

SERVICE MANUAL

5Y18 CHASSIS



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

ENGINEER BY: _____ CHECKED BY: _____ PPROVED BY: _____

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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 $\triangle$.

Technical specification

Systems: a. North America: NTSC-M

b. South America and southeast Asia: NTSC-M/PAL

BG/DK/I/M/N

c. Europe: PAL SECAM

Power: 90-260VAC

Sound systems: a. AV STEREO(TONE CONTROL optional)

b. MTS STEREO(TONE CONTROL optional)

Sound power: STEREO 5W+5W OR 10W+10W (PIN TO PIN)

AV input/output:

1、 F.AV

2、 AV OUT

3、 AV IN optional: a. ONE FULL SCART

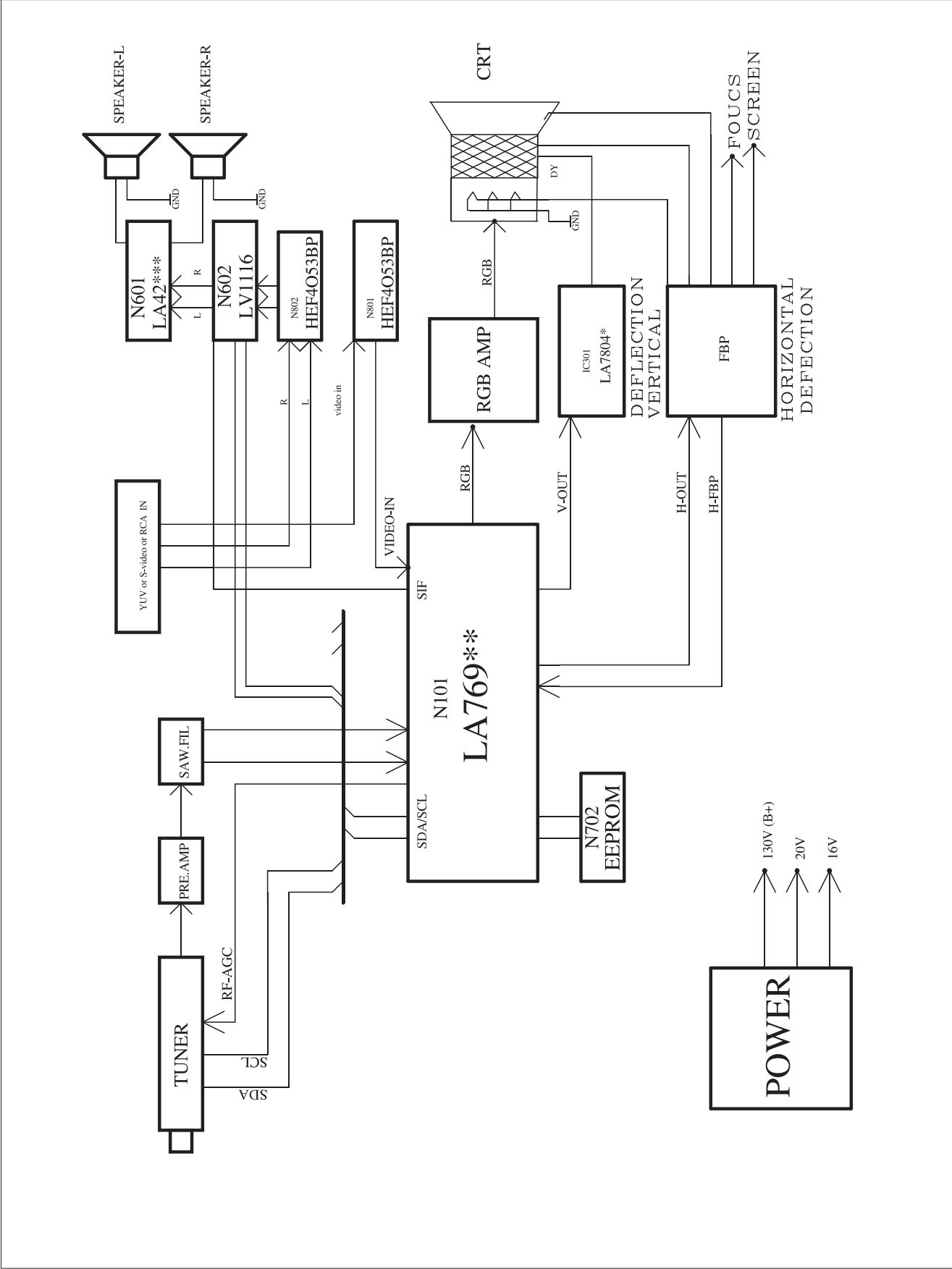
b. RCA&S-video

c. RCA&YUV

d. RCA&YUV&S-video

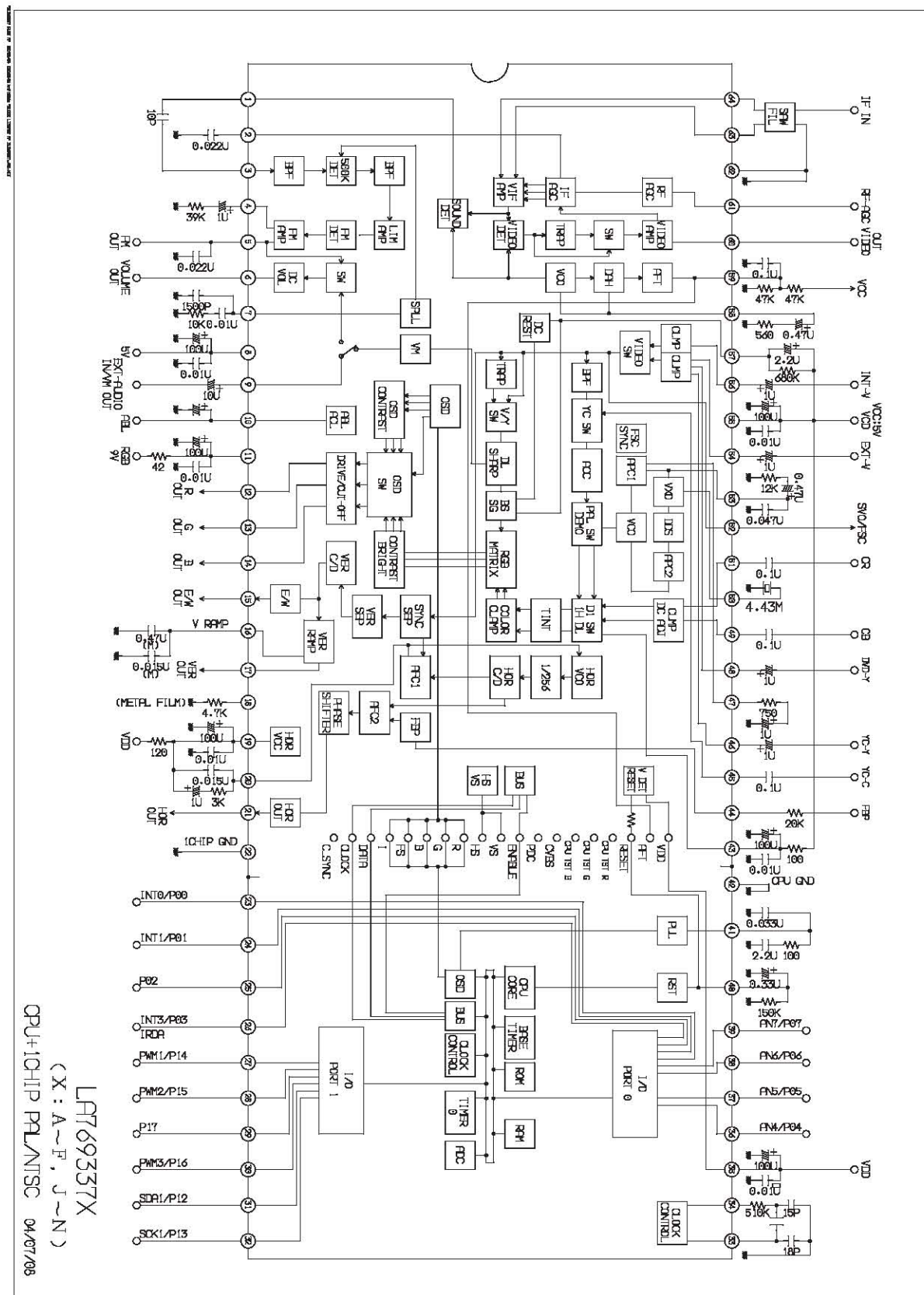
Other functions: TONE CONTROL/CCD/V-CHIP/LOGO/GAME/ calendar

/blue screen /lock/time



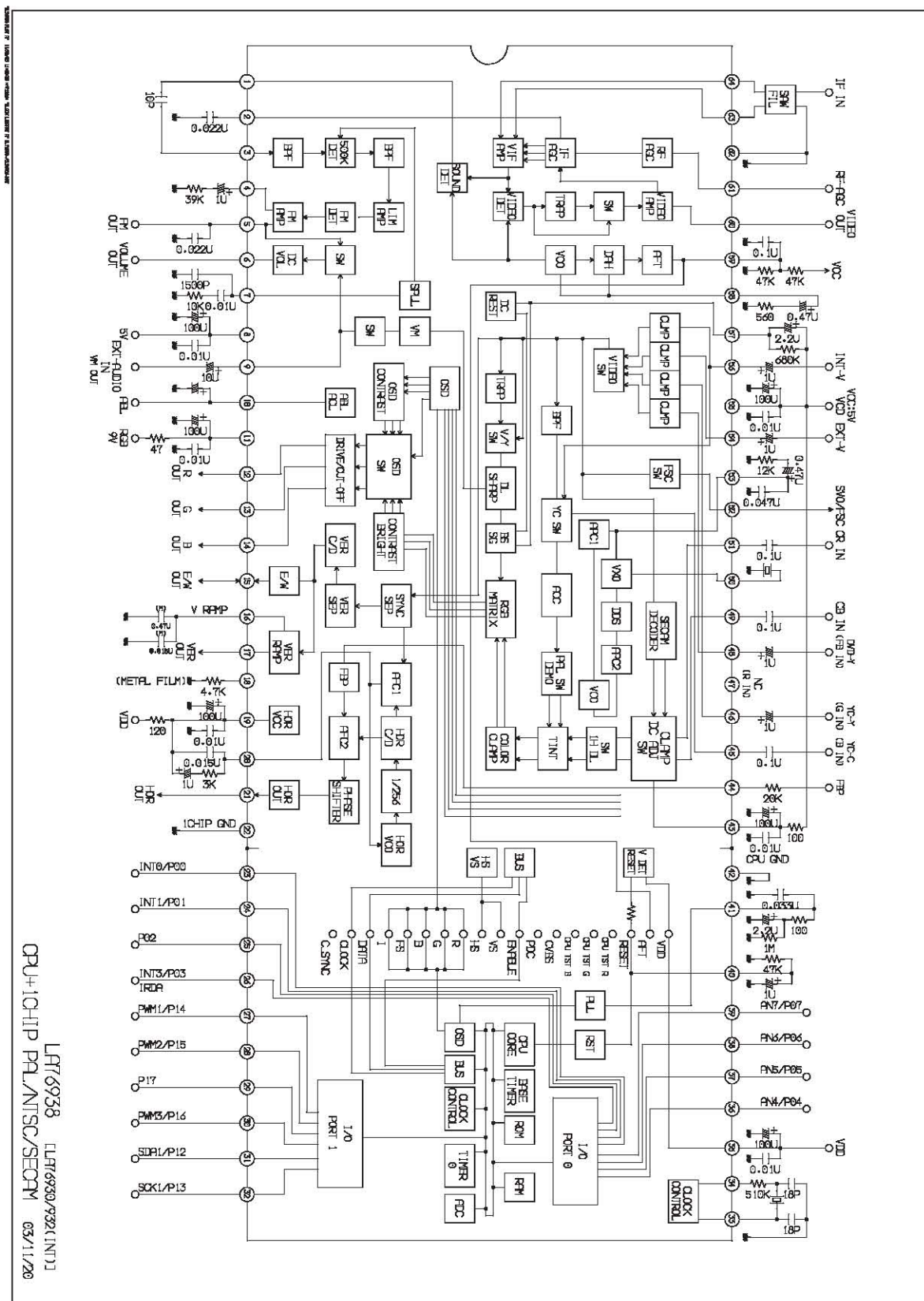
IC Block Diagram

N101 (OPTION) (PAL BG,DK,I, NTSC-M, PAL M/N)La76933



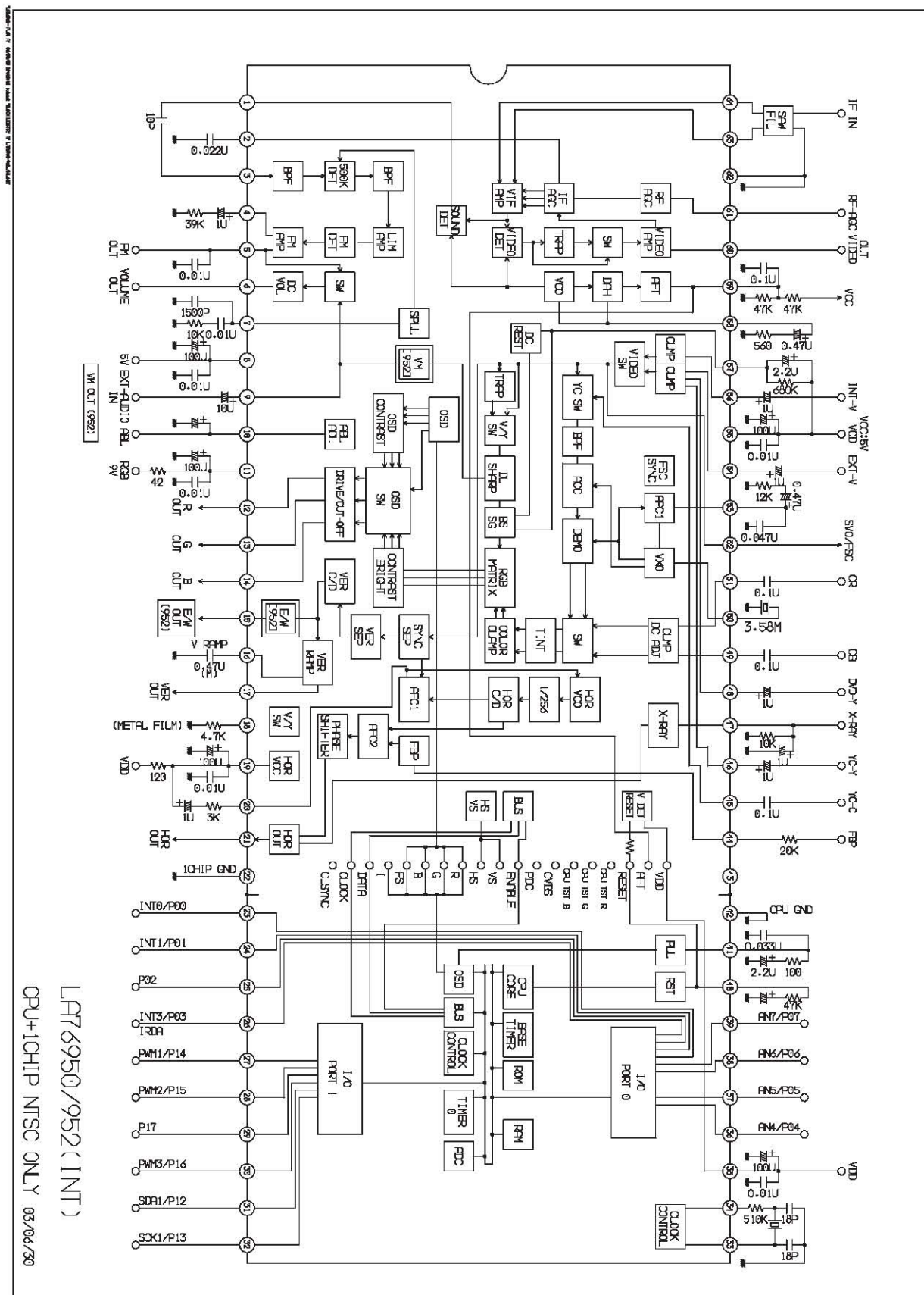
IC Block Diagram

N 101(OPTION)(PAL BG,DK,I,SECAM BG/DK ,NTSC M)LA 76938



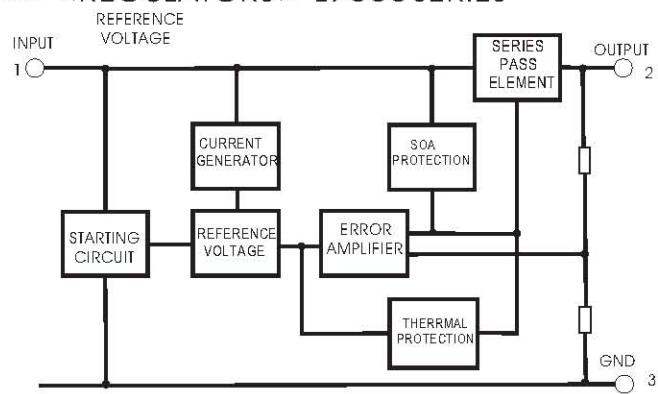
IC Block Diagram

N101 (OPTION)(NTSC-M) La76952

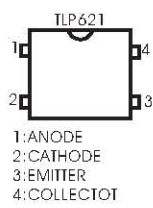


IC Block Diagram

N552,N541&N553 <REGULATORS> L7800 SERIES

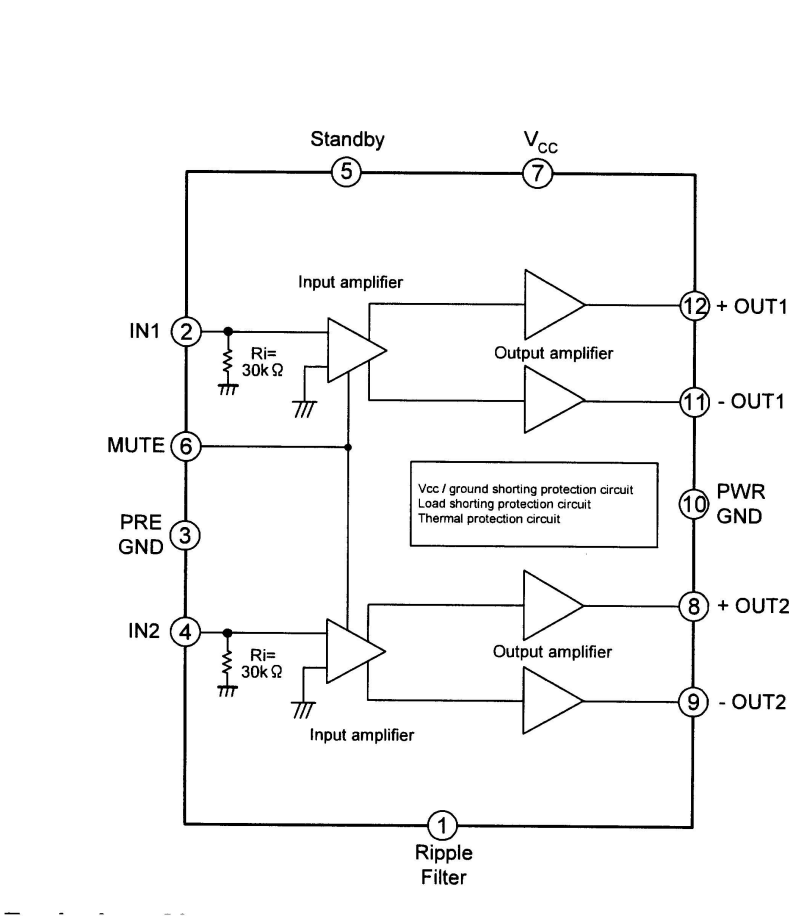


N502<PHOTO TRANSISTOR> TLP621



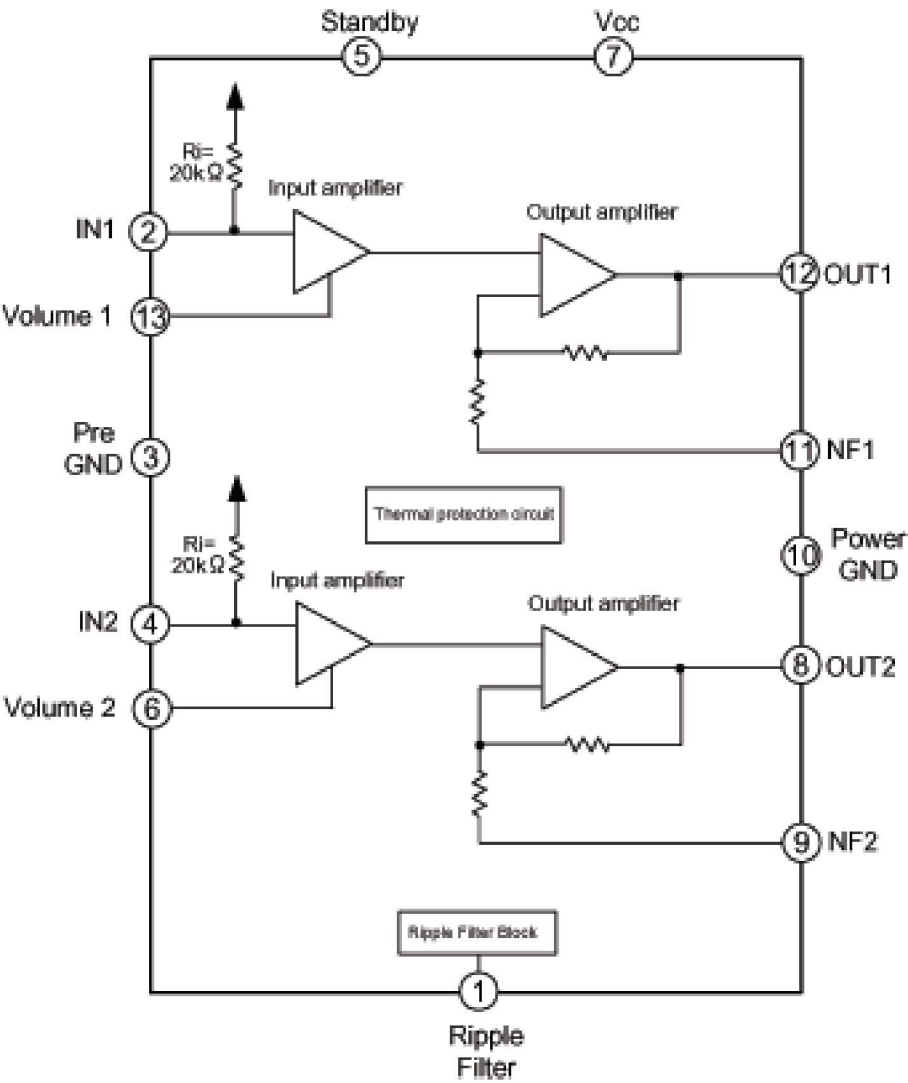
IC Block Diagram

N601 (OPTION)(10W-2-CHANNEL BTL POWER AMPLIFIER) Ld42102



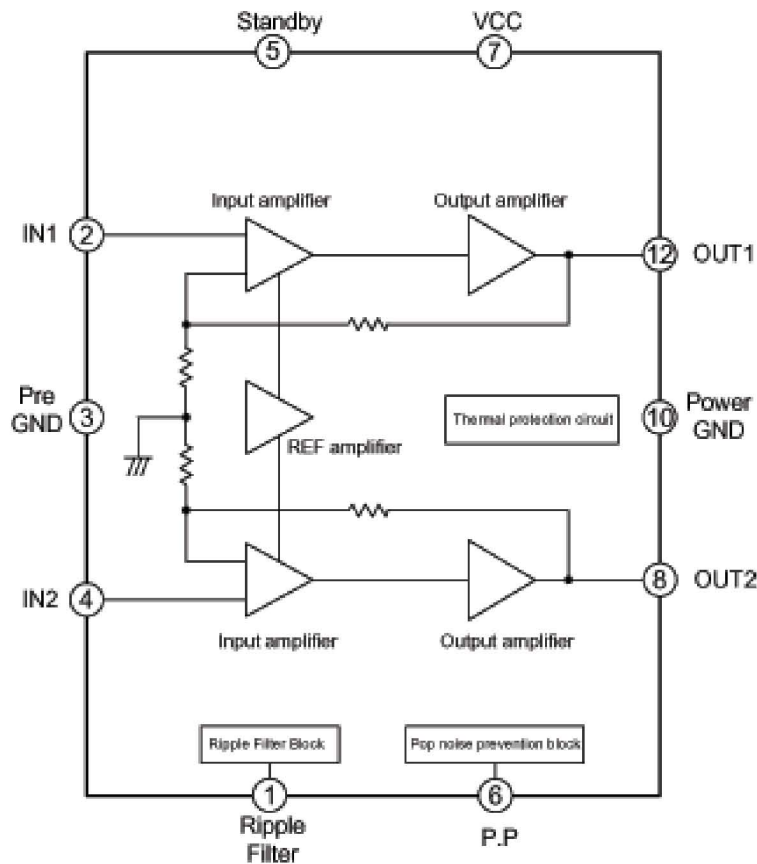
IC Block Diagram

N601 (OPTION)(5W-2-CHANNEL POWER AMPLIFIER) Ld42352

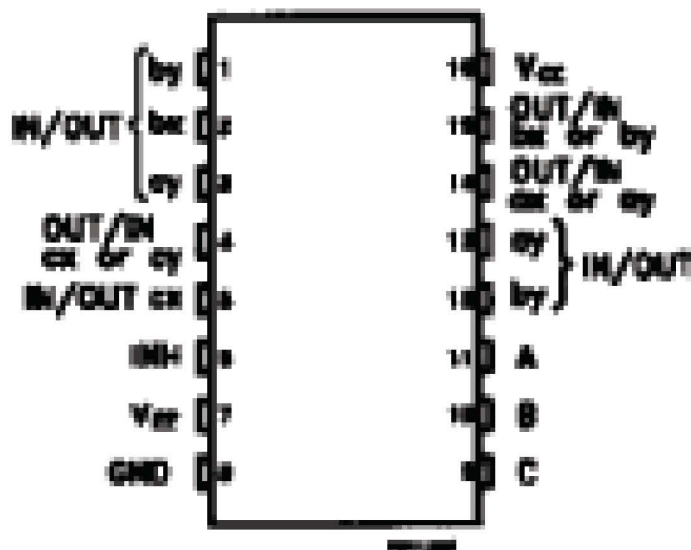


IC Block Diagram

N601 (OPTION)(5W-2-CHANNEL AF POWER AMPLIFIER) Ld42052

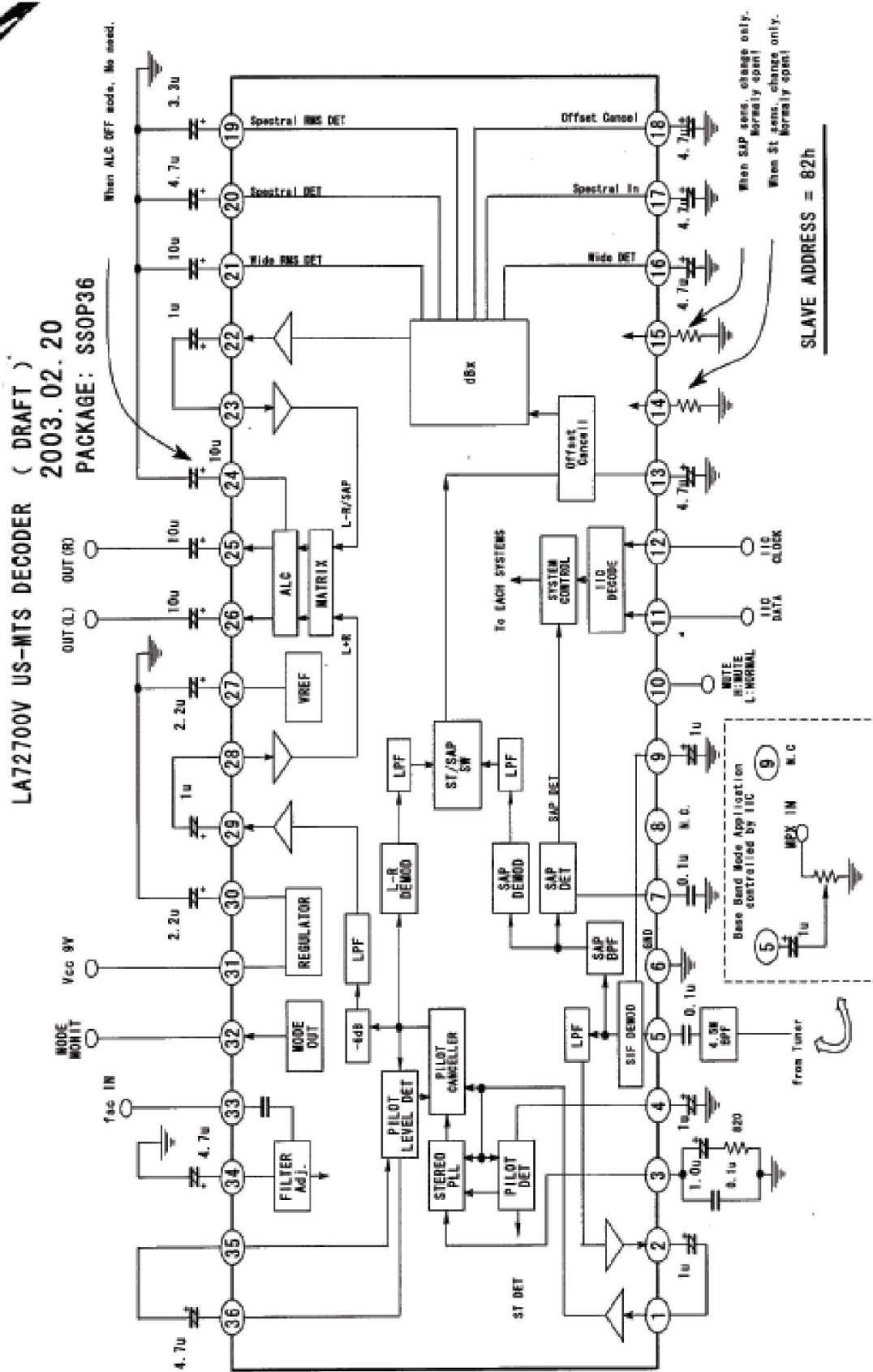


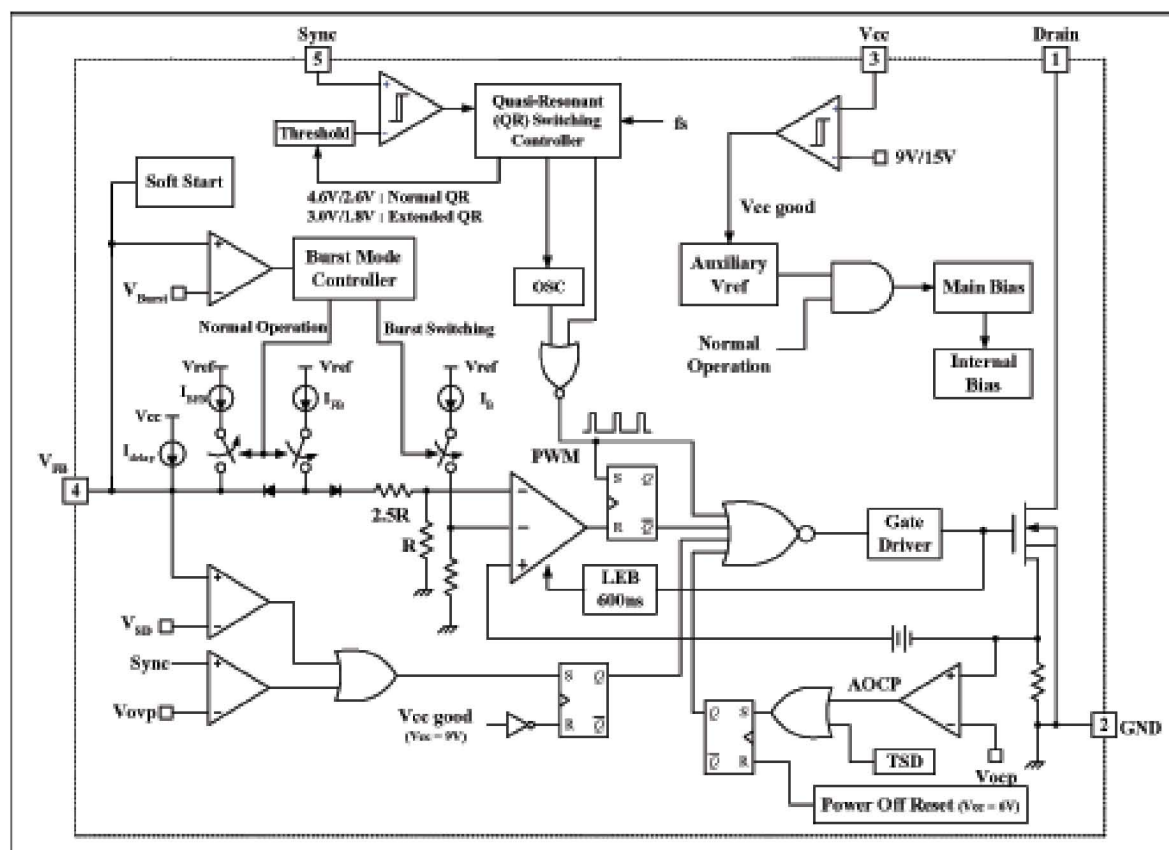
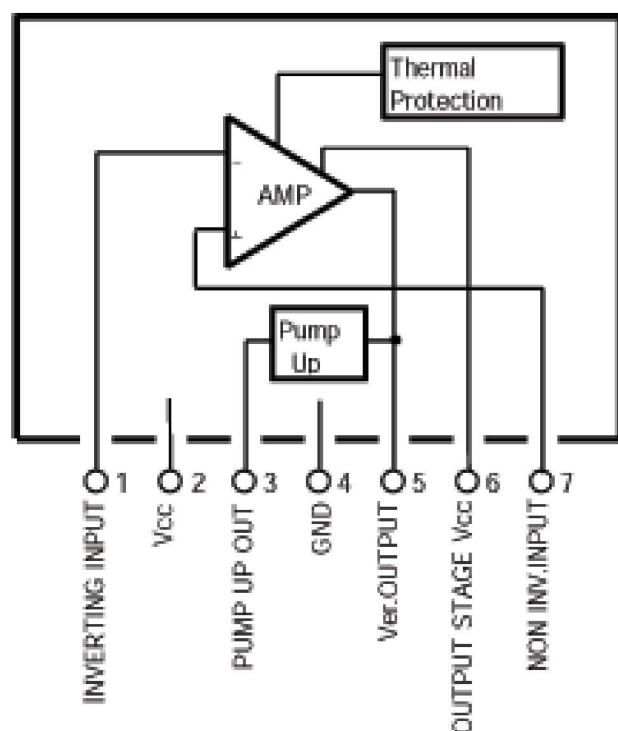
N801&N802 (ANALOG SWITCHES) H40530



IC Block Diagram

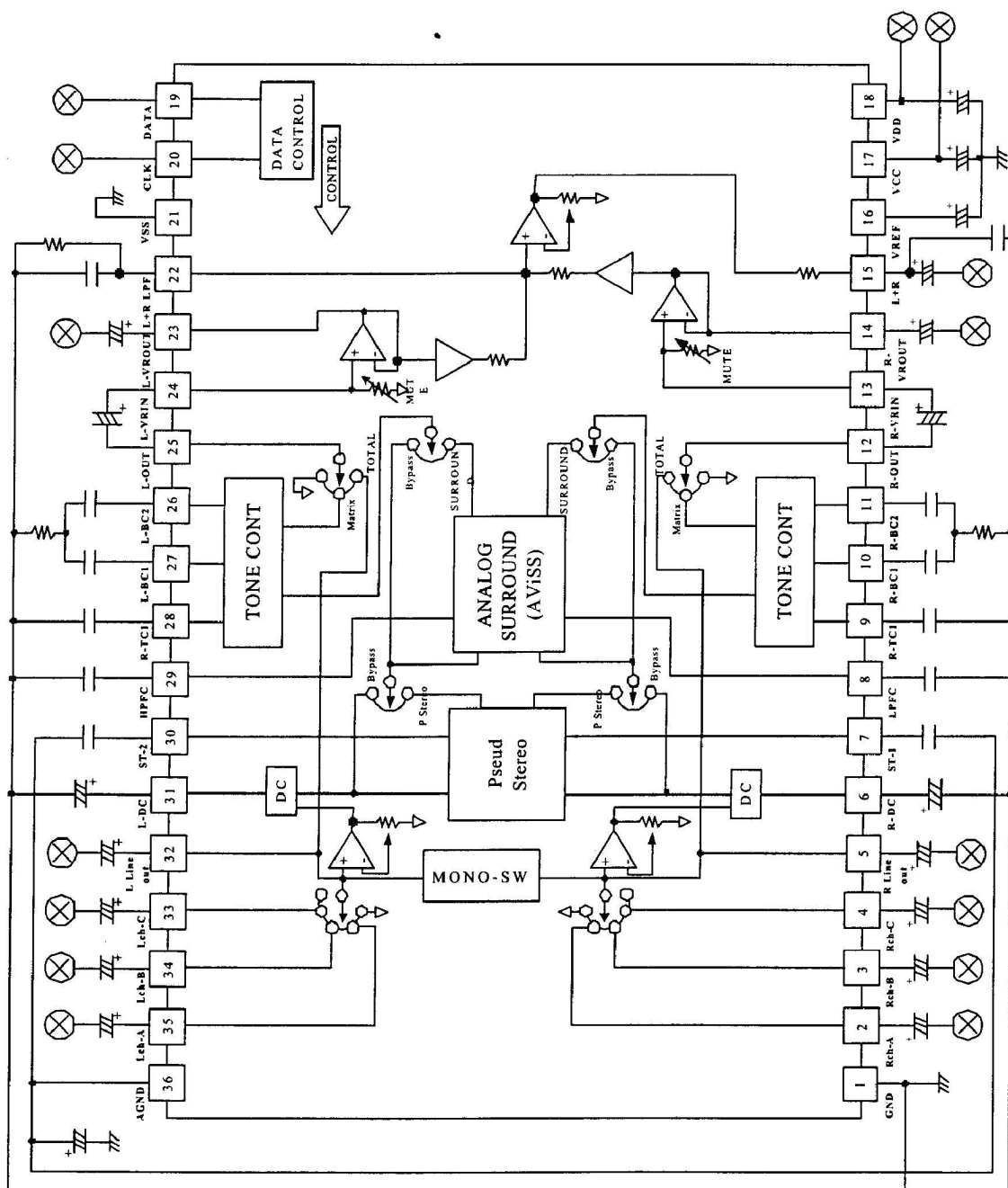
N 01 (US MTS TELEVISION SOUND DECODER) La72700V



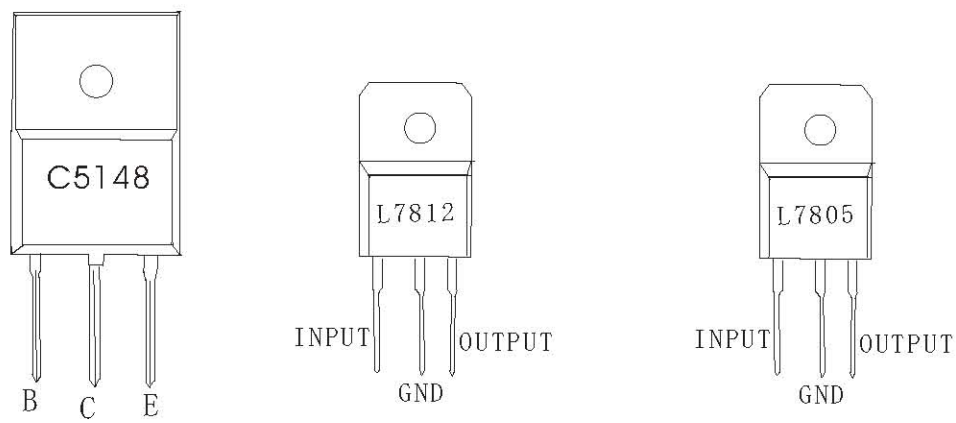
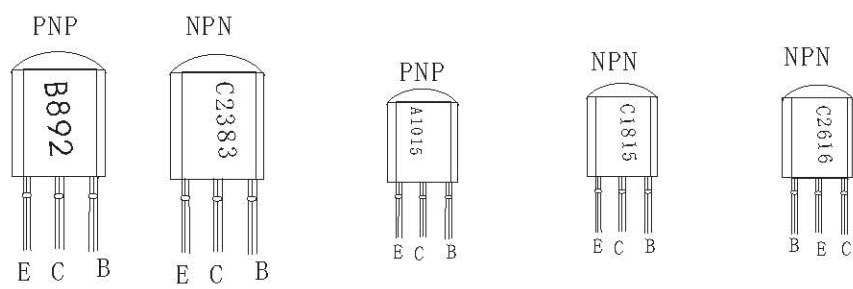


IC Block Diagram

N602(SOUND PROCESSOR W/ELECTR-NOIC VOLUME CONTROLLER) Lv1 116

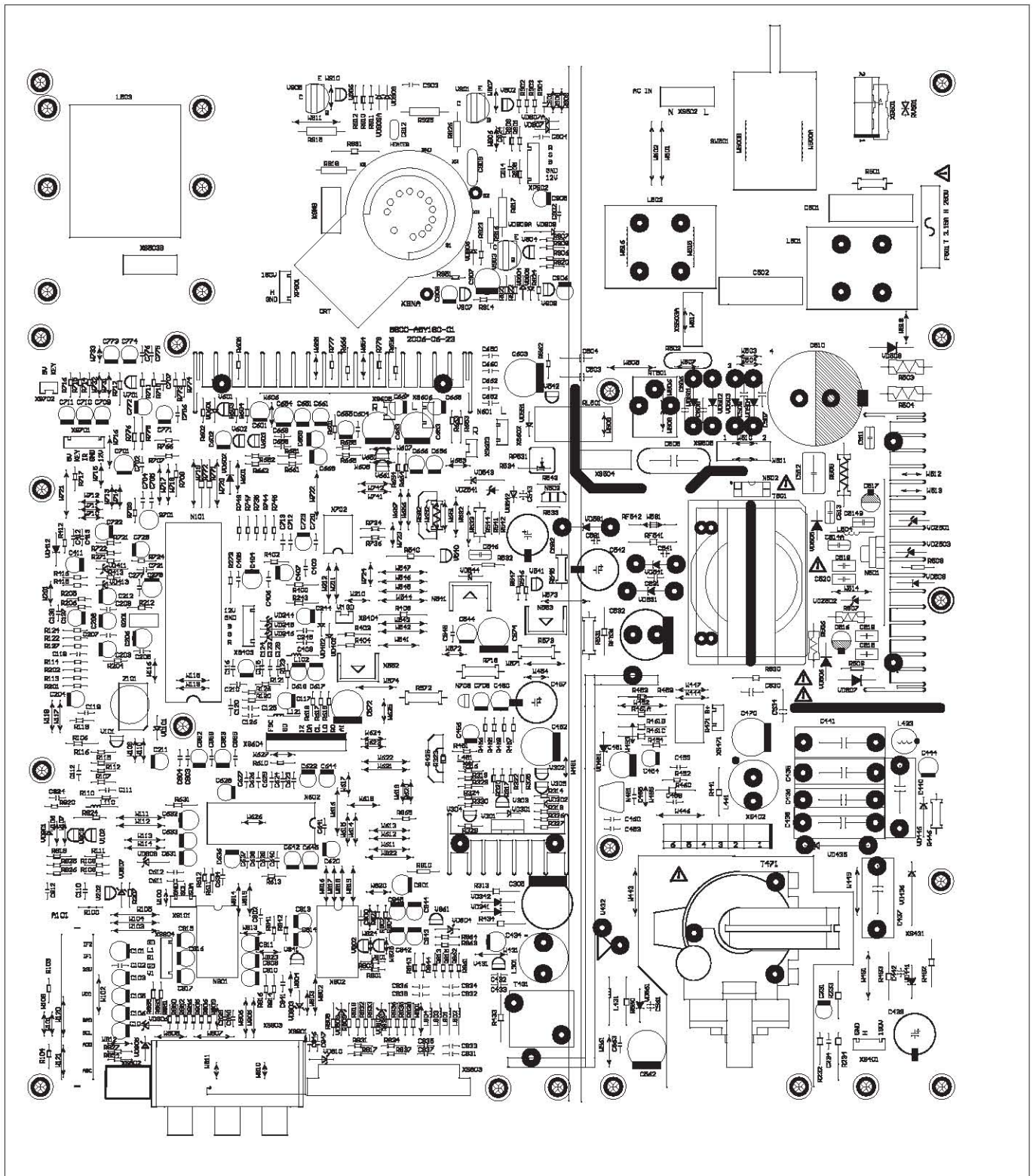


Transistor Mark



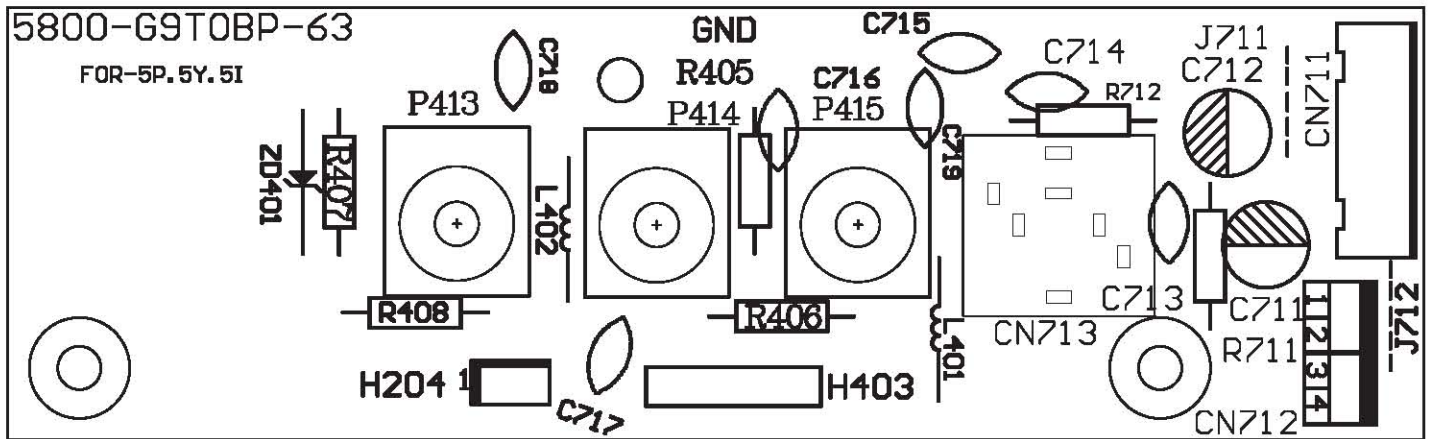
The diagram is a technical drawing of a printed circuit board (PCB) layout. It features a dense arrangement of electronic components and their interconnections. At the top left, there is a title block containing the text "FIGURE 1-2-1000 H 20000". The main body of the diagram is filled with labels for various parts: integrated circuits (e.g., U001, U002, U003, U004, U005, U006, U007, U008, U009, U010, U011, U012, U013, U014, U015, U016, U017, U018, U019, U020, U021, U022, U023, U024, U025, U026, U027, U028, U029, U030, U031, U032, U033, U034, U035, U036, U037, U038, U039, U040, U041, U042, U043, U044, U045, U046, U047, U048, U049, U050, U051, U052, U053, U054, U055, U056, U057, U058, U059, U060, U061, U062, U063, U064, U065, U066, U067, U068, U069, U070, U071, U072, U073, U074, U075, U076, U077, U078, U079, U080, U081, U082, U083, U084, U085, U086, U087, U088, U089, U090, U091, U092, U093, U094, U095, U096, U097, U098), resistors (R001, R002, R003, R004, R005, R006, R007, R008, R009, R010, R011, R012, R013, R014, R015, R016, R017, R018, R019, R020, R021, R022, R023, R024, R025, R026, R027, R028, R029, R030, R031, R032, R033, R034, R035, R036, R037, R038, R039, R040, R041, R042, R043, R044, R045, R046, R047, R048, R049, R050, R051, R052, R053, R054, R055, R056, R057, R058, R059, R060, R061, R062, R063, R064, R065, R066, R067, R068, R069, R070, R071, R072, R073, R074, R075, R076, R077, R078, R079, R080, R081, R082, R083, R084, R085, R086, R087, R088, R089, R090, R091, R092, R093, R094, R095, R096, R097, R098), capacitors (C001, C002, C003, C004, C005, C006, C007, C008, C009, C010, C011, C012, C013, C014, C015, C016, C017, C018, C019, C020, C021, C022, C023, C024, C025, C026, C027, C028, C029, C030, C031, C032, C033, C034, C035, C036, C037, C038, C039, C040, C041, C042, C043, C044, C045, C046, C047, C048, C049, C050, C051, C052, C053, C054, C055, C056, C057, C058, C059, C060, C061, C062, C063, C064, C065, C066, C067, C068, C069, C070, C071, C072, C073, C074, C075, C076, C077, C078, C079, C080, C081, C082, C083, C084, C085, C086, C087, C088, C089, C090, C091, C092, C093, C094, C095, C096, C097, C098), and inductors (L001, L002, L003, L004, L005, L006, L007, L008, L009, L010, L011, L012, L013, L014, L015, L016, L017, L018, L019, L020, L021, L022, L023, L024, L025, L026, L027, L028, L029, L030, L031, L032, L033, L034, L035, L036, L037, L038, L039, L040, L041, L042, L043, L044, L045, L046, L047, L048, L049, L050, L051, L052, L053, L054, L055, L056, L057, L058, L059, L060, L061, L062, L063, L064, L065, L066, L067, L068, L069, L070, L071, L072, L073, L074, L075, L076, L077, L078, L079, L080, L081, L082, L083, L084, L085, L086, L087, L088, L089, L090, L091, L092, L093, L094, L095, L096, L097, L098). There are also several rectangular blocks representing functional modules or connectors, such as X001, X002, X003, X004, X005, X006, X007, X008, X009, X010, X011, X012, X013, X014, X015, X016, X017, X018, X019, X020, X021, X022, X023, X024, X025, X026, X027, X028, X029, X030, X031, X032, X033, X034, X035, X036, X037, X038, X039, X040, X041, X042, X043, X044, X045, X046, X047, X048, X049, X050, X051, X052, X053, X054, X055, X056, X057, X058, X059, X060, X061, X062, X063, X064, X065, X066, X067, X068, X069, X070, X071, X072, X073, X074, X075, X076, X077, X078, X079, X080, X081, X082, X083, X084, X085, X086, X087, X088, X089, X090, X091, X092, X093, X094, X095, X096, X097, X098. The diagram includes numerous electrical symbols, such as diodes, transistors, and logic gates, along with their respective pin connections and signal paths. A legend or key is located at the bottom right, providing definitions for some of the symbols used. The overall layout is organized into distinct functional areas, with components grouped together and connected by a network of lines representing the PCB traces.

MAIN PCB BOTTOM Layer

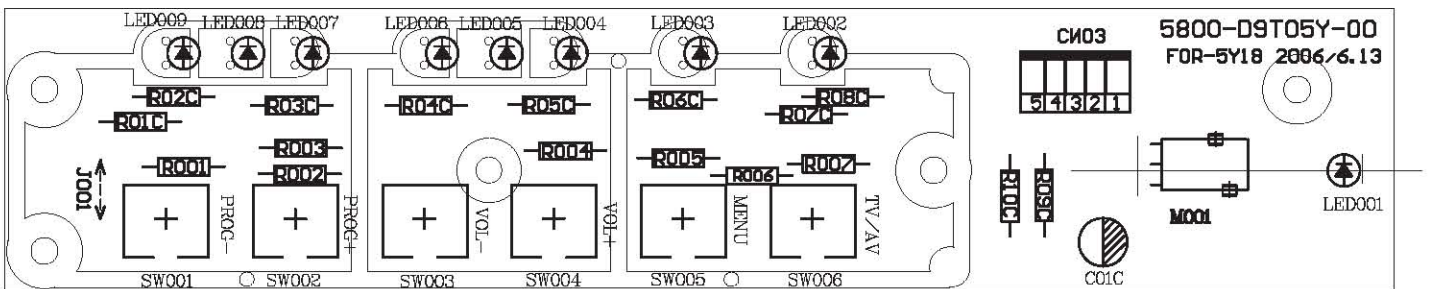


CRT&FRONT AV&CONTROL PCB Top Layer

SIDE AV TOP LAYER



CONTROL PCB TOP LAYER



Service Adjustments

1、 Please notice the following before Servicing

- 1-1 The main power is 90~260V/50/60Hz. Please be careful when you debug and equip.
- 1-2、 Don't short any two soldering points, which should not be shorted and don't touch any components, which should not be touched.
- 1-3、 Please disconnect the power plug from the wall outlet before servicing.
- 1-4、 For safety reasons, all components equipped or replaced should be identical with BOM.
- 1-5、 Before alignment, ensure the TV set has been heated for at least 30 minutes and degauss the CRT thoroughly with demagnetizer.
- 1-6、 The data of EEPROM must be stored before the adjustment for main chassis.

2、 Tools and equipments for adjustment:

- 2-1、 small “-”screwdriver。
- 2-2 、 screwdriver without inductance
- 2-3、 Pattern Generator。
- 2-4、 Digital Voltmeter
- 2-5、 DC Regulated power supply。
- 2-6、 Sweep Signal Generator。
- 2-7、 20MHz 2-channel Oscilloscope.
- 2-8 、 Signal condition(factory debug signal):

Item	Logo	Picture carrier	Pattern	System	Sound mode	Remark
1	CHN-1CH	49.75	PHILIPHS Picture	PAL—I	1KHz	
2	WE-6CH	182.25MHz	Red filed	PAL—BG	L: R: 400HZ	A2 STEREO /TELETEXT
3	CHN-12CH	695.25MHZ	Grey/ Half color bar	SECAM-D/K	BTSC	
4	CHN-13CH	471.25	Cross hatch	PAL—D/K	1KHZ	
5	USA-3CH	61.25	Color bar	NTSC—M	1KHZ	
6		751.25	Monoscope	PAL—I	A: BTSC B: MUSIC C: 1KHZ	I NICAM
7	WE-S20CH	294.25	Half color bar	PAL—BG	A: 400HZ B: 1KHZ	STEREO
8		224.25	PHILIPHS Picture	PAL—BG	A: BTSC B: MUSIC C: 1KHZ	B/G NICAM
9		85.25	Cross hatch	PAL—DK	BTSC	16:9
10		199.25	Cross hatch	NTSC—M	BTSC	MTS
11	USA-31CH	573.25	Monoscope	NTSC—M	1KHZ	

3、Adjust for main IC

3-1、Power check

TESTING OF EACH VOLTAGE				
Item	Main voltage	Rating voltage	Power voltage	Test position (positive pole of the capacitor)
1	B+ Power supply	$130V \pm 1V$	70V	C532
2	TFA Power supply (load)	$20V \pm 2V$	— —	C582
3	UOC Main resistance	$16V \pm 1V$	— —	C542
4	Memorizer power supply	$5V \pm 0.5V$	$5V \pm 0.5V$	W722
5	Tuner power supply	$5V \pm 0.5V$	0V	TUNER
6	Tune voltage	$33V \pm 0.5V$	— —	C708
7	Vertical power supply	$26V \pm 0.5V$	0V	C452
8	RGB power supply	$190V \pm 10V$	0V	C439

3-2、AGC adjustment

Method : Receive 60dB、751.25MHZ monoscope pattern, after pressing “PROD” key three times TV SET will go to factory mode. Then pressing the “MUTE” key three times to go to MENU3, select RF • AGE with “PROG+/-” key. Pressing “VOL+/-” key to change its value . Adjust W101 to 4V or just get the clearest picture. At last press “PROD” key to exit the factory mode.

4、COMPLETE MACHINE GENERAL ADJUSTMENT:

4-1 、 Set TV to factory mode before aging line.

Method: Press “PROD” key to entering factory menu, Select the item by “PROG+” and “PROG-”keys, Adjust it by “VOL+” and “VOL-“ keys, Press “PROD” key to exit factory mode !

4-2 、 Focus Adjustment.

4-2-1、Receive monoscope pattern.

4-2-2、Set TV to work in dynamic status.

4-2-3、Adjust the focus knob of FBT to get the clearest picture.

4-3 、 Screen Voltage Adjustment :

4-3-1、Set TV at “TV” / “STANDARD” mode, no signal input;

4-3-2、Press key “PROD” two times to enter factory mode;

4-3-3、Press “MUTE” button on Remote Control ;

4-3-4、Adjust the screen knob of FBT to set the horizontal line just be seen, then press “MUTE” button to return other factory menu .

4-4、 Horizontal Center and EW Adjustment

4-4-1、 Receive 50HZ cross hatch pattern . Set TV standard status . Adjust H.PHASE to obtain picture's horizontal center at the center of CRT screen in factory MENU4 . Receive cross hatch pattern . Set TV standard status ,.Adjust E/W DC、 E/W TILE、 E/W AMP、 E/W TOP、 E/W BOTTOM to obtain picture's horizontal redisplay ratio more than 90% in factory MENU4.

E/W DC	50HZ Horizontal amplitude
E/W AMP	50HZ EW width
E/W TOP	50HZ EW upper corner parabola
E/W BOTTOM	50HZ EW lower corner parabola
E/W TILE	50HZ EW trapezium
H . PHASE	50HZ Horizontal center adjustment

4-4-2、 Receive 60HZ cross hatch pattern. Set TV standard status, Adjust NT. H. PHASE to obtain picture's horizontal center at the center of CRT screen in factory MENU1. Adjust NT .E/W DC 、 NT .E/W AMP、 NT .E/W TOP、 NT .E/W BOT to obtain picture's horizontal redisplay ratio more than 90% in factory MENU4.

NT .E/W DC	60HZ Horizontal amplitude
NT .E/W AMP	60HZ EW width
NT .E/W TOP	60HZ EW upper corner parabola
NT .E/W BOT	60HZ EW lower corner parabola
NT . H . PHASE	60HZ Horizontal center adjustment

4-5 、 Vertical size and Linearity Adjustment

4-5-1、 Receive 50HZ monoscope PATTERN. Set TV standard status. Adjust V.LINE、 V.SC and SHIFT to obtain vertical center at the center of CRT screen in factory MENU0.

4-5-2、 Receive 50HZ monoscope PATTERN. Set TV standard status. Adjust V.SIZE to obtain picture's vertical redisplay ratio more than 90% in factory MENU

Service Adjustments

V.LINE	50HZ Vertical linearity
V.SC	50HZ Vertical S-correction
SHIFT	50HZ Vertical center
V.SIZE	50HZ Vertical amplitude

4-5-3、Receive 60HZ monoscope PATTERN. Set TV standard status. Adjust

NT.V.LINE and NT.V.SC to change vertical size. Adjust NT.SHIFT to obtain vertical center at the center of CRT screen in factory MENU0 .

4-5-4、Receive 60HZ monoscope PATTERN. Set TV standard status. Adjust

NT.V.SIZE to obtain picture's vertical redisplay ratio more than 90% in factory MENU

NT.V.LINE 60HZ Vertical linearity

NT.V.SC 60HZ Vertical S-correction

NT.SHIFT 60HZ Vertical center

NT.V.SIZE 60HZ Vertical amplitude

4-5-5、If necessary, adjust Horizontal Center and EW again.

4-6、 OSD position adjustment:

Receive 50/60HZ cross hatch pattern. Set TV standard status. Adjust OSD H. POSI. and OSD V. POSI item to obtain menu OSD at the center of CRT screen in factory MENU1;

4-7、 White Balance Adjustment

4-7-1、Set TV AV status and receive Black-White signal , connect the line to XS703, then go to auto white balance adjustment;

4-7-2、Disconnect the line when the adjustment is OK;

4-7-3、White Balance Adjustment (repairing)

4-7-4、Set TV AV status and receive Grey-White signal

4-7-5、The one sampling tube of CRT color analyzer (CA-100) covers on grey signal and the another covers on white signal;

4-7-6、Go to factory mode,. Obtain Grey signal X=281 , Y=311 by adjusting R-BIA、GBIA、 B-BIA . Obtain White signal X=281 , Y=311 by adjusting R-DRV、G-DRV、 B-DRV. Obtain both X=281 and Y=311 by adjusting the two status repeatedly .

4-7-7 Be this machine to take When the function of YUV and white balances be partial to, need the white balance adjustment of carry on the

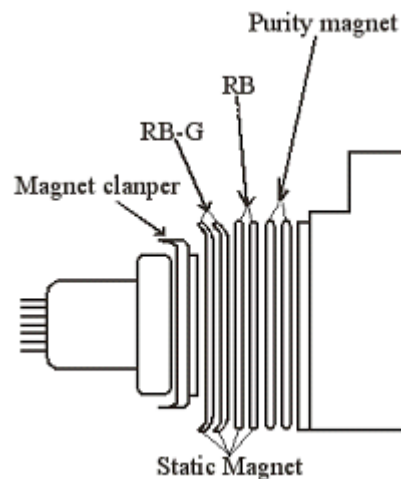
Service Adjustments

appearance of YUV.

Method: Enter the factory menu, adjust the YUV B- Y DC, the YUV R- Y DC to adjust to try again and again, make the white equilibrium the best.

4-8、 CONVERGENCE ADJUSTMENT:

- 4-8-1、 Receive a dotted pattern. Set the TV receiver dynamic;
- 4-8-2 、 Loose the convergence magnet clamper and make red with blue dots at the center of the screen by rotating (R, B) static convergence magnets;
- 4-8-3、 Align Red/Blue with green dots at the center of the screen by rotating (RB-G) static convergence magnet;
- 4-8-4、 Remove the DY wedges and slightly tilt the deflection yoke horizontally and vertically to obtain the good edge convergence. Fix them after the good overall convergence got.
- 4-8-5、 Fix the convergence magnets in turn of Left-Low, Right-Low Right-Up , Left-Up
- 4-8-6 、 If purity error is found , adjust color purity.



4-9、 SUB BRIGHT ADJUSTMENT:

Receive the gray scale . Get into the menu of factory mode. Then adjust the SUB..BRI option to get a scale to be seen a little brightness(Only one-two rows can be seen).

5、 E2PROM Adjustment(Department of engineering adjustment)

5-1、 E2PROM Initializtion:

Service Adjustments

5-1-1、 When in repairing, we can replace E2PROM by other empty or unempty E2PROM, but you must initialize E2PROM to avoid unknown things.

5-1-2、 When in manufacturing, first you read the data from a master E2PROM 24C08, then write to other E2PROM 24C08.

5-2、 Function adjustment (Department of engineering adjustment)

Press remote control button PROD to entering factory adjust mode. Press MUTE button to entering MENU3 , press MUTE button again after setting STEUP SELECT to 1 , set up its function according as the order form.

FACTORY MENU DESCRIPTION (5Y18SEA)

MENU0

Item	Name	Instruction
0	V. SIZE	Vertical amplitude (0~127)
1	V. LINE	Vertical linearity (0~31)
2	V. SHIFT	Vertical shift (0~15)
3	V. SC	Vertical SC-correction (0~31)
4	NT. V. SIZE	Vertical amplitude offset of NTSC to PAL (-31~+32)
5	NT. V. LINE	Vertical linearity offset of NTSC to PAL (-7~+8)
6	NT. V. DC	Vertical out DC level offset of NTSC to PAL (-7~+8)
7	NT. V. SHIFT	Vertical shift offset of NTSC to PAL (-7~+8)
8	NT. V. SC	Vertical SC-correction offset of NTSC to PAL (-7~+8)

MENU1

Item	Name	Instruction
0	H. PHASE	Horizontal center (0~31)
1	NT. H. PHASE	Horizontal center offset of NTSC to PAL (-7~+8)
3	H.BLK.LEFT	Horizontal Left Blanking adjust (0~7)
4	H.BLK.RIGHT	Horizontal Right Blanking adjust (0~7)
5	OSD H. POSI.	OSD horizontal position (0~63)
6	OSD V. POSI.	OSD vertical position (0~31)
7	SCR. H. POSI	SCR horizontal position (0~63)
8	OSD. CONT.	OSD contrast (0~7)

Service Adjustments

MENU2

Item	Name	Instruction
0	R-Y/B-Y G. BL	R-Y/B-Y Amplitude adjust (0~15), Default value 8
1	R-Y/B-Y ANG.	R-Y/B-Y Demodulation angle adjust(0~15), Default value8
2	B-Y DC LEVEL	White balance (0~15), Default value8;
3	R-Y DC LEVEL	White balance (0~15), Default value8;
4	PAL/M/N B-Y	PAL/M/N White balance (0~15), Default value8;
5	PAL/M/N R-Y	PAL/M/N White balance (0~15), Default value8;
6	YUV B-Y DC	YUV White balance (0~15), Default value8;
7	YUV R-Y DC	YUV White balance (0~15), Default value8;
8	G-Y AMP	G-Y Amplitude adjust (0~15)
9	G-Y ANGLE	G-Y Angle option0: 240, 1: 253

MENU3

Item	Name	Instruction
0	SETUP SELECT	MENU4~22 switch option (0: lost/1: ok)
1	RF. AGC	RF. AGC adjust (0~63)
2	VOLUME OUT	Volume out adjust (0~127); Make sure stereo is turn on
3	BTSC IC SEL.	BTSC IC selection (0: LA72700/1: TDA9850)
4	INPUT LEVEL	TDA9850 Amplitude of input signal (0~15) TDA9850 must be checked
5	SPECTRAL	TDA9850 Separate of high frequency (0~63) TDA9850 must be checked
6	WIDEBAND	TDA9850 Separate of low frequency (0~63) TDA9850 must be checked
7	ALC/LEVEL	ALC selection and SAP output amplitude(0: ALC OFF、LEVEL1/1: ALC ON、LEVEL1/ 2: ALC OFF、LEVEL2/3: ALC ON、LEVEL2) LA72700 must be checked
8	H.SIZE COMP	Horizontal size compensate (0~7);

MENU4

Item	Name	Instruction
0	E/W DC	E/W DC level (0~63);
1	E/W AMP	E/W amplitude (0~63);
2	E/W TILT	E/W Tilt (0~63);
3	E/W TOP	E/W top corner correction (0~15);
4	E/W BOTTOM	E/W bottom corner correction (0~15);
5	NT.E/W DC	NTSC E/W DC level (-7~+8);
6	NT.E/W AMP	NTSC E/W amplitude (-7~+8);
7	NT.E/W TOP	NTSC E/W top corner correction (-7~+8);
8	NT.E/W BOT	NTSC E/W bottom corner correction (-7~+8);
9	E/W COR.SW	Control range of corner correction 0: STRONG SIDE, 1: WEAK SIDE

Service Adjustments

MENU5

Item	Name	Instruction
0	ZOOM V. SIZE	Vertical size of magnified screen (0~127) Make sure ZOOM OPTION is 1
1	ZOOM DC	ZOOM E/W DC level (0~63);
2	ZOOM AMP	ZOOM E/W amplitude (0~63);
3	ZOOM TOP	ZOOM E/W top corner correction (0~15);
4	ZOOM BOTTOM	ZOOM E/W bottom corner correction (0~15);
5	WIDE V. SIZE	Vertical size of wide screen(0~127); Make sure ZOOM OPTION is 1
6	WIDE DC	WIDE E/W DC level (0~63);
7	WIDE AMP	WIDE E/W amplitude (0~63);
8	WIDE TOP	WIDE E/W top corner correction (0~15);
9	WIDE BOTTOM	WIDE E/W bottom corner correction (0~15);

MENU6

Item	Name	Instruction
0	STEREO OPT.	Volume control option (0: decode inside control/1: single PWM/2: double PWM/3: LV1116 control)
1	LV1116 GAIN	LV1116 Gain control (0~7)
2	SUR. MODE	Surround mode option (0~7) (6 is the same as 7)
3	WOOFER GAIN	Woofer gain control (0~7)
4	LV1116 PORT	LA1116 Input port option (0:2input/1:3input)
5	MUTE LEVEL	PMUTE Mute output level option (0: high level /1: low level)
6	VOLUME OPT.	Option of volume linearity control (0: fool control mode /1: four parts equality and linearity control mode)
7	VOLUME 25	Four parts equality and linearity control mode, Volume 25, LA7650 output (0~63)
8	VOLUME 50	Four parts equality and linearity control mode, Volume 50, LA7650 output (0~63)
9	VOLUME 75	Four parts equality and linearity control mode, Volume 75, LA7650 output (0~63)

MENU7

Item	Name	Instruction
0	S. TRAP TEST	Narrow-band sound trap wave frequency adjust (0~7); Default : 4.
1	S. TRAP. SW	Inside/outside trap wave selection (0: inside 1: outside), Default : 1
2	VOL. FILTER	Volume control and filter function (0: no 1: yes); commonly select 0.
3	A. MONI. SW	Pin 2 output Selection (0: TV audio-output 1: TV audio-output; AV audio-output)
4	4.5M OPTION	4.5M Sound system option(1: yes / 0: no)

Service Adjustments

5	5.5M OPTION	5.5M Sound system option (1: yes / 0: no)
6	6.0M OPTION	6.0M Sound system option(1: yes / 0: no)
7	6.5M OPTION	6.5M Sound system option(1: yes / 0: no)
8	THAI DUAL	Thai dual option(1: yes / 0: no)
9	TFA9843A OPT	TFA9843A option(1: yes/ 0: no)

MENU8

Item	Name	Instruction
0	AUTO OPTION	Color system AUTO option(1: yes / 0: no)
1	AUTO1/2 OPT.	Color auto identify option (0: auto identify PAL/NTSC3.58/NTSC4.43 / 1: auto identify PAL-M/PAL-N/NTSC3.58)
2	PAL OPTION	PAL Color system option(1: yes/ 0: no)
3	PAL-M OPTION	PAL-M Color system option(1: yes / 0: no)
4	PAL-N OPTION	PAL-N Color system option(1: yes/ 0: no)
5	N3.58 OPTION	NTSC3.58Color system option(1: yes / 0: no)
6	N4.43 OPTION	NTSC4.43Color system option(1: yes/ 0: no)

MENU9

Item	Name	Instruction
0	C. TRAP TEST	Color trap wave control (0~7)
1	C. BPF TEST	Color BPF control (0~3)
2	C. KILLER OPE	Color killer start setting (0~7)
3	PAL APC SW	PAL APC switch (0~1); default value 0.
4	APC OFFSET	APC OFFSET current (0~7)
5	C. VCO. ADJ.	NTSC/PAL-M/PAL-N Adjust VCO frequency (0~7)
6	C. BYPASS	Bypass color band-pass filter (0: no/1: yes) instruction: 1: throw; 0:hold.

MENU10

Item	Name	Instruction
0	SEARCH TYPE	South America tune mode (1: yes /0: no)
1	TUNER OPTION	Tuner mode option (0: voltage/1: frequency)
2	VL/VH FREQ.	Tuner VL/VH frequency selection : (VL highest frequency +VH lowest frequency)/2-100.25MHz
3	VH/UHF FREQ.	Tuner VL/UHF frequency selection: (VL highest frequency +UHF lowest frequency)/2-100.25MHz
4	BAND OPTION	Tuner UHF carry mode selection (0: 00000100B/1: 00001000B)
5	CATV BAND	South America tune mode CABLE(0: STD / 1: STD、IRC and HRC)
6	SEARCH SPEED	Search speed option (0: low mode/1: fast mode)
7	SEARCH CHECK	Auto search check when cold power on (1: yes/0: no)

Service Adjustments

MENU11

Item	Name	Instruction
0	AV OPTION	AV input option(0~3)
1	S-VIDEO OPT.	S-Video input function option (0: no 1: yes)
2	YUV OPTION	YCbCr input function option(1: yes /0: no)
3	DVD OPTION	DVD option (1: yes /0: no)
	DVD CHANNEL	DVD channel option (0~3) please notice the following (1) AV OPTION=1 and DVD OPTION=1 0: DVD(VIDEO)→S-VIDEO→YUV 1: no 2: VIDEO→DVD(S-VIDEO)→YUV 3: VIDEO→S-VIDEO→DVD(YUV) (2) AV OPTION=2 and DVD OPTION=1 0: DVD(VIDEO)→VIDEO→S-VIDEO→YUV 1: VIDEO→DVD(VIDEO)→S-VIDEO→YUV 2: VIDEO1→VIDEO2→DVD(S-VIDEO)→YUV 3: VIDEO1→VIDEO2→S-VIDEO→DVD(YUV) (3) AV OPTION=3 and DVD OPTION=1 0: DVD(VIDEO)→VIDEO1→VIDEO2→S-VIDEO→YUV 1: VIDEO1→VIDEO2→DVD(VIDEO)→S-VIDEO→YUV 2: VIDEO1→VIDEO2→VIDEO3→DVD(S-VIDEO)→YUV 3: VIDEO1→VIDEO2→VIDEO3→S-VIDEO→DVD(YUV)

MENU12

Item	Name	Instruction
0	POWER OPTION	Power original state option(0: off / 1.: remember / 2, 3: on)
1	POWER LOGO	Power logo option (1/0);make sure its value is “1” after factory setting
2	SCREEN OPT.	Screen option of power on/off (0: no / 1: on / 2: off / 3: both)
3	SCREEN TYPE	Screen type option (0: normal/1: fade in fade out)
4	SCREEN TIME	Screen waiting time selection (0~7seconds)
5	V.MUTE P.OFF	Disconnect audio output to CRT before POWER OFF(1: yes/0: no)
6	DISCHARGE	DC power off discharge control (0: no/1: yes)
7	UHF/DEGAUSS	LA76933 pin 39 th function option (0: UHF control/1: DEGAUSS control)

Service Adjustments

MENU13

Item	Name	Instruction
0	LINE MODE	B/W BALANCE, Picture mode of line and full screen changing(1: yes/0: no)
1	GRAY MODE	Inside test signal output level setting (0: white 70%/ 1: ash 15%) , Default0
2	EVERY DAY	Time menu availability option(1: every time /0: one time)
3	HOTEL MODE	Hotel mode (1: yes/0: no)
4	HOTEL VOLUME	Hotel mode largest volume control (0~100)
5	ON POSITION	Hotel mode program option (0~255)
6	ON TV/AV	Hotel mode TV/AV option (0: TV/1: AV)
7	ZOOM OPTION	Zoom option(1: yes /0: no)
8	CHILD LOCK	Child lock function option (1: yes /0: no)

MENU14

Item	Name	Instruction
0	GAME-MONEY	Game-money function option(1: yes/ no)
1	GAME-CRAB	Game-crab function option(1: yes/ 0: no)
2	GAME-TETRIS	Game-tetris function option(1: yes/ 0: no)
3	GAME-888	Game-888 function option (1: yes/ 0: no)
4	LOTTERY	Game-lottery function option(1: yes/ 0: no)
5	CALENDAR	Calendar function option (1: yes/ 0: no)
6	BIO-CLOCK	Bio-clock function option(1: yes/ no)
7	PHONE BOOK	Phone book function option(1: yes/ 0: no)

MENU15

Item	Name	Instruction
0	ENGLISH OSD	English OSD (1: yes /no)
1	CHINESE OSD	Chinese OSD (1: yes /0: no)
2	INDONESIA	Indonesia OSD(1: yes /0: no)
3	SPANISH OSD	Spanish OSD(1: yes /0: no)
4	PORTUGAL OSD	Portugal OSD (1: yes /0: no)
5	ITALIAN OSD	Italian OSD(1: yes /0: no)
6	VIETNAMESE OSD	Vietnamese OSD (1: yes /0: no)
7	FRANCE OSD	France OSD(1: yes /0: no)
8	THAI OSD	Thai OSD (1: yes /0: no)

Service Adjustments

MENU16

Item	Name	Instruction
0	BLK PROCESS	Black option in process of channel changing(1: yes /0: no)
1	BACK COLOR	Back color option in mute condition(0: blue / 1: black)
2	POSITION L/R	OSD position L/R (0: left / 1: right)
3	SCREEN SAVER	Screen saver option (0: LOGO only; 1: the 1th row character; 2: the 2th row character; 3: both rows)
4	SAVER TOP	Screen saver top (0~255)
5	SAVER BOTTOM	Screen saver bottom (0~255)
6	SAVER LEFT	Screen saver left (0~255)
7	SAVER RIGHT	Screen saver right (0~255)

MENU17

Item	Name	Instruction
0	HALF TONE	Half tone adjust (0~3)
1	MENU BACK	Menu background (1: yes /0: no)
2	M. BACK COLOR	Menu back color (BLK: back/BLU: blue/GRN: green/CYN: cyan/RED: red/MAG: purple/YEL: yellow/ WHI: white)
3	MENU H. TONE	Menu half tone option (0: no/1: half)
3	MENU ICON	Menu icon option (0: yes/1: no)
5	ICON BACK	Menu icon back (1: yes /0: no)
6	ICON H. TONE	Menu icon half tone option (0: no /1: half)
7	PROMPT TYPE	Menu prompt type option(0: single / 1: double)

MENU18

Item	Name	Instruction
0	V. COMP	Vertical compensate adjust (0~3)
1	V. SEPUP	Vertical synchronization separate sensitive enhance setting (0: normal mode/ 1: father mode), Default : 1
2	SYNC. SEP. SEN	Vertical synchronization separate sensitive gate level setting (0~7) , Default : 3
3	V RESET TIMING	Vertical reset timing (0: normal 1:0.25H phase shift), Default : 0
4	C. D. MODE	Vertical count mode(0~7), Default 0
5	V. TRANS	Vertical athwart data transfer, 0: normal, 1: data transfer mode;
6	V BLK SW	Vertical blanking switch (0: normal mode 1: wide mode), Default : 0
7	FBPBLK. SW	Horizontal blanking switch (0: come from inside logic 1: come from inside logic/ FBP), Default : 1

Service Adjustments

MENU19

Item	Name	Instruction
0	SUB. CONT.	Sub-contrast (0~31)
1	SUB. COLOR	Sub-color adjust (0~15)
2	SUB. SHARP	Sub-shape adjust (0~31)
3	SUB. TINT	Sub-tint adjust (0~63)
4	BRT. ABL. DEF	Auto-bright control (0: on / 1: off)
5	MID. STP. DEF	Auto-bright center control (0: on / 1: off)
6	BRT. ABL. TH	Auto-bright gate control (0~7)
7	OVER. MOD. SW	Over modulate function switch (0: off 1: on)
8	OV. MOD. LEVEL	Over modulate level (0~15)

MENU20

Item	Name	Instruction
0	CORING W/DEF	Coring noise control (0: off 1: least Plus 3: most plus)
1	PRE SHOOT	Bright signal pre-edge shoot adjust (0~3)
2	OVER SHOOT	Bright signal back edge shoot adjust (0~3)
3	Y GAMMA STA.	Y GAMMA correction start setting (0: None 1: High 3: Low)
4	DC. REST	DC reset option (0: 100% 1: 107% 2: 113% 3: 129%)
5	WPL OPE.	WPL Operation point option (0~3) 0: Default , 1: High, 3:Low
6	SH ADJUST	Shape attribute adjust (0, normal; 1, self-adapt)
7	BLK. STR. OPT.	Black level stretch screen display option (1: yes /0: no)
8	BLK. STR. STA.	Black level stretch start setting (0: high 2: low 3: none)
9	BLK. STR. GAIN	Black level stretch plus adjust (0~3)

MENU21

Item	Name	Instruction
0	AFC GAIN	AFC gain (0: AUTO / 1: HIGH) , Default : 0
1	VIF. SYS. SW	Picture mid-frequency setting (0:38.0M 1:38.9M 2:39.5M 3:45.75M)
2	VIDEO. LEVEL	Video demodulation output level (0~7); Default : 4.
3	V. LEV. OFFSET	Video demodulation output offset level (0~3)
4	RGB TEMP SW.	RGB output temperature compensate switch (0: off 1: on)
5	VCO FREQ.	Picture mid-frequency VCO frequency adjust (0~255)
6	VCO ADJUST	VCO Correction (0~15)
7	SVO OR FSC	Pin 52 output signal (0: Video output 1: Color Sub-carrier wave output) Default : 0
8	BLANK DEF	RGB Output H/V BLK {0: on (normal mode) 1: off }

Service Adjustments

MENU22

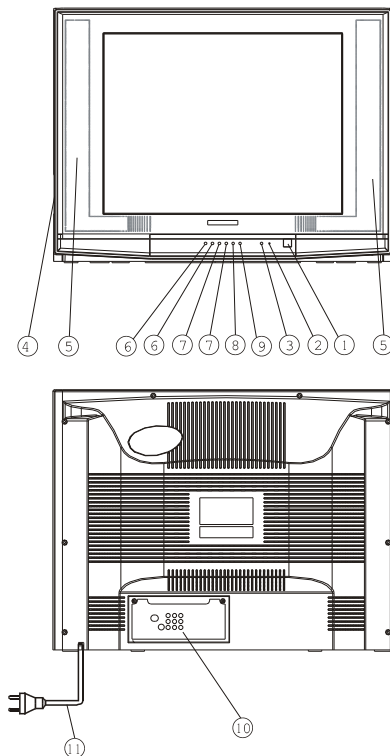
Item	Name	Instruction
0	Y TH	Signal's delicacy of Blue level extend (0~3) Default : 0
1	Y GAIN	Blue level stretch gain adjust (0~3) Default : 0
2	R WIDTH	Blue level stretch gain adjust (0~3) Default : 0
3	R OFFSET	Blue level stretch gain adjust (0~3) Default : 0
4	B WIDTH	Blue level stretch gain adjust (0~3) Default : 0
5	B OFFSET	Blue level stretch gain adjust (0~3) Default : 0
6	VM/AUDIO SW	VM Output/AUDIO outside output switch , 0: AUDIO outside output, 1: VM output
7	VM DELAY ADJ	VM Delay time (0~3)
8	VM GAIN	VM Gain option (0~7), 0: Default

Form2:Factory setting

Item	SHIP1	SHIP2
Channel	1	1
Volume	0	0
Picture mode	PERSONAL	PERSONAL
Sound mode	MUSIC	MUSIC
Tint	0	0
Balance	0	0
Color system	AUTO	AUTO
Sound system	I	BG
Language	ENGLISH	ENGLISH

CONTROL PANEL BUTTONS

1. Power Button
2. Power Indicator
3. Remote Sensor
4. Side AV In(Optional)
5. Speakers
6. Program Down /Up Button
7. Volume Down/Up Button
8. Menu Button
9. TV/ AV Button
10. AV In2 (Option)
AV Out (Option)
YUV (Y, Cb, Cr) In (Option)
S-Video In (Option)
Antenna Input Socket (75 ohm)
11. AC Power Cord



Power Connection

Only use the adaptor supplied with this product, connect the AC plug to the socket at the back of the TV. This TV must be operated only from the type of power source indicated on the marking label (AC 230-240 50Hz).

Rear View of the TV Set

VIDEO AND AUDIO INPUT/ OUTPUT TERMINALS

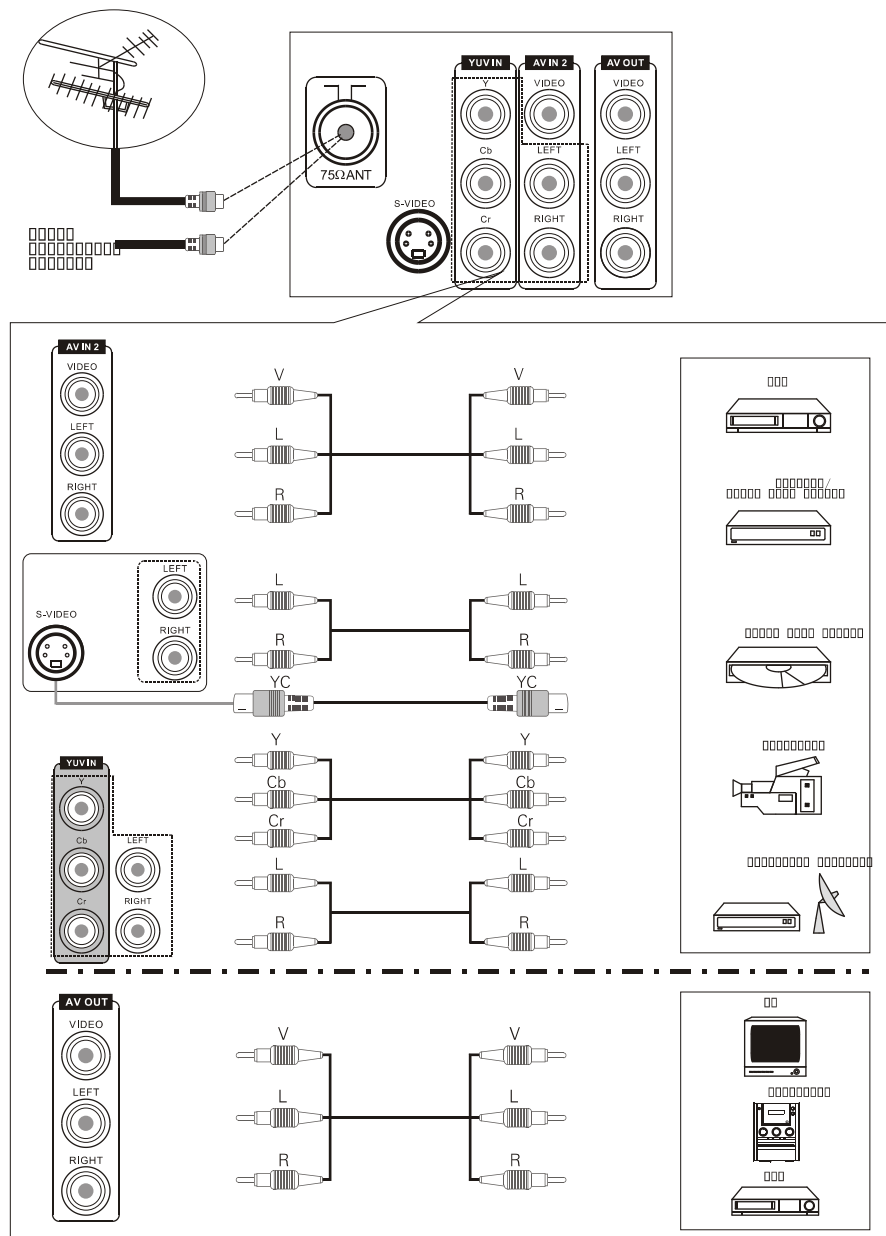
1. Video / Audio input for playback for VCR.
2. Video / Audio output for TV program.

Connections to the Antenna Input Socket

Connect the aerial or cable TV plug to the Antenna Input Socket located at the back of the TV and connect the cable plug coming out from the TV out socket located at the devices (VCR, DVB, etc.) to this socket as well.

Input and Output Terminals

Connecting to the Audio/Video Input/Outputs



Input and Output Terminals

PERIPHERAL EQUIPMENT CONNECTIONS

There is a wide range of audio and video equipment that can be connected to your TV. Connection diagrams at the end of this section show you where the different equipment should be connected at the backside of the TV.

Aerial socket (Option)

1. Connect the RF out socket of the VCR to the aerial socket on the back of the set.
2. Connect the aerial cable to the RF aerial in socket of the VCR.
3. Select the program number where the VCR channel is stored.
4. Press the PLAY button on the VCR.

Euro scart socket (Option)

1. Connect the Euro scart socket of the VCR to the Euro scart socket of the set.
2. Press the PLAY button on the VCR.

If your VCR outputs a switching voltage when connected to a Euro scart socket, the set will switch to AV mode automatically. But if you want to keep on watching TV mode, press the PROG. +/- or NUMBER buttons. Otherwise press the TV/AV button on the remote control handset to select AV. The VCR playback picture appears on the screen. You can also record program received by the TV on videotape.

Audio/ Video in sockets

1. Connect the audio/video out sockets of the VCR to audio/video in sockets of the set.
 2. Press the TV/AV button to select AV.
 3. Press the PLAY button on the VCR.
- The VCR playback picture appears on the screen.

Precautions when connecting to other equipments

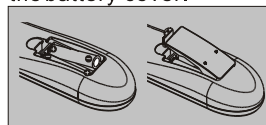
- ! When using external equipment with this TV, please read the instruction manual of the external equipment
- ! Switch off all power supplies to the equipment and TV before connection
- ! Always ensure that the input and output

USING THE REMOTE CONTROL

Batteries

Please follow the below instructions to install the supplied batteries into the remote control to make it operate.

1. Remove the battery cover.
2. Insert two 1.5V (AAA size) batteries making sure The polarity (+ or -) of the batteries matches the polarity marks inside the unit.
3. Replace the battery cover.



Precautions when using batteries

- Do not use old and new batteries together.
- Do not use different types of batteries (for example, Manganese and Alkaline batteries) together.
- Note that there are chargeable and non-chargeable batteries. Do not attempt to charge non-chargeable batteries.
- If the remote control unit is not used for a long period of time, remove the batteries

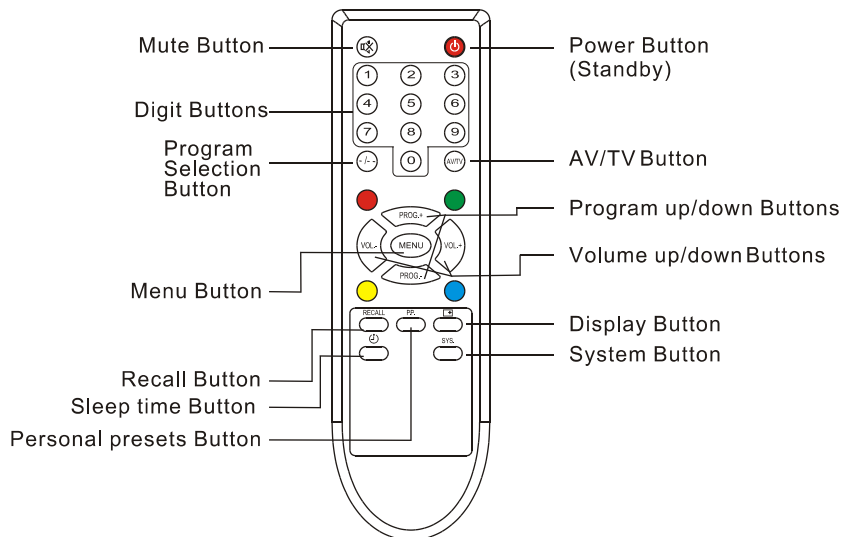
Precautions when using the remote control unit

- Do not drop the remote control unit.
- Do not subject the remote control unit to Physical shocks.
- Keep the remote control unit dry. Wetting it may cause the unit to malfunction.
- Replace the batteries with new ones when operation

NOTE: If there is an object between the remote control and the signal remote control sensor window on the TV, the remote may not operate. Please make sure the remote control is aiming at the remote control

Operation Instructions

REMOTE CONTROL BUTTONS



1. POWER (STANDBY) BUTTON (⏻)
Press this button to turn the TV on/off.

2. MUTE BUTTON (🔇)
Press this button to temporarily cut off the sound output, press it again or VOL+ to restore the sound level.

3. SYSTEM BUTTON (SYS.)
In TV mode press this button to display the system menu.
In AV mode press this button to select Auto. PAL. NTSC3.58. NTSC4.43 Picture mode.

4. PROGRAM SELECTION BUTTONS (0-9)
Press the number for your desired program and the program indicator will be displayed on the screen. Press number key 0-99 for program selection.
To select a single-digit program, press the corresponding program button on the remote control.

5. PROGRAM UP/DOWN BUTTONS (PROG. +/-)
Press the Program Up Button to select the program forwards.
Press the Program Down Button to select the program backwards.

6. DIGIT BUTTON (-/-)
If you want to select 0-9 program channel, please press "+/-" key until display "-" on the screen right-top corner, then press digital number key 0-9.
If you want to select 10-99 program channel, please press "+/-" key until display "-" on the screen right-top corner, then press digital number key 0-9.

7. VOLUME UP/DOWN BUTTONS (VOL. +/-)
Press Volume +/- Buttons to adjust sound level.

8. PERSONAL PRESETS BUTTON (P.P.)
You can select STANDARD, PERSONAL, VIVID, SOFT or LIGHT mode by pressing this button.

9. DISPLAY BUTTON (☐)
Press this button sequentially to display the current program number, color system and sound system on the screen.

10. SLEEP TIMER BUTTON (⌚)
Press the "Sleep Timer" button on your remote control to start setting the automatic sleep timer. Press the button to adjust the time in decrease of 15 minutes, from 2 hours to 0. When the preset time runs to 0, TV set will go into standby mode. To switch off this function, press this key step by step until " --" is displayed on the screen.

11. AV/TV BUTTON (AV/TV)
Press this button to display external video signal such as VCR or CD video player.

12. MENU BUTTON (MENU)
Press "MENU" button to display the OSD (On-Screen Display) menu for adjusting the image, sound and functions. Pressing this button again to out from the OSD.
Please refer to page 7-8 for the details.

13. RECALL BUTTON (RECALL)

OPERATION INSTRUCTIONS

To switch the TV on

After the power cord is plugged into a wall outlet, press the main power button to switch the TV set on.
the power indicator will light up in red.

To switch on the TV from standby mode by:

- Press the () Power (Standby) button on the remote control handset.

To switch the TV off

- Press the Power button on the TV to switch off the TV. OR;
 - Press the () Power (Standby) button on the remote control handset, the TV will switch to standby mode.
- When the TV is off, the power indicator will not light up.

NOTE: To switch the TV off completely, remove the mains plug from the socket.

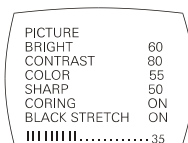
Operation Instructions

MENU SYSTEM

This TV allows you to adjust the settings from the menu screens.

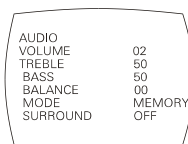
* In the AV mode, menus appear the same as in TV mode except the Preset menu.

Picture menu



You can select BRIGHT, CONTRAST, COLOR, SHARP, CORING and BLACK STRETCH item by PROG.+/- Buttons , and adjust the item which you select by VOL.+/- Buttons.

Audio menu



1.VOLUME

Press VOL +/- buttons to change the Volume from "00" to "100".

2. TREBLE

Press VOL +/- buttons to adjust desired Treble volume of sound from "00" to "100".

3. BASS

Press VOL +/- buttons to adjust desired Bass volume of sound from "0" to "100".

4.BALANCE

Press VOL +/- buttons to change the Balance from "-50" to "+50".

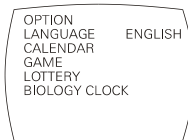
5. Audio Mode

Press VOL +/- buttons to select the Audio Mode to Memory, News, Music or Movie.

6. SURROUND

You can select to turn ON or OFF the Surround.

Option menu



1. Language

You can change menu language in this item. Press VOL. +/- Buttons to select your desired language. All the on screen displays will appear in the selected language.

2.Calendar (Option)

- Press VOL +/- button to enter into Calendar menu.
- Press PROG +/- buttons to adjust Year, and press VOL +/- button to adjust Month.
- Press "MENU" button to return.

3. Game (Option)

Game is an optional function. Only a set with game can perform this function by using the remote control handset.

- Press VOL +/- buttons to enter the game OSD (On Screen Display) menu.
- Press PROG +/- buttons to select the game to play, then press VOL +/- to enter the selected game.

Notes:

- To pause the game, press "RECALL" button.
- To exit the game, press "DISPLAY" button.

Operation Instructions

Game 1: Catching Coin

Game Rules: Six kinds of bag will drop down, include moneybag, coin, snowflake, umbrella, heart and bomb. If you catch the moneybag and coin, ten points and five points will be received respectively. After entering the game, press "VOL+" and "VOL-" to shift the figure from left to right and vice versa.

When you start the game, the color of the figure is green.

- If you catch the snowflake, the figure will turn into white, and the movement of the figure will slow down. However, the figure can be escaped from this state by receiving the umbrella.
- If you catch a bomb, the figure will turn to red and the game will over.
- If you catch a heart, the figure will change to purple, which last for five seconds, and at this time, even you catch a bomb, the game will go on.

The game goes up a level in every three minutes. If the level is higher, the drop speed of bags would become more quicker.

Game 2: Russia Diamonds

Game Rules: Your goal is to clear the screen by fitting in the different sizes of blocks to a row horizontal aligned. One point will be received when one row is cleared. If two rows to be cleared at one time, you can get three points, while three rows cleared, seven points will be received.

- Press the "PROG.+" button to revert the blocks. The "PROG.-" can accelerate the drop speed of the blocks.
- Press the "VOL.+" button to shift the block right, while "VOL.-" to shift the block left.
- If the game is over, press "PROG.+" button to restart.

Game 3: Small Crab

Game Rules: There are eight levels in this game. To pass the game, you need to move every crab to the position of its home at the same time.

- Press "VOL.+" button to shift right and "VOL.-" button to shift left.
- Press "PROG.+" button to shift up and "PROG.-" button to shift down.
- The crab cannot move if bump against a wall, while the others will continue to move.
- The crab will die if one touching the red wall, and you cannot pass.

Game 4: Happy Numbers

Game Rules: Press "RECALL" button to start the game. If one number is "eight", you will receive one coin. If you have drawn two same numbers, you will receive two coins.

4. LOTTERY (Option)

- Press the VOL +/- button to enter into the lottery.
- Press "PROG.+" Or "PROG.-" button to choose options. The option chosen will have an arrowhead to instruct and will be highlighted in red.
- Press "VOL.+" or "VOL.-" button to change the option of "Range" and "Number" values.
- The number of "Range" is ranging from 9 to 50, and given 4 to 8 "Lottery Numbers".
- Choosing the option of "Preset", press "PP" button to choose the preset numbers and use the "VOL.+" or "VOL.-" button to change the preset numbers.
- Press "VOL.+" or "VOL.-" button to choose the number automatically and press again to stop.
- Press "Menu" button to exit the Lottery.

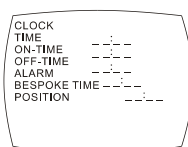
5. BIOLOGY CLOCK (Option)

- Press the VOL +/- buttons to enter into the biology clock.
- Press "PROG. +/-" buttons to change the Year, Month and Day items and VOL +/- buttons to change the numbers of the items.
- WIT, VEIN and THEW will be adjusted according to the entered date of birth.
- Press "Menu" button to exit.

Operation Instructions

MENU SYSTEM

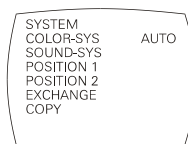
Clock menu



1. Time
To adjust the current time by this item. Press the "VOL-" button to set hour, and the "VOL+" button to set minute.
2. ON-TIME
To set the time when the TV set to turn on automatically.
3. OFF-TIME
To set the time when the TV set to turn off automatically.
4. ALARM
To turn on the Alarm function by pressing PROG +/- buttons to set the hour and minutes.
5. BESPOKE TIME
To preset the time that the TV will switch to the selected channel (Position) automatically.
6. POSITION
To set the program that will switch automatically at the BESPOKE TIME.

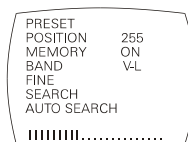
NOTE: All the timer functions will only be effective if the power of the TV set is switched off using the remote control unit. If the power is switched off by the power

System menu



1. COLOR-SYS
Press VOL +/- buttons to change the Color System to AUTO, PAL, NTSC 3.58, NTSC 4.43.
2. SOUND-SYS
Press the VOL +/- buttons, you can change the Sound System to 6.0M (PAL I), 6.5M (PAL D/K), and 5.5M (PAL B/G).
3. POSITION 1
Press the VOL +/- Buttons to select the channel of Position 1.
4. POSITION 2
Press the VOL +/- Buttons to select the channel of Position 2.
5. EXCHANGE
Press the VOL +/- Buttons to exchange position 1 and position 2.
6. COPY
Press the VOL +/- Buttons to copy position 1 to position 2.

Preset menu



1. POSITION
Up to 256 TV channels can be stored by program numbers (0 to 255). By pressing VOL +/- Buttons (or number keys) in this item to select channel number. You can store the channel number, which are watching, and change the channel number. Once you have preset the channels, you will be able to use the PROG. +/- or NUMBER buttons to scan the channels you have programmed.
2. MEMORY
You can set "OFF" by pressing VOL +/- Buttons if you want to cancel the channel number of which you are watching.
3. BAND
You can select V-L, V-H or UHF bands by pressing VOL +/- Buttons.
4. FINE
You can use this FINE tuning process for fine adjustment by pressing VOL +/- Buttons. Normally fine tuning is only necessary if reception is poor.
5. SEARCH
Press VOL +/- Buttons to start searching. The VOL- button for backward search; the VOL+ button for forward search. When a TV station signal is received, the searching will stop automatically.
6. AUTOSEARCH
Press VOL +/- Buttons, the TV set will automatically search from V-L band to U

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. You can also move channel by pressing Program UP/DOWN buttons.

Operation Instructions

TROUBLESHOOTING

The following problems do not always indicate a hardware failure. Therefore, please use the troubleshooting guide below before calling for repair service. If, after following the guide none of the remedies work, unplug the TV and call for service.

<u>Problem</u>	<u>Checks and Adjustments</u>
TV will not turn on	■ Make sure the power cord is plugged in, then press POWER button. ■ Check battery in the remote control. (Maybe batteries are dead.)
No picture, no sound	■ Ensure the TV power is ON (Indicated by the green power indicator on the front of the unit). ■ Check antenna/ cable connections. ■ Try different channel.
No sound, picture OK	■ Maybe sound is muted. Try pressing VOL+ button is not set to minimum. ■ Try another channel. ■ Check the AV cables for disconnection.
Spots on the screen (Snow)	■ Maybe the TV is being affected by interference from automobiles, trains, high-voltage transmission lines, neon signs or another sources of interference. ■ Try redirecting or relocating your antenna to reduce the affects of the interference. ■ Change channels to confirm if the symptom is still present.
Poor reception of broadcast channels	■ Try another channel. ■ Check antenna connections. ■ If using VCR, check TV/VCR button. ■ Adjust fine tuning control. ■ Probably local interference, such as an appliance.
VCR	■ When the VCR test signal (TSG) is received, the lower side of the test pattern is distorted as shown in the figure. This is not a malfunction and the playback picture is not influenced by it.
Cannot select a certain channel	■ That channel may be locked out with SKIP CHANNEL function.

Operation Instructions

Remote Control does not operate

- Check for any obstacle between the remote control and the remote control sensor window.
- Maybe batteries are dead. Try replacing batteries with new ones.
- Check for incorrect battery orientation.

The picture is doubled or tripled (GHOST)

- Please change the direction, height or position of the antenna. Reflections from building or mountains might cause this phenomenon. A highly directional antenna may improve the reception.

Degraded colours or tints

- Check whether all the picture adjustments have been properly performed.
- Enter into the (Picture mode) inside the menu to select a different picture set-up.

Operation Instructions

SPECIFICATIONS

Receiving System:	BG
Colour System:	PAL / / NTSC playback
Picture Tube:	68cm (29") diagonal
Ext. Antenna:	75 Ohm Coaxial Cable
Ext. In/Out:	Audio/Video-In/Out, Side AV In, S-Video
Speaker:	2 speakers
Audio Output:	5W + 5W
Power Consumption:	AC 230-240V 50Hz, 140-150W
Dimension:	785(W) x 495(D) x 591(H) mm
Net Weight:	36.5 kg

REMOTE CONTROL

Transmitting System:	Infrared
Power Supply:	DC 3V (1.5 x 2)
Dimension:	28(W) x 155(L) x 45(D) mm
Net Weight:	83 g

Design and specifications are subject to change without prior notice.

ACCESSORY LIST

- User's Manual x 1
- Remote Control Unit x 1
- Battery (1.5V AAA) x 2
- Warranty Card x 1

Mechanical Disassemblies

CABINET BACK REMOVAL

1. Refer to Figure 1, remove 7 screws.
2. Pull off cabinet back and remove.

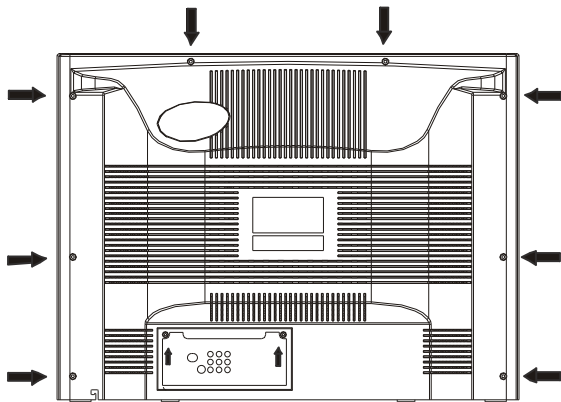


Figure 1. Cabinet Back Removal

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 face down on the soft surface.
3. Remove the screws on each corner of the picture tube and GENTLY lift the picture tube out of the cabinet.
4. Install and place 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..

