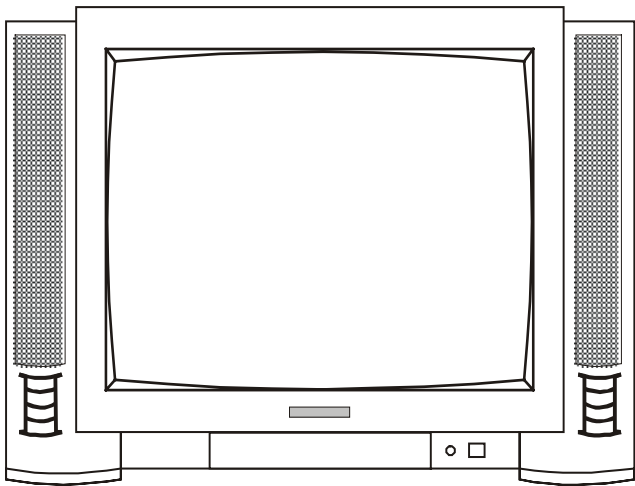


# SERVICE MANUAL



SANYO IIC CHASSIS

PAL/SECAM/NTSC(AV)  
COLOR TV RECEIVER

For user's safety (to meet the safety requirements of some countries), the receiver should be kept in its initial status. Only same spare parts can be replaced with.

Contents	Page
● Specifications.....	
● Remarks.....	
● Description of new circuit .....	
● Maintenance adjustment.....	
● Trouble shooting.....	
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● Block diagram.....	
● Replaceable parts list .....	

## WARNING

Some parts of the receiver are charged. Separate transformer must be used between the mains plug and the socket when repairing the chassis.

To prevent electric shock, do not remove the outer cover. No user serviceable parts inside. Please refer servicing to qualified service personnel.

## SPECIFICATIONS

Aerial impedance .....	75Ωunbalanced
Convergence.....	Auto focus system
Focus.....	Double high level static focus
Rated audio output frequency .....	Max 3W×2
Picture carrier frequency .....	38MHZ
Sound carrier frequency .....	31.5MHZ
Power supply .....	AC 135~240V 60HZ/50HZ
Power consumption.....	75W
Loudspeaker .....	Round loudspeaker
scanning deflection .....	Magnetic deflection
Tuning range.....	

## REMARKS

Please refer maintenance and servicing to qualified service personnel.

### High voltage system and picture tube

When repairing high voltage system, an insulation line (such as a probe) must be connected to a 10Ωresistant in series between the metallic part(ground ) and the second stage of the picture tube to eliminate the static electricity of the high voltage system.□The AC mains plug must be separated from the AC power supply.□

- 1□The picture tube of the receiver adapts integrated inner anti-explosion.
- 2□For safety continuity, only tube of the same model can be used for replacement.
- 3□Do not lift the tube by its neck.
- 4□The picture tube can't be dealt with until the anti-shock screen is worn and the high voltage system is discharged thoroughly.

### X-ray

This receiver is designed to keep the X radiation to absolute minimum. Yet malfunction or servicing might cause the danger of exposing sealed areas to excessive radiation. Therefore the precautions below must be followed:

- 1□During servicing, never let the high voltage of the receiver exceed 28KV□I=0uA□□
- 2□The high voltage must be kept at 25.5KV±1.5KV□I=1000 uA□so that the receiver can operate normally. The receiver has been set to the said high voltage before leaving the factory.  
□ After servicing, high voltage fluctuation may occur. Be sure to examine whether the high voltage fluctuates or not after servicing.
- 3□Do not replace with unauthorized picture tube in case of excessive X radiation.

### Before return

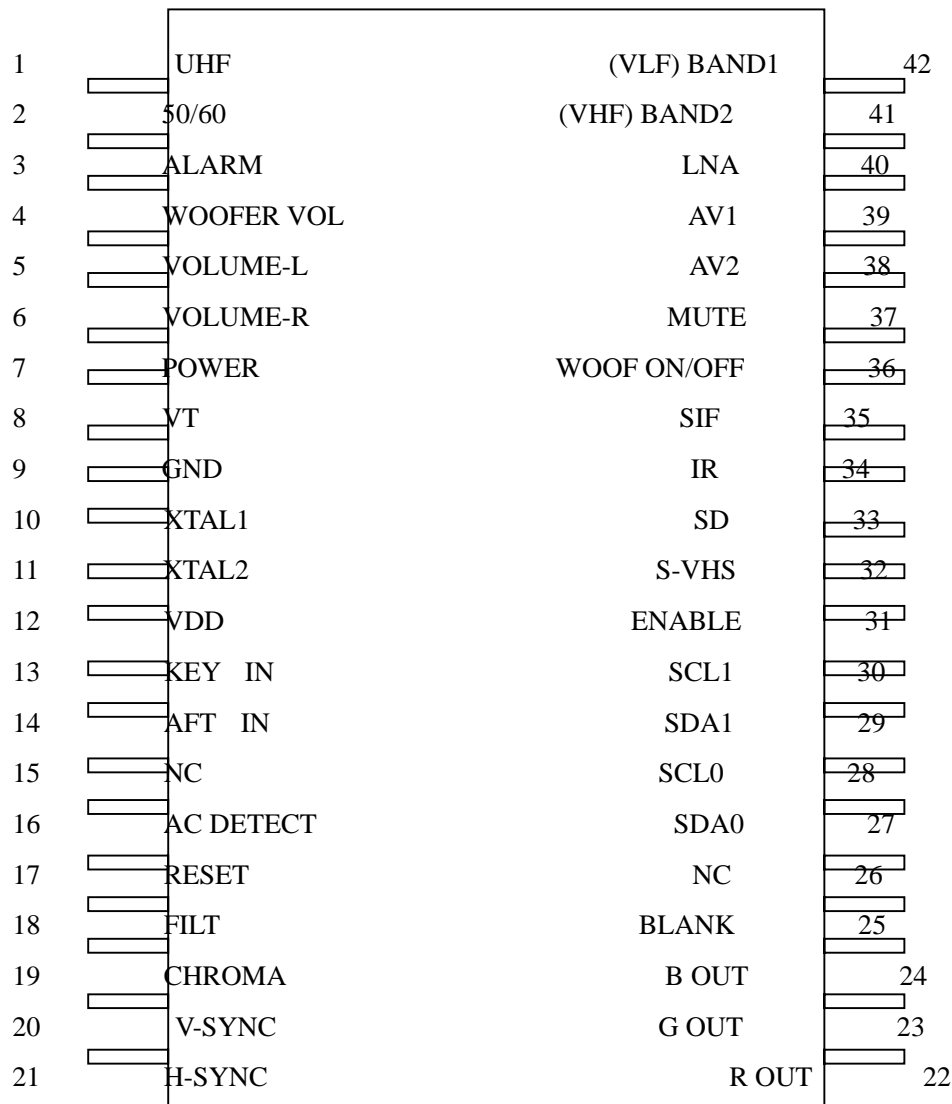
Before returning the receiver to its user, please go through the following safety examinations:

- 1□Check all the insulation of the wires between the chassis and the other metallic parts of the receiver. Make sure that no insulation damage or short contact occurs.
- 2□Check all the protection devices, such as non-metallic control buttons, tuners on the rear cover ; etc.

## Description of new circuit

1. Definitions of Ports

1.1 LC863328A-5W63 pins diagram



1.2 CPU ports description

pin	Port	usage	Function description
-----	------	-------	----------------------

1	P10/SO0	UHF	Select UHF (BAND OPTION select "2" or "3")
2	P11/SI0	50/60	Horizontal frequency 50/60 output
3	P12/SCK0	ALARM	Alarm signal output
4	P13/PWM1	WOOFER VOL	Woofer volume PWM output
5	P14/PWM2	VOLUME-L	Volume-L PWM output port
6	P15/PWM3	VOLUME-R	Volume-R PWM output port
7	P16	POWER	POWER ON/OFF signal output control port
8	P17/PWM	VT	Tuning-use 14bit PWM output port
9	VSS	GND	Ground
10	XT1	XTAL1	CPU use crystal oscillation port
11	XT2	XTAL2	CPU use crystal oscillation port
12	VDD	VDD	Power supply (+5V)
13	P84/AN4	KEY IN	Key in port
14	P85/AN5	AFT IN	AFT signal input port
15	P86/AN6	NC	Not connected
16	P87/AN7	NC	Not connected
17	RESET	RESET	CPU reset port
18	FILT	FILT	OSD filtering
19	P83/AN3	CHROMA	SECAM chroma detection
20	VS	V-SYNC	Vertical pulse input
21	HS	H-SYNC	Horizontal pulse input
22	R	R OUT	OSD red signal output
23	G	G OUT	OSD green signal output
24	B	B OUT	OSD blue signal output
25	BL	BLANK	OSD blanking signal output
26	I	NC	Not used
27	P60/SDA0	SDA0	IIC data(EEPROM use)
28	P61/SCLK0	SCL0	IIC clock(EEPROM use)
29	P62/SDA1	SDA1	IIC data( other IC use)
30	P63/SCLK1	SCL1	IIC clock (other IC use)
31	P70/INT0	ENABLE	Automatic adjustment enabling port
32	P71/INT1	S-VHS	S-VIDEO detection
33	P72/INT2	SD	SD input port
34	P73/INT3	IR	Remote control signal input
35	P00	SIF	4.5M sound absorption selection
36	P01	WOOF ON/OFF	Woofer on/off
37	P02	MUTE	MUTE control
38	P03	AV2	AV option control port 2
39	P04	AV1	AV option control port 1
40	P05	LNA	Sensitivity control port
41	P06	BAND2(VHF)	Band option
42	P07	BAND1(VLF)	Band option

### 1-3.Description of port-controlled output modes

note□in the tables below, "0" refers to low level□"1" refers to high

level.

### 1-3-1. Power switch control

Port	POWER ON	POWER OFF
Pin7(POWER)	0	1

### 1-3-2. Band control

	BAND OPTION=0			BAND OPTION=1			BAND OPTION=2			BAND OPTION=3		
Port	V-L	V-H	UHF	V-L	V-H	UHF	V-L	V-H	UHF	V-L	V-H	UHF
Pin42(BAND1)	0	1	1	0	1	1	1	0	0	0	1	1
Pin41(BAND2)	0	0	1	1	0	1	0	1	0	1	0	1
Pin1(UHF)	x	x	x	x	x	x	0	0	1	1	1	0

BAND OPTION	LA7910			TUNER			PORT/H			POTR/L		
Port	V-L	V-H	UHF	V-L	V-H	UHF	V-L	V-H	UHF	V-L	V-H	UHF
Pin42(BAND1)	0	1	1	0	1	1	1	0	0	0	1	1
Pin41(BAND2)	0	0	1	1	0	1	0	1	0	1	0	1
Pin1(UHF)	x	x	x	x	x	x	0	0	1	1	1	0

### 1-3-3. AV control

#### a). One-way AV

PORT	TV	AV
Pin39(AV1)	0	1
Pin38(AV2)	0	1

#### b). Two-way AV

PORT	TV	AV1	AV2
Pin39(AV1)	0	0	1
Pin38(AV2)	0	1	1

#### c). Three-way AV

PORT	TV	AV1	AV2	AV3
Pin39(AV1)	0	1	0	1
Pin38(AV2)	0	0	1	1

#### 1-3-4. 50/60 output

PORT	50	60
Pin2(50/60)	0	1

1-3-5. Woofer function □ when stereo control TA1216AN IC is employed □ TA1216AN is provided with woofer control function. If TA1216AN is not used, CPU will reserve a woofer port to enable woofer control function. Pin36 is used as on/off control, and Pin4 as woofer volume control output.

PORT	WOOFER ON	WOOFER OFF
Pin36(WOOFER)	0	1

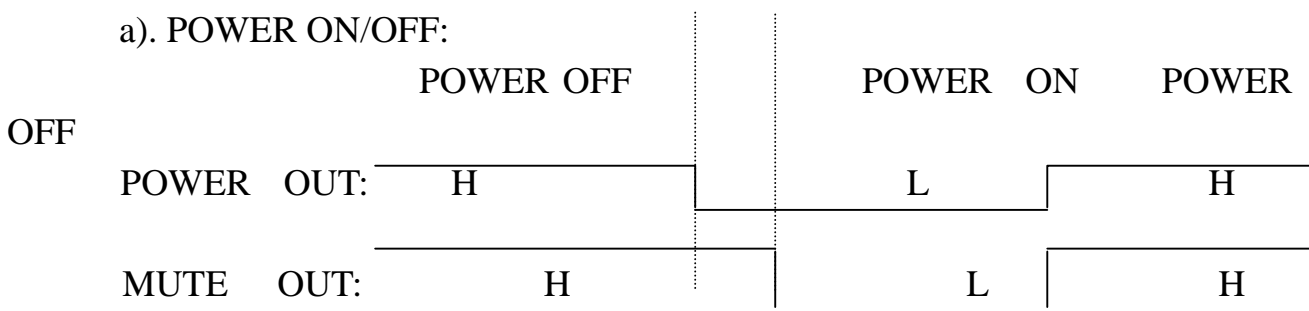
1-3-6. L/R volume □ when stereo control IC is not used, simple stereo function can be selected. Then Pin5 and Pin6 of the CPU can be used as L/R volume output control.

1-3-7. Sensitive receiving output control: in "SETUP" mode, if "SENSITIVITY" is set to "1", then the function of controlling sensitive receiving tuner is selected, Pin40 is used as control output.

PORT	SENSITIVITY(YUV) ON	SENSITIVITY(YUV) OFF
Pin40	1	0

#### 1-3-8. Mute control

a). POWER ON/OFF:



b). Besides, MUTE pin also operates when CPU is in automatic mute status or when the MUTE button on remote control unit is pressed to make CPU operate in mute status.

## 2. Automatic identification

### 2-1. Maximum channels to be stored

CPU can automatically determine the maximum channels to be stored according to the capacity of external EEPROM connected.

EEPROM model	AT24C02	AT24C04	AT24C08
Channel max	55	140	255

### 3. Definitions of Local Buttons

#### 3-1. Definitions of buttons (AD input port)

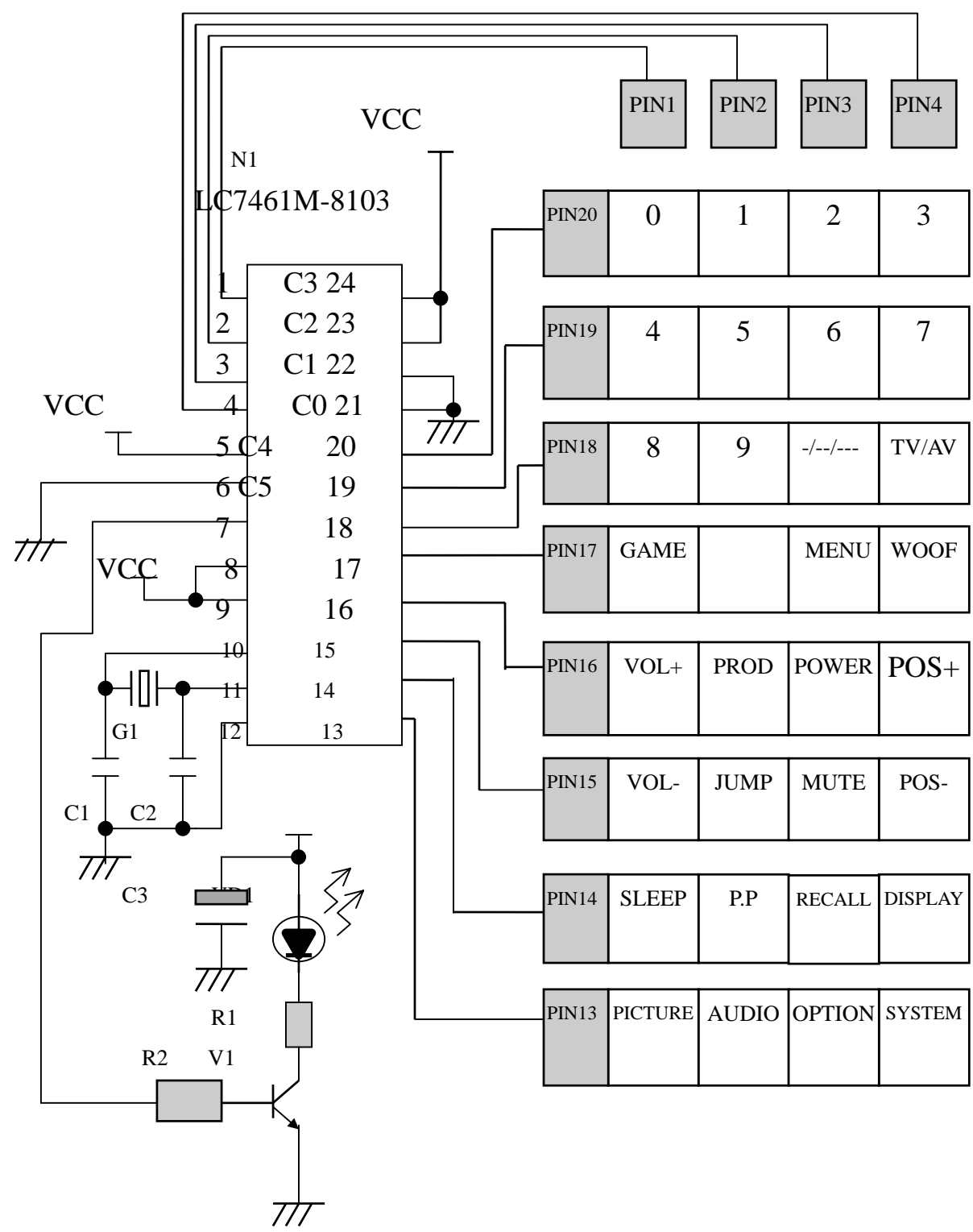
PORT	VOLTAGE RANGE	BUTTON	FUNCTION DESCRIPTION
AN4 KEY IN	0V~3/32VDD	OFF	No status when button pressed
	4/32VDD~7/32VDD	AUTO	Full-auto search
	8/32VDD~11/32VDD	TV/AV	TV/AV switch
	12/32VDD~15/32VDD	MENU	Menu button
	16/32VDD~19/32VDD	VOL+	Volume +
	20/32VDD~23/32VDD	VOL-	Volume -
	24/32VDD~27/32VDD	POS+	Program +
	28/32VDD~VDD	POS-	Program -

note□if a local button and a remote control button are pressed simultaneously, the local button is prior to remote control button.

#### 3-2. Definitions of user's remote control buttons

Button	English name	Chinese name	Function description	Remark
0	0	0	Channels selected directly by figure button	
9	9	9		
10	□□	□□		
11	TV/AV	TV/AV	TV/AV switch	
12	GAME	□□	GAME control	
13				
14	MENU	□□	Control menu switch	
15	WOOF	□□□	Woofer switch control	
16	VOL+	□□+	Volume +	
17	PROD	□□	Factory mode	Factory use only
18	POWER	□□	Power on/off	
19	POS+	□□+	Program +	
20	VOL-	□□-	Volume -	
21	JUMP		Analogue jump	(jump button in FACTORY mode)
22	MUTE	□□	Mute	
23	POS-	□□-	Program -	
24	SLEEP /	□□	Sleep	
25	PP /	➡●◀	Picture mode selection	
26	RECALL /	□□	Program recall	
27	DISPLAY /	□□	Display	
28	PICTURE	□□/□	Picture menu	
29	AUDIO	□□/□	Audio menu	
30	CLOCK	□□/□	Clock menu/jump to yellow fast page	
31	SYSTEM	□□/□	System menu / jump to cyan fast page	

3-3□User's remote control unit wiring



- |       |              |        |                |
|-------|--------------|--------|----------------|
| 1. N1 | LC7461M-8103 | 2. VD1 | IR-LED         |
| 3. V1 | 2SC1815      | 4. R1  | RT14-1/4W-1Ω-J |



5. R2 RT14-1/4W-220Ω-J

6. C1 C2 CT1-05B-2B4-63V-220PF-K

7. C3CD110X-6.3V-100UF-M

8. G1 455KHZ

9.VCC 2 AA size batteries

User's code:

C5 C4 C3 C2 C1 C0

0 1 1 1 0 0

#### 4. Button Functions and Operation Instructions

##### 4□1 POWER (remote control button)

1) Function□power on/off control

2) Description

Each press of the (POWER) button makes a switch between POWER ON and OFF.

After power is turned on, CPU will read the data in EEPROM. CPU will determine the POWER status according to the selection of "POWER OPT"□if "0" is selected□then the POWER is always in POWER OFF status after turn-on□if "1" is selected, then the POWER status will be determined according to the memory before turn-off.

In POWER OFF mode, only POWER button works. The other buttons do not work. But the local POS+ and POS- buttons can be used to turn on the TV set instead of POWER button.

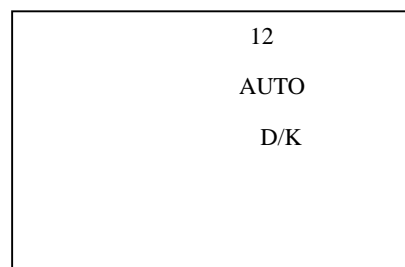
SLEEP and TIME-OFF settings will be cancelled when "POWER OFF" is set.

If SCREEN OPT is set, then screen function is enabled during POWER ON/OFF.

3) Output control

Please refer to description"1" in "2-3" section.

4) OSD display (about 10 seconds)



##### 4□2 TV/AV □remote control button, local button□

1) Function□AV-TV switch.

## 2) Description□

Each press of this button makes one switch between TV and AV.

Auto mute and black background functions are enabled during the switch.

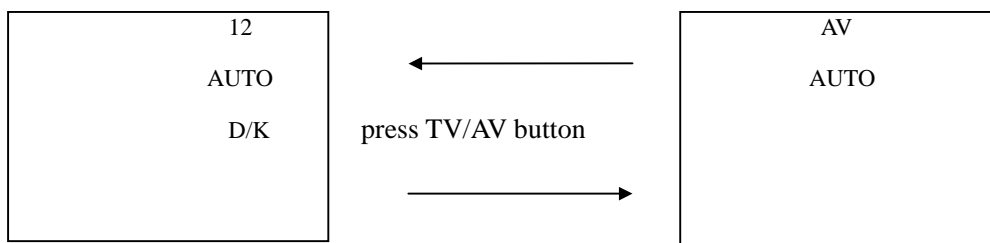
In AV mode□numeric buttons (0□9), (- -), POS□ and POS□ buttons do not work, only "AV" display appears.

If the last AV is switched to, and when S-VIDEO INPUT is detected by CPU, the S-VIDEO control will be enabled automatically, and OSD display will also be replaced by S-VIDEO display.

## 3) Output control

Please refer to description "1" in "2-3" section.

## 4) OSD display□about 5 seconds□



## 4□3. 0□9,□□□remote control buttons□

### 1) Functions□ select position directly.

### 2) Description□

Press numeric buttons (0~9) to select programs in 0~9 positions directly. Press □---□button to enter into two-digit or three-digit figure mode before selecting programs in 10~254 positions (max programs is determined by the capacity of EEPROM), then press (0~9) to key in figures in the order of hundred's, ten's and unit's place to select programs directly.

The button does not work if the number is beyond the position max.

Auto mute and black background function are enabled during position switch.

When position selection is finished the current position and the last position will change accordingly. The result will be written in EEPROM.

If the position selected is the same as the current position, CPU will re- read the EEPROM about the information related to the current position.

In PRESET menu□press (0~9) and(-- ) buttons to select directly the position to be readjusted.

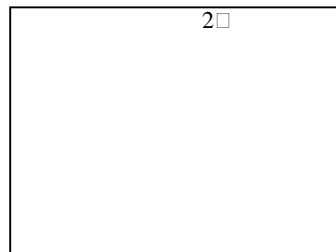
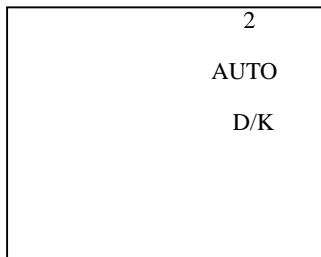
In CLOCK menu, press (0~9) and (-- ) buttons to preset program positions directly.

In CHANNEL menu□press (0~9) and (--) buttons to select the positions to be copied.

In AV mode□press (0~9) or (- -) buttons do not work, but AV display will appear.

During B/W balance adjustment in one light line mode, press numeric buttons (0~7) can adjust sub-brightness, red bias, green bias and blue bias. "8", "9" and "--" buttons do not work.

### 3) OSD display□about 5 seconds□



note□waiting for the unit's digit

### 4□4. POS□ , POS□/□□+, □□-□remote control, local buttons□

#### 1) Function□

move program position upward or downward by 1□select options in a menu□select adjusting options□play games.

#### 2) Description

Press POS□/POS□to change program positions. Automatically skip off the position of "REMEMBER OFF".

Press and hold this button for more than 1second, the position will increase or decrease by 1 for each 800ms.

If all program positions are in "MEMORY OFF " status, then press POS□ and POS□ buttons can only select the program in "0" position. If only one position is in MEMORY ON" status, then press POS□□POS□ buttons can select the only program in the position of "MEMORY ON".

After reaching the maximum position stored, press the POS□ button again will return to the minimum position stored□ After reaching the minimum position stored, press the POS□ button again will return to the maximum position stored.

After switch is finished, the information of the current position and the last position will change. The result will be stored in EEPROM automatically.

Auto mute and black background functions are enabled during program switch.

In full-screen menu, POS□and POS□ buttons are used to select from top to

down the options in the menu (please refer to the operation instruction in relevant menu).

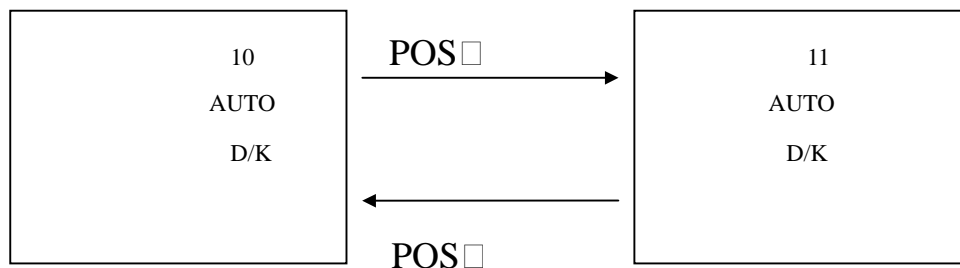
In "B/W ADJUST", "ADJUST" and "SETUP" mode □ POS+ and POS- buttons are used to turn page up and down.

In AV mode, press POS □ or POS □ button doesn't work □ but "AV" display will appear.

While checking perpetual calendar, press POS+ and POS- buttons to change year.

In "Tetris" game, press POS+ button to rotate, press POS- to quicken fall. This two buttons do not work in other games.

3) OSD display □ about 5 seconds □



#### 4 □ 5 RECALL □ remote control button □

1) Function □ To recall the last program; play games .

2) Description: When switch is finished, the information of the current position and the last position will change and the result will be stored in EEPROM automatically.

In "888" and "Car racing " games, this button is used to play games, while in "Tetris" game, this button is used to pause the game.

3) OSD display □ same as position OSD display □

#### 4 □ 6. DISPLAY □ remote control button □

1) Function □ Program position display □ including AV mode □; to quit game.

2) Description

Press this button □ OSD will display program position, color system, sound system, and will display position only in small characters after 5 seconds. In AV mode, OSD will not display sound system.

In "B/W BALANCE" mode □ this button does not work during adjusting options display; while in other OSD status, press this button will return to the adjusting options OSD.

In "ADJUST" mode, this button does not work during adjusting options OSD status, while in other OSD display, press this button will return to the adjusting options OSD display.

In "SETUP" mode□this button does not work during setting options display status; while in other OSD display status, press this button will return to the setting options OSD status.

If there is OSD display already (besides "B/W BALANCE" mode OSD, "ADJUST" mode OSD, "SETUP" mode OSD and set PROD mode, bus in OFF mode and mute OSD)□press this button to cancel current OSD.

In game mode, press this button to exit.

3). OSD display (about 5 seconds)

Same as program position OSD display.

4□7. VOL□□VOL□□remote control , local button□

1)Function□to control volume; adjust options; readjust settings and adjusting options and play games.

2) Description:

When it is used to control volume output, each press of the button will increase/decrease output by one step (the output is divided into 100 steps).

Press and hold the button for over 500ms □ then the output will increase/decrease one step for each 160ms.

When output reaches 100, press VOL□ again will not work□if the output reaches 0□then press VOL□ will not work. In MUTE mode, press this button can change the volume output, but press VOL- button can not cancel mute status, while press VOL+ can cancel mute status.

In semi-auto search mode, press this two buttons can change search direction.

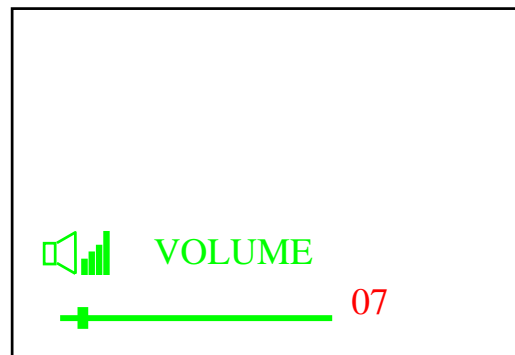
To adjust options in menus, or to start operation, or to go to the OSD display at the next level.

To readjust month when checking the perpetual calendar.

To adjust setting options and adjusting options in "B/W BALANCE" mode, "ADJUST" mode and "SETUP" mode.

When playing "Tetris", press VOL+ to move right. Press VOL- to move left. In other two games, this two buttons don't work.

### 3) OSD display (about 5 seconds)



#### 4□8 MUTE□remote control button□

1) Function□mute□bright line-to-full screen switch.

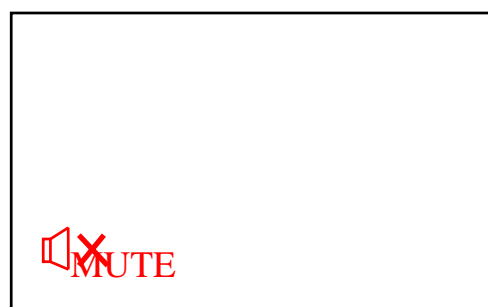
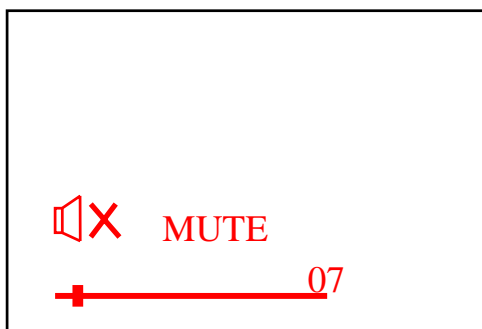
2) Description□Press MUTE button to enter into mute status, press again to cancel.

Press POWER and VOL□ buttons can also cancel mute status.

In mute status, mute OSD will be on display if there is no other OSD display (in "FACTORY" and BUS OFF mode, "FACTORY" and "BUS OPEN" OSD and MUTE OSD can display on the screen at the same time.

In "B/W BALANCE" mode□MUTE button is used to switch between normal status and a line status. If the "LINE MODE" on menu3 is "1"□the full-screen is switched to a light line and the picture status will automatically turn to "FACTORY1 mode□when the light line is switched to full screen, the picture status will automatically turn to FACTORY 2 mode. If "LINE MODE" is "0"□the picture status will not change during full screen-to-light line switch.

### 3) OSD display (after 5 seconds turns to one line and keeps on displaying)



#### 4□9 WOOF□remote control button□

1) Function□select/cancel woofer mode

2) Description□Press WOOF button to control WOOF switch.

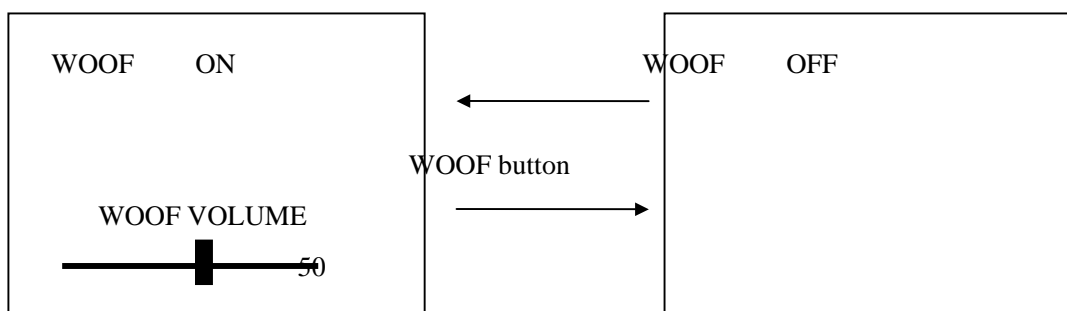
When in WOOF OSD, and WOOFER ON status, if "WOOF VOL.OPT" is set to "1" □ WOOF VOLUME will appear. Use VOL+ and VOL- to change the woofer output volume.

If woofer function is not selected, then just cancel the relevant button on the remote control unit.

Output mode □

There are two output modes, output through TA1216AN and CPU respectively □ please refer to descriptions in "2-3" section.

3) OSD display (about 5 seconds)

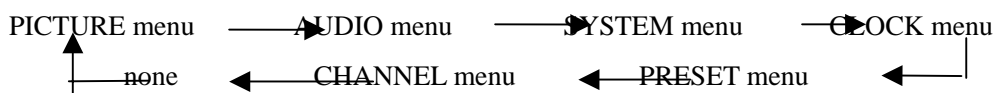


4-10 MENU □ local button □

1) Function □ enter into PICTURE, AUDIO, SYSTEM, CLOCK, PRESET and CHANNEL menu.

2) Description □

Press MENU button to change as follows □



PRESET menu operation instruction:

When OSD display is neither one of those of PICTURE, AUDIO, SYSTEM, CLOCK, PRESET or CHANNEL menu □ press MENU button □ the OSD of PICTURE menu will display first.

In AV mode, neither PRESET nor CHANNEL menu will turn up in the cycle when MENU button is pressed.

If stereo control function is not selected, AUDIO menu will not appear in the cycle.

3) PRESET menu operation instruction

After finding the PRESET menu □ press POS □ / POS- to select. The options with an arrow are currently selected ones. The other options are in green.

Press VOL □ and VOL □ buttons to change setting values and to start. During fine adjustment and semi-auto search, press VOL □ to move upward and

press VOL□ button to move downward.

In PRESET menu, press figure buttons (0~9) and (--) button to select the program position to be adjusted directly.

During fine adjustment and semi-auto search, the color of OSD display bar will turn to red, and the small erect bar displaying PWM setting values will turn into an arrow indicating direction. When the operation is finished or paused, the OSD display bar will turn to green.

During semi-auto search, search will stop when a program position is searched.

During semi-auto search, press VOL+ or VOL- button to change search direction; press MENU button to stop search.

During auto-search, press MENU button to stop searching.

The modification of setting values will be automatically stored in EEPROM addresses corresponding to program positions.

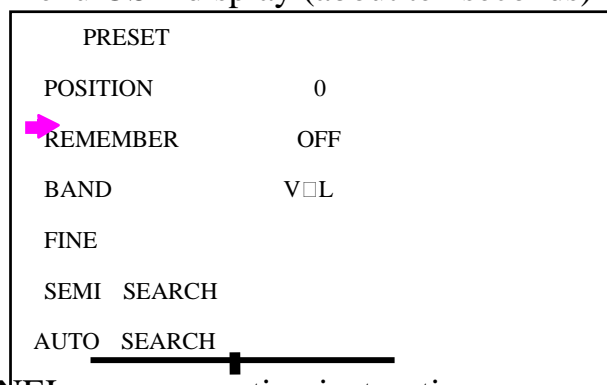
When auto-search is completed, the color system of the program positions stored is set to AUTO□the sound system is the same as that of the position before auto-search.

If the position of a certain program is set to REMEMBER OFF□this position will be skipped off when POS□/POS□ is used to change positions. If "--" button or "0~9" buttons are used to select the REMEMBER OFF position directly, its position display will become red for distinguishing.

If a program position is fine adjusted, then the automatic digital AFT will be off automatically. When the fine adjusted position is selected, its position display will turn to yellow for distinguishing.

If no operation is performed within ten seconds, the PRESET menu will quit automatically.

#### 4) PRESET menu OSD display (about ten seconds)



#### 5). CHANNEL menu operation instruction

Press MENU button to reach CHANNEL menu. Press POS+/- POS- button to select options upward and downward. The option selected will be indicated



with an arrow and its OSD display will become red. The OSD display of the options not selected is in green.

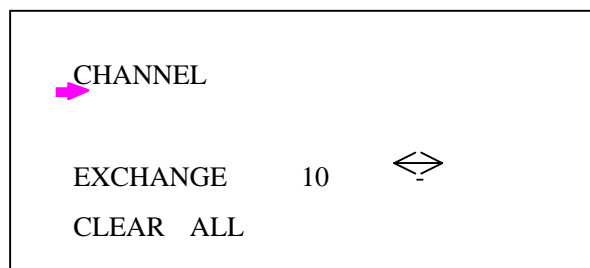
"EXCHANGE" is to exchange the memory information of the current channel with that of the target channel; "CLEAR ALL" is to close all the memory of position storing channel information, that means no program is stored.

When "EXCHANGE" is selected□the position displayed first is the current position. Key in position with "--" and "0~9" buttons and press VOL+ or VOL- to start. After exchange is finished, channel menu will quit automatically. The program played by the current position will automatically become the program directed by the memory information of the former target position.

If "CLEAR ALL" is selected, press and hold VOL+ or VOL- button for 2 seconds to start. During the operation, OSD display will show □ "CLEARING ALL..." for attention. When CLEAR ALL is completed, program position will jump to "0" automatically.

If no operation is performed within 10 seconds, CHANNEL menu will quit automatically.

#### 6). CHANNEL menu OSD display (about 10 seconds)



#### 4-11. AUTO (local button)

1). Function□to start auto-search mode directly.

2). Instruction□

Press AUTO button to start auto-search mode directly.

In auto-search mode, press MENU or AUTO button to stop auto-search.

When auto-search is finished, the picture status will be set to STANDARD automatically, and the sound output is set to "15".

During auto-search, the positions searched will be stored in EEPROM automatically from position "0". When the amount of programs searched exceeds the max position allowed, auto-search will stop. If the amount of programs searched do not reach the max position allowed, the program positions not stored will be set to "REMEMBER OFF " after

auto-search is completed.

#### 4□12 PICTURE□remote control button□

1) Function□ to enter into PICTURE menu.

2) Description□

After reaching the PICTURE menu□press PICTURE button to select, or press POS□/POS□ to select options upward /downward. The option with an arrow is the currently selected option. Its OSD is in red. The other options are in green.

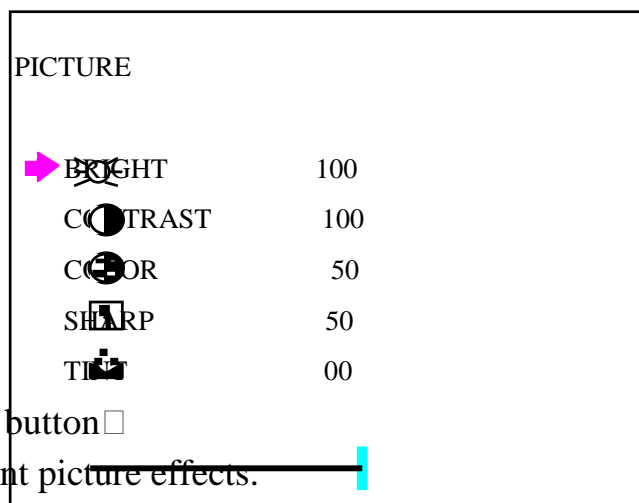
Press VOL□ or VOL□ to increase or decrease the output values of relevant options. The bar-like OSD and figures at the bottom of the screen indicate the current output values of the relevant options. The output value of each option is divided equally into 100 steps. When the output value of an option selected is changed, the bar-like OSD will indicate its changing direction with an arrow. Press VOL+ can increase output value until it reaches the max (100). Press VOL□ can decrease the output value until it reaches the minimum (0).

When the color system is set to AUTO and the input signal is NTSC or forced NTSC with color, OSD will present TINT option. In other cases there is no TINT option.

After the values in PICTURE menu are changed, the result will be stored in EEPROM.

If no operation is performed within 10 seconds, PICTURE menu will quit automatically.

3) OSD display (for about ten seconds)



#### 4□13. PP □remote control button□

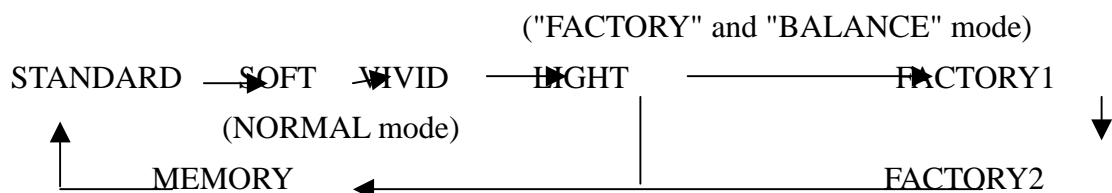
1) Function□to set different picture effects.

2) Description:

CPU 's ROM has four set picture effect modes----"STANDARD", "SOFT",

VIVID" and "LIGHT" that is to set corresponding brightness, contrast, sharpness, chrominance and tint. Besides, the "PERSONAL" can be adjusted as you like and be stored automatically into the EEPROM for use. "FACTORY" and "B/W BALANCE" modes also provide "FACTORY1" and "FACTORY2" modes as well as the above modes.

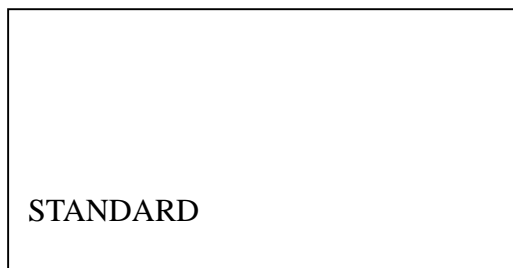
Press PP button to change in the following order



### 3). Output values

	BRIGHT NESS	CONTRAST	CHROMINANCE	SHARPNESS	TINT
STANDARD	80	80	50	50	00
SOFT	70	40	60	25	00
VIVID	60	100	88	70	00
LIGHT	100	100	70	72	00
FACTORY1	00	00	00	00	00
FACTORY2	100	100	00	00	00

### 4). OSD display (about 5 seconds)



## 4-14.AUDIO (remote control button)

1). Function: enter into AUDIO menu.

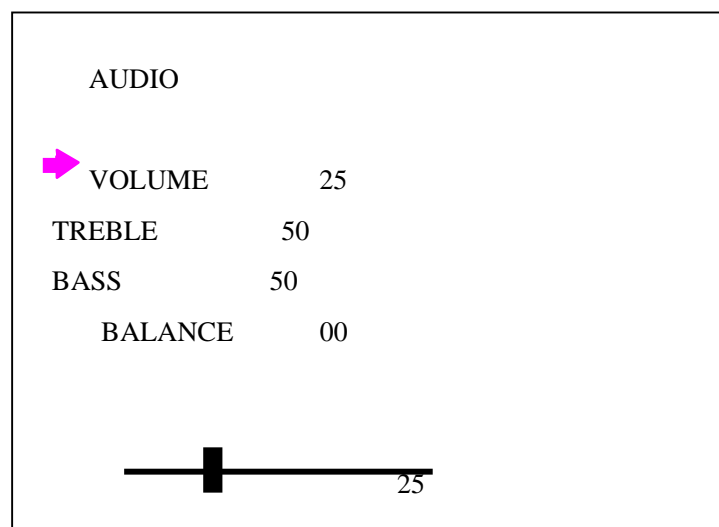
2). Description:

If stereo function is not set or stored in EEPROM, then AUDIO button do not work. If simple stereo is set, then "treble" and "bass" are not included in the menu.

Press AUDIO to reach AUDIO menu. Press AUDIO to select options in circles, or press POS+ or POS- to select upward and downward. The option selected is pointed out by an arrow, and its OSD is red. The OSD of other options not selected are green.

Press VOL+ or VOL- to increase or decrease the output values of relevant options. The output value of each option is divided equally into 100 steps. Press VOL+ can increase output value until it reaches the max (100). Press VOL- can decrease the output value until it reaches the minimum (0). When VOL+ or VOL- is used to change output values, a bar-like OSD at the bottom of the screen will indicate its changing direction with an arrow. The output values changed will be stored in EEPROM automatically. If no operation is performed within 10 seconds, AUDIO menu will quit automatically.

### 3). OSD display (about 10 seconds)



## 4.15 CLOCK remote control and local buttons

1) Function to enter into CLOCK menu.

2) Description:

CLOCK menu operation description

Press CLOCK button to enter into CLOCK menu. If time is not set after start-up, OSD display of the options is yellow. If time is set, then the options are in green OSD display.

Use Clock button to select in circles or press POS+/POS- button to select proper items upward or downward. The option selected will be pointed out with an arrow, and its OSD display is red. (CLOCK must be set before setting the options hereafter.)

Press VOL+ or VOL- to change setting values. Use VOL+ to set minute, and use VOL- to set hour. Each press of VOL+ adds one minute each press of VOL- adds one hour. Press VOL+ or VOL- button and hold for

more than 500MS□then minute or hour will be added by one after each 160MS.

The cycle period of hour is 24 hours□and that of minute is 60 minutes. When the hour is set to 23, press VOL- button again will clear the time setting. Press once again will start from 0 again.

If OFF-TIME is set□the setting of SLEEP will be cancelled. Press POWER button to set POWER OFF mode, the setting of OFF-TIME will be cancelled automatically.

When setting time of ON-TIME comes and starts up the TV, SLEEP will be set to 120m automatically in case there is nobody at home to turn off the TV after its automatic start-up. Any operation after automatic start-up can cancel the setting of SLEEP automatically.

If POSITION is set□the desired position will be entered into upon start-up at the on-time or preset time.

If timer function is selected, the program on the "preset position" will start automatically at the preset time.

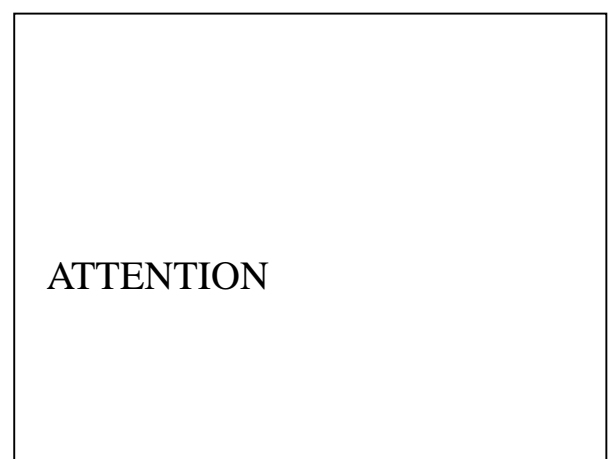
If attention timer is set, "ATTENTION" in big red letters will be seen flashing on the screen at the preset time until any button is pressed. During flashing for attention, it is in automatic mute mode. If the output function of ALARM port is selected, alarming will be heard.

If no operation is performed in ten minutes, the CLOCK menu will quit automatically.

### 3). OSD display

TIME	
▶CLOCK	--:--
OFF-TIME	--:--
ON-TIME	--:--
ATTENTION	--:--
BESPOKE-TIME	--:--
BESPOKE POSITION	-

About 10 seconds



note: flash for attention

## 4-16. SYSTEM (remote control unit)

### 1). Function: enter into SYSTEM menu.

## 2) Description:

Press SYSTEM button to reach SYSTEM menu. Press SYSTEM again to select options in circles, or to press POS+ or POS- to select option upward or downward. The option selected is pointed out by an arrow. Its OSD display is red. The options not selected is in green OSD display.

Press VOL+ or VOL- to change setting of options. The result will be stored in EEPROM automatically.

If single color system is set, the menu has no "COLOR-SYS" option. If single sound system is selected or the system is in AV mode, the menu has no "SOUND-SYS" option. If either ENGLISH, ARABIC or RUSSIAN mode is selected, then the menu has no "LANGUAGE" option.

If SENSITIVITY is selected ( SENSITIVITY is set to "1") □ the menu has "SENSITIVITY" option. Its mode is remembered separately like color system, sound system. The auto mute function is enabled during sensitivity mode modification.

If calendar function is selected( "CALENDAR" is set to "1") □ there is a CALENDAR option. Select this option and press VOL+ or VOL- button to enter into calendar OSD. Then press POS+ or POS- button to set year □ and use VOL+ or VOL- button to set month. The calendar covers 1000 years from 1600 to 2599.

If no operation is performed within 10 seconds, SYSTEM menu will quit automatically.

## 3). OSD display (about 10 seconds)

SYSTEM	
➡ COLOR-SYS	AUTO
SOUND-SYS	D/K
SENSITIVITY	OFF
LANGUAGE	ENG
CORING	ON
CALENDAR	

2000 JANUARY	
SU MO TU WE TH FR SA	

						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

#### 4□17 SLEEP (remote control button□

1) Function□set sleep time□keep current page unchanged.

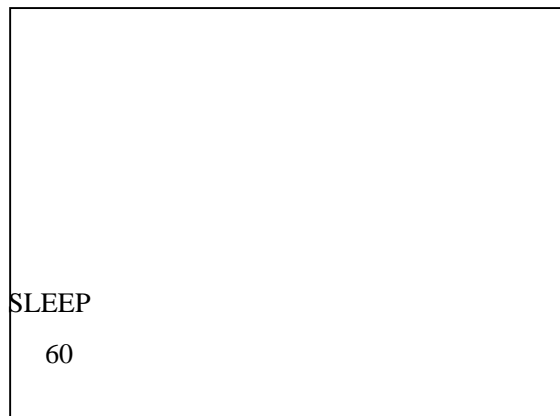
2) Description:

The maximum sleep time is 120 minutes. Every 15 minutes equals one step.

After sleep time is set, OFF-TIME is cancelled automatically.

When sleep time goes to the last minute□OSD will display information on sleep time, reminding that the TV will be turned off.

3) OSD display (about 5 seconds)



#### 4□18. GAME□remote control button□

1) Function: to enter into/exit GAME mode.

2) Description:

GAME button works only when at least one game is selected. Three games are available totally: "888", "Car racing" and "Tetris".

Use RECALL button to play "888" and "car racing" games. Use RECALL button to pause in "Tetris".

POS+, POS-, VOL+ and VOL- work only in "Tetris" game. POS+ is used to rotate or to restart when game is over. POS- is used for fast drop. VOL+ is used to move right, and VOL- is used to move left.

In GAME mode, press either GAME or DISPLAY button to quit game.

In GAME mode, the function of auto-turnoff without signal will be cancelled.

Only the said control buttons and POWER button work in GAME mode.

Other buttons do not work.

Rules of "888": 3 same figures wins 5 gold coins; three sequential figures wins 4 gold coins; two of the three figures are "8" can win 3 gold coins; one of the three figures is "8" wins 1 gold coin. No bonus in other cases.

Rules of racing; 3 players use "RECALL" button in turn to set their advancing step. If the step is negative, the player retreats. The player who arrives at the finish first is the winner.

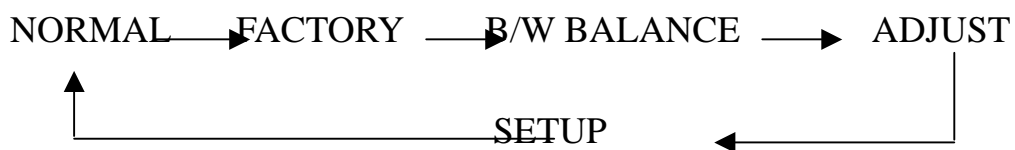
Scoring in "Tetris" □ cancel one line at a time win 1 point, cancel 2 lines at one time win 3 points, cancel three lines at a time wins 7 points.

#### 4 □ 19. PROD/FACTORY mode □ remote control button/factory use only □

1) Function □ enter into "FACTORY" mode, "B/W BALANCE" mode, "ADJUST" mode and SETUP mode.

2) Description □

Press PROD button to change as follows □



After enter into "FACTORY" mode □ the function of blue background when no signal is received and the function of automatic turnoff when no signal is received within ten minutes will be cancelled, and automatic search speed will be doubled. In B/W BALANCE mode, ADJUST mode and SETUP mode, the function of blue background display without signal and the function of auto-turnoff when no signal is received within ten minutes will be cancelled automatically.

EEPROM will remember "FACTORY" mode. The other modes will not be remembered, and will be automatically cancelled upon restart-up. "FACTORY" mode is used during the aging process of production.

In "B/W BALANCE", "ADJUST" and "SETUP" mode, use "POS+" or "POS-" to select adjusting options and setting options; use "VOL+" or "VOL-" to change values.

## 5. Bus adjustment and setting options



## 5-1. Manual B/W balance adjustment

### 1). Operation instruction:

Press PROD button to enter into "B/W BALANCE" mode□ and the first adjustable item "sub-brightness" will turn up then. The OSD display of the B/W balance adjustment covers one line on the top to reserve the central space for camera lighting.

Press POS+/POS- to turn pages to find adjusting options. If adjusting-use remote control unit is employed, press a single button can jump directly to the items to be adjusted.

Press VOL+ or VOL- button to adjust the selected item.

Repeat step b) and c) till a satisfactory result is reached. Press PROD button to quit.

### 2). Table of adjustable items:

OSD DISPLAY	CORRESPONDING LA76810 BUS ITEMS	NAME	RANGE VARIABLE
S-BRI	Sub Brightness	Sub Brightness	0~127
R-BIA	Red Bias	Red Bias	0~255
G-BIA	Green Bias	Green Bias	0~255
B-BIA	Blue Bias	Blue Bias	0~255
R-DRV	Red Drive	Red Drive	0~127
G-DRV	Green Drive	Green Drive	0~15
B-DRV	Blue Drive	Blue Drive	0~127
C.B/W	Cross B/W	Internal signal	0~3

### 3). During maintenance, one light line can be used to adjust black balance roughly.

In "B/W BALANCE" mode□press MUTE button to enter into one light line mode□press MUTE button again will return to full screen mode. In light line mode the picture status will be set to "FACTORY1" mode□i.e., all the output values on the picture menu are "0"□When full screen returns, the picture status will be set to "FACTORY2" mode, i.e., setting values of brightness and contrast are "100" while the other settings in the picture menu are "0".

In "LINE MODE", besides MUTE button, the following eight buttons on user's remote control unit will work, with their functions changed as follows. Other buttons will not work.

BUTTON	1	3	5	7
FUNCTION	Sub brightness +	Red bias +	Green bias +	Blue bias +
BUTTON	0	2	4	6

FUNCTION	Sub brightness-	Red bias -	Green bias -	Blue bias -
----------	-----------------	------------	--------------	-------------

c) During production, factory use remote control unit can be used to speed up adjustment. Please refer to 4-4 for button definitions.

## 2-2. The adjustment of adjusting options and setting options

### 1). Operation instruction:

- . Press PROD button to enter into "ADJUST" or "SETUP" mode.  
Press POS+/POS- button to turn page up/down to select the options to be adjusted. If adjustment use remote control unit is used, some options can be selected directly by pressing one single button.
- . Press VOL+ or VOL- button to change the values of options selected.
- . During production, factory use remote control unit can be used to speed up adjustment. Please refer to 4-4 for button definitions.

### 2). Description on adjusting options□

No.	OSD display	LA76810 bus data	Name	Range
0	H.PHASE	H.PHASE	Horizontal center	0~31
1	NT.H.PHASE	H.PHASE	NT horizontal center deviation	-16~+15
2	H.BLK.LEFT		Left blank	0~7
3	H.BLK.RIGHT		Right blank	0~7
4	V.SIZE	Vertical Size	Vertical size	0~127
5	V.LINE	Vertical Linearity	Vertical linearity	0~31
6	V.POSI	Vertical DC	Vertical center	0~63
7	V.SC	Vertical S-Correction	Vertical S correction	0~31
8	NT.V.SIZE	Vertical Size	NT vertical size deviation	-32~+31
9	NT.V.LINE	Vertical Linearity	NT vertical linearity deviation	-16~+15
10	NT.V.POSI	Vertical DC	NT vertical center deviation	-32~+31
11	NT.V.SC	Vertical S-Correction	NT vertical S-correction deviation	-16~+15
12	RF.AGC	RF AGC Delay	HF AGC	0~63
13	SUB.CONT	Contrast	Sub-contrast	0~31
14	SUB.COLOR	Color	Sub-color	0~63
15	S.SHARP	Sharpness	Sub-sharpness	0~31
16	SUB.TINT	Tint	Sub-tint	0~63
17	VOL.OUT	Volume Control	Internal volume output	0~127
18	OSD CONT.	OSD Contrast	OSD contrast	0~127
19	OSD H.POSI		OSD horizontal position	0~127
20	OSD V.POSI		OSD vertical position	0~31

### 3). Description on setting options:

#### a). Part one

No.	OSD display	LA76810 bus data	Name	Range
0	BLK.STR.DEF	Blk Str Def	Black level stretch definition	0/1
1	AFC GAIN	AFC Gain	AFC gain	0/1
2	V.SEPUP	V.SEPUP	Vertical separation sensitivity	0/1
3	CD.MODE	Count Down Mode		0~7
4	DIGITAL OSD	Digital OSD	Digital OSD set	0/1
5	GRAY MOD	Gray Mode		0/1
6	B.GAM.SEL	B Select		0~3
7	RG.GAM.DEF	RG Select		0/1
8	BRGHT ABL.TH	Bright.Abl.Threshold		0~7
9	EMG.ABL.DEF	Emg.Abl.Def		0/1
10	BRT.ABL.DEF	Brt.Abl.Def		0/1
11	MID.STP.DEF	Mid.Stp.Def		0/1
12	R-Y/B-Y G.BL	R-Y/B-Y Gain Balance		0~15
13	R-Y/B-Y ANG.	R-Y/B-Y Angle		0~15
14	SECAM B-Y DC	SECAM B-Y DC Level		0~15
15	SECAM R-Y DC	SECAM r-Y DC Level		0~15
16	C.KILL.OFF	C_Kill OFF		0/1
17	SND.TRAP	Sound Trap		0~7
18	VOL.FIL	Volume Filter Defeat		0/1
19	VIF.SYS.SW	VIF.Sys.SW		0~3
20	VIDEO.LEVEL	Video Level		0~7
21	FM.LEVEL	FM Level		0~31

b). Part two

No.	OSD display	"0" mode	"1" mode
22	POWER OPTION	0□double start-up□1□memory□2 or 3□single start-up	
23	POWER ON LOGO	Power logo off	Power logo on
24	SCREEN OPTION	0□OFF□1□Screen on up start-up□2□Screen on upon turn-off□3□Screen on upon start-up/ turn-off	
25	SCREEN TIME	Black background time (0~7seconds)	
26	SEARCH CHECK	No "search check " function	With "search check" function
27	BAND OPTION	0□use LA7910□1□use tuner with switch□2 or 3□CPU triple-port control	
28	AV OPTION	0□no AV□1□one-way AV input□2□two-way AV input□3□three-way AV input	

29	LINE MODE	No picture mode switch during FULL SCREEN/LIGHT LINE switch	With picture mode switch during FULL SCREEN/LIGHT LINE switch
30	STEREO OPT	Stereo off	Stereo on
31	STEREO IC	Stereo IC □TA1216AN off	Stereo IC □TA1216AN on
32	WOOF VOL.OPT	Woofer (headphone) volume control on	Woofer (headphone) volume control off
33	SIF M/N	4.5M sound off	4.5M sound on
34	SIF B/G	5.5M sound off	5.5M sound on
35	SIF I	6.0M sound off	6.0M sound on
36	SIF D/K	6.5M sound off	6.5M sound on
37	PAL OPTION	PAL color system off	PAL color system on
38	N3.58 OPTION	N3.58 color system off	N3.58 color system on
39	N4.43 OPTION	N4.43 color system off	N4.43 color system on
40	SECAM OPTION	SECAM color system off	SECAM color system off
41	COLOR AUTO	Auto color system off	Auto color system on
42	ENGLISH OSD	English OSD off	English OSD on
43	RUSSIAN OSD	Russian OSD off	Russian OSD on
44	ARAB OSD	Arabic OSD off	Arabic OSD on
45	SENSITIVITY	Sensitivity function off	Sensitivity function on
46	GAME1 OPTION	Game "888" off	Game "888" on
47	GAME2 OPTION	Game "Car Racing" off	Game "Car Racing" on
48	GAME3 OPTION	Game "Tetris" off	Game "Tetris" on
49	CALENDAR	Calendar function off	Calendar function on
50	V.MUTE OFF	Video output off before POWER OFF	Video output on before POWER OFF
51	BLUE/BLACK	Blue background without signal	Black background without signal

### 5-3. The application of factory use remote control unit

#### 1). Description:

For products of the same batch, the selection of all setting options and part of the adjusting modes of the products are same. Therefore it is enough to adjust only one of the same batch as a standard sample. Take the EEPROM of the sample as source EEPROM and copy it, then put the copies on the other products. By this means, the setting options and that part of adjusting options of the other products do not need to be adjusted, and the production can be speeded up considerably.

For items need or probably need to be adjusted, our software offers especially the function of adjustment-use remote control unit o speed up production. Thus, in B/W balance adjustment mode, the options can be adjusted directly through one single button. In "ADJUST" mode, the option needs to be adjusted can be selected through one single button.

#### 2). Description on special-purpose remote control buttons:

- a). "PROD/□□" has the same function as that of the "PROD/□□" button on an ordinary remote control unit.
- b). "ADJUP/ADJDOWN" is used to turn pages upward and downward. It works only in "B/W BALANCE", "ADJUST" and "SETUP" mode. It has the same function as what the ordinary remote control "POS+" / "POS-" button has in "B/W BALANCE", "ADJUST" and "SETUP" mode.
- c). "ADJ+/ADJ-" is used to increase/decrease adjustment of options selected. It works only in "B/W BALANCE", "ADJUST" and "SETUP" mode. It has the same function as what the ordinary remote control "VOL+"/"VOL-" button has in "B/W BALANCE", "ADJUST" and "SETUP" mode.
- d). "POS+" and "POS-" are used for channel switch only. "LINE" works only in "B/W BALANCE" mode.
- e). Please refer to description in (4-4) for functions of other buttons.

## 6. Special functions

### 6-1. Magic function of "DISPLAY/□□" button

"DISPLAY" button can be used to cancel OSD display. This can be applied to practical operation to simplify operation.

- 1). The fixed OSD display of "FACTORY", "BUS OPEN", "B/W BALANCE", "ADJUST" and "MUTE" can not be cancelled by pressing "DISPLAY" button.
- 2). In "B/W BALANCE" mode, the OSD of adjusting options can not be cancelled by pressing "DISPLAY". In other OSD status of "B/W BALANCE" mode, press "DISPLAY" can return to the OSD of adjusting options.
- 3). In "ADJUST" mode, press "DISPLAY" button can not cancel the OSD of adjusting options. In other OSD status of "ADJUST" mode, press "ADJUST" button can return to the OSD of adjusting options.
- 4). In "SETUP" mode, press "DISPLAY" button can not cancel the OSD of adjusting options. In other OSD status of "SETUP" mode, press "DISPLAY" button can return to the OSD of adjusting options.
- 5). In other OSD display modes, press "DISPLAY" button can cancel the current OSD and return to non-OSD mode.

### 6-2. Auto-search function

This function is available when "SEARCH CHECK" is set to "1". This function can check automatically if program positions are stored in EEPROM. If

no program position is stored, it can automatically enter into auto-search mode after start-up.

### 6-3. EEPROM check function

When EEPROM is damaged, TV set can not work normally, because the bus adjusting data and the result of setting options are stored in EEPROM. Therefore CPU will automatically check EEPROM upon cold start-up. If the bus connected with EEPROM is found making errors or the EEPROM is making errors□initial data will be called after start-up and forced blue background will turn up, with flashing OSD displaying "EEPROM ERROR PLEASE CHECK" in big letters. In this case, no operation can be done except turning off to check. If EEPROM is partially damaged□ errors may not be found out.

### 6-4. User's remote control unit enabling "FACTORY" button function

User's remote control unit has no "PROD (producer)" button. This may bring troubles to maintenance after TV sets exit the factory. Therefore a function equivalent to "PROD" function is specially designed in the software. Its operation is as follows□

First press "REVIEW" button□ then press and hold the "VOL-" button on the TV set and meanwhile press the "REVIEW" button again. The function of "PROD" button is enabled then. Repeat the above steps can operate again.

### 6-5. EEPROM initialization function

During cold start-up, CPU will check automatically if new EEPROM is used (e.g., EEPROM is replaced in maintenance). If a new EEPROM is found CPU will automatically read in initial data and store the data in the new EEPROM to ensure normal operation.

### 6-6. Setting of factory flag and power logo

The factory flag consists of two lines, with 12 characters for each, which can be used to set different content, on/off, style and size of characters, color, vertical position and horizontal position. If factory flag is set and at least one line is set to "ON", POWER LOGO will turn up after start-up if "POWER ON LOGO" is set to "1". If at least one line is set to "ON", then factory flag OSD will appear when no signal is received.


### 1) Operation instruction:

Press PROD button to enter into "FACTORY" mode. Press and hold VOL- button on remote control unit till the volume decreases to "0", and meanwhile press POS- button on the remote control unit to open factory flag setting up menu.

The setting up menu consists of two screens used to adjust line 1 and line 2 respectively. After the setting up menu is open, press POS+/POS- button to select different options. If display item is selected, a yellow bar will point out the adjustable characters. If other options are selected, the OSD display will become red. Otherwise, the display is in green. If an option to be set is selected, press VOL+/VOL- button to set up different values.

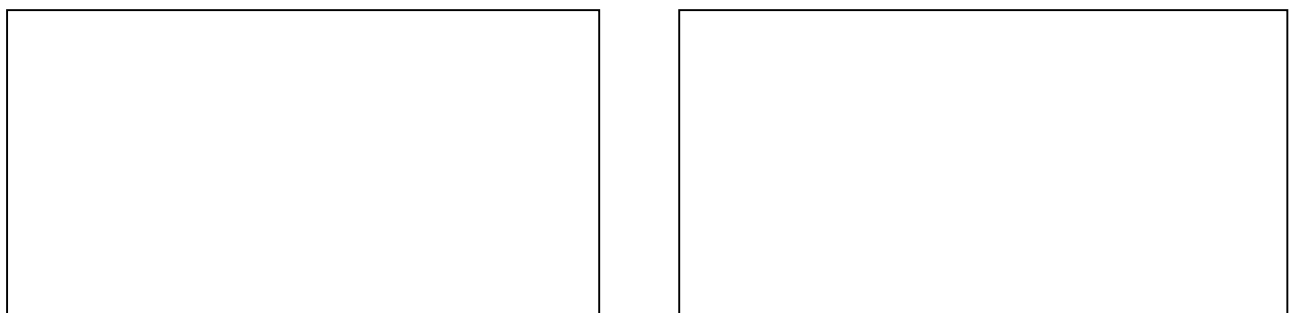
Adjusting of display content □ use POS+/POS- button to select the adjusting options on line1 or line 2. A yellow bar will point out the adjustable characters. Use VOL+/VOL- button to adjust the content of characters indicated by the yellow bar. Press PP button to select other characters on the same line.

The OSD of setting menu will keep on displaying. After setting is finished, press DISPLAY to quit.

The setting of factory logo is "Seeing is attaining", that is, the content, color, size and position displayed in the content line are the same as in normal display except that  represents the normal factory flag display is blank after quitting. The effect attainable after adjustment can be seen objectively in the course adjustment.

The setting of the two lines of display content should not overlap (even if one line is set to "OFF") to avoid abnormal phenomena.

### 2) OSD display



A ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

LOGO1	ON	SIZE	2*2	LOGO2	ON	SIZE	2*2
H.POS	20	COLOR	RED	H.POS	20	COLOR	RED
V.POS	30			V.POS	40		
				A	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>		

## Maintenance adjustment

### 1 ☐ Adjusting +B voltage

1.1 testing point-----two ends of C561

1.2 if +B voltage won't meet the requirement, adjust RP551 level switch to make it comply with the requirement.

14"	110V (CAIHONG picture tube )
21"	110V (CAIHONG picture tube )
25"	125V/130V (CAIHONG/HUAFEI picture tube )
29"	125V (YONGXIN picture tube )

### 2 ☐ Picture/AFT IF coil T101 adjustment

- 2.1 Input the 38MHZ/38.9MHZ/45.75MHZ point frequency signal (input level 80db $\pm$ 5db ☐ from C110 terminal.
- 2.2 Connect the digital voltage meter to the cross-point of R113 and R114.
- 2.3 Adjust T101 till the reading on the voltage meter is 3.6V $\pm$ 0.02V.

### 3 ☐ RF—AGC adjustment

- 3.1 Receive Philips circular testing signal.
- 3.2 Adjust the signal input level to 60db $\pm$ 1db ☐
- 3.3 Connect the digital voltage meter to TP-A.
- 3.4 Press the PROD ☐ factory ☐ button on the maintenance use remote controller to start adjusting mode.
- 3.5 Press CH+ button to select RF.AGC option. Use VOL+ to adjust the value of RF.AGC till the reading on the voltage meter is 2.5V $\pm$ 0.1V ☐
- 3.6 Press PROD ☐ Factory ☐ button till exit.

### 5 ☐ Vertical size adjustment

- 5.1 Receive Philips testing (PAL system) signal.
- 5.2 Press PROD ☐ factory ☐ button to start adjusting mode.
- 5.3 Press CH $\pm$  button to select V.SIZE option ☐ use VOL $\pm$  to adjust the value of V.SIZE till the vertical overscan is 8%.
- 5.4 AV receive Philips testing (NTSC system) signal.
- 5.5 Press CH $\pm$  button to select NT.V.SIZE function. Use VOL $\pm$  to adjust the value of NT.V.SIZE till the vertical overscan is 8% ☐
- 5.6 Press PROD ☐ factory ☐ till exit.

### 6 ☐ Vertical center adjustment

- 6.1 Receive Philips circular testing signal (PAL system).
- 6.2 Press PROD(factory) button on the maintenance use remote controller to start adjusting mode.
- 6.3 Press CH $\pm$  button to select V.POSI option. Use VOL $\pm$  to adjust the value of V.POSI till the picture is



in the vertical center.

6.4 AV receives Philips circular test signal (NTSC system).

6.5 Press CH $\pm$  button to select NT.V.SIZE option. Use VOL $\pm$  to adjust the value of NT.V.SIZE till the picture appears in the vertical center.

6.6 Press PROD (FACTORY) till exit.

## 7 ☐ Vertical linearity adjustment

7.1 Receive Philips circular test signal(PAL system).

7.2 Press PROD (FACTORY) button on the maintenance use remote controller to start adjusting mode.

7.3 Press CH $\pm$  button to select V.LINE option. Use VOL $\pm$  button to adjust the value of V.LINE till the vertical linearity reaches the best.

7.4 AV receives Philips circular test signal (NTSC system).

7.5 Press CH $\pm$  button to select NT.LINE option. Use VOL $\pm$  button to adjust the value of NT.LINE till the vertical linearity reaches the best.

7.6 Press PROD (FACTORY) button till exit.

## 8 ☐ Screen character display adjustment

8.1 Receive Philips circular test signal (PAL system).

8.2 Use PROD (FACTORY) button to enter into adjusting mode.

8.3 Press CH $\pm$  button to select OSD.H.POSI option. Use VOL $\pm$  button to adjust the value of OSD.H.POSI till the characters appear in the horizontal center position.

8.4 Press CH $\pm$  button on the maintenance use remote controller to select OSD.V.POSI option. Use VOL $\pm$  button to adjust the value of OSD.V.POSI to make the characters appear in the vertical center(i.e. make the caption of characters appear in the center of the caption frame of the Philips circular test signal).

8.5 Press CH $\pm$  button to select OSD.CONT option. Use VOL $\pm$  to adjust the value of OSD.CONT till the character display achieves proper brightness.

8.6 Press PROD (FACTORY) button till exit.

## 9 ☐ White balance adjustment

9.1 Receive white field signal.

9.2 Press PROD (FACTORY) button to start brightness/darkness balance adjusting mode.

9.3 Press CH $\pm$  button and VOL $\pm$  button to adjust the following parameters to their initial status (see table below)

Black/white balance parameters comparison

name	Chinese name	range	Initial status
S-BRI	□□□	0--127	Start from 20
R-BIA	□□□	0--255	Start from 20
G-BIA	□□□	0--255	Start from 20
B-BIA	□□□	0--255	Start from 20
R-DRI	□□□	0--127	Start from 60
G-DRI	□□□	0--15	Start from 8
B-DRI	□□□	0--127	Start from 60
C.B/W	□□□□		0

9.4 Press MUTE button on the remote controller to see a horizontal bright line on the screen. Adjust the screen grid voltage till only one color just show its brightness.

9.5 Press relevant number buttons to increase the amount of another two colors till the horizontal bright line turn into white. Then the darkness balance reaches the best(note: in the status of horizontal bright line, press "2"/"3" and "6" and "7" can decrease and increase respectively the amount of red/green/blue in the bright line.

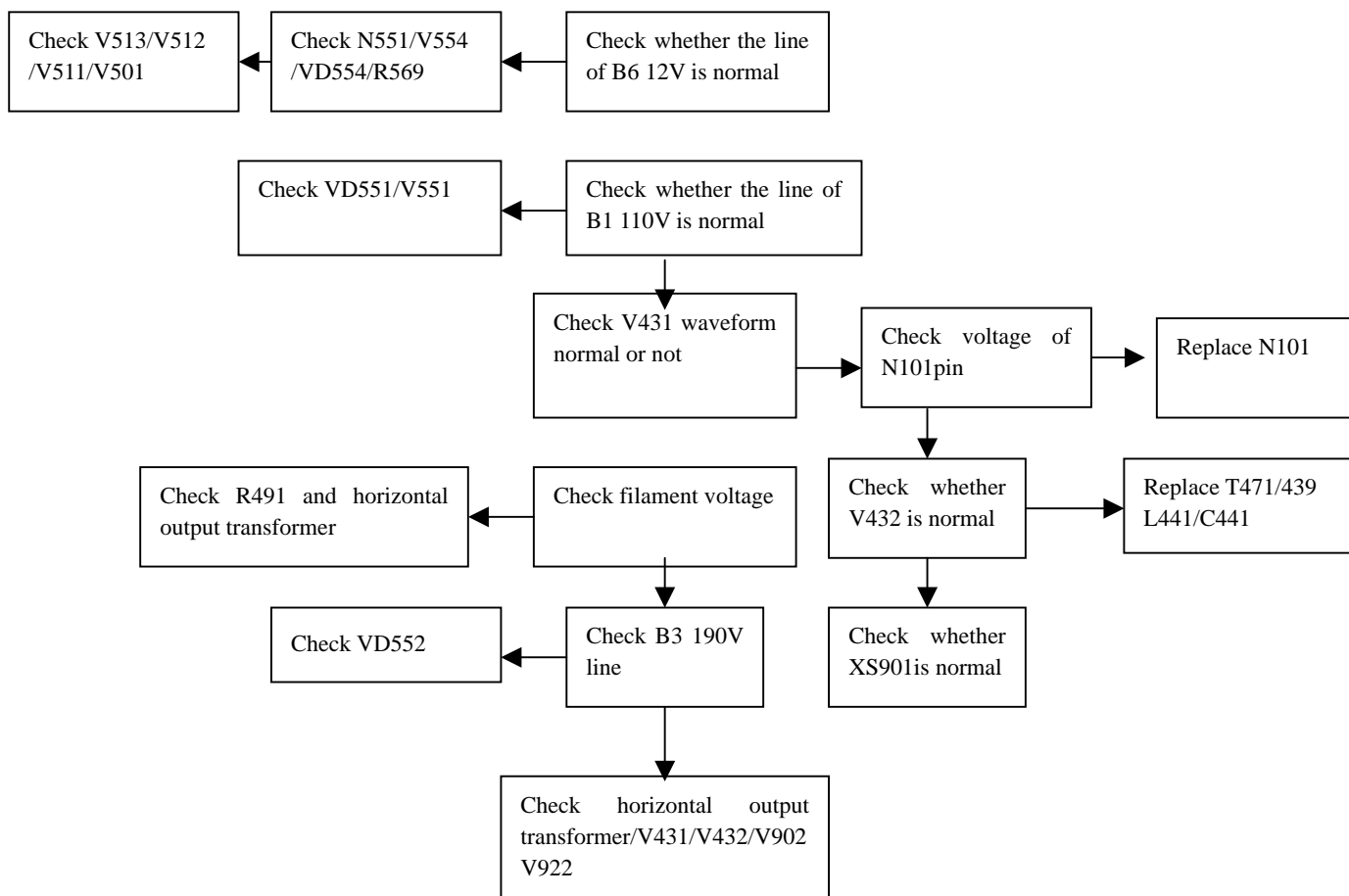
9.6 Press MUTE button to exit horizontal bright line. Set C.B.\W to 2 ☐ brightness balance adjusting signal ☐.

Adjust S-BRT to a proper value (such as 99) to achieve proper brightness. Press CH $\pm$ , VOL $\pm$  button to adjust R.DRI/G.DRI/B.DRI till the picture turn into white. Then the brightness balance reaches the best.

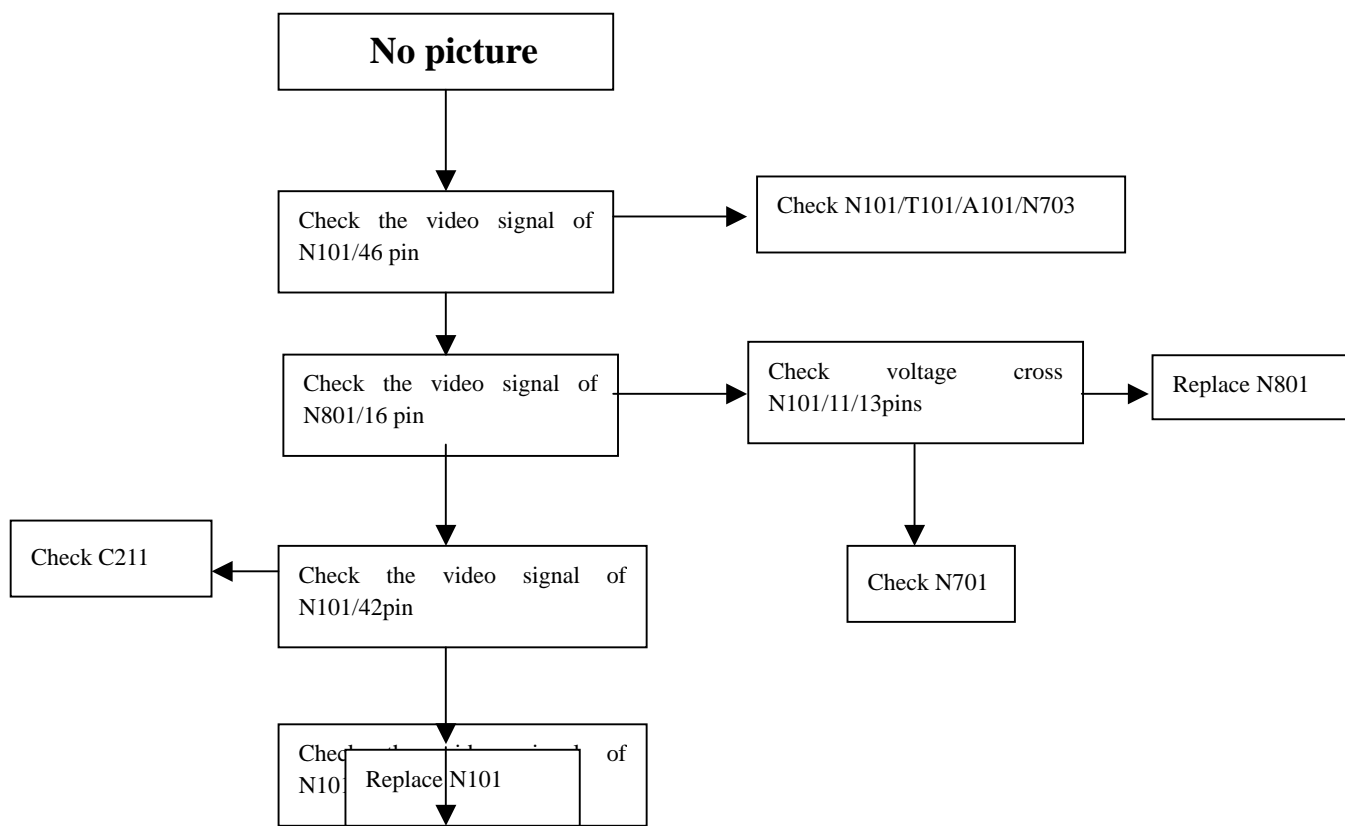
9.6 Press PROD (FACTORY) button till exit.

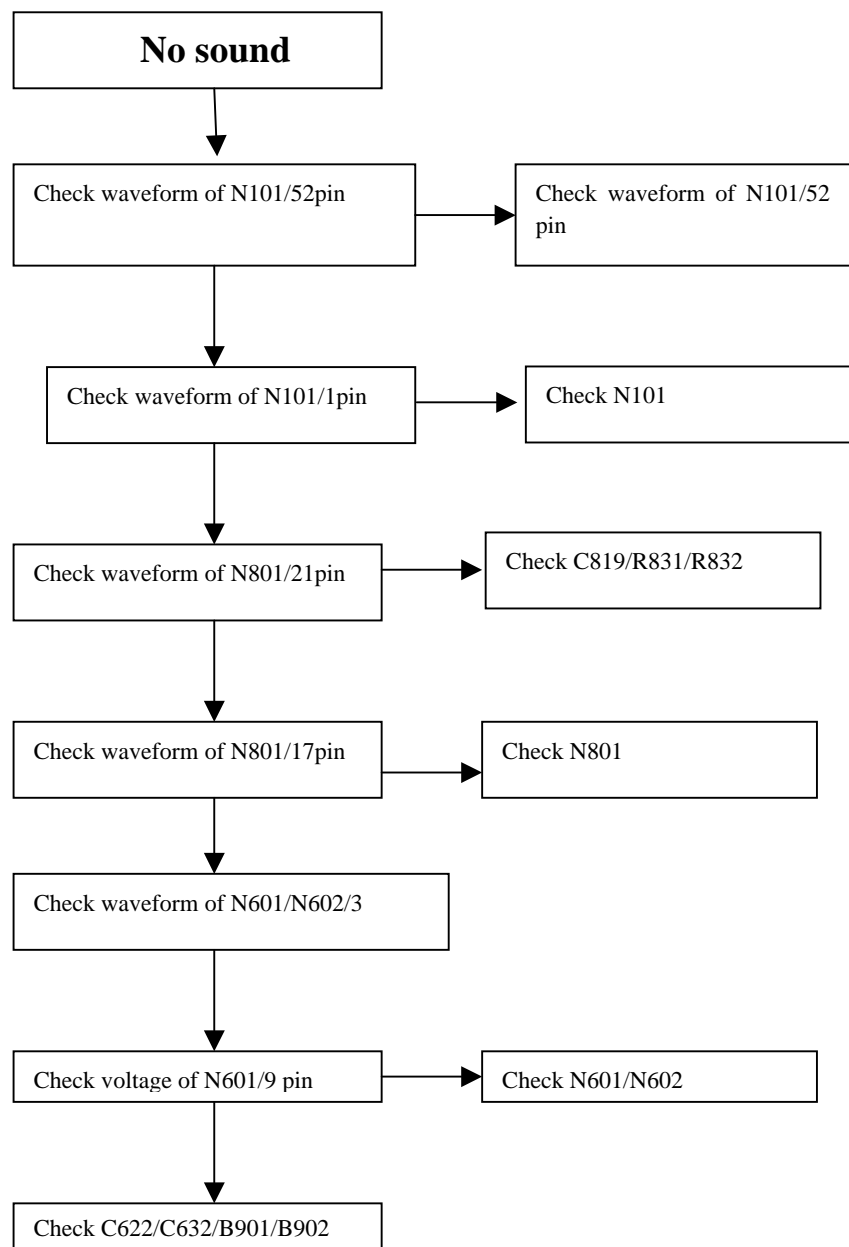
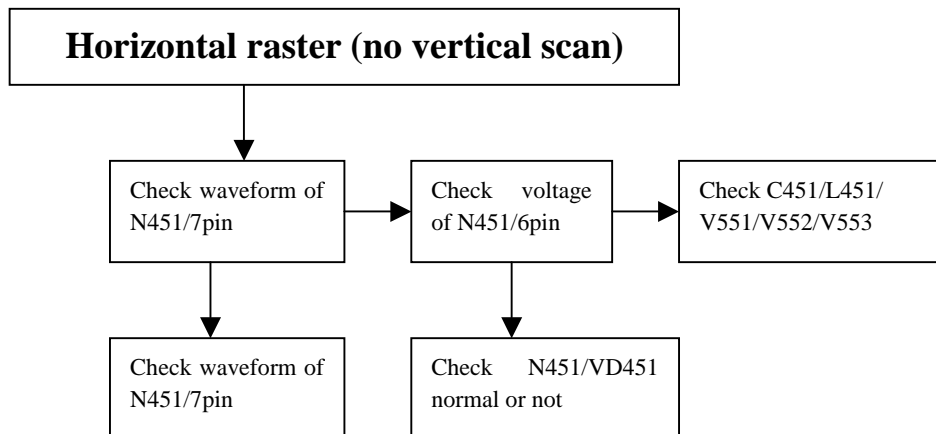
## Troubleshooting list

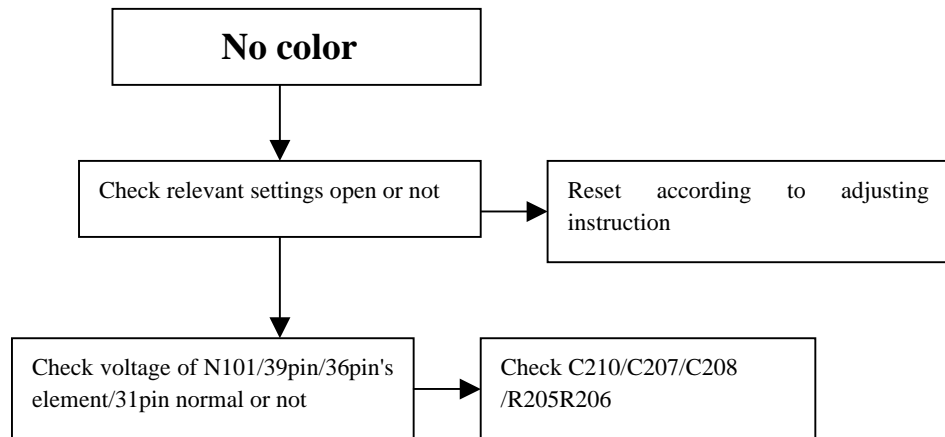
### No raster



### No picture









Для ТВ Erisson 2105.

Пользовательский ПДУ содержит в себе возможность управления входом в сервисное меню телевизора. Контактная площадка находится под указанной на рисунке кнопкой, но сама кнопка не имеет металлизированного напыления.



Для ТВ Erisson 2107, 14GX37

Аналогично модели 2105, пульт модели 2107(14GX37) содержит в себе возможность управления входом в сервисное меню телевизора. Контактная площадка находится под указанной на рисунке кнопкой, но сама кнопка не имеет металлизированного напыления.

Further notice will not be given if some specifications change.  
This circuit diagram is for reference only.

