GP,TP5x11mm,5mm	
					...4	C208	2401-001026	C-AL:3.3uF,20%,50V,GP,TP5x11,5	
					...4	C211	2202-000796	C-CERAMIC,MLC-AXIAL:1nF,10%,50V,Y5P,TP3	
					...4	C212	2301-000224	C-FILM,PEF:22nF,5%,50V,TP7.4x3.9x13mm,5	
					...4	C213	2301-000247	C-FILM,PEF:33nF,5%,50V,TP8.1x4.5x13mm,5	
					...4	C214	2305-000665	C-FILM,MPEF:100nF,5%,63V,TP7.5x4.0x5.0m	
					...4	C215	2401-002235	C-AL:10uF,20%,16V,GP,TP5x11mm,5mm	
					...4	C216	2305-000665	C-FILM,MPEF:100nF,5%,63V,TP7.5x4.0x5.0m	
					...4	C217	2401-001026	C-AL:3.3uF,20%,50V,GP,TP5x11,5	
					...4	C218	2202-000632	C-CERAMIC,MLC-AXIAL:100nF,20%,50V,Z5U,TP	
					...4	C219	2202-000632	C-CERAMIC,MLC-AXIAL:100nF,20%,50V,Z5U,TP	
					...4	C220	2202-000632	C-CERAMIC,MLC-AXIAL:100nF,20%,50V,Z5U,TP	
					...4	C221	2202-000632	C-CERAMIC,MLC-AXIAL:100nF,20%,50V,Z5U,TP	
					...4	C222	2202-000632	C-CERAMIC,MLC-AXIAL:100nF,20%,50V,Z5U,TP	
					...4	C223	2202-000632	C-CERAMIC,MLC-AXIAL:100nF,20%,50V,Z5U,TP	
					...4	C224	2201-002031	C-CERAMIC,DISC:0.005nF,0.5pF,50V,NP0,TP	
					...4	C225	2201-002031	C-CERAMIC,DISC:0.005nF,0.5pF,50V,NP0,TP	
					...4	C228	2301-000356	C-FILM,PEF:47nF,5%,50V,TP7.5x4.0x6.5,5m	
					...4	C229	2401-002619	C-AL:47uF,20%,25V,GP,TP5x11,5	
					...4	C230	2301-000356	C-FILM,PEF:47nF,5%,50V,TP7.5x4.0x6.5,5m	
					...4	C231	2401-002235	C-AL:10uF,20%,16V,GP,TP5x11mm,5mm	
					...4	C232	2202-000632	C-CERAMIC,MLC-AXIAL:100nF,20%,50V,Z5U,TP	
					...4	C233	2305-000412	C-FILM,MPEF:470nF,5%,63V,TP,-,5mm	
					...4	C234	2305-000412	C-FILM,MPEF:470nF,5%,63V,TP,-,5mm	
					...4	C235	2305-000412	C-FILM,MPEF:470nF,5%,63V,TP,-,5mm	
					...4	C236	2305-000412	C-FILM,MPEF:470nF,5%,63V,TP,-,5mm	
					...4	C237	2401-000914	C-AL:22uF,20%,16V,GP,TP5x11,5	
					...4	C244	2202-000121	C-CERAMIC,MLC-AXIAL:100pF,10%,50V,Y5P,TP	
					...4	C245	2202-000121	C-CERAMIC,MLC-AXIAL:100pF,10%,50V,Y5P,TP	
					...4	C248	2202-000121	C-CERAMIC,MLC-AXIAL:100pF,10%,50V,Y5P,TP	
					...4	C250	2202-000121	C-CERAMIC,MLC-AXIAL:100pF,10%,50V,Y5P,TP	
					...4	C301	2401-000603	C-AL:1uF,20%,50V,GP,TP5x11,5	
					...4	C302	2401-000360	C-AL:100uF,20%,50V,GP,TP8x11,5,5	
					...4	C303	2201-002103	C-CERAMIC,DISC:0.015nF,5%,500V,NP0,TP6	

Electrical Parts List

Level	Loc. No.	Code No.	Description ; Specification	Remark	Level	Loc. No.	Code No.	Description ; Specification	Remark
▲	...4	D401	0402-000540	DIODE-RECTIFIER:RU20A,600V,1.5A,-,TP		...4	L207	3301-000287	CORE-FERRITE BEAD:AA,3.5x1.0x6.0mm,1500,
▲	...4	D402	0402-000534	DIODE-RECTIFIER:RG10V,400V,1.2A,DO-201,T		...4	L208	2701-000168	INDUCTOR-AXIAL:3.3uH,5%,2.5x3.4mm
▲	...4	D403	0402-000132	DIODE-RECTIFIER:1N4004,400V,1A,DO-41,TP		...4	L209	2701-000168	INDUCTOR-AXIAL:3.3uH,5%,2.5x3.4mm
▲	...4	D404	0402-000540	DIODE-RECTIFIER:RU20A,600V,1.5A,-,TP		...4	L210	2701-000168	INDUCTOR-AXIAL:3.3uH,5%,2.5x3.4mm
▲	...4	D405	0402-000493	DIODE-RECTIFIER:1R5GU41,400V,1.5A,DO-15L		...4	L212	2701-000168	INDUCTOR-AXIAL:3.3uH,5%,2.5x3.4mm
▲	...4	D406	0402-000132	DIODE-RECTIFIER:1N4004,400V,1A,DO-41,TP		...4	L301	2701-000114	INDUCTOR-AXIAL:10uH,10%,2.5x3.4mm
▲	...4	D407	0402-000132	DIODE-RECTIFIER:1N4004,400V,1A,DO-41,TP		...4	L302	3301-000287	CORE-FERRITE BEAD:AA,3.5x1.0x6.0mm,1500,
▲	...4	D408	0402-000493	DIODE-RECTIFIER:1R5GU41,400V,1.5A,DO-15L		...4	L303	3301-000287	CORE-FERRITE BEAD:AA,3.5x1.0x6.0mm,1500,
▲	...4	D411	0402-000546	DIODE-RECTIFIER:TVR10G,400V,1.0A,DO-41,T		...4	L401	2001-001053	R-CARBON(S):1.5OHM,5%,1/2W,AA,TP,2.4X6.4
▲	...4	D413	0402-000537	DIODE-RECTIFIER:RH1A,600V,0.6A,DO-204AC		...4	L406	2701-000114	INDUCTOR-AXIAL:10uH,10%,2.5x3.4mm
▲	...4	D501	2004-000433	R-METAL:1Kohm,1%,1/8W,AA,TP,1.8x3.2mm		...4	L407	2901-000297	FILTER-EMI ON BOARD:3A,-,-,3.5x5,TP,-
	...4	D502	0402-000132	DIODE-RECTIFIER:1N4004,400V,1A,DO-41,TP		...4	L410	3301-000287	CORE-FERRITE BEAD:AA,3.5x1.0x6.0mm,1500,
	...4	D601	0401-000005	DIODE-SWITCHING:1N4148,100V,200mA,DO-35,		...4	L412	3301-000287	CORE-FERRITE BEAD:AA,3.5x1.0x6.0mm,1500,
	...4	D602	0401-000005	DIODE-SWITCHING:1N4148,100V,200mA,DO-35,		...4	L501	2901-000297	FILTER-EMI ON BOARD:-,3A,-,-,3.5x5,TP,-
▲	...4	D801	0402-001111	DIODE-RECTIFIER:1N5397GP600V,1.5A,DO-20		...4	L601	2901-000297	FILTER-EMI ON BOARD:-,3A,-,-,3.5x5,TP,-
▲	...4	D803	0402-000546	DIODE-RECTIFIER:TVR10G,400V,1.0A,DO-41,T		...4	L604	2701-000169	INDUCTOR-AXIAL:3.9uH,10%,2.5x3.4mm
▲	...4	D804	0401-000005	DIODE-SWITCHING:1N4148,100V,200mA,DO-35,		...4	L605	2701-000177	INDUCTOR-AXIAL:33uH,10%,2.5x3.4mm
▲	...4	D810	0402-000132	DIODE-RECTIFIER:1N4004,400V,1A,DO-41,TP		...4	L606	2701-000177	INDUCTOR-AXIAL:33uH,10%,2.5x3.4mm
▲	...4	D811	0402-000132	DIODE-RECTIFIER:1N4004,400V,1A,DO-41,TP		...4	L607	2701-000177	INDUCTOR-AXIAL:33uH,10%,2.5x3.4mm
▲	...4	D816	0402-000546	DIODE-RECTIFIER:TVR10G,400V,1.0A,DO-41,T		...4	L608	2701-000177	INDUCTOR-AXIAL:33uH,10%,2.5x3.4mm
▲	...4	D901	0404-000156	DIODE-SCHOTTKY:RB441Q,10V,100mA,DO-34,TP		...4	L609	2901-000297	FILTER-EMI ON BOARD:-,3A,-,-,3.5x5,TP,-
	...4	D902	0404-000156	DIODE-SCHOTTKY:RB441Q,10V,100mA,DO-34,TP		...4	L701	2701-000177	INDUCTOR-AXIAL:33uH,10%,2.5x3.4mm
	...4	D903	0404-000156	DIODE-SCHOTTKY:RB441Q,10V,100mA,DO-34,TP		...4	L702	2701-000177	INDUCTOR-AXIAL:33uH,10%,2.5x3.4mm
	...4	D904	0404-000156	DIODE-SCHOTTKY:RB441Q,10V,100mA,DO-34,TP		...4	L705	2701-000177	INDUCTOR-AXIAL:33uH,10%,2.5x3.4mm
	...4	D905	0404-000156	DIODE-SCHOTTKY:RB441Q,10V,100mA,DO-34,TP		...4	L706	2701-000177	INDUCTOR-AXIAL:33uH,10%,2.5x3.4mm
	...4	D906	0401-000005	DIODE-SWITCHING:1N4148,100V,200mA,DO-35,		...4	L709	2701-000168	INDUCTOR-AXIAL:3.3uH,5%,2.5x3.4mm
	...4	D907	0402-000132	DIODE-RECTIFIER:1N4004,400V,1A,DO-41,TP		...4	L710	2701-000168	INDUCTOR-AXIAL:3.3uH,5%,2.5x3.4mm
	...4	D909	0401-000005	DIODE-SWITCHING:1N4148,100V,200mA,DO-35,		...4	L711	2701-000114	INDUCTOR-AXIAL:10uH,10%,2.5x3.4mm
	...4	DZ201	0403-000508	DIODE-ZENER:MTZJ5.6B,5.6V,5.45-5.73V,500		...4	L801	3301-001223	CORE-FERRITE BEAD:AA,62ohm,3.5x0.8x5mm,-
	...4	DZ202	0403-000508	DIODE-ZENER:MTZJ5.6B,5.6V,5.45-5.73V,500		...4	L802	3301-000287	CORE-FERRITE BEAD:AA,3.5x1.0x6.0mm,1500,
	...4	DZ203	0403-001321	DIODE-ZENER:MTZJ6.8C,6.66-7.01V,500mW,DO		...4	L803	3301-000287	CORE-FERRITE BEAD:AA,3.5x1.0x6.0mm,1500,
	...4	DZ302	0403-001329	DIODE-ZENER:MTZJ24B,22.61-23.77V,500mW,D		...4	L804	3301-000287	CORE-FERRITE BEAD:AA,3.5x1.0x6.0mm,1500,
	...4	DZ303	0403-001329	DIODE-ZENER:MTZJ24B,22.61-23.77V,500mW,D		...4	L806	3301-001223	CORE-FERRITE BEAD:AA,62ohm,3.5x0.8x5mm,-
	...4	DZ304	0403-001329	DIODE-ZENER:MTZJ24B,22.61-23.77V,500mW,D		...4	L807	2901-000297	FILTER-EMI ON BOARD:-,3A,-,-,3.5x5,TP,-
	...4	DZ305	0403-001221	DIODE-ZENER:UZ39BSB,35.36-37.19V,500mW,D		...4	L809	3301-000287	CORE-FERRITE BEAD:AA,3.5x1.0x6.0mm,1500,
	...4	DZ306	0403-000700	DIODE-ZENER:TZP33A,33V,31-35V,1W,DO-41,T		...4	L901	2702-001094	INDUCTOR-RADIAL:10uH,10%,6x4mm
	...4	DZ401	0403-001325	DIODE-ZENER:MTZJ15C,14.35-15.09V,500mW,D		...4	L903	2702-001094	INDUCTOR-RADIAL:10uH,10%,6x4mm
	...4	DZ402	0401-000005	DIODE-SWITCHING:1N4148,100V,200mA,DO-35,		...4	L904	2702-001094	INDUCTOR-RADIAL:10uH,10%,6x4mm
	...4	DZ502	0403-001211	DIODE-ZENER:MTZJ12B,11.44-12.03V,500mW,D		...4	L905	2001-000995	R-CARBON:820OHM,5%,1/8W,AA,TP,1.8X3.2MM
	...4	DZ503	2004-000500	R-METAL:2.7Kohm,1%,1/8W,AA,TP,1.8x3.2mm		...4	L907	2701-000114	INDUCTOR-AXIAL:10uH,10%,2.5x3.4mm
	...4	DZ504	0403-001211	DIODE-ZENER:MTZJ12B,11.44-12.03V,500mW,D		...4	L908	2701-000191	INDUCTOR-AXIAL:47uH,10%,2.5x3.4mm
	...4	DZ601	0403-000508	DIODE-ZENER:MTZJ5.6B,5.6V,5.45-5.73V,500		...4	L909	2701-000191	INDUCTOR-AXIAL:47uH,10%,2.5x3.4mm
	...4	DZ602	0403-000720	DIODE-ZENER:MTZJ9.1B,9.1V,8.57-9.01V,500		...4	PCB	AA41-00168C	PCB-MAIN:KS3A,FR-1,1L,C,1.61,330x245,-,
	...4	DZ603	0403-000508	DIODE-ZENER:MTZJ5.6B,5.6V,5.45-5.73V,500		...4	Q201	0501-000389	TR-SMALL SIGNAL:KSC815,NPN,400mW,TO-92,T
	...4	DZ801	0403-001322	DIODE-ZENER:MTZJ8.2B,7.78-8.19V,500mW,DO		...4	Q202	0501-000389	TR-SMALL SIGNAL:KSC815,NPN,400mW,TO-92,T
	...4	DZ802	0403-000508	DIODE-ZENER:MTZJ5.6B,5.6V,5.45-5.73V,500		...4	Q203	0501-000389	TR-SMALL SIGNAL:KSC815,NPN,400mW,TO-92,T
	...4	DZ803	0403-001167	DIODE-ZENER:MTZJ30D,30V,29.02-30.51V,500		...4	Q204	0501-000389	TR-SMALL SIGNAL:KSC815,NPN,400mW,TO-92,T
	...4	DZ804	0403-000700	DIODE-ZENER:TZP33A,33V,31-35V,1W,DO-41,T		▲	Q402	0502-001007	TR-POWER:KSC2073-H2,NPN,25V,1W,TO-220,ST
	...4	DZ805	1203-001217	IC-POS:ADJUST REG.:431,TO-92,3P,4.58MIL		▲	Q404	0505-000156	FET-SILICON:IRF620,N,200V,5A,0.8ohm,50W,
	...4	DZ806	0403-000508	DIODE-ZENER:MTZJ5.6B,5.6V,5.45-5.73V,500		...4	Q501	0501-000283	TR-SMALL SIGNAL:KSA539,PNP,400mW,TO-92,T
	...4	DZ808	0403-001322	DIODE-ZENER:MTZJ8.2B,7.78-8.19V,500mW,DO		...4	Q601	0501-000389	TR-SMALL SIGNAL:KSC815,NPN,400mW,TO-92,T
	...4	DZ901	0403-000508	DIODE-ZENER:MTZJ5.6B,5.6V,5.45-5.73V,500		...4	Q701	0501-000389	TR-SMALL SIGNAL:KSC815,NPN,400mW,TO-92,T
	...4	DZ902	0403-000508	DIODE-ZENER:MTZJ5.6B,5.6V,5.45-5.73V,500		...4	Q901	0501-000389	TR-SMALL SIGNAL:KSC815,NPN,400mW,TO-92,T
	...4	DZ903	0403-000508	DIODE-ZENER:MTZJ5.6B,5.6V,5.45-5.73V,500		...4	Q902	0501-000389	TR-SMALL SIGNAL:KSC815,NPN,400mW,TO-92,T
	...4	DZ904	0403-000508	DIODE-ZENER:MTZJ5.6B,5.6V,5.45-5.73V,500		...4	Q903	0501-000389	TR-SMALL SIGNAL:KSC815,NPN,400mW,TO-92,T
	...4	DZ905	0403-000508	DIODE-ZENER:MTZJ5.6B,5.6V,5.45-5.73V,500		...4	Q904	0501-000389	TR-SMALL SIGNAL:KSC815,NPN,400mW,TO-92,T
	...4	DZ906	0403-000508	DIODE-ZENER:MTZJ5.6B,5.6V,5.45-5.73V,500		...4	Q905	0501-000389	TR-SMALL SIGNAL:KSC815,NPN,400mW,TO-92,T
	...4	DZ907	0403-000508	DIODE-ZENER:MTZJ5.6B,5.6V,5.45-5.73V,500		...4	Q906	0501-000389	TR-SMALL SIGNAL:KSC815,NPN,400mW,TO-92,T
	...4	F801A	3602-000114	FUSE-HOLDER:-,30mohm		...4	Q908	0501-000389	TR-SMALL SIGNAL:KSC815,NPN,400mW,TO-92,T
	...4	F801B	3602-000114	FUSE-HOLDER:-,30mohm		...4	Q909	0505-000109	FET-SILICON:2N7000,N,60V,200mA,5ohm,400m
▲	...4	FA802S	3601-001086	FUSE-AXIAL LEAD:125V,5A,FAST-ACTING,GLAS		...4	Q910	0505-000109	FET-SILICON:2N7000,N,60V,200mA,5ohm,400m
▲	...4	FA803S	3601-001163	FUSE-AXIAL LEAD:125V,7A,-,EPOXY,2.4X7.1M		...4	R102	2001-000281	R-CARBON:1000OHM,5%,1/8W,AA,TP,1.8X3.2MM
	...4	HIC202	AA13-00093A	IC HYBRID:-,DRGB001A,SIP5P,-,TP		...4	R103	2001-000281	R-CARBON:1000OHM,5%,1/8W,AA,TP,1.8X3.2MM
	...4	HIC203	AA13-00093A	IC HYBRID:-,DRGB001A,SIP5P,-,TP		...4	R105	2001-000702	R-CARBON:39KOHM,5%,1/8W,AA,TP,1.8X3.2MM
	...4	HIC204	AA13-00093A	IC HYBRID:-,DRGB001A,SIP5P,-,TP		...4	R106	2001-000864	R-CARBON:56KOHM,5%,1/8W,AA,TP,1.8X3.2MM
▲	...4	IC903	1203-001944	IC-POS:FIXED REG.:78RM33,TO-220,3P,-,PL		...4	R202	2001-000290	R-CARBON:10KOHM,5%,1/8W,AA,TP,1.8X3.2MM
▲	...4	IC904	1203-001943	IC-VOL. DETECTOR:7025,TO-92,3P,-,PLASTIC		...4	R203	2001-000281	R-CARBON:1000OHM,5%,1/8W,AA,TP,1.8X3.2MM
	...4	J706	2701-000114	INDUCTOR-AXIAL:10uH,10%,2.5x3.4mm		...4	R204	2001-000281	R-CARBON:1000OHM,5%,1/8W,AA,TP,1.8X3.2MM
	...4	J718	2701-000114	INDUCTOR-AXIAL:10uH,10%,2.5x3.4mm		...4	R205	2001-000290	R-CARBON:10KOHM,5%,1/8W,AA,TP,1.8X3.2MM
	...4	J901	3301-000287	CORE-FERRITE BEAD:AA,3.5x1.0x6.0mm,1500,		...4	R206	2001-000290	R-CARBON:10KOHM,5%,1/8W,AA,TP,1.8X3.2MM
	...4	J904	2001-000281	R-CARBON:1000OHM,5%,1/8W,AA,TP,1.8X3.2MM		...4	R207	2001-000221	R-CARBON:1.2KOHM,5%,1/8W,AA,TP,1.8X3.2M
	...4	L102	2701-000159	INDUCTOR-AXIAL:22uH,10%,4.2x9.8mm		...4	R208	2001-000405	R-CARBON:180OHM,5%,1/8W,AA,TP,1.8X3.2MM
	...4	L103	2701-000115	INDUCTOR-AXIAL:10uH,10%,3x7mm		...4	R209	2001-000429	R-CARBON:1KOHM,5%,1/8W,AA,TP,1.8X3.2MM
	...4	L201	2701-000114	INDUCTOR-AXIAL:10uH,10%,2.5x3.4mm		...4	R210	2001-000812	R-CARBON:5.6KOHM,5%,1/8W,AA,TP,1.8X3.2M
	...4	L202	2701-000114	INDUCTOR-AXIAL:10uH,10%,2.5x3.4mm		...4	R212	2004-000218	R-METAL:10Kohm,1%,1/8W,AA,TP,1.8x3.2mm
	...4	L204	2701-000184	INDUCTOR-AXIAL:4.7uH,10%,2.5x3.4mm		...4	R213	2001-000232	R-CARBON:1.3KOHM,5%,1/8W,AA,TP,1.8X3.2M

S.N.A

Level	Loc. No.	Code No.	Description ; Specification	Remark	Level	Loc. No.	Code No.	Description ; Specification	Remark
....4	R828	2008-000266	R-FUSIBLE(S):1ohm,5%,2W,AF,TP,3.9x10mm		..2	SPK+CF	6003-001019	SCREW-TAPTITE:RH,+B,M4,L12,ZPC(BLK),SWR	
....4	R829	2008-001029	R-FUSIBLE(S):5.6OHM,5%,2W,AF,TP,3.9X10MM		..2	WIN+CF	6003-001026	SCREW-TAPTITE:RH,+B,M4,L15,ZPC(BLK),SWR	
....4	R831	2001-000780	R-CARBON:4700HM,5%,1/8W,AA,TP,1.8X3.2MM		..2	AA64-70123A	BADGE-BRAND:AL,SAMSUNG,SILVER,L=50,FLAT,		
....4	R832	2001-001153	R-CARBON(S):47OHM,5%,1/2W,AA,TP,2.4X6.4M		..2	AA64-00818B	INDICATOR LED:-,21A8,-,ACRYL,-,CLR,-		
....4	R835	2003-002211	R-METAL OXIDE(S):91Kohm,5%,2W,AG,TP,3.9x		..2	AA96-00358E	ASSY SPEAKER:-,8ohm,5W,3001-000274,400/6		
....4	R836	2003-002211	R-METAL OXIDE(S):91Kohm,5%,2W,AG,TP,3.9x		...3	3001-000274	SPEAKER:5W,8ohm,90dB,160Hz		
....4	R901	2001-000734	R-CARBON:4.7KOHM,5%,1/8W,AA,TP,1.8X3.2M		...3	AA39-00102S	LEAD CONNECTOR ASSY:-,4P,-,35155		
....4	R903	2001-000734	R-CARBON:4.7KOHM,5%,1/8W,AA,TP,1.8X3.2M		..2	AA65-30105A	CLAMP-WIRE:NYLON 66,V2,NTR,15MM,ALL MODE	S.N.A	
....4	R904	2001-000734	R-CARBON:4.7KOHM,5%,1/8W,AA,TP,1.8X3.2M		..2	AA65-00011C	CLAMP-WIRE:ALL MODEL,NYLON 66,V2,NTR,25M	S.N.A	
....4	R905	2001-000734	R-CARBON:4.7KOHM,5%,1/8W,AA,TP,1.8X3.2M		..2	AA61-40113A	STOPPER-PCB:501H,HIPS,NTR,HB,-		
....4	R906	2001-000734	R-CARBON:4.7KOHM,5%,1/8W,AA,TP,1.8X3.2M		..2	AA64-00810E	CABINET FRONT:21A8,SV907P-DB004P MLPHIP		
....4	R907	2001-000281	R-CARBON:100OHM,5%,1/8W,AA,TP,1.8X3.2MM		..2	AA64-00812B	KNOB CONTROL:-,21A8,-,ABS,HB,G3676		
....4	R908	2001-000734	R-CARBON:4.7KOHM,5%,1/8W,AA,TP,1.8X3.2M		..2	AA64-00814B	KNOB POWER:-,21A8,-,ABS,HB,G3676		
....4	R909	2001-000281	R-CARBON:100OHM,5%,1/8W,AA,TP,1.8X3.2MM		..2	AA64-00816B	WINDOW REMOCON:-,21A8,-,PC,VO,VIOLET,-		
....4	R910	2001-000429	R-CARBON:1KOHM,5%,1/8W,AA,TP,1.8X3.2MM						
....4	R911	2001-000003	R-CARBON:330ohm,5%,1/8W,AA,TP,1.8x3.2mm						
....4	R912	2001-000429	R-CARBON:1KOHM,5%,1/8W,AA,TP,1.8X3.2MM						
....4	R913	2001-000947	R-CARBON:7.5KOHM,5%,1/8W,AA,TP,1.8X3.2M						
....4	R914	2001-000429	R-CARBON:1KOHM,5%,1/8W,AA,TP,1.8X3.2MM						
....4	R915	2001-000577	R-CARBON:2KOHM,5%,1/8W,AA,TP,1.8X3.2MM						
....4	R916	2001-000007	R-CARBON:3KOHM,5%,1/8W,AA,TP,1.8X3.2MM						
....4	R917	2001-000878	R-CARBON:6.2KOHM,5%,1/8W,AA,TP,1.8X3.2M		..2	3811-000401	WIRE-PVC CU:BCWA,300V,ROLL,17/0.16mm,#22	S.N.A	
....4	R918	2001-000009	R-CARBON:20KOHM,5%,1/8W,AA,TP,1.8X3.2MM		△..2	AA39-10006X	POWER-CORD:-,KKP419C,KLCE-2F,2.286MT,3P,	S.N.A	
....4	R919	2001-000290	R-CARBON:10KOHM,5%,1/8W,AA,TP,1.8X3.2MM		..2	AA61-20284A	HOLDER:-,P-CORD,PPVO,BLK,KE-002	S.N.A	
....4	R920	2001-000780	R-CARBON:4700HM,5%,1/8W,AA,TP,1.8X3.2MM						
....4	R921	2001-000734	R-CARBON:4.7KOHM,5%,1/8W,AA,TP,1.8X3.2M						
....4	R922	2001-000924	R-CARBON:680OHM,5%,1/8W,AA,TP,1.8X3.2MM						
....4	R923	2001-000924	R-CARBON:680OHM,5%,1/8W,AA,TP,1.8X3.2MM						
....4	R924	2001-000429	R-CARBON:1KOHM,5%,1/8W,AA,TP,1.8X3.2MM		1 *	AA95-00790A	ASSY-PCB,A/V SIDE:-,CZ21A8,KS3A,PAL,-		
....4	R925	2001-000281	R-CARBON:100OHM,5%,1/8W,AA,TP,1.8X3.2MM						
....4	R927	2001-000734	R-CARBON:4.7KOHM,5%,1/8W,AA,TP,1.8X3.2M		..2	BOT	0403-000720	DIODE-ZENER:MTZJ9.1B,9.1V,8.57-9.01V,500	
....4	R928	2001-000734	R-CARBON:4.7KOHM,5%,1/8W,AA,TP,1.8X3.2M		..2	C701	2202-000121	C-CERAMIC,MLC-AXIAL:100pF,10%,50V,Y5P,TP	
....4	R929	2001-000429	R-CARBON:1KOHM,5%,1/8W,AA,TP,1.8X3.2MM		..2	C702	2202-000121	C-CERAMIC,MLC-AXIAL:100pF,10%,50V,Y5P,TP	
....4	R930	2001-000429	R-CARBON:1KOHM,5%,1/8W,AA,TP,1.8X3.2MM		..2	C703	2202-000231	C-CERAMIC,MLC-AXIAL:330pF,10%,50V,Y5P,TP	
....4	R931	2001-000780	R-CARBON:4700HM,5%,1/8W,AA,TP,1.8X3.2MM		..2	C704	2202-000231	C-CERAMIC,MLC-AXIAL:330pF,10%,50V,Y5P,TP	
....4	R932	2001-000515	R-CARBON:220OHM,5%,1/8W,AA,TP,1.8X3.2MM		..2	C705	2401-002009	C-AL:100uF,20%,16V,GP,TP,6.3x7.5	
....4	R933	2001-000780	R-CARBON:4700HM,5%,1/8W,AA,TP,1.8X3.2MM		..2	C706	2401-002009	C-AL:100uF,20%,16V,GP,TP,6.3x7.5	
....4	R934	2001-000515	R-CARBON:220OHM,5%,1/8W,AA,TP,1.8X3.2MM		..2	CN701	AA39-20068B	LEAD CONNECTOR ASSY:-,YBNH025-08,67096-0	
....4	R935	2001-000290	R-CARBON:10KOHM,5%,1/8W,AA,TP,1.8X3.2MM		..2	CN703	AA39-20069D	LEAD CONNECTOR ASSY:-,YBNH025-05,67096-0	
....4	R937	2001-000734	R-CARBON:4.7KOHM,5%,1/8W,AA,TP,1.8X3.2M		..2	CN704	AA39-00070A	LEAD CONNECTOR ASSY:-,YBH800-01,-,1P,500	
....4	R940	2001-000281	R-CARBON:100OHM,5%,1/8W,AA,TP,1.8X3.2MM		..2	CN705	AA39-20009D	LEAD CONNECTOR ASSY:-,YFH800-01,-,1P,500	
....4	R941	2001-000281	R-CARBON:100OHM,5%,1/8W,AA,TP,1.8X3.2MM		..2	JA701	3722-001031	JACK-RCA:3P,3.6MM,#18,AU	
....4	R942	2001-000281	R-CARBON:100OHM,5%,1/8W,AA,TP,1.8X3.2MM		..2	JH701	3722-000143	JACK-PHONE:1P(VER),3.4mm,AG,BLK,NO	
....4	R943	2001-000515	R-CARBON:220OHM,5%,1/8W,AA,TP,1.8X3.2MM		..2	L701	2701-000114	INDUCTOR-AXIAL:10uH,10%,2.5x3.4mm	
....4	R945	2001-000449	R-CARBON:2.2KOHM,5%,1/8W,AA,TP,1.8X3.2M		..2	L702	2701-000114	INDUCTOR-AXIAL:10uH,10%,2.5x3.4mm	
....4	R946	2001-000449	R-CARBON:2.2KOHM,5%,1/8W,AA,TP,1.8X3.2M		..2	L703	2701-000114	INDUCTOR-AXIAL:10uH,10%,2.5x3.4mm	
....4	R947	2001-000281	R-CARBON:100OHM,5%,1/8W,AA,TP,1.8X3.2MM		..2	L704	2701-000114	INDUCTOR-AXIAL:10uH,10%,2.5x3.4mm	
....4	R948	2001-000281	R-CARBON:100OHM,5%,1/8W,AA,TP,1.8X3.2MM		..2	L707	2901-000297	FILTER-EMI ON BOARD:-,3A,-,3.5x5,TP-	
....4	RR430S	2001-001088	R-CARBON(S):1KOHM,5%,1/2W,AA,TP,2.4X6.4M		..2	L708	2901-000297	FILTER-EMI ON BOARD:-,3A,-,3.5x5,TP-	
△	RX801S	2002-001010	R-COMPOSITION:1.8Mohm,5%,1/2W,AA,TP,3.7x		..2	PCB	AA41-00267B	PCB-SIDE A/V,CW6844,FR,1.1LB,1.6T,245x2	S.N.A
△	RY801S	2002-001011	R-COMPOSITION:3.3Mohm,5%,1/2W,AA,TP,3.7x		..2	R701	2001-000028	R-CARBON(S):100OHM,5%,1/2W,AA,TP,2.4X6.4	
△	RY802S	2002-001013	R-COMPOSITION:4.7Mohm,5%,1/2W,AA,TP,3.7x		..2	R702	2001-000028	R-CARBON(S):100OHM,5%,1/2W,AA,TP,2.4X6.4	
....4	SG501	AA27-00084A	COIL:S-23,-,S-23,5000Mohm		..2	AA63-10002A	BAND-TIE:-,NYLON66 V2,-,L100,NTR,-	S.N.A	
....4	SG502	AA27-00084A	COIL:S-23,-,S-23,5000Mohm		..2	AA98-00057A	ASSY SUB PART:KS3A,PCB,A/V SIDE,ALL-	S.N.A	
....4	SG503	AA27-00084A	COIL:S-23,-,S-23,5000Mohm		...3	0202-000187	SOLDER-WIRE FLUX:-,RS60S,D1.2.63Sn/37Pb	S.N.A	
....4	SW901	3404-000244	SWITCH-TACT:15V,20mA,90-170gf,7.5x7mm,SP						
....4	SW902	3404-000244	SWITCH-TACT:15V,20mA,90-170gf,7.5x7mm,SP						
....4	SW903	3404-000244	SWITCH-TACT:15V,20mA,90-170gf,7.5x7mm,SP						
....4	SW904	3404-000244	SWITCH-TACT:15V,20mA,90-170gf,7.5x7mm,SP						
....4	SW905	3404-000244	SWITCH-TACT:15V,20mA,90-170gf,7.5x7mm,SP						
△	VP801S	1405-000187	VARISTOR:750V,1250A,12.5x7mm,TP		1 *	AA94-02768A	ASSY CRT:A510D,J279X14,+300MG,21FLAT,IT	S.N.A	
△	VX801S	1405-000187	VARISTOR:750V,1250A,12.5x7mm,TP		△..2	AA03-00189A	CRT COLOR:A510D,J279X14,21DF,21INCH,0.75m		
....4	X201	2801-003432	CRYSTAL-UNIT:20.25MHZ,30PPM,28-AAM,13PF,						
....4	X601	2801-003903	CRYSTAL-UNIT:18.432MHz,25ppm,28-AAM,12pF						
....4	X901	2801-003728	CRYSTAL-UNIT:6MHz,30ppm,28-AAM,20pF,40oh						
..2	AA39-20010B		LEAD CONNECTOR ASSY:-,YFH800-01,S,1P,500						
..2	AA65-30009A		CLAMP-FBT:ABS,VO,BLK,-	S.N.A					
..2	AA65-30105B		CLAMP-WIRE:NYLON 66,V2,NTR,25MM,ALL MODE	S.N.A					

ASSY-POWER,CORD

ASSY-PCB,A/V SIDE

ASSY CRT

ASSY CABINET

ASSY CABINET FRONT

1	*	AA91-00327W	ASSY CABINET FRONT:-,21A8,(SPK)S907P+D00	
..2	CF+KN	6003-001026	SCREW-TAPTITE:RH,+B,M4,L15,ZPC(BLK),SWR	
..2	KNPOW	AA61-60003J	SPRING-CS:-,SUS304,0.5,OD6,H12,N7,-	
..2	AV+CF	6006-001095	SCREW-ASS'Y TAPT:WPBH,+M4,L12,ZPC(YEL)	
..2	BACK	AA60-00091J	SPACER-FELT:-,FELT,330X10,-,BLK,TO.5-	S.N.A
..2	CB+CF	AA60-10005T	SCREW-TAPPING:RH,+2S,M4,L20,ZPC(BLK),SW	
..2	CB+JCK	6003-001026	SCREW-TAPTITE:RH,+B,M4,L15,ZPC(BLK),SWR	
..2	CF	AA61-00438B	BOSS-CRT:21A8,9,HIPS,HB,NTR,-	S.N.A
..2	PCB	AA64-01230B	INLAY-COVER:D2,D3,PVC-SHEET,TO.4,94VO,-	S.N.A
..2		AA65-30008A	CLAMP-CORD:PE,HB,BLK,-	S.N.A

Level	Loc. No.	Code No.	Description ; Specification	Remark	Level	Loc. No.	Code No.	Description ; Specification	Remark
..2		6006-001089	SCREW-ASS'Y TAPT;WC,HH,+,M5,L45,ZPC(YEL)	S.N.A					
..2		AA64-00811B	CABINET BACK;-;21A8,-;HIPS,V2,BLK,-;-						
..2		AA64-00894B	INLAY BACK:D2,D3,SCART(2),PS SHEET,T0.3,	S.N.A					
..2		AA65-00009B	CLAMP-D,COIL;NYLON 66,V0,-;-;21A8,-	S.N.A					

ASSY ACCESSORY

1	*	AA94-02764A	ASSY ACCESSORY;CZ21A8VW8X/ELS,KS3A,AUSTR	S.N.A
..2		AA68-01113A	MANUAL USERS;-;21A8,GER,36P;-;W/P100(G),	S.N.A

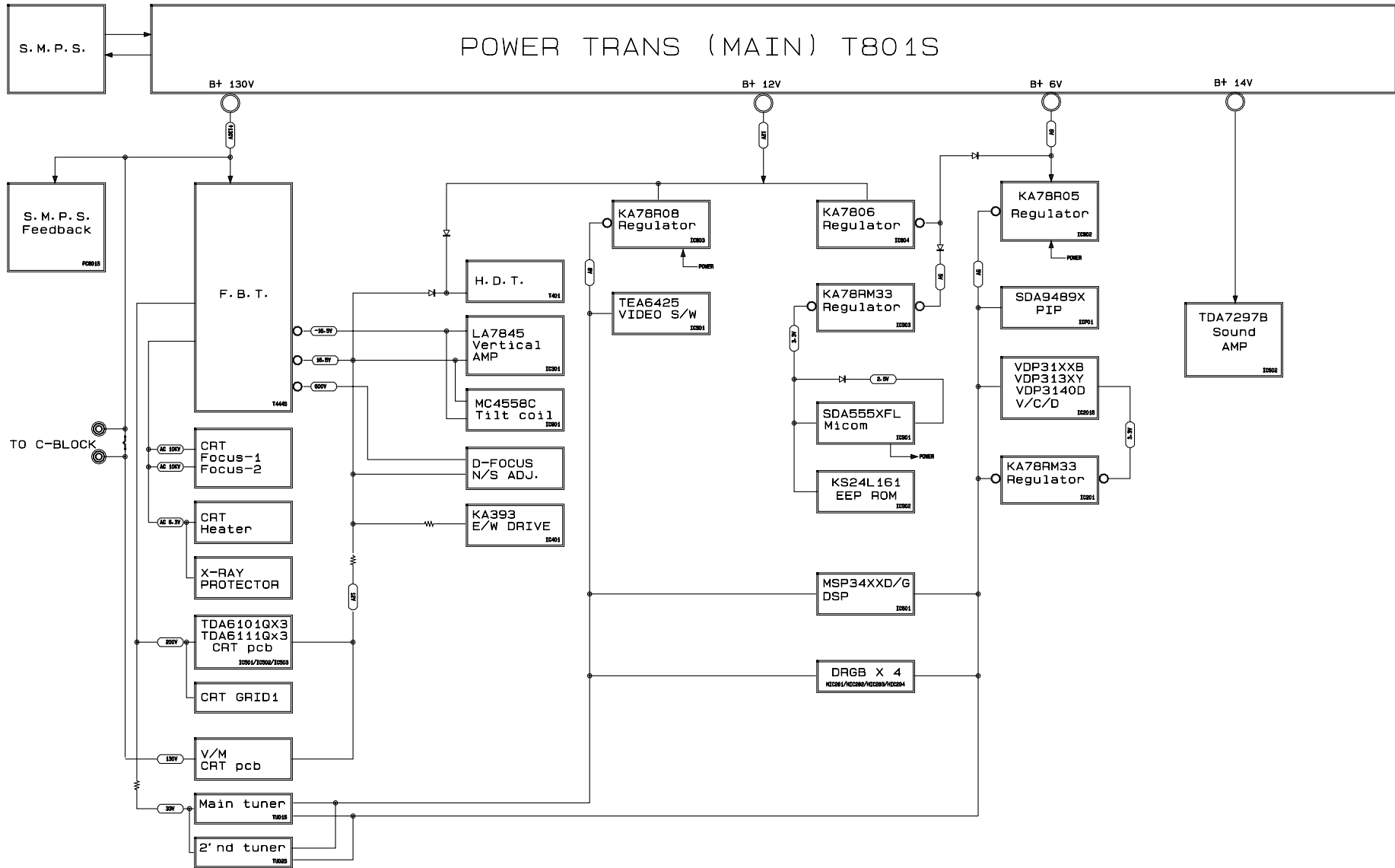
REMOCON

1	*	AA59-00104A	REMOCON;-;TM59,DREAM,29,L/GRAY;-;EX,PA	
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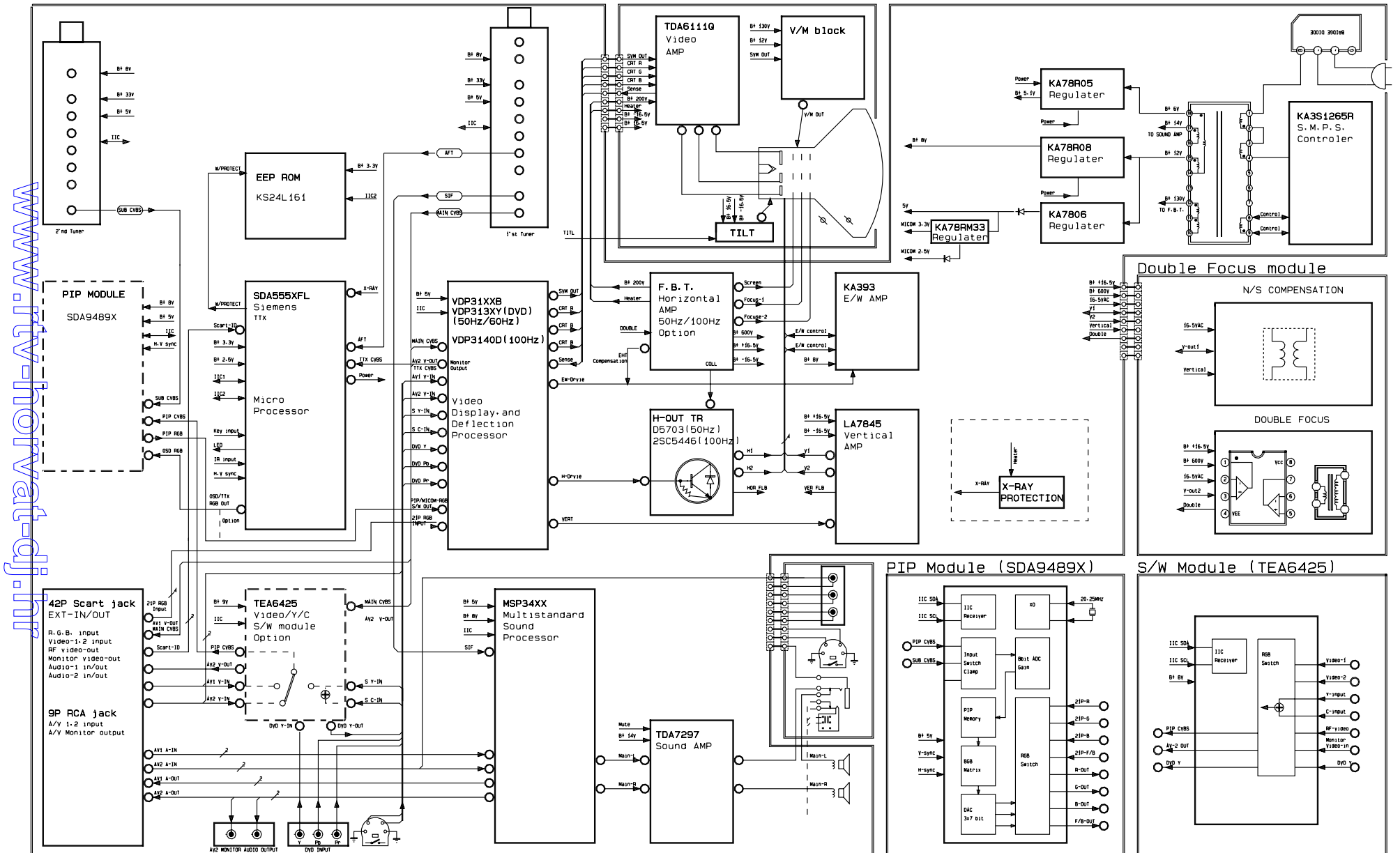
8. Block Diagrams

8-1 Power Diagram

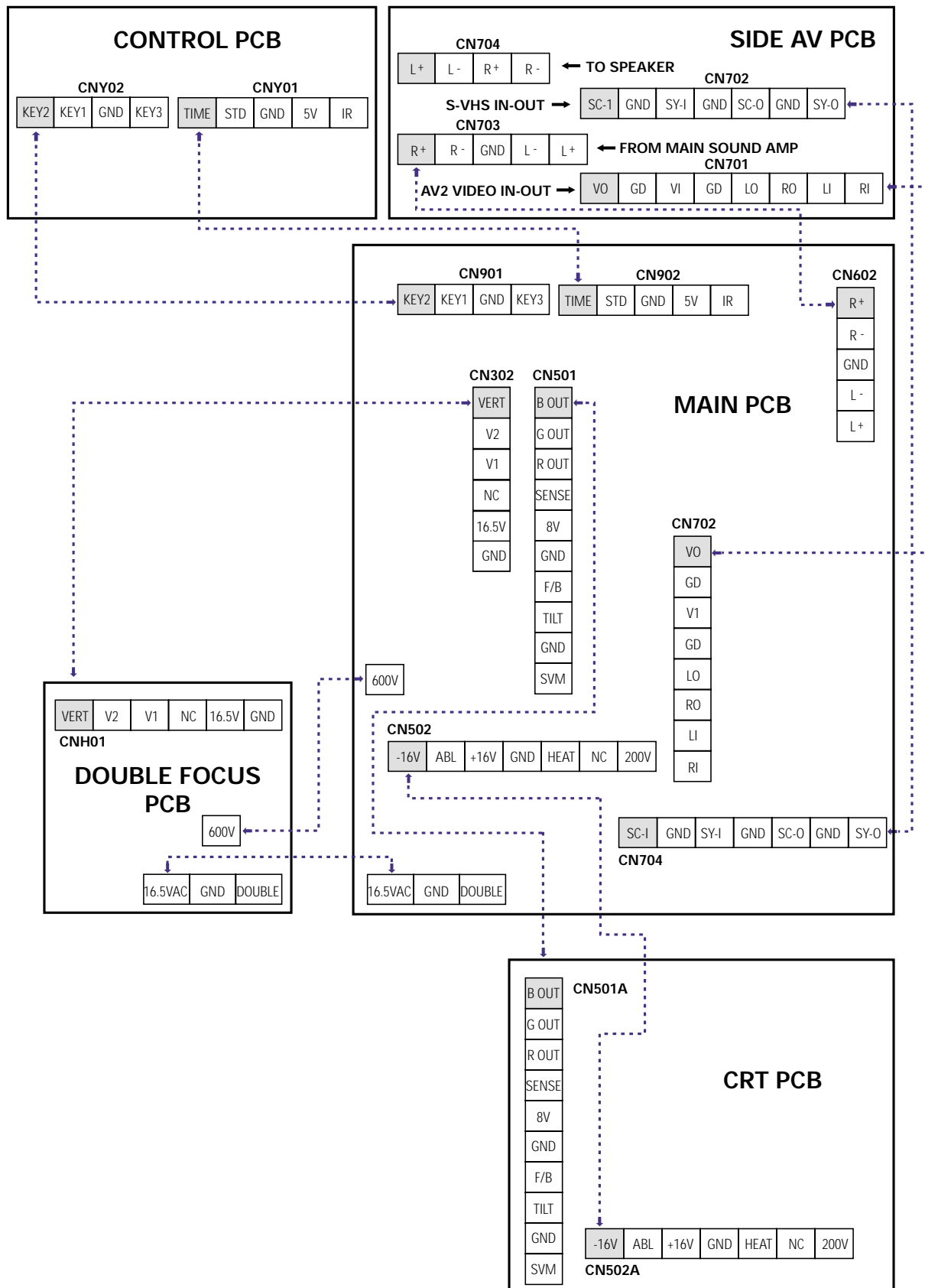
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8-2 Block Diagram

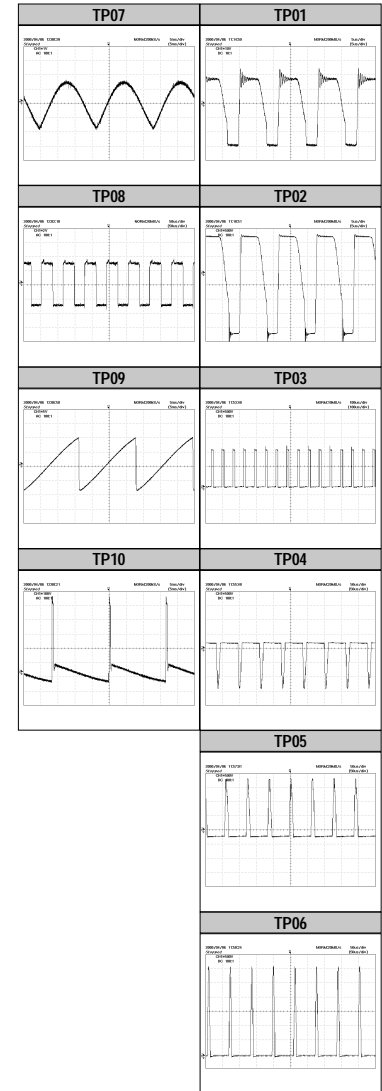
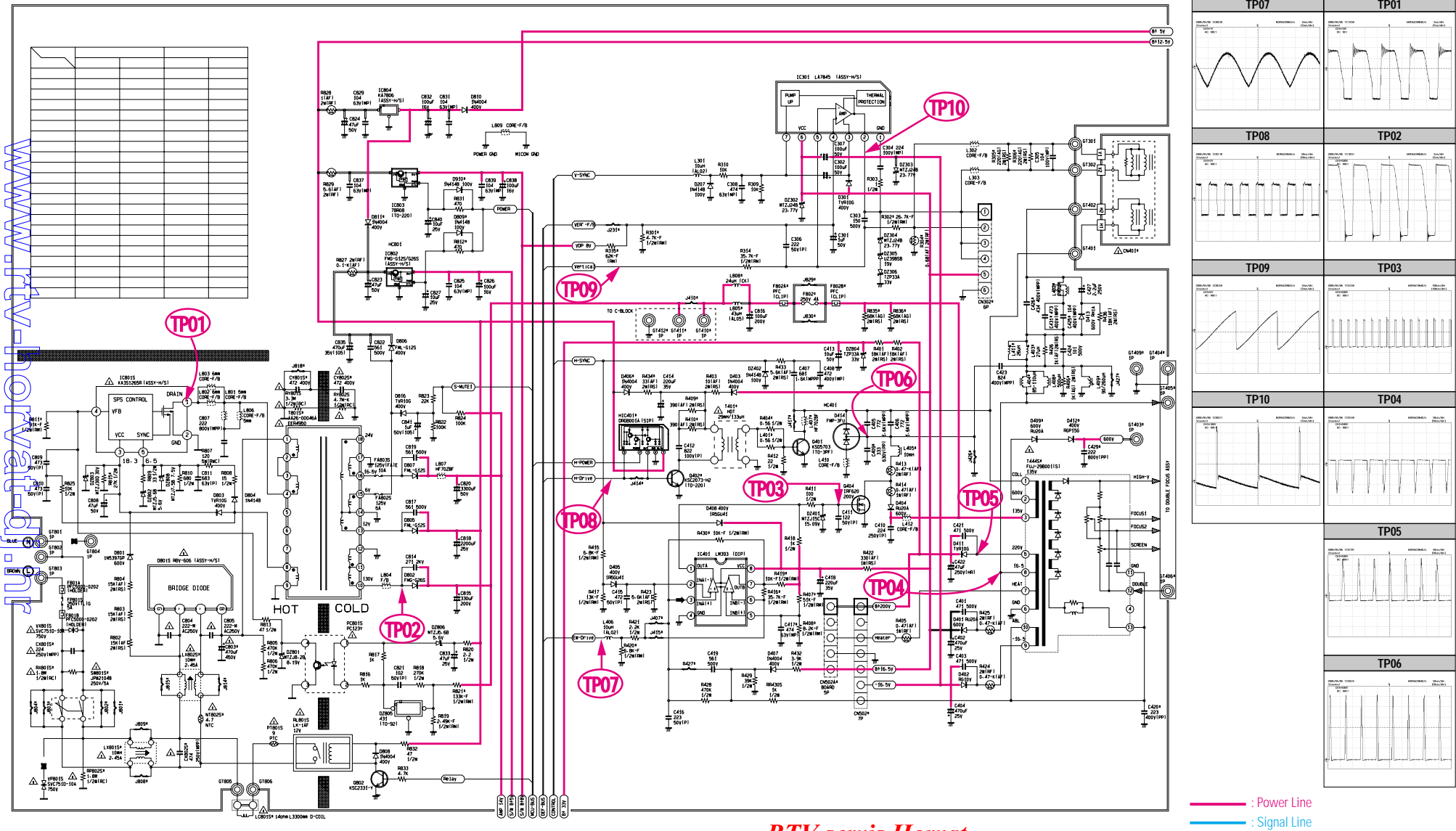


9. Wiring Diagram



10. Schematic Diagrams

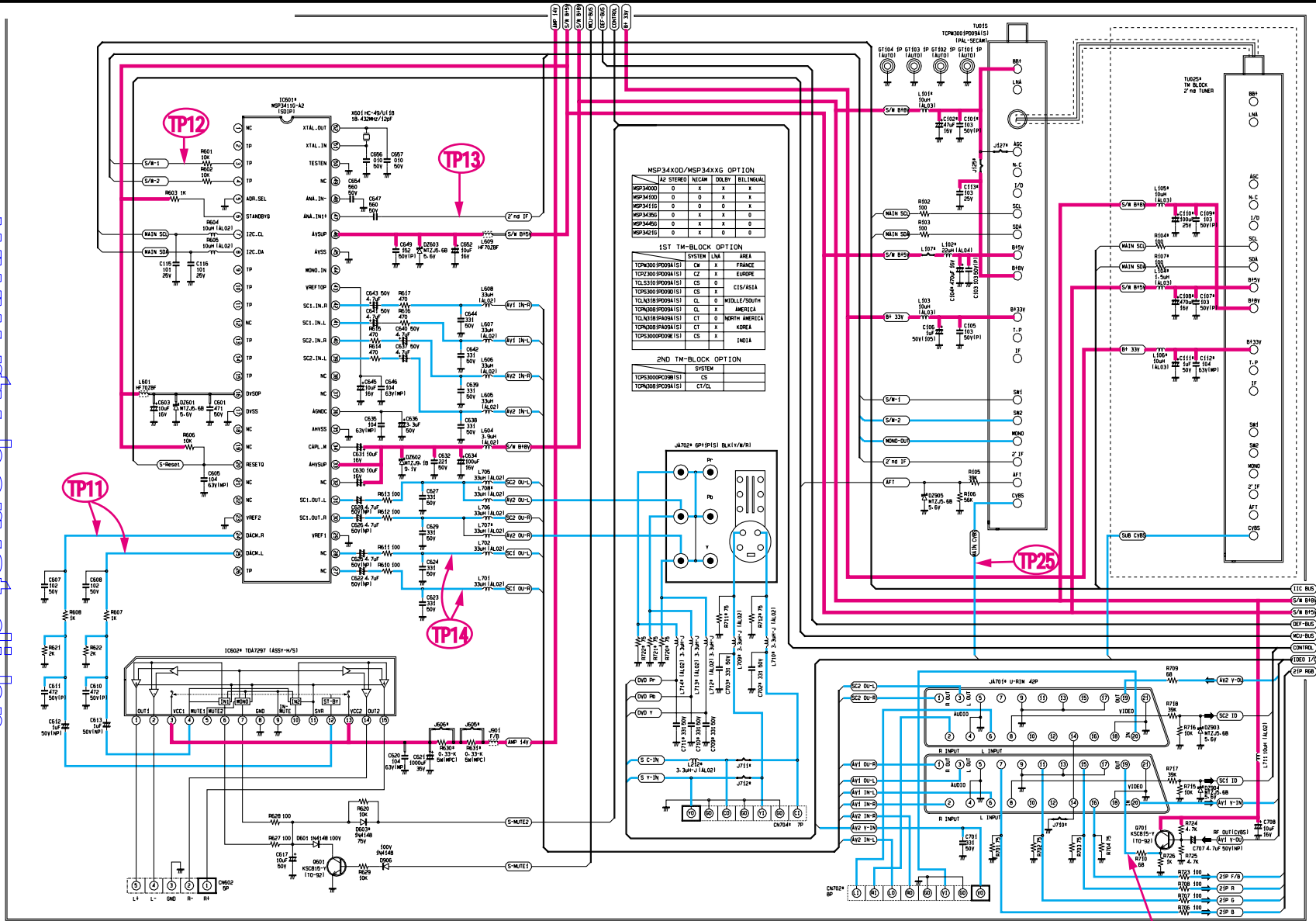
10-1 MAIN 1



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10-2 MAIN 2

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MSP34X0D/MSP34XXG OPTION

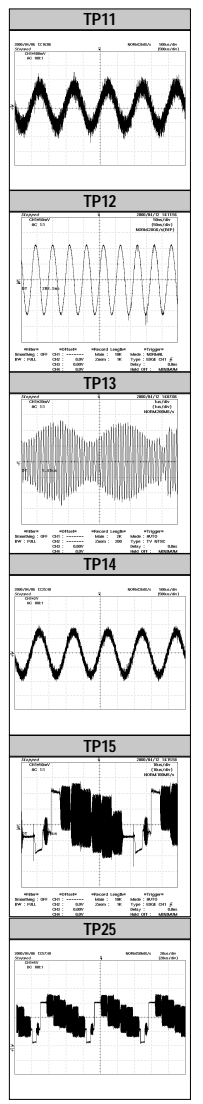
	I2	STEREO	NICAM	DOLBY	BILINGUAL
MSP34100	0	X	X	X	X
MSP34100	0	0	X	X	X
MSP34110	0	0	0	0	X
MSP34120	0	X	X	X	0
MSP34130	0	X	X	0	0
MSP34210	0	X	0	0	0

1ST TM-BLOCK OPTION

	SYSTEM	LMA	AREA
TOP3000(PROGAS)S	CS	X	FRANCE
TOP3000(PROGAS)S	CS	X	EUROPE
TOP3000(PROGAS)S	CS	0	CIS/ASIA
TOP3000(PROGAS)S	CS	X	MIDDLE/EAST
TOP3000(PROGAS)S	CS	X	AMERICA
TOP3000(PROGAS)S	CT	X	NORTH AMERICA
TOP3000(PROGAS)S	CS	X	KOREA
TOP3000(PROGAS)S	CS	X	INDIA

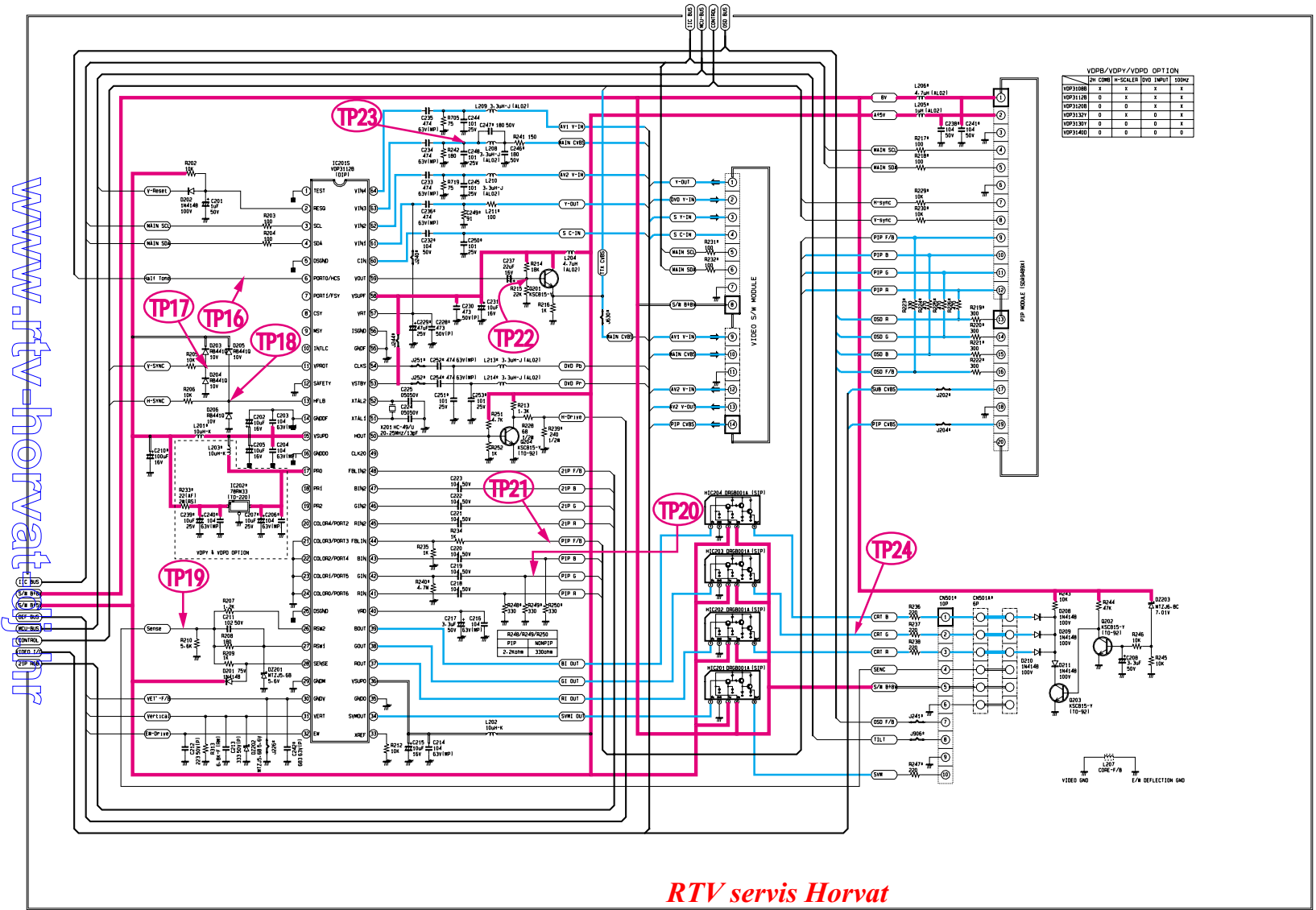
2ND TM-BLOCK OPTION

	SYSTEM
TOP3000(PROGAS)S	CS
TOP3000(PROGAS)S	CT/CAL



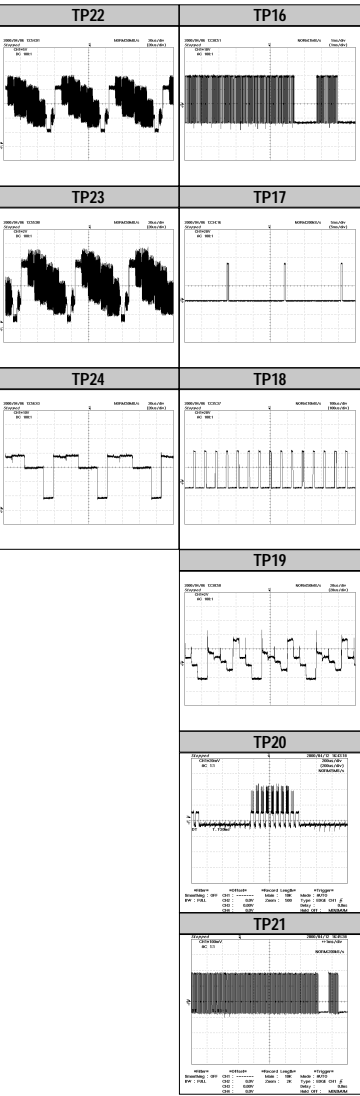
— : Power Line
— : Signal Line

10-3 MAIN3



VDPB/VDPY/VDPD OPTION

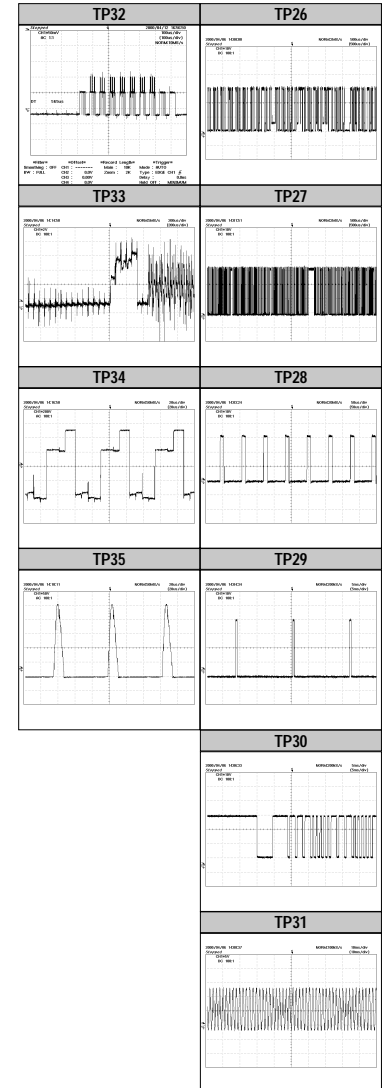
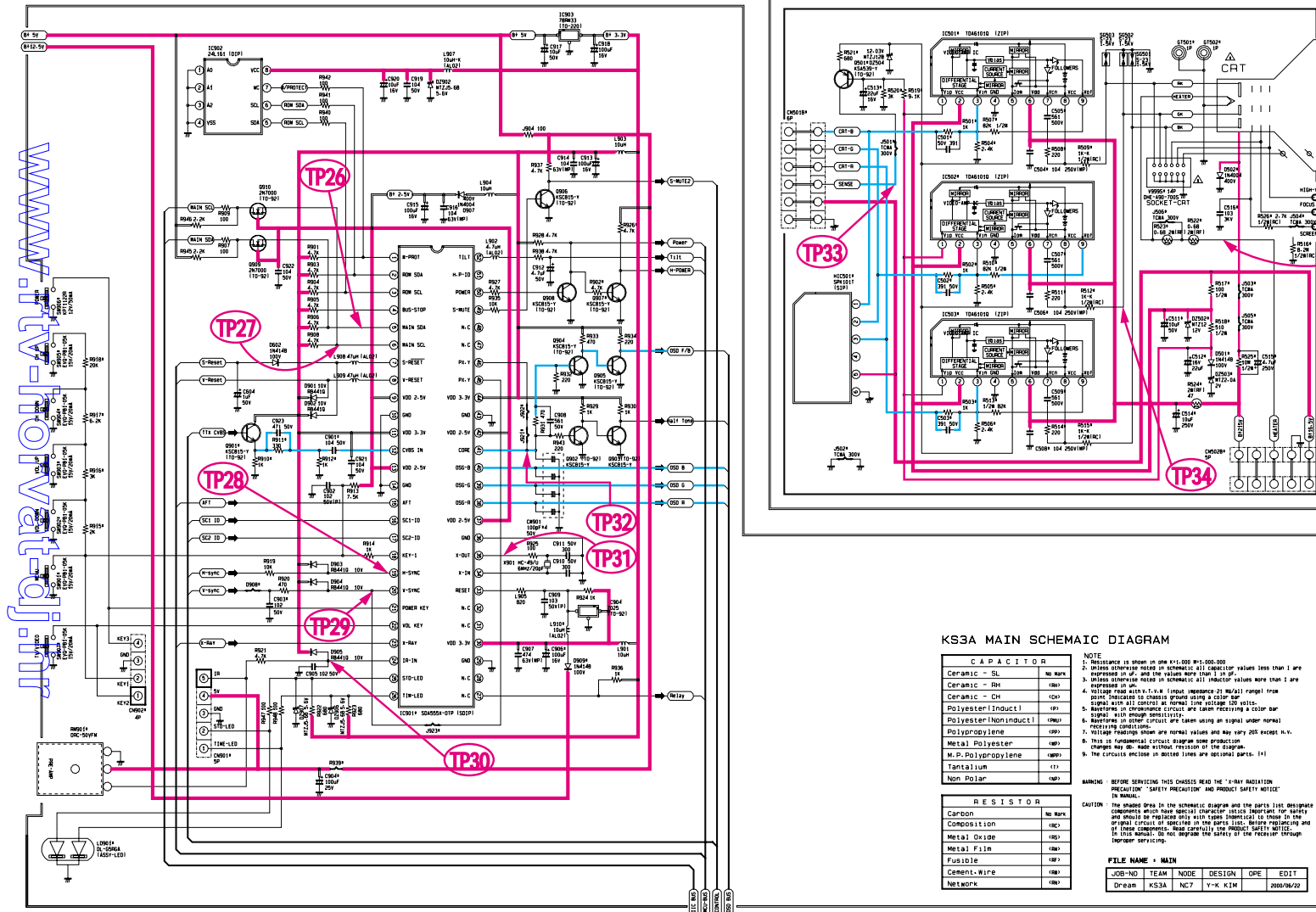
	12H COM	H-SCALER	10D	14HP1	100Hz
VDP110R	x	x	x	x	x
VDP111L	0	x	x	x	x
VDP112R	0	0	x	x	x
VDP113Y	0	x	0	0	x
VDP113V	0	0	0	0	x
VDP114Q	0	0	0	0	0



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Power Line
 Signal Line

10-4 MAIN 4



KS3A MAIN SCHEMATIC DIAGRAM

CAPACITOR	
Ceramic - SL	no mark
Ceramic - RH	(RH)
Ceramic - CH	(CH)
Polyester/Inductol	(P)
Polyester/Noninductol	(NP)
Polypropylene	(PP)
Metal Polyester	(MP)
M.P. Polypropylene	(MPP)
Tantalum	(T)
Non Polar	(NP)

RESISTOR	
Carbon	no mark
Composition	(C)
Metal Oxide	(MO)
Metal Film	(MF)
Fusible	(F)
Cement-wire	(CW)
Network	(NK)

NOTE

1. Resistance is shown in ohm $\times 10^0$ to 10^6 ohm.
2. Unless otherwise noted in schematic all capacitor values less than 1 are expressed in μ F, and the values more than 1 in μ F.
3. Unless otherwise noted in schematic all inductor values more than 1 are expressed in mH.
4. Voltage read with V.K. (K) means measured by KVA11 (K) signal point. Indicated by cross-hatched ground using a color bar.
5. Waveform in chrominance circuit are taken receiving a color bar signal with enough sensitivity.
6. Waveform in other circuit are taken using an signal under normal receiving conditions.
7. Voltage readings shown are normal values and may vary 20% except V.K.
8. This is functional circuit diagram. Some production changes may be made without revision of the diagram.
9. The circled indicate in boxed lines are optional parts. (4)

WARNING: BEFORE SERVICING THIS CHASSIS READ THE "X-RAY RADIATION PRECAUTION" "SAFETY PRECAUTION" AND PRODUCT SAFETY NOTICE" IN MANUAL.

CAUTION: The shaded area in the schematic diagram and the parts list designate components which have special dimension (critical dimension) for safety and should be replaced only with types identical to those in the original circuit or indicate in the parts list. Before replacing one of these components, read carefully the product safety notice in this manual. Do not compromise the safety of the receiver design through servicing.

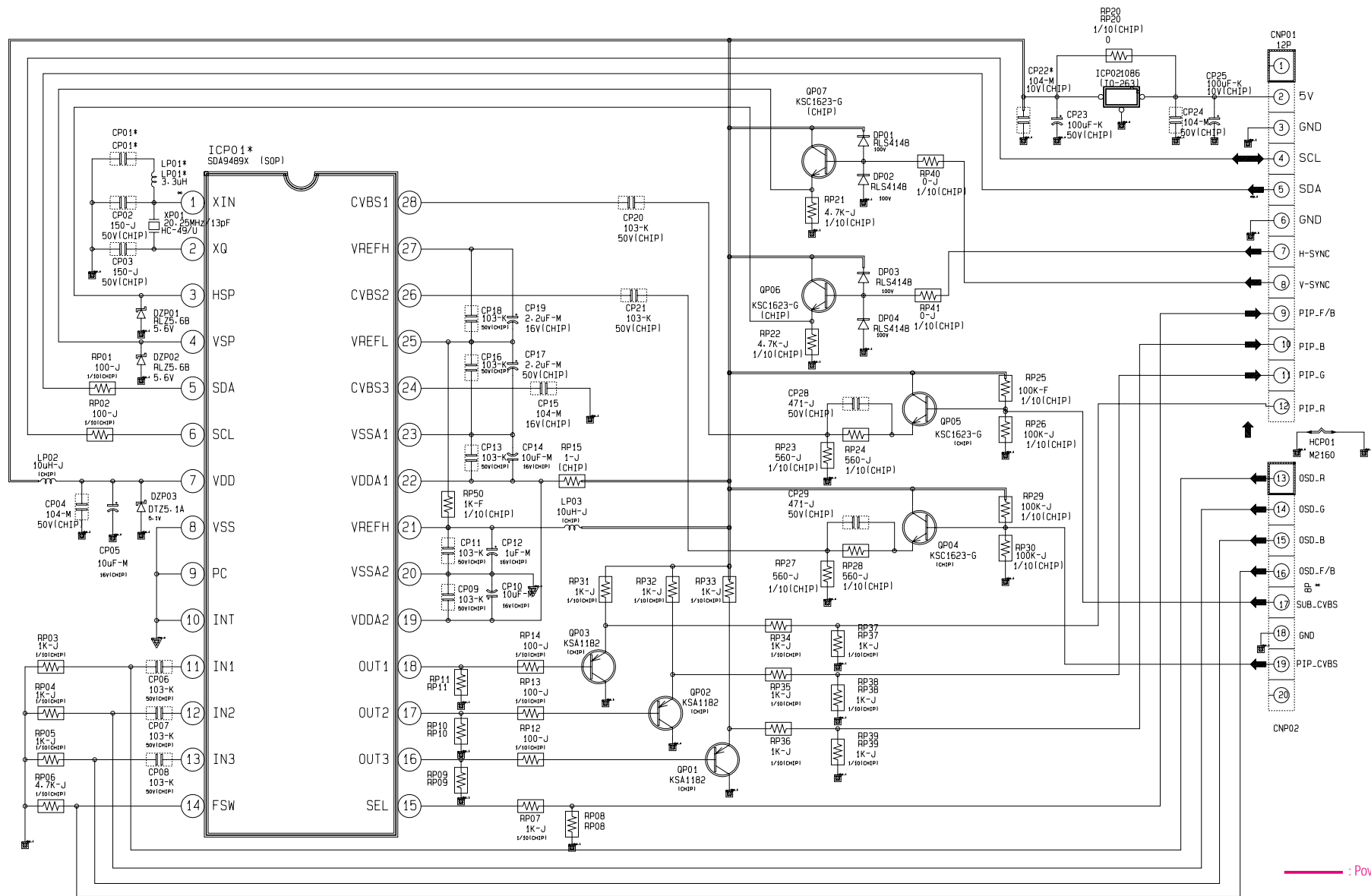
FILE NAME + MAIN

JOB-NO	TEAM	NODE	DESIGN	OPER	EDIT
Dr.am	KS3A	NC.7	Y-K KJM		2000/06/22

Power Line
Signal Line

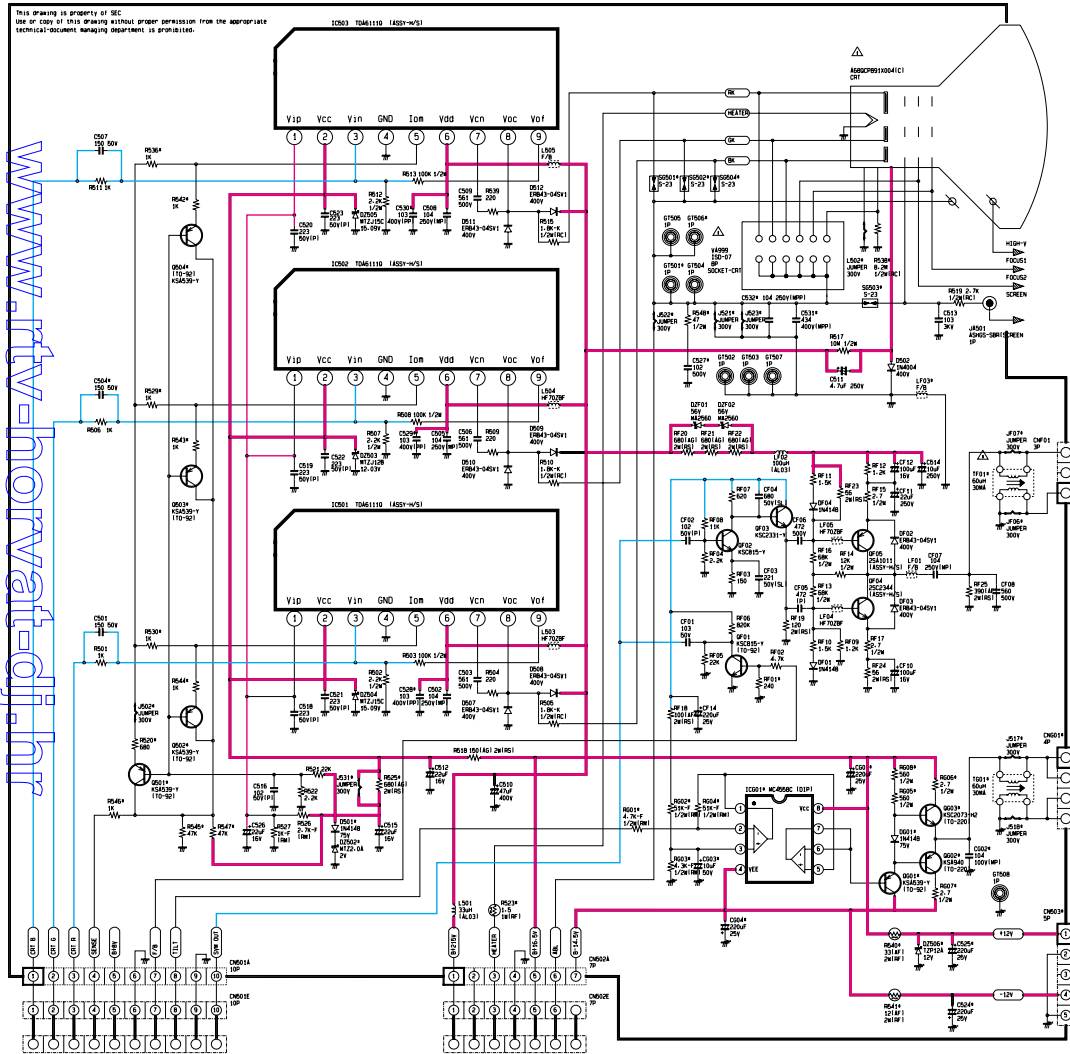
10-5 PIP

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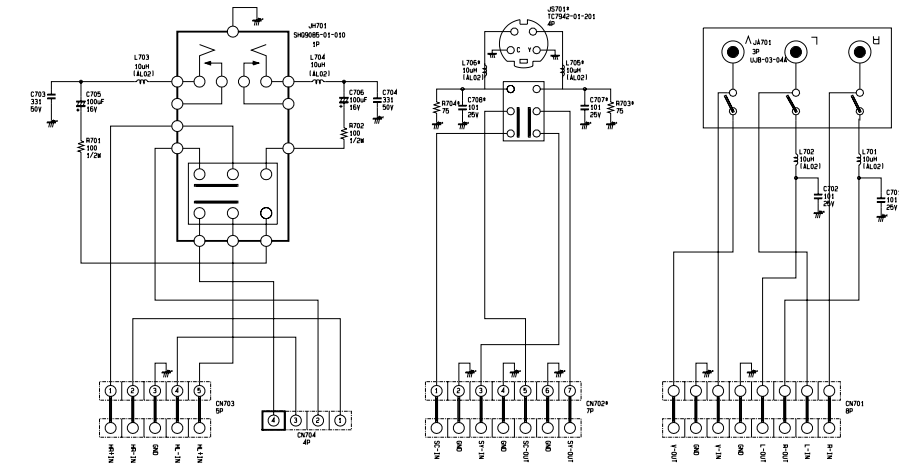


10-6 CRT, SIDE AV, VIDEO SWITCH

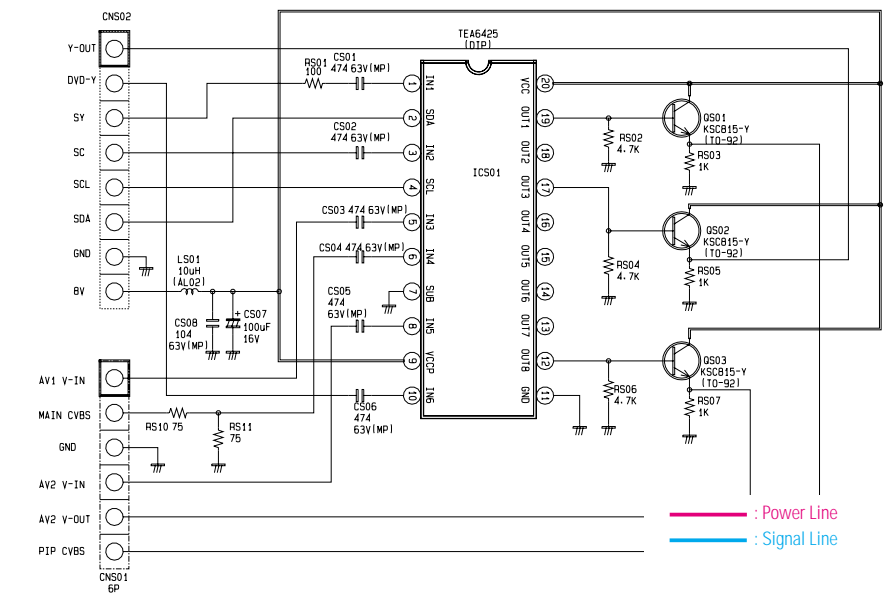
CRT



SIDE AV



VIDEO SWITCH

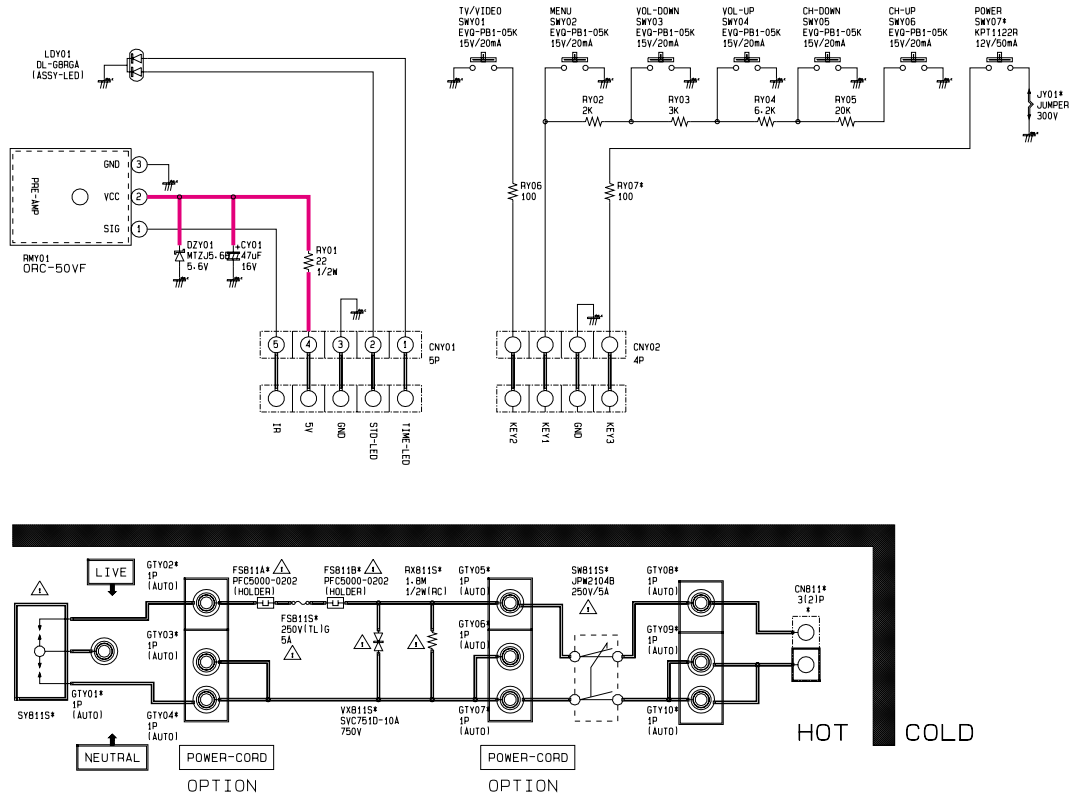
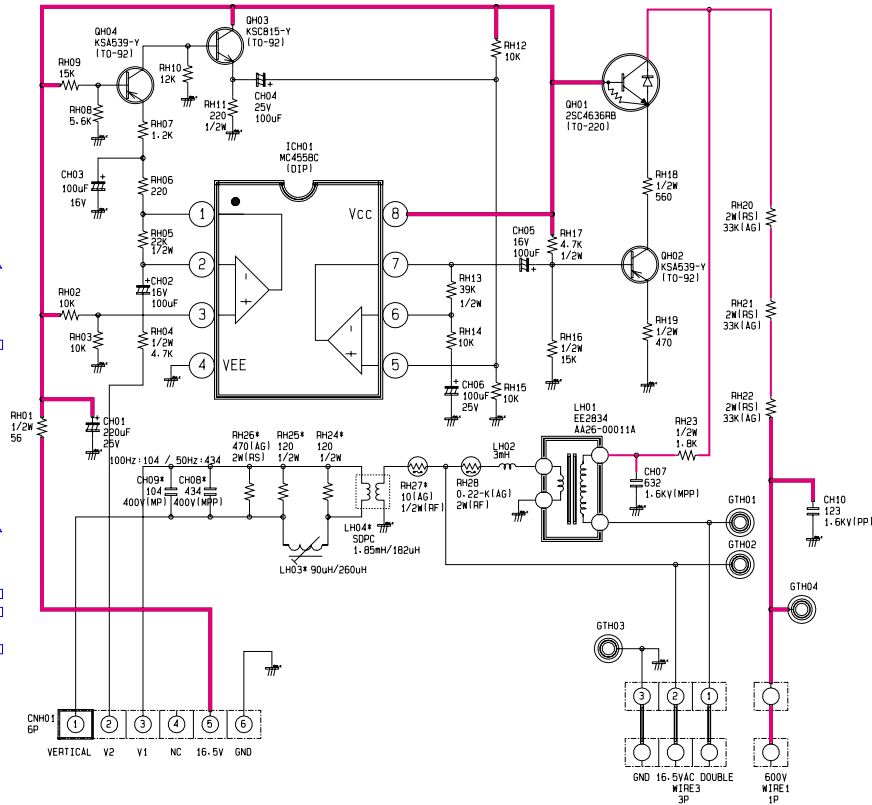


10-7 DOUBLE FOCUS, CONTROL

DOUBLE FOCUS

CONTROL

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— : Power Line