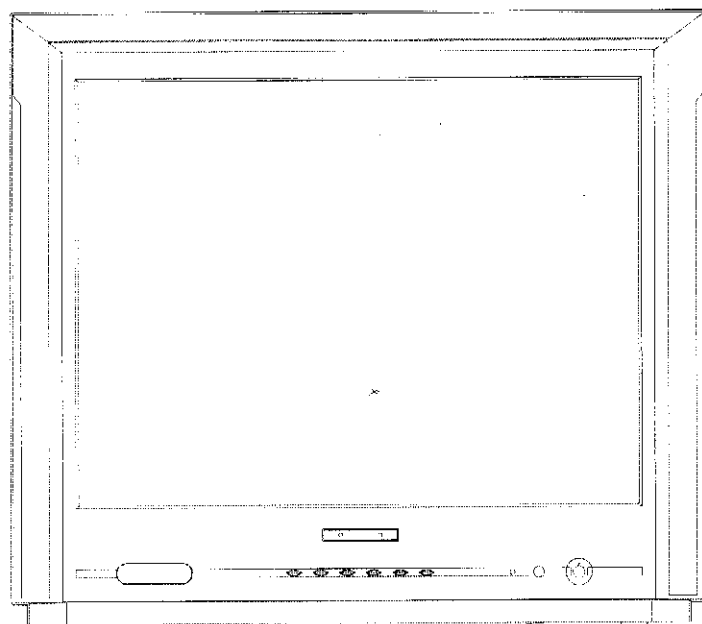


SERVICE MANUAL

3Y01 CHASSIS



SPECIFICATIONS

Receiving System	: B/G(option) , I , D/K , M(option)
Colour System	: PAL / NTSC SECAM(option)
Picture Tube	: 54cm (21") diagonal
Ext. Antenna	: 75 Ohm Coaxial Cable
Ext. In/Out	: Audio/Video -In/Out
Speaker	: 16 Ohm x 2
Audio Output	: >3W
Teletext	: east/west european or turkish (option)
Power Consumption	: AC 220-240V 50/60Hz, 90W
Dimension	: 525(W) x 510(D) x 464(H)mm
Net Weight	: 22.8 kg

REMOTE CONTROL

Transmitting System	: Infrared
Power Supply	: DC 3V (1.5 x 2)
Dimension	: 60(W) x 200(L) x 24(D)mm
Net Weight	: 100 g(approx)

Design and specifications are subject to change without prior notice(ONLY REFERENCE)

ENGINEER BY:

楊東光
23/04/03

CHECKED BY:

王江
23/04/03

APPROVED BY:

[Signature]
23-Apr-03

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Safety Notice

SAFETY PRECAUTIONS

- 1:An isolation transformer should be connected in the power line between the receiver and the AC line when a service is performed on the primary of the converter transformer of the set.
- 2:Comply with all caution and safety-related notes provided on the cabinet back, inside the cabinet, on the chassis or the picture tube.
- 3:When replacing a chassis in the cabinet, always be certain that all the protective devices are installed properly,such as,control knobs, adjustment covers or shields, barriers,isolation resistor-capacitor networks etc.. Before returning any television to the customer,the service technician must be sure that it is completely safe to operate without danger of electrical shock.

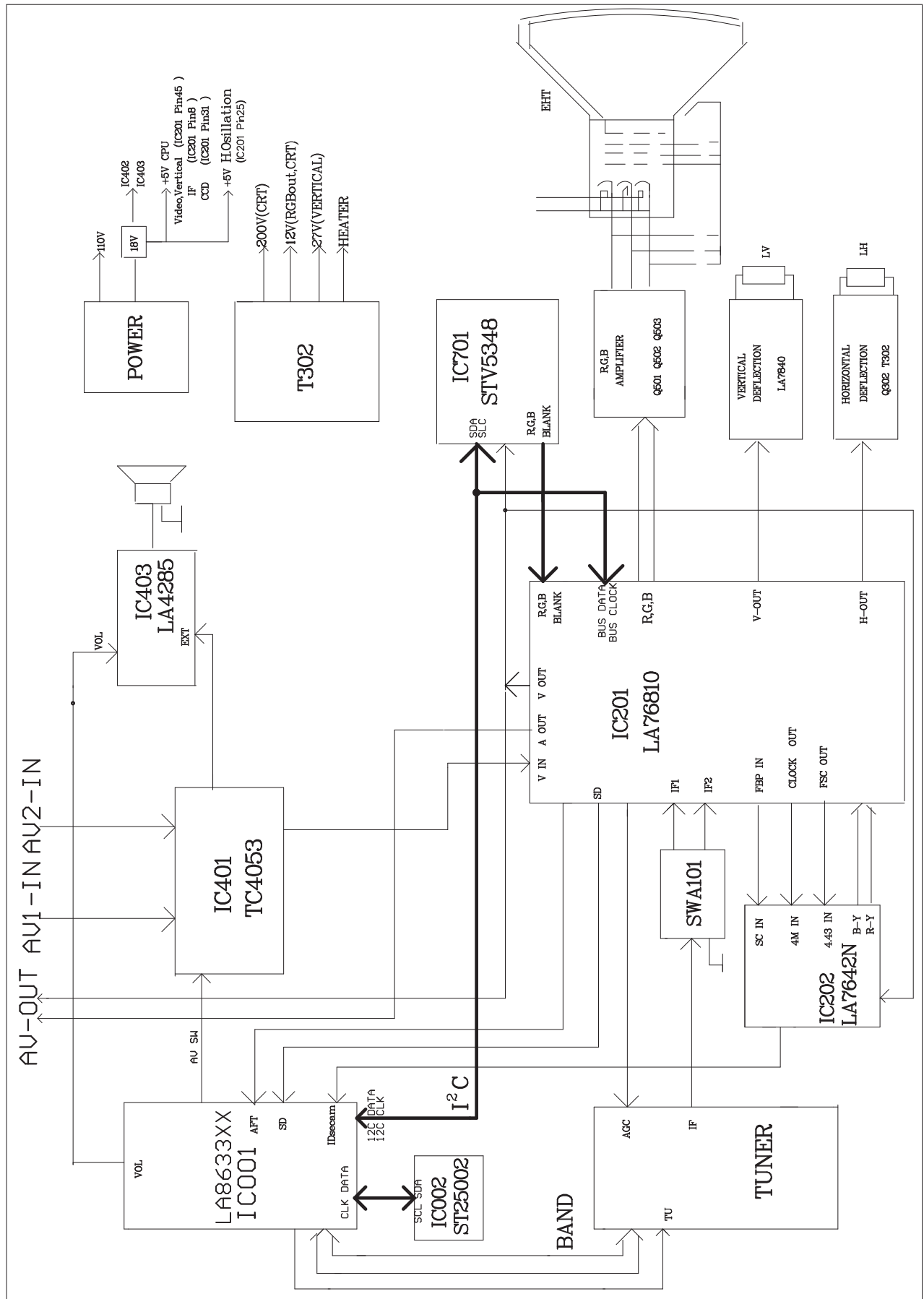
X-RADIATION PRECAUTION

The primary source of X-RADIATION in television receiver is the picture tube. The picture tube is specially constructed to limit X-RADIATION emissions. For continued X-RADIATION protection, the replacement tube must be the same type as the original including suffix letter. Excessive high voltage may produce potentially hazardous X-RADIATION. To avoid such hazards, the high voltage must be maintained within specified limit. Refer to this service manual, high voltage adjustment for specific high voltage limit. If high voltage exceeds specified limits, take necessary corrective action. Carefully follow the instructions for +B1 volt power supply adjustment, and high voltage check to maintain the high voltage within the specified limits.

PRODUCT SAFETY NOTICE

Product safety should be considered when a component replacement is made in any area of a receiver. Components indicated by mark \triangle in the parts list and the schematic diagram designate components in which safety can be of special significance. It is particularly recommended that only parts designated on the parts list in this manual be used for component replacement designated by mark \triangle . No deviations from resistance wattage or voltage ratings may be made for replacement items designated by mark \triangle .

Chassis Block Diagram

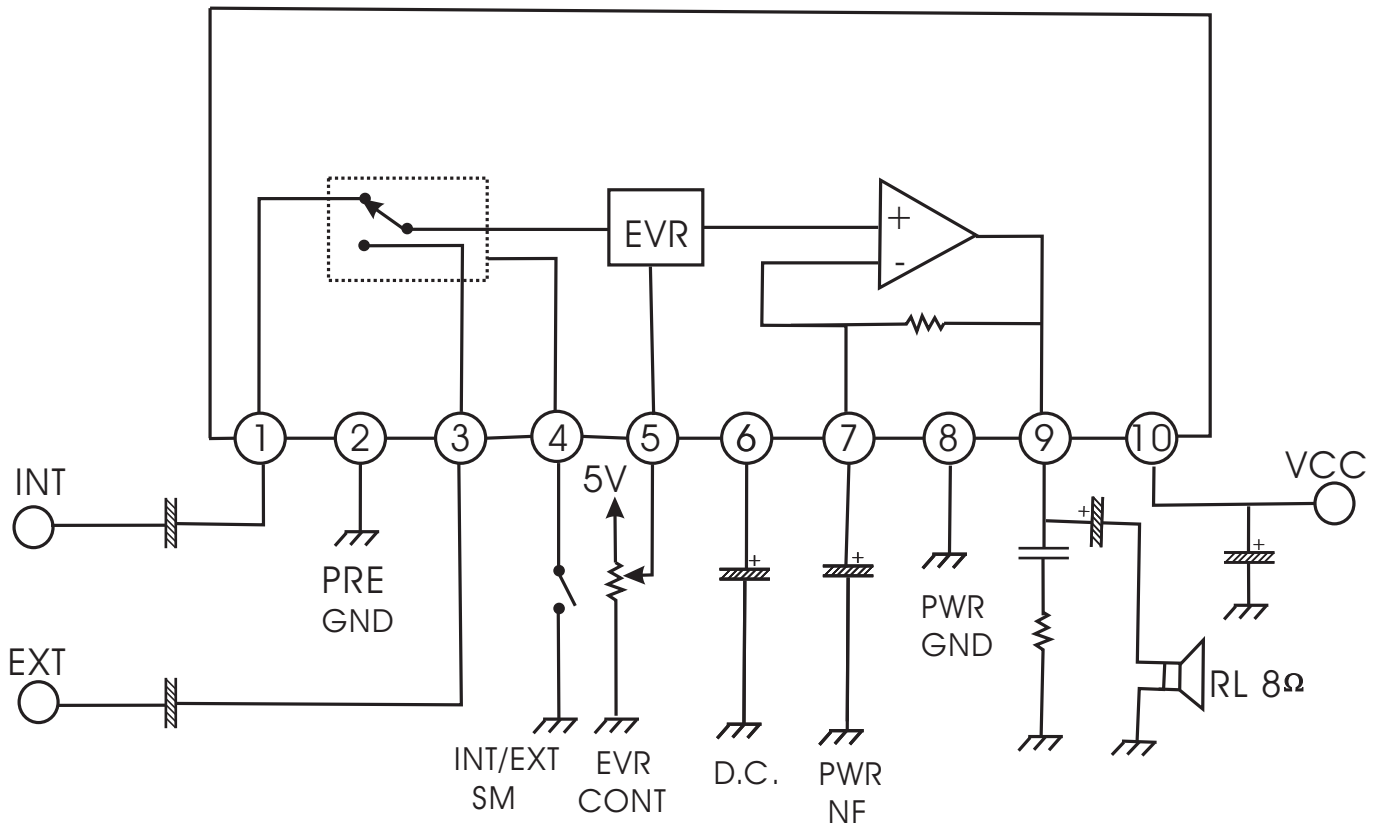


IC 201 (IIC BUS SINGLE CHIP VIF,SIF,VIDEO CHROMA) LA76810A/HA

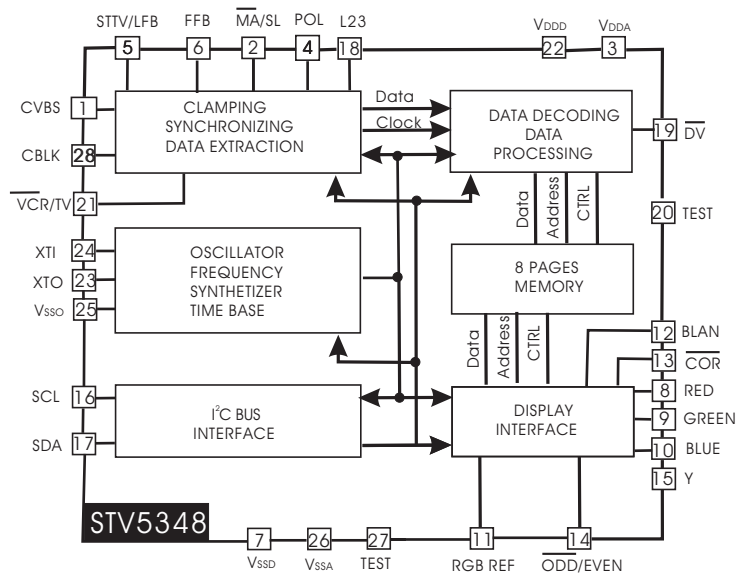


IC Block Diagram

IC 402&IC 403(3W AUDIO OUTPUT)LA 4285

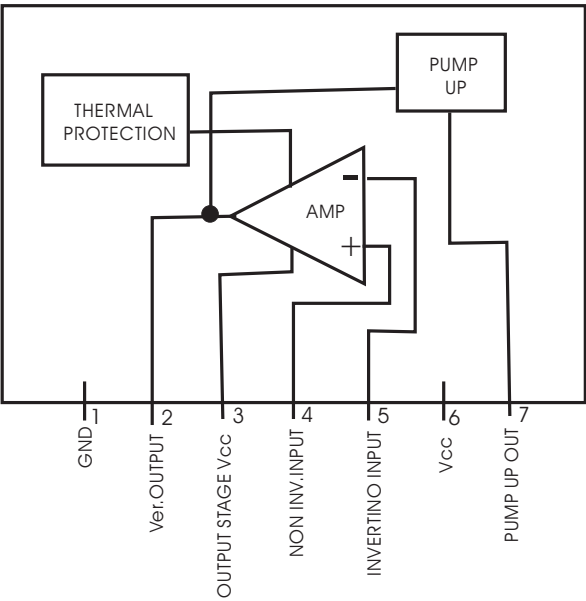


IC701 <TELETEXT> STV-5348

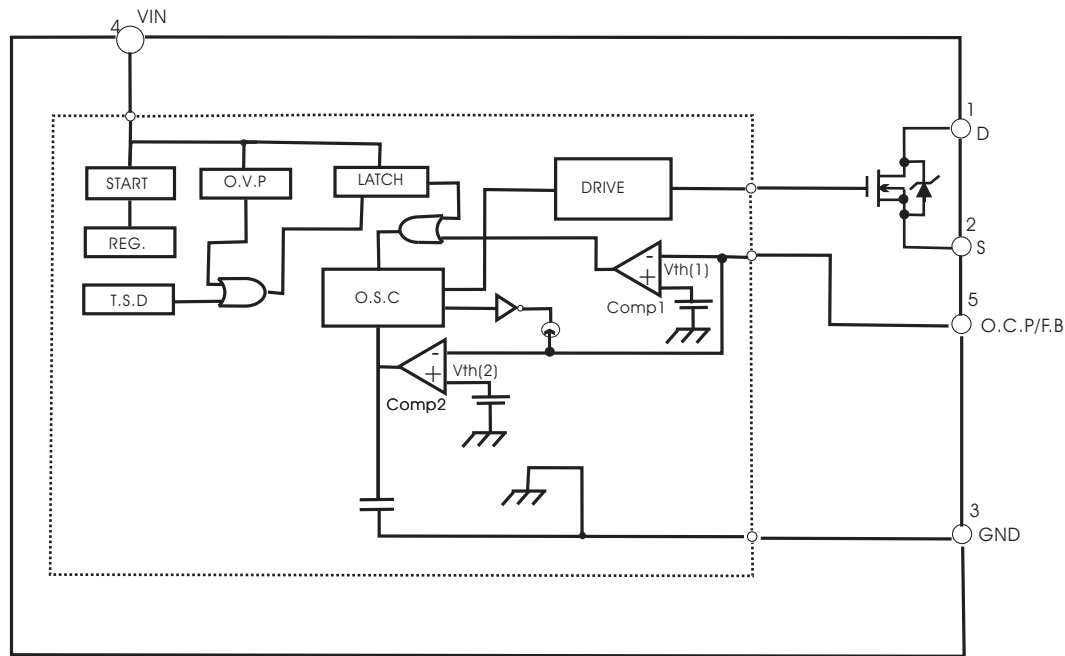


IC Block Diagram

IC301 <Vertical Output> LA7840

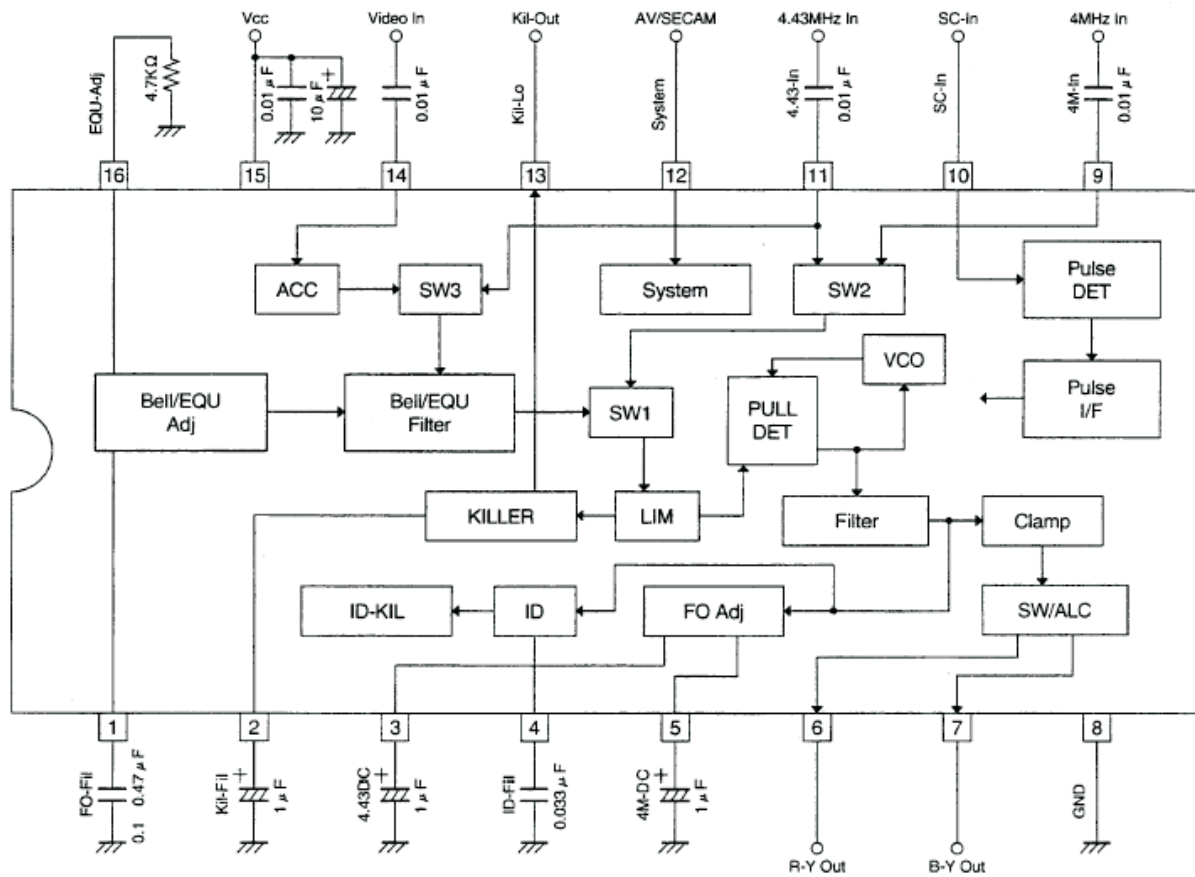


IC602 <POWER > STR-G6653

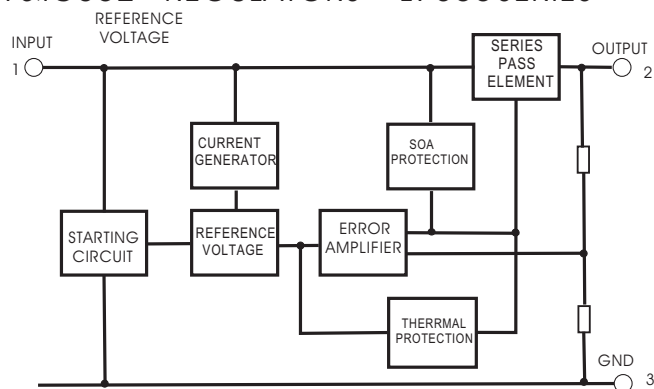


IC Block Diagram

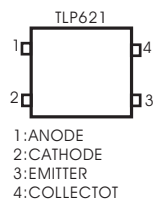
IC202 <SECAM> La7642



IC203,Q609,IC601&IC302 <REGULATORS> L7800SERIES

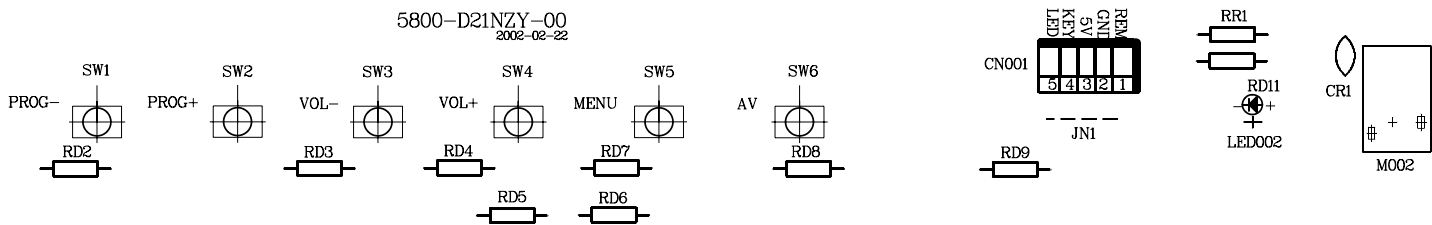


D613 <PHOTO TRANSISTOR> TLP621

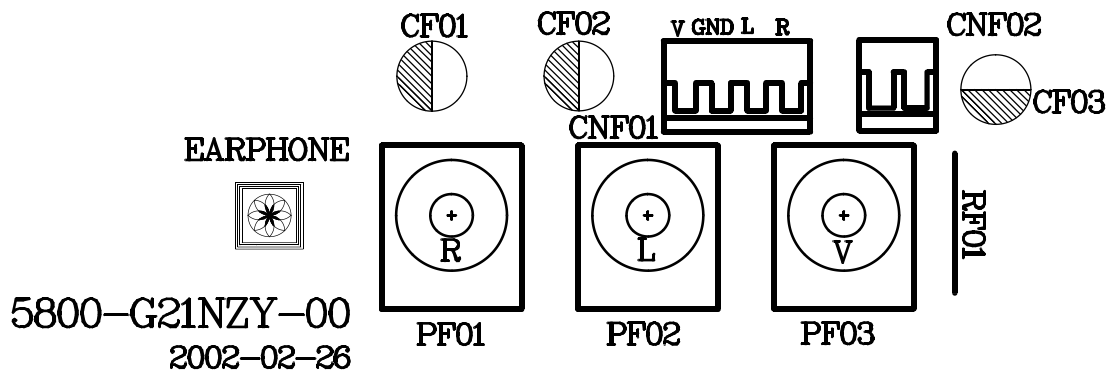


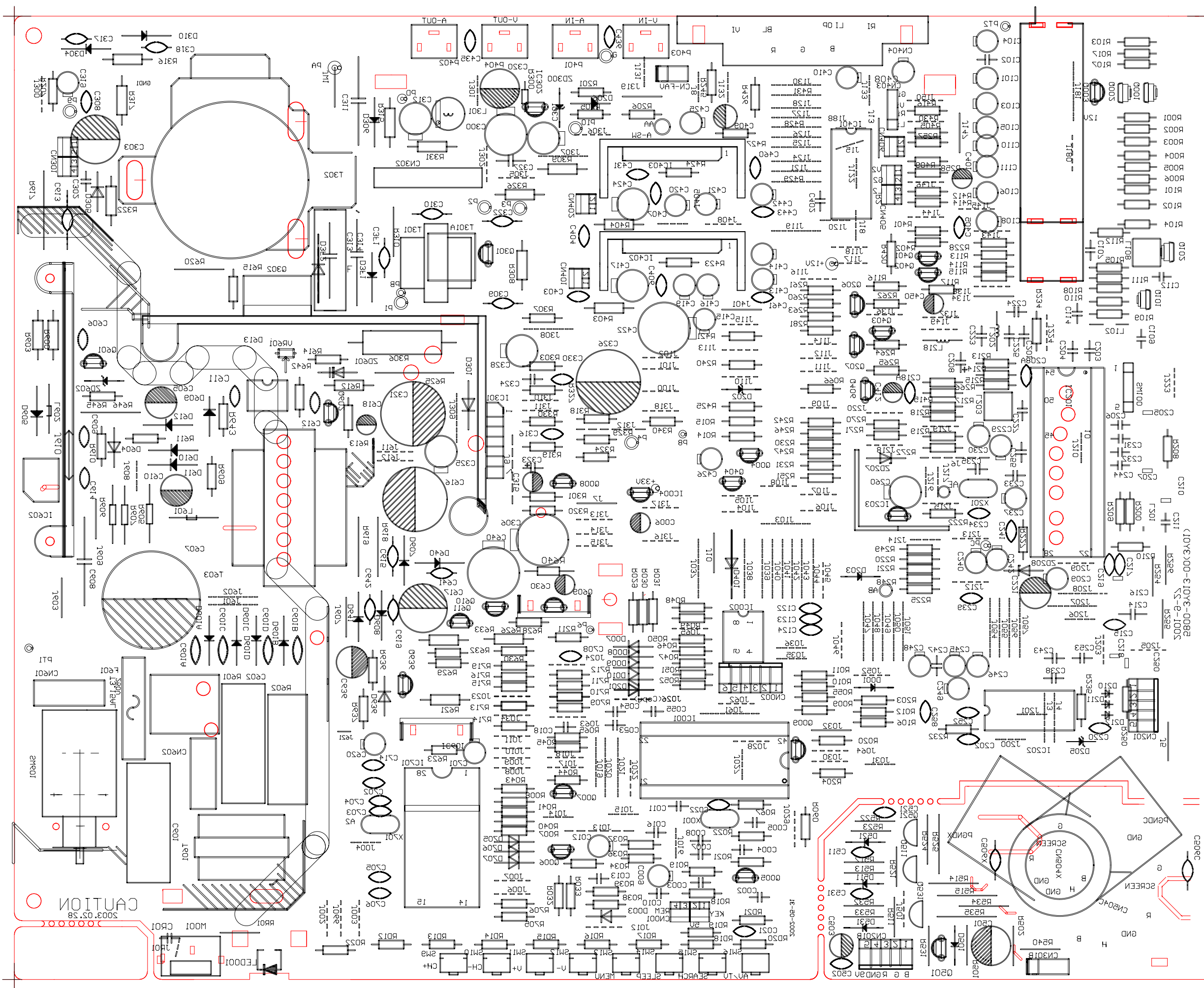
CONTROL & FRONT AV PCB Top Layer

CONTROL PCB TOP LAYER



SIDE AV PCB TOP LAYER





Service Adjustments

MAIN CHASSIS ADJUSTMENT

PIF Adjustment (38.9M Figure 1)

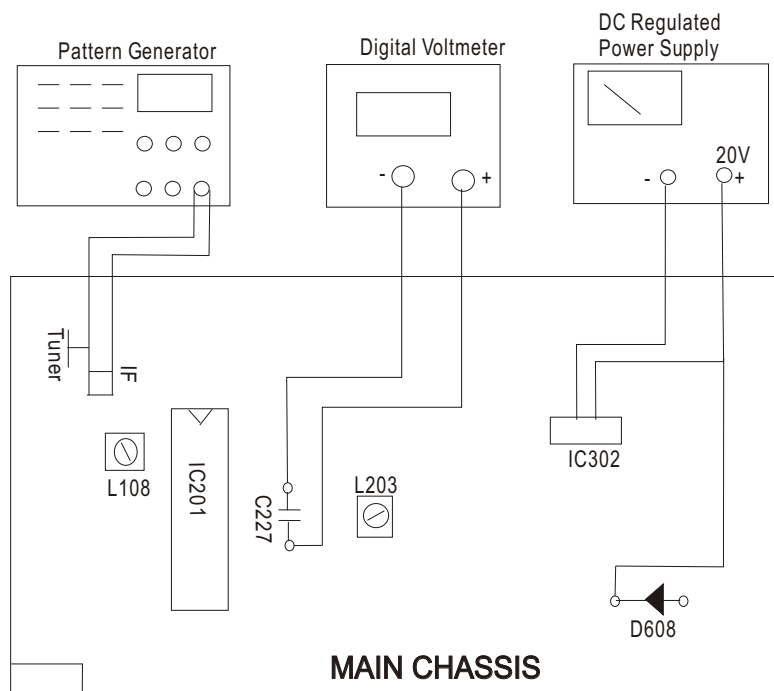


Figure 1

- (1) Tuner AGC terminal connects to GND. Pattern Generator(set signal generator RF output level to 100dBu. If it can not obtain 100dBu, set level to MAX) outputs 38.9MHz R.F. signal and connects to tuner IF output terminal or pin5 of saw filter.
- (2) Connect Digital voltmeter across C227. DC Regulated power supply positive terminal output +20V to pin1 of IC302 and negative terminal of D608. DC regulated power supply negative

System NTSC Adjustment (L108 Figure 2)

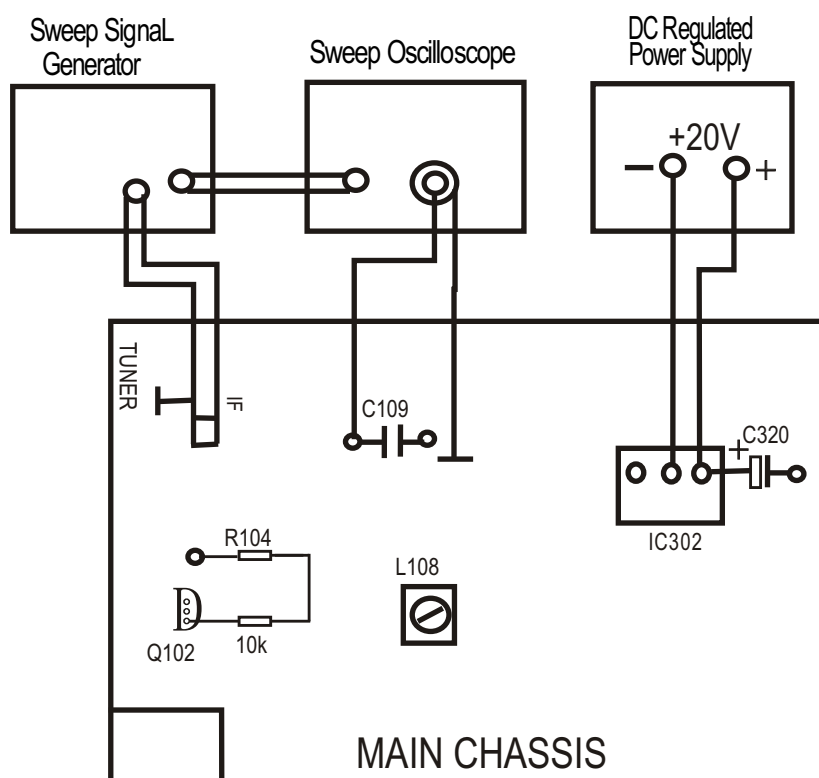
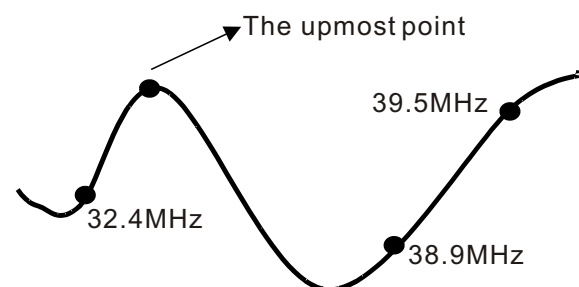


Figure 2

- (1) Tuner AGC terminal connects to GND. Connect Sweep signal generator(set Sweep signal generator output level to 100dBu. If it can not obtain 100dBu, set Level to MAX.) to tuner IF output terminal. Sweep oscilloscope V-IN terminal connects to C109. And connect Q102 B pole to the power terminal of R104 through a 10K resistor.(shown in figure2)
- (2) Apply +20V DC across IC302, viz C320 Positive terminal as shown in figure2.
- (3) Adjust L108 to obtain waveform as



Service Adjustments

MAIN CHASSIS ADJUSTMENT

B+ Adjustment (VR601)

- (1) Disconnect horizontal load. Connect a light bulb (100W) AC250V across C321).
- (2) Connect 220V AC 50/60Hz to CN601 and switch on power switch.
- (3) Test the voltage with digital meter between C321 two terminals.
- (4) Adjust VR601 to obtain +110V +/-0.5V.

FACTORY MODE ADJUSTMENT

- (1) Press MENU key twin, till the PICTURE MENU appears, then press Q.VIEW key. MUTE key to turn on CPU. TV SET will go to factory mode. Press TIMER key TO go to the next Factory menu. Go to MENU3 status by this means.
- (2) Press MENU key to exit factory mode.

AGC Adjustment

- (1) Receive 60dB +/-2dB therefore signal. Connect Digital voltmeter positive terminal to AGC terminal of Tuner and negative terminal to GND.
- (2) Go to MENU3 status according to FACTORY MODE ADJUSTMENT.
- (2) Select RF.AGC by pressing CH+ or PROG+ keys. Adjust VOL+ and VOL- keys to obtain 4V Digital vol-Tag meter reading.
- (3) Press MENU key to exit factory mode.

COMPLETE MACHINE GENERAL ADJUSTMENT

FOCUS Adjustment

- (1) Receive monoscope pattern.
- (2) Set TV to work in dynamic status.
- (3) Adjust the focus knob of FBT to get the clearest picture.

Screen Voltag Adjustment

- (1) Go to factory mode MENU2 status according to AGC adjustment (2).
- (2) Select V-KILL by prssing CH+ or PROG+ and CH- or PROG- KEYS.
- (3) Press VOL+ key all the time, adjust the screen of FBT to get a horizontal faintness beam line. Then Loose VOL+

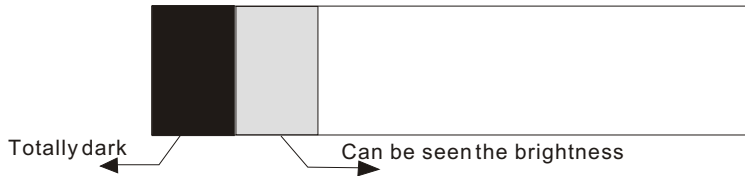
White Balance Adjustment (Applied when servicing)

- (1) Set the TV set to AV mode. Receive black white pattern (color temperature test pattern).
 - (2) Put the test probe 1 of CRT color analyzer (CA-100) on the low bright area and the test probe 2 on the high bright area. Adjust bright and contrast to get 5nit of low bright area and 80nit of high bright area.
 - (3) Go to factory mode MENU2 according to AGC adjustment (2). Obtain low bright area to X=281 and Y=311 by adjusting R.bias and B.bias. Obtain both area to X=? and Y=? by adjusting the two status repeatedly.
- Note: the values of X & Y may be changed by the favour Of customers.

Service Adjustments

Sub-bright Adjustment

- (1) Receive GREY SCALE signal.
- (2) Set TV normal mode.
- (3) Go to factory mode ,adjust sub-bright option to make the picture same as below.



Vertical size and pincushion adjustment

- (1) Receive monoscope pattern. Set TV standard status. Adjust V.size to obtain picture vertical redisplay ratio more than 90% in factory mode MENU1.
- (2) Receive cross hatch pattern. Set TV standard status. Adjust V.LINE and V.SC to obtain picture vertical pin cushion a good status in factory mode MENU1.
- (3) Receive cross hatch pattern. Set Tv standard status. In factory mode MENU1 adjust V.POSITION to obtain picture vertical center of CRT screen.

Horizontal Center adjustment

Receive PHILIPS pattern. Set TV standard status. Adjust H.PHASE to obtain horizontal center at the center of of CRT screen.

Secam color decoder alignment

Receive the GREY SCALE/COLOR BAR signal. Enter into the factory mode. Adjust the valuse of secam R-Y DC and Secam B-Y DC to make the gray scale to the normal color.

Pure flat tube alignment

Horizontal size and pincushion distortion must be adjusted in pure flat tube as following:

1. Receive mono scope pattern;Adjust VR902 untill redisplay ratio is correct.
- 2.Receive cross hatch pattern signal;Adjust Vr901 untill the erect klines of the CRT two sides are most straight.

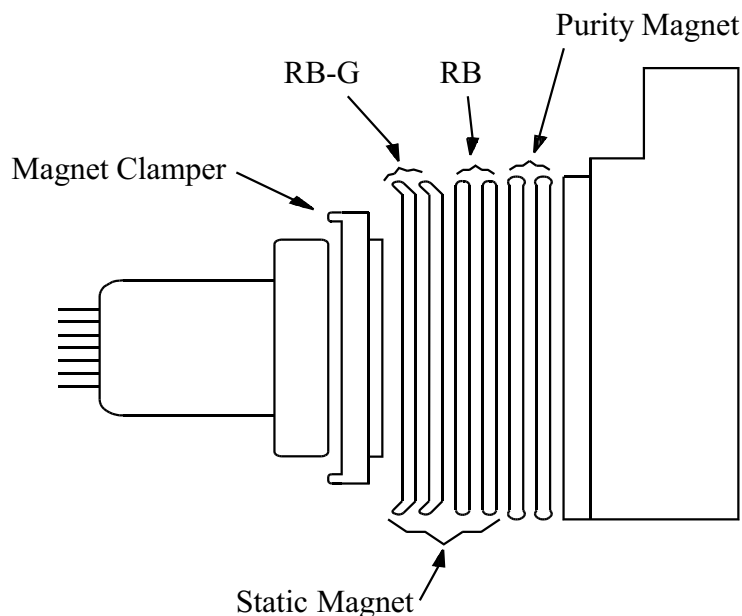
Purity and Convergence Adjustment

COLOR PURITY ADJUSTMENT

- (1) Before color purity adjustment, warm up the TV set over 15 minutes and fully degauss.
- (2) Receive pure white signal in AV status and set the TV receiver dynamic.
- (3) Go to factory mod MENU2. After write down the values of R-BIAS and B-BIAS, set the values of R-BIAS and B-BIAS zero.
- (4) Loosen the clamp screw of the deflection yoke and pull the deflection yoke towards color purity Magnetic loop.
- (5) Adjust color purity magnetic loop to make the green area at the center of CRT screen.
- (6) Slowly push the deflection yoke toward the front of CRT and set it where a uniform green field is obtained. Tighten the clamp screw of the deflection yoke.
- (7) Restore the values of R-BIAS, G-BIAS AND B-BIAS.

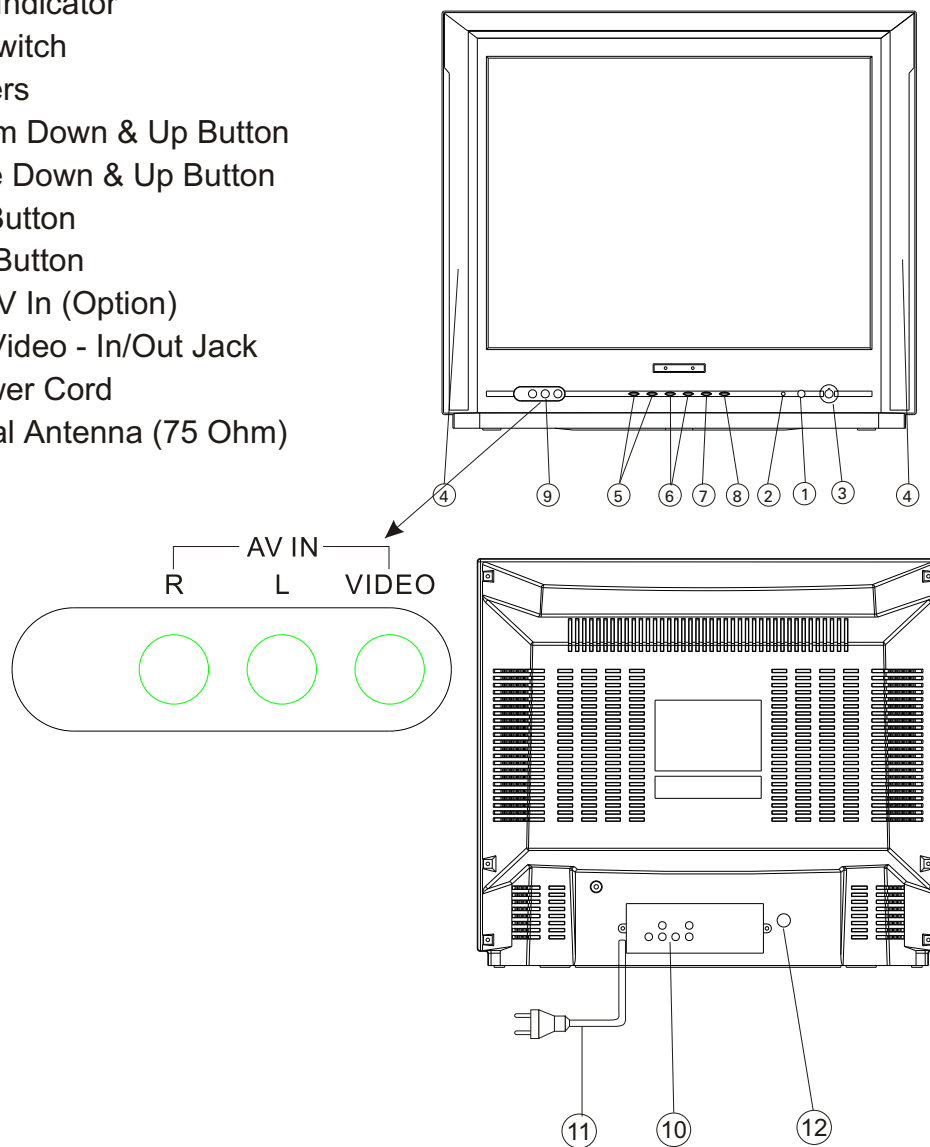
CONVERGENCE ADJUSTMENT

- (1) Receive a dotted pattern. Set the TV receiver dynamic.
- (2) Loose the convergence magnet clamperrrr and align red with blu dots at the center of the screen by rotating(R,B) static convergence magnets.
- (3) Align Red/Blue with green dots at the center of the screen by rotating(RB-G) static convergence magnet.
- (4) Remove the DY wedges and slightly tilt the deflection yoke horizontally and vertically to obtain the good overall convergence. Fix them after the goob overall convergence got.
- (5) Fix purity error is found, follow PURITY ADJUSTMENT instructions.



Control Location

1. Remote Sensor
2. Power Indicator
3. Main Switch
4. Speakers
5. Program Down & Up Button
6. Volume Down & Up Button
7. Menu Button
8. AV/TV Button
9. Front AV In (Option)
10. Audio/Video - In/Out Jack
11. AC Power Cord
12. Terminal Antenna (75 Ohm)



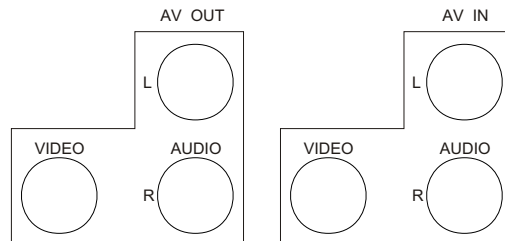
Input and Output Terminals

VIDEO AND AUDIO INPUT/OUTPUT TERMINALS

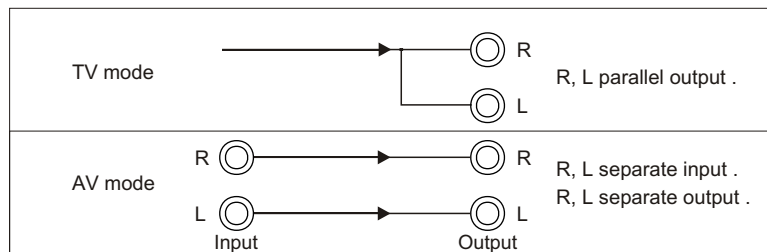
1. Video / Audio input for playback for VCR.

2. Video / Audio monitor output .

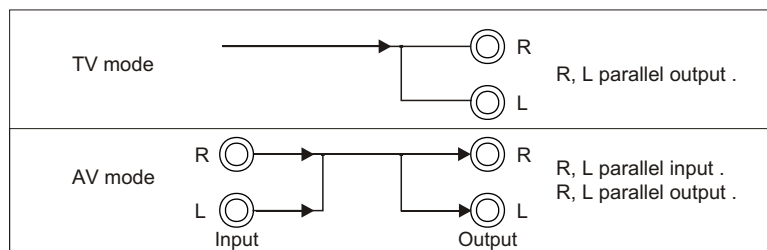
*Please keep AC cord unplugged when connecting TV system.



** AV stereo model (option)



** Mono model



****CAUTION:**Do not connect and turn on both the devices which are connected to side AV in and rear AV in at the same time ,otherwise ,a distorted and interference picture will occur.

For the Mono model, during the TV reception, or AV mode connected the audio input at R, L , R&L, the speaker will output only the mono sound. And at the AV-R, L output also mono sound output only.

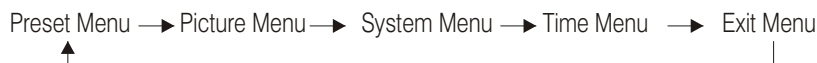
Operation Instructions

WARNING: The Main Power Switch (No.6 of the Control Location page) is the Manually Operated Mechanical Switch (MOMS). It is requested to Manually to turn On and Off the Main power. The Remote control can not cut off main voltage at the TV set. For safety purpose, turn off the Main Switch manually when long time not use the TV or for the long vacation. Press once will turn on the Main supply of the TV set. The Power indicator (No.6 of the Control Location page) will light up. To make sure the power is turn off, please fully press the Main switch and make sure the power indicator light off.

Turn the TV set on, then power indicator will light up. The picture will appear after a few seconds . (If tuned on) The program number is displayed on the top right-hand corner of the screen.

MENU BUTTON

1.Press this button to select menu. PRESET, PICTURE, SYSTEM ,and TIME menu can be selected cyclically.



2.After enters each menu, you can select the item which you will adjust by PROG. +/- buttons, and adjust this item by VOL. +/- buttons.

*The item which you select will change blue.

Preset menu

PRESET	
CHANNEL	00
SKIP	OFF
BAND	V-L
ASM.SIF	6.5M
FINE	
SEARCH	
ASM	
.....	

1. CHANNEL

In this item, you can store the channel number which are watching, and change the channel number by VOL. +/- Buttons (or number keys).

2. SKIP

You can set "ON" by VOL. +/- Buttons if you want to cancel the channel number which you are watching.

3. BAND

You can select V-L, V-H or UHF.

4. ASM.SIF

You can select 6.0M, 4.5M, 6.5M or 5.5M.

*4.5M is only a option for some models.

5. FINE

To tune in weak station this item must be used.

6. SEARCH

Press VOL. +/- Buttons to start searching. The VOL- button searches for lower-numbered channels; the VOL+ button for higher-numbered channels. When a TV station signal is received ,the searching will stop.

7. ASM

Press VOL. +/- Buttons, then the TV set will automatically search from V-L band to U band.

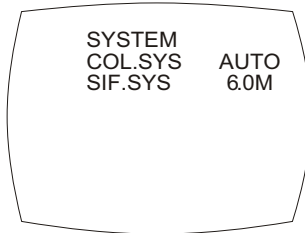
Picture menu

PICTURE	
○ BRIGHTNESS	
● CONTRAST	
■ COLOR	
✱ SHARPNESS	
TINT	
.....	35

You can select BRIGHTNESS, CONTRAST, COLOR, SHARPNESS, and TINT item by PROG. +/- Buttons , and adjust the item which you select by VOL. +/- Buttons.

Operation Instructions

System menu



1. COL.SYS

You can change present color system in this item.

AUTO –PAL –SECAM–NTSC1– NTSC2

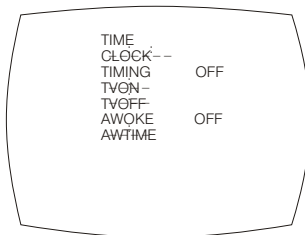
**SECAM is only an option for some models.

2. SIF.SYS

You can select 6.0M, 4.5M, 6.5M or 5.5M.

**4.5M is only an option for some models.

Time menu



1. CLOCK

You can adjust the currently time by this item. Press the VOL+button set hour , and the VOL-button set minute .

2. TIMING

If you set the item is TIMING ON , you can set the time of TV ON and TV OFF .

3. TV ON

Set the time when the TV set turn on .

4. TV OFF

Set the time when the TV set turn off .

5. AWAKE

Selecting AWAKE ON , you can set theAWTIME item.

6. AWTIME

Set the awake time that you want . If you set the AWTIME is 12:00, The CATCH TIME11:58:00 will display on the screen for awaking you .It will disappear from the screen until CATCH TIME 12:00:00 .

SELECTING PROGRAM


Use 0-9 digit buttons to call directly on the program number that you want. If you want to select a double digits program number , firstly press "- / -" button, then input the two digits.

Program number can also be changed by "PROGRAM DOWN" and "PROGRAM UP" buttons. Press "PROGRAM UP" button, program number will increase. Press "PROGRAM DOWN" button, program number will decrease.


CHILD LOCKED

The TV set can provide the panel key control locked or prevent your children for watching the TV set. SET CHILD LOCKED:

Press the "LOCK" button on remote control unit. The key locked () is displayed on the screen.

Then the symbol will disappear after change of the program or released child locked mode. You can not use any panel control key on the TV set while locked .Only the remote control can normal operate the TV set .The "key locked " symbol()is displayed on the screen when turn off the Main switch and turn on again. It can release the child lock totally by pressing "LOCK"button or press the standby to turn off the TV set and turn on again . The child lock keep locked but you can operate the TV set by remote control .Keep the remote control out of child after locked.

RELEASE CHILD LOCKED:

You can cancel this mode by pressing the 'LOCK" button until the "key symbol"()disppear from screen .If the symbol displayed on screen then press the LOCK button once will unlock .If the symbol not displayed on screen such as after program changed or standby off and on again .Press the LOCK button twin to unlock.

Mechanical Disassemblies

CABINET BACK REMOVAL

1. Refer to Figure 1, remove 9 screws.
2. Pull off cabinet back and remove.

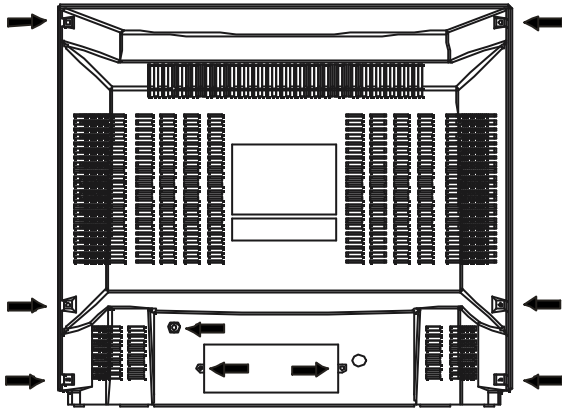


Figure 1. Cabinet Back Removal

CHASSIS REMOVAL

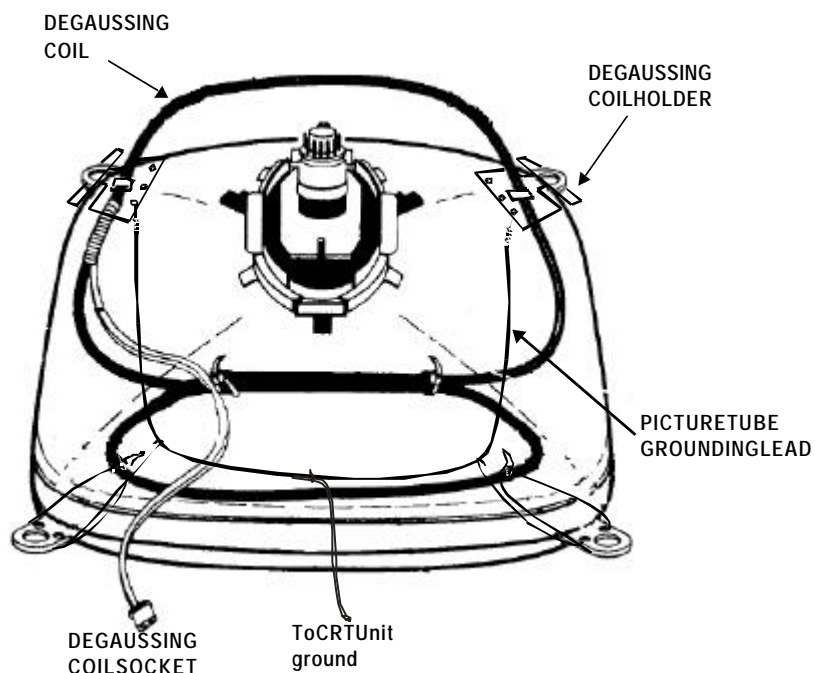
1. Remove cabinet back.
2. Discharge the picture tube anode (2nd anode lead) to the dag coating (picture tube grounding lead).
3. Disconnect Degaussing coil socket (KE), Picture tube socket Deflection yoke connector (KDY), Speaker connectors (KL and KR), and 2nd anode lead.
4. Remove chassis completely by sliding it straight back.

PICTURE TUBE REMOVAL

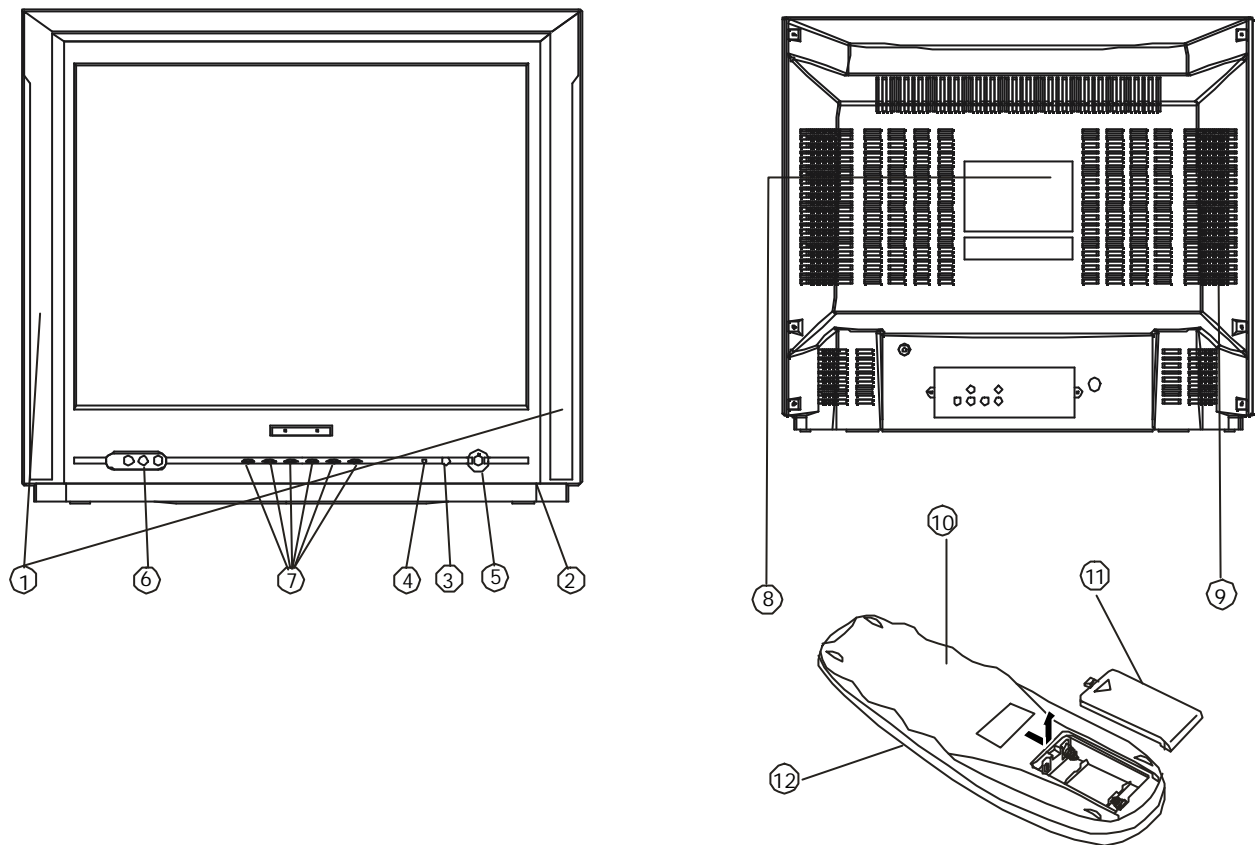
CAUTION: Do not disturb the deflection yoke or magnet assembly on the picture tube Neck. Care must be taken to keep these assemblies intact, unless picture tube is being replaced. Discharge the picture tube to the coating before handling the Tube.

1. Remove chassis, referring to Chassis Removal instructions.
 2. Place cabinet front faced down on the soft surface.
 3. Remove the screw on each corner of the picture tube and GENTLY lift the picture tube out of the cabinet.
 4. Install a replacement picture tube in reverse order.
- Properly install the degaussing coil and picture tube grounding lead on the picture tube. See Figure 2.

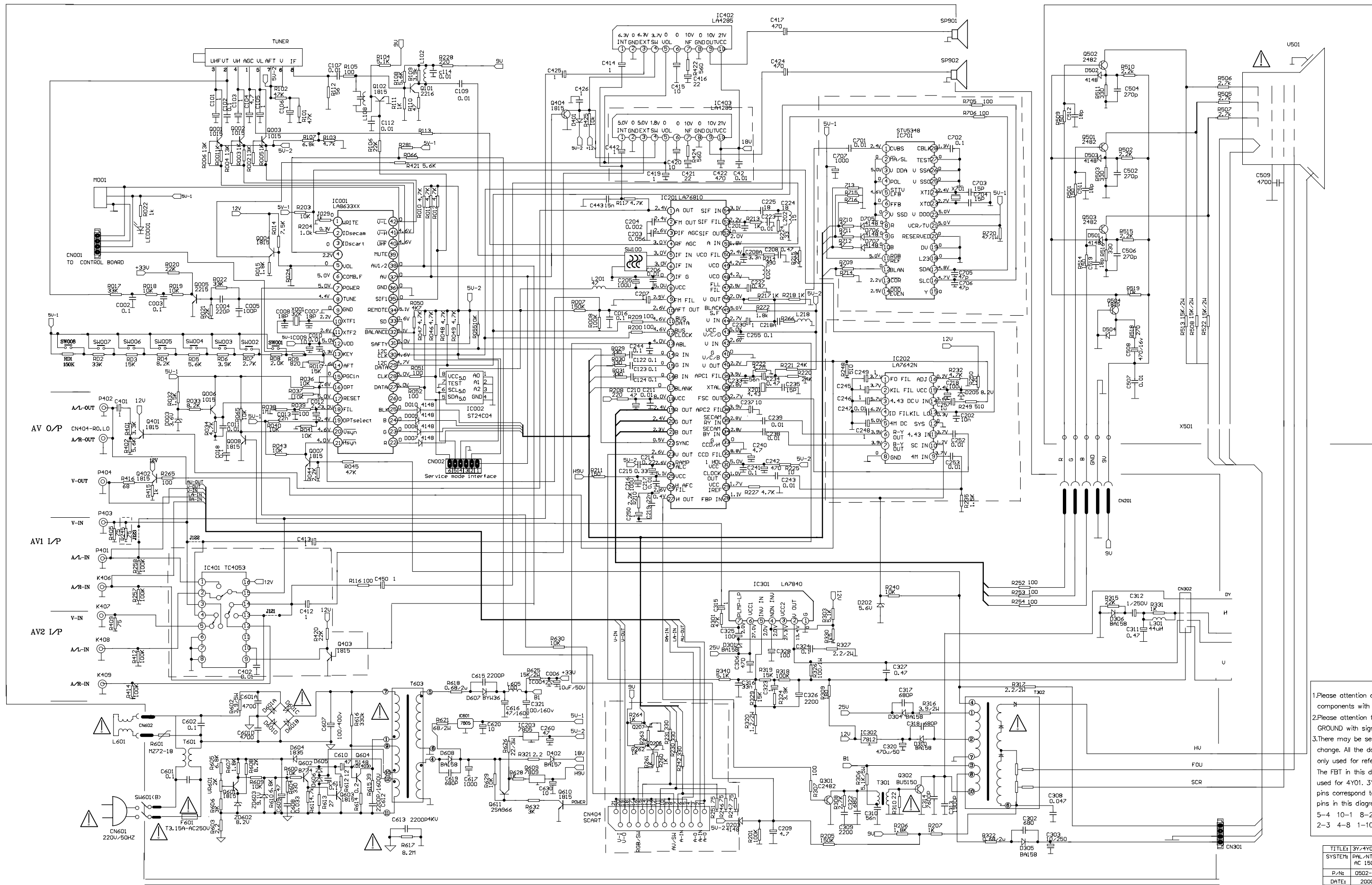
Note: If the Picture Tube is being replaced, mount the Degaussing Coil on the picture tube. See following.



Cabinet Parts List



KeyNo.	PartNo.	Description
1	SK140121NZM001	SPEAKERGRILL-SILVER BLUE #Sb001 (PVC)
2	SK100121NZM003	FRONTCABINET-METALSILVER GREY#MSG001ENG (3Y07)(O-R-L-V)94V-0
3	SK100721NZM002	FRONTLENS-TRANSPARENT (REMOTE CONTROLWINDOW)
4	SK100721NZM002	FRONTLENS-TRANSPARENT (LEDWINDOW)
5	SK100921NZM001	POWERKNOB-ELECTROPLATING SILVER(ABS)
6	SK121321NZM002	INLAY(B)- FRONT AVW/(O-R-L-V)METALSILVERGREY#MSG001
7	SK100821NZM001	CONTROLKEYKNOB-ELECTROPLATING SILVER(ABS)
8	SK060121NZM3W6	BACKLABELFISHERR21H2ENG
9	SK100221NX0002	BACKCABINET-DARKGREY#DG00194V-0
10	SK1015HS080005	BOTTOMCABINET-METALSILVERGREY#MSG001(ABS)
11	SK1016HS080006	BATTERYDOOR-METALSILVERGREY#MSG001(ABS)
12	SK1014HS080044	TOP CABINET-METALSILVERGREY#MSG001 FISHERW/RemoteControl



1. Please attention all the components with sign !
2. Please attention the heat GROUND with sign ▽
3. There may be several change. All the data are only used for reference.
The FBT in this diagram is used for 4Y01. 3Y T302 pins correspond to 4Y T302 pins in this diagram :
5-4 10-1 8-2 7-7
2-3 4-8 1-10 6-6

TITLE:	3Y/4Y01 DIAGRAM
SYSTEM:	PAL/NTSC/SECAM
P/Nr:	0502-A3Y011-00
DATE:	2000-02-12