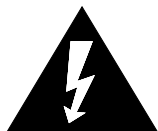


CAUTION:

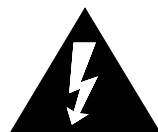
Use of controls, adjustments or procedures other than those specified herein may result in hazardous radiation exposure.



CAUTION
RISK OF ELECTRIC
SHOCK DO NOT OPEN.



CAUTION: TO REDUCE THE RISK OF ELECTRICAL SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.



The lightning flash with arrowhead symbol, with an equilateral triangle is intended to alert the user to the presence of uninsulated “dangerous voltage” within the product’s enclosure that may be of sufficient magnitude to constitute a risk of electric shock to the person.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

**WARNING: TO REDUCE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT
EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.**

IMPORTANT SAFETY INSTRUCTIONS

CAUTION:

Read all of these instructions. Save these instructions for later use. Follow all Warnings and Instructions marked on the audio equipment.

1. Read Instructions- All the safety and operating instructions should be read before the product is operated.
2. Retain Instructions- The safety and operating instructions should be retained for future reference.
3. Heed Warnings- All warnings on the product and in the operating instructions should be adhered to.
4. Follow Instructions- All operating and use instructions should be followed.

FOR YOUR PERSONAL SAFETY

1. When the power cord or plug is damaged or frayed, unplug this television set from the wall outlet and refer servicing to qualified service personnel.
2. Do not overload wall outlets and extension cords as this can result in fire or electric shock.
3. Do not allow anything to rest on or roll over the power cord, and do not place the TV where power cord is subject to traffic or abuse. This may result in a shock or fire hazard.
4. Do not attempt to service this television set yourself as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.
5. Never push objects of any kind into this television set through cabinet slots as they may touch dangerous voltage points or short out parts that could result in a fire or electric shock. Never spill liquid of any kind on the television set.
6. If the television set has been dropped or the cabinet has been damaged, unplug this television set from the wall outlet and refer servicing to qualified service personnel.
7. If liquid has been spilled into the television set, unplug this television set from the wall outlet and refer servicing to qualified service personnel.
8. Do not subject your television set to impact of any kind. Be particularly careful not to damage the picture tube surface.
9. Unplug this television set from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.
- 10.1. Do not place this television set on an unstable cart, stand, or table. The television set may fall, causing serious injury to a child or an adult, and serious damage to the appliance. Use only with a cart or stand recommended by the manufacturer, or sold with the television set. Wall or shelf mounting should follow the manufacturer's instructions, and should use a mounting kit approved by the manufacturer.
- 10.2. An appliance and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the appliance and cart combination to overturn.



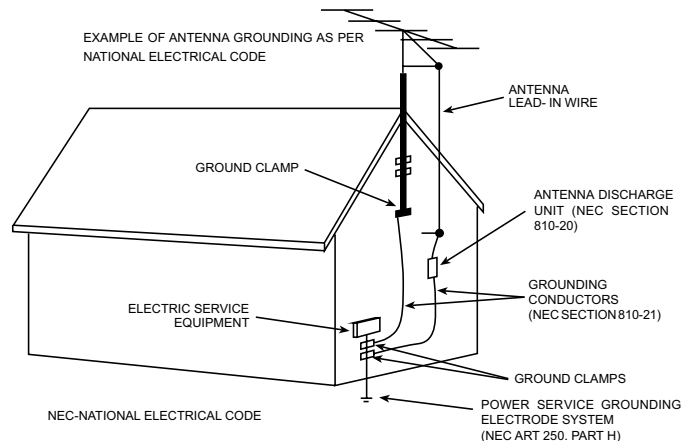
PROTECTION AND LOCATION OF YOUR SET

11. • Do not use this television set near water ... for example, near a bathtub, washbowl, kitchen sink, or laundry tub, in a wet basement, or near a swimming pool, etc.
 - Never expose the set to rain or water. If the set has been exposed to rain or water, unplug the set from the wall outlet and refer servicing to qualified service personnel.
12. Choose a place where light (artificial or sunlight) does not shine directly on the screen.
13. Avoid dusty places, since piling up of dust inside TV chassis may cause failure of the set when high humidity persists.
14. The set has slots, or openings in the cabinet for ventilation purposes, to provide reliable operation of the receiver, to protect it from overheating. These openings must not be blocked or covered.
 - Never cover the slots or openings with cloth or other material.
 - Never block the bottom ventilation slots of the set by placing it on a bed, sofa, rug, etc.
 - Never place the set near or over a radiator or heat register.
 - Never place the set in a "built-in" enclosure, unless proper ventilation is provided.

PROTECTION AND LOCATION OF YOUR SET

- 15.1. If an outside antenna is connected to the television set, be sure the antenna system is grounded so as to provide some protection against voltage surges and built up static charges, Section 810 of the National Electrical Code, NFPA No. 70-1975, provides information with respect to proper grounding of the mast and supporting structure, grounding of the lead-in wire to an antenna discharge unit, size of grounding conductors, location of antenna discharge unit, connection to grounding electrode, and requirements for the grounding electrode.

EXAMPLE OF ANTENNA GROUNDING AS PER NATIONAL ELECTRICAL CODE INSTRUCTIONS



- 15.2. Note to CATV system installer : (Only for the television set with CATV reception)

This reminder is provided to call the CATV system installer's attention to Article 820-40 of the NEC that provides guidelines for proper grounding and, in particular, specifies that the cable ground shall be connected to the grounding system of the building, as close to the point of cable entry as practical.

16. An outside antenna system should not be located in the vicinity of overhead power lines or other electric lights or power circuits, or where it can fall into such power lines or circuits. When installing an outside antenna system, extreme care should be taken to keep from touching such power lines or circuits as contact with them might be fatal.
17. For added protection for this television set during a lightning storm, or when it is left unattended and unused for long periods of time, unplug it from the wall outlet and disconnect the antenna. This will prevent damage due to lightning and power-line surges.

OPERATION OF YOUR SET

18. This television set should be operated only from the type of power source indicated on the marking label. If you are not sure of the type of power supply at your home, consult your television dealer or local power company. For television sets designed to operate from battery power, refer to the operating instructions.
19. If the television set does not operate normally by following the operating instructions, unplug this television set from the wall outlet and refer servicing to qualified service personnel. Adjust only those controls that are covered in the operating instructions as improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the television set to normal operation.
20. When going on a holiday : If your television set is to remain unused for a period of time, for instance, when you go on a holiday, turn the television set " off " and unplug the television set from the wall outlet.

IF THE SET DOES NOT OPERATE PROPERLY

21. If you are unable to restore normal operation by following the detailed procedure in your operating instructions, do not attempt any further adjustment. Unplug the set and call your dealer or service technician.
22. Whenever the television set is damaged or fails, or a distinct change in performance indicates a need for service, unplug the set and have it checked by a professional service technician.
23. It is normal for some TV sets to make occasional snapping or popping sounds, particularly when being turned on or off. If the snapping or popping is continuous or frequent, unplug the set and consult your dealer or service technician.

FOR SERVICE AND MODIFICATION

24. Do not use attachments not recommended by the television set manufacturer as they may cause hazards.
25. When replacement parts are required, be sure the service technician has used replacement parts specified by the manufacturer that have the same characteristics as the original part. Unauthorized substitutions may result in fire, electric shock, or other hazards.
26. Upon completion of any service or repairs to the television set, ask the service technician to perform routine safety checks to determine that the television is in safe operating condition.

PFS (Product Functional Specification)	
Date: 3 - Mar. - 2005	21A31SG
ProductView.....:TCL	
Report by.....:Susan Li	
Specs / Products	
MasterData	
Customer Id	BGH S.A.
Version	
BOM No	04-DA31SG-AG49
Brand	TELEFUNKEN
Reception	
-Tuning - presets/channels	
100	
125	
181	X
-Tuning - technology	
PLL	X
VST	
-Tuning - Indication	

-Freq Bands	
UVSH	
Full-Cable	X
-Channels	
-IF Freq	
38MHz	
38.9MHz	
45.75MHz	X
-TV Systems Off Air/ Cable	
NTSC M (3.58 - 4.5)	X
NTSC (4.43 - 5.5)	
NTSC (4.43 - 6.5)	
NTSC 3.58	
NTSC 4.43	
PAL B/G	
PAL D/K	
PAL I	
PAL M/N	X
SECAM B/G	
SECAM D/K	
-Add Systems Ext In	
NTSC 3.58	X
NTSC 4.43	X
NTSC Play Back	
PAL 60	
-TV Systems Multi	
NTSC	
PAL	X
-Sound Systems	
AV Stereo	X
German Stereo	
American Stereo	X
Korean Stereo	
Picture - Processing	
-Scan	
Standard	X
-Scan Modes	
4:3	X
4:3 Expand	
-Wide Screen Switching	
-Combfilter	
-Picture Control	
Brightness	X
Colour/Hue/ tint	X
Contrast	X
Color Temperature	X
Sharpness	X
Smart Pict. 4 Modes	X
Smart Pict. 5 Modes	
-Pict Enhancement	
Active Control (without LNA)	
Black Stretch	X
dynamic skin	
-Pict Noise Reduction	
NR	
Picture - Display	
-Display Type	
DV - CRT - Normal Flat	
DV-CRT-Pure Flat	X
DV - CRT - Super Flat	
DV - CRT - RF	
-Screen Format	
4:3	X
Expand 4:3	
16:9	
-Size(Visual)" - size/vis. cm	
14(13V) - 37/34 cm	
21(20V) - 55/51cm	X
25(00v) - 00/00cm	
29(27v) - 72/68cm	
34(00v) - 00/00cm	
-Deflection System (CRT only)	
1 Fh	X
-Tube Technology (CRT only)	
Iron	X
Black Matrix	X
-CRT Defl	
090 degr	
100 degr	
110 degr	
500 degr	
-CRT Gun	
Stand Gun	X
-CRT Magn field	
Neutral	
S Hemisphere	
North-Neutral	
-Resolution	

Date: 3 - Mar. - 2005	
ProductView.....:TCL	
Report by.....:Susan Li	
Specs / Products	21A31SG
-Coating (only for D.V. sets)	
-White Point	
Sound	
-Leaflet Power	
01W	
02W	
04W	
06W	
08W	X
10W	
12W	
20W	
-RMS Power Intern	
1x1W	
2x1W	
2x2W	
2x3W	
2x4W	X
2x5W	
2x6W	
2X10W	
-RMS Power Extern	
-Surround Sound	
-Sound Features	
AVL	X
Mute	
-Sound Control	
Balance	X
Bass	X
Bass Boost	
Treble	X
Treble Boost	
Volume	X
Smart Sound 4 Modes	
Sound - Speakers	
-Speaker configuration	
2x1	
-Speakers used	
Normal Range	X
Full Range	
-Speaker Size	
1.7" x 5"	
2x4"	
50x120 mm	
76x127 mm	X
User Interface	
-Interface Name	
-Voice Control	
-Menu	
Cursor Control	X
-Menu Colours	
-Menu Languages	
Arabic	
Chinese - Simplified	
Chinese - Traditional	
English	X
Spanish	X
French	X
Portuguese	X
Malay	
Thai	
-Record Select - sources:	
-Special Features	
On/Off Timer	X
Sleep timer	X
Game	
Notebook	X
Calendar	X
Auto Standby	X
Channel Naming	
Channel Lock	X
Favorite Channel	X
Manual Skip	
Personal Zapping	
Signal Strength Indicator	
V-chip with Smart Lock	
CCD	X
-Operational Features	
Alternate Channel	
Surf	
-PP Features	
One PP for all channels	
-Tuning / Install Features	
Aut Cable/Ant. Select	X
Auto Channel Prog	X
Auto Store	X
Factory Mode	X
Fine Tuning	X
Language Selection	X
Manual Search/Store	X
Service Mode	X
-Clock/Timer Functions	
Sleep timer	X
Alarm Timer	
Crystal Clock	
Biological Clock	X
-Local Controls Front	
Channel +/-	X
Mains Switch (Flush)	X
Volume +/-	X
TV/AV	X
Auto search	X
menu	X
-Local Controls Top	

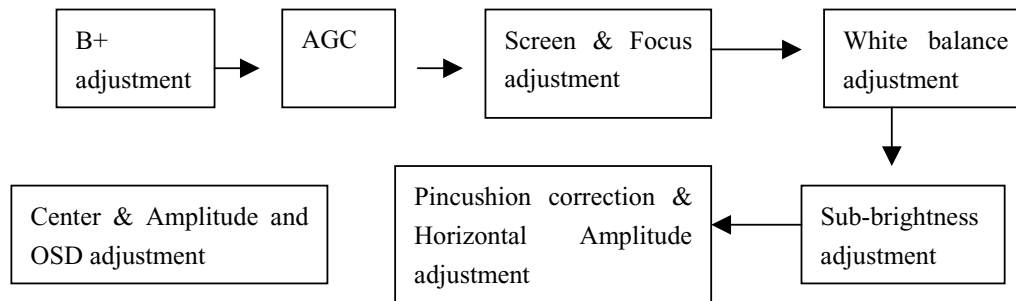
Date: 3 - Mar. - 2005	
ProductView.....:TCL	
Report by.....:Susan Li	
Specs / Products	21A31SG
Channel +/-	
Volume +/-	
-Indicators - screen	
-Indicators - front	
RC Recvd LED	X
SB LED	X
-Numb of Loc Cont (incl Mains)	
5	
7	
8	X
-Number of Ind. (incl Mains)	
1	X
-Local Controls (Old)	
Remote Control	
-Remote Control - scope	
TV	X
-Remote Control - type	
Standard	X
-Remote Control - typenr	
F	X
Q	
RCLA014	
RCLA015	
-Remote Control - features	
Connectors Rear	
-Scart RGB+Y/C+CVBS	
-Scart RGB+CVBS	
-Scart CVBS+Y/C	
-Component In (Y/U/V) Cinch	X
-Component In (YPbPr) Cinch	
-In Y/C+Cinch(CVBS+St)	
1x	X
-In Y/C+Cinch(CVBS+Mo)	
-In Y/C+Cinch(St)	
-In BNC (CVBS)	
-In Cinch(CVBS+Mo)	
Ext(1)	
-In Cinch(CVBS+St)	
Ext1	
-Out Y/C+Cinch(CVBS+St)	
-Out Cinch(CVBS+St)	
1x	X
-Out Cinch(CVBS+Mo)	
1x	
-Out Cinch Audio Stereo	
-Out Cinch Audio Mono	
-Out Cinch Dolby Surround	
-Out Cinch Subwoofer	
-Dig Audio Out	
-Loudspeakers	
-Control Busses	
-Feature Slot	
-ITV Smart Port	
-Terr. Antenna in	
75 Ohms (IEC type)	X
Guide + IR Blaster Jack	
Connectors Front	
-In Y/C + Cinch(CVBS+St)	
-In Y/C + Cinch(CVBS+Mo)	
-In Y/C + Cinch Stereo	
-In Cinch (CVBS + St)	
-In Cinch (CVBS+Mo)	
Yes	
-Headphone Out	
Mini-Jack 3.5mm	
-Feature Slot	
Connectors Side	
-In Y/C + Cinch(CVBS+St)	
-In Y/C + Cinch Stereo	
-In Cinch (CVBS + St)	
Yes	X
-In Cinch (CVBS + Mo)	
Yes	
-Headphone Out	
Mini-Jack 3.5mm	
Connectors Top	
-In Cinch (CVBS + St)	
-Headphone Out	
Connectors Mechanical	
-Headphone	
-Cinch A/V in/out	
-Cinch Component	
-Cinch Y/C	
Styling	
-Cabinet Name	21A31SG
-Configuration	
DAS	
Symm	X
-Graphics/Logo's	Telefunken
-Cabinet Colour and Finish	
Silver Frost	
Silver Shadow	
-Mechanics	
-Speaker Visibility	
Standard	
General	
-Segment	
Standard 4:3	X
-Chassis	M123A
-Software Delivery Mode	
-Software Version	
-Mains Voltage	
110V - 270V	X
90 - 260V	

Date: 3 - Mar. - 2005	
ProductView.....:TCL	
Report by.....:Susan Li	
Specs / Products	21A31SG
90-276 AutoV	
150 - 276 V	
-Mains Frequency	
50/60Hz	X
-Type Mains Cord	
FlatPin(Non-Polarised)	
Australia	
Australia / New Zealand	
Euro	
Argentina	X
New Zealand	
Power Consumption (P)TV in On	
Power Consumption SB in Watts	
Less than 1	
Less than 3	X
Less than 6	
Less than 10	
Power Consumption Semi SB in W	
-Power in "ON" for	
-Power in Standby for	
-Power in "OFF" for	
-INDICATION on BACKCOVER	
Made-in in Family Sheet	
FCC/Elect Shock caution label	
Serial label	
Warning label on backcover	
-Channel	
National Org.-NO	
Final Equipment	
-Packaging - methods	
2 Colour Printing	
Brown Carton	
White Carton	
-Documents and manuals	
Instruction Book (User Manual)	
Adbertising Brochure	
Extended Warranty Brochure	
Guarantee Doc	
Screen Sticker	
Approbation Labels	
Easy installation Guide	
Plastic Bag	
Warning label	
Warranty Card	
-Languages DFU	
Arabic	
English	X
Local Integration	
Malay	
Spanish	
Thai	
-Cables Supplied	
-Antenna Supplied	
-Stand Supplied	
-Aux Equipm Supplied	
Batteries for RC (2 x AA)	
Miscellaneous	
-EAN Indication	
Yes	
-Approbation	
TIS	
CB	X
AS/NZS3250 (Aust.)	
C TICK (Australia)	
CS (Australia)	
Hong Kong	
NZRFSS (New Zealand)	
PSB- Spring (safety mark)	
S Mark (Thailand)	
SABS (South Africa)	
SASO (Saudi Arabia)	
SCCP LISTING (Saudi Ar.)	
SIRIM (Malaysia)	
IEC60065	
-Tests	
-Local Integration	
PIP/POP	
-Type	
-Features	
Digital Reception	
-Transmission	
-Profile/Level	
Digital Software	
-Services	
Digital Connections	
-Digital Rear	
Built-in Data System	
-Text Standard	
No Text	
-(Tele)text Features	
1 Page text	
10 Page text	
-Nbr bacgrnd page/Mem Size	
-Text Technology	
-Digital Data handling	
-Program Guide	
Built-in Clock/Timer	
-Type	
-Features	
Built-in Radio	
-Type	
Built-in PC display	
-PC Synch	

Date: 3 - Mar. - 2005	
ProductView.....:TCL	
Report by.....:Susan Li	
Specs / Products	21A31SG
-PC Control	
Built-in Media Slots/ DVD driver	
-Type of Medium	
-Type of Deck	
-Version of Deck	
-Playback Formats	
-Copy Protection Compliance	
Phased Out Items	
-Tuner/Frontend	
-Sensitivity	
-CRT EHT	
-Lightning Protection	
-Account	
-XX(Radio Antenna in)	
-Non Volatile Memory	
-In Y/C + Cinch(CVBS+Mo)	
Version of deck	

Alignment Procedure of 2170SG Color TV

1. FLOWCHART OF ALIGNMENT PROCEDURE

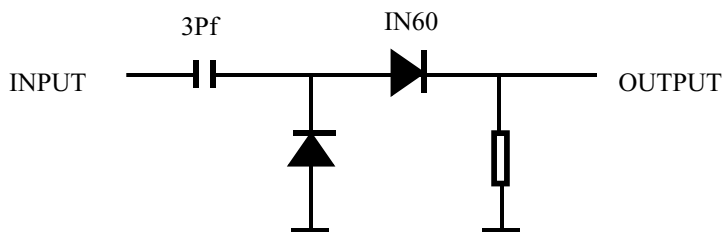


2 Adjustment of B+ voltage

- 1) Apply 120VAC(±5V) to mains power input, and Philips standard testing pattern to RF input.
- 2) Adjust VR830 in STANDARD mode until voltage at TP2 (B+) is 108V ±0.5V.

3. RF AGC adjustment

Observe monitor the collector waveform of Q101 with the probe of Oscilloscope as illustration below. Select channel 2 (>70dB) from the antenna input. Enter D-mode, select menu6 to adjust RFAGC item until the monitor peak value to 0.8V_{p-p}.



4. Screen & Focus voltage adjustment

Apply pattern signal in normal status, enter D-mode, press “TV/AV” button to turn off the vertical output.

Adjust the SCREEN switch on the flyback transformer to make a horizontal shining line just visible on the screen.

Turn on the vertical output, adjust the “FOCUS” on the flyback transformer to obtain the optimum focus.

5. White balance adjustment

1) Apply the black and white pattern in normal status;

2) Alignment of normal color temperature

Change Color Temperature to normal status

Use a color analyzer to measure the black side of the screen. By changing the value of RC, GC and BC, set the reading of the color analyzer to X=285, Y=295.

Use a color analyzer to measure the white side of the screen. By changing the value of GD, BD, set the reading of the color analyzer to X=285, Y=295.

Separately set the brightness and contrast from min. to max., repeat the step 2 and 3 until the reading of the color analyzer is correct.

3)Alignment of warm color temperature

Change Color Temperature to warm status

Use a color analyzer to measure the black side of the screen. By changing the value of RC-W, GC-W and BC-W, set the reading of the color analyzer to X=294, Y=303.

Use a color analyzer to measure the white side of the screen. By changing the value of GD-W, BD-W set the reading of the color analyzer to X=294, Y=303.

Separately set the brightness and contrast from min. to max., repeat the step 2 and 3 until the reading of the color analyzer is correct.

4)Alignment of cold color temperature

Change Color Temperature to cold status

Use a color analyzer to measure the black side of the screen. By changing the value of RC-C, GC-C BC-C , set the reading of the color analyzer to X=279, Y=286.

Use a color analyzer to measure the white side of the screen. By changing the value of GD-C, BD-C, set the reading of the color analyzer to X=279, Y=286.

Separately set the brightness and contrast from min. to max., repeat the step 2 and 3 until the reading of the color analyzer is correct

Note: Provided the production line is equipped with the self- White balance adjusting equipment, white balance of M123A chassis can be adjusted automatically as following: Press “I²C BUS” button under factory mode, the TV set will adjust automatically.

6. Adjustment of Sub-brightness,

Apply the Grey-scale/Color bar (NTSC signal) to the AV input, in normal status.

Select BRTC to adjust the sub-brightness, until that the 2nd dark bar of 8 level Grey scale just can be seen.

7. PAL picture geometric adjustment

menu 3

HPOS6/HPOS5 HZ horizontal center of 60/50 HZ Source

Menu 2

HIGH6/HIGH5(vertical amplitude)

VCEN5/VCEN6(position of vertical center)

VP60/VP50 vertical position

VLIN6/VLIN5 vertical linearity

VSC6/VSC5 V-S Correction

8 initialization

press **sound-effect** under factory mode, the set will initialize, until “OK” appears on the screen which means the initialization is finished. After initialization, the set will quit factory mode automatically.

Factory settings

D-mode:

Enter D-Mode by pressing D-Mode ON/OFF key, and then you can enter the D-mode.

S-mode:

Enter S-Mode by pressing VOLUME DOWN key on the unit until the volume decrease to minimum level, then press the DISPLAY key on the remote handset (don't release the volume key) and you can enter S- mode.

After enter D-mode or S-mode, press **OK**, then press program up/down to select menu from menu 1 to menu 22, press **OK** to enter the menu, press program up/down to select item, press volume up/down to adjust the setting. Press D-mode again to quit factory mode.

You can also enter menu 1 to menu 19 directly by pressing digital button 1~9, 0, notebook, CAP, Display, Sleep, Calendar, System/INS, Favorite, Return, Picture.

Menu 1 (Remote key: "1")

<i>Item</i>	<i>Remark</i>
RC	R cut-off setting
GC	G cut-off setting
BC	B cut-off setting
GD	G drive setting
BD	B drive setting

Menu 2 (Remote key: "2")

<i>Item</i>	<i>Remark</i>
HIGH5	Height (50Hz)
VP50	Vertical position (50Hz)
VLIN5	Vertical linearity (50Hz)
VSC5	Vertical S correction (50Hz)
VBLK5	Vertical blanking start & stop [1C, bit 3 ~ 0]
VCEN5	Vertical center (50Hz)

Menu 2 (Remote key: "2")

<i>Item</i>	<i>Remark</i>
HIGH6	60Hz height
VP60	Vertical position
VLIN6	60Hz Vertical linearity
VSC6	Vertical S correction (60Hz)
VBLK6	Vertical blanking start & stop [1CH, bit 3 ~ 0]
VCEN6	Vertical center (60Hz)

Menu 3 (Remote key: "3")

<i>Item</i>	<i>Remark</i>
HPOS5	Horizontal position (50Hz)

Menu 3 (Remote key: "3")

<i>Item</i>	<i>Remark</i>
HPOS6	Horizontal position (60Hz)

Menu 4 (Remote key: “4”)

<i>Item</i>	<i>Remark</i>
CNTX	Maximum contrast
CNTN	Minimum contrast
BRTX	Maximum brightness
BRTN	Minimum brightness
COLX	Maximum color
COLN	Minimum color
TNTX	Maximum tint level
TNTN	Minimum tint level

Menu 5(Remote key: “5”)

<i>Item</i>	<i>Remark</i>
BRTC	50% brightness
COLC	50% color
COLP	Color level for PAL
SCOL	UV gain [06H, bit 6 ~ 4]
SCNT	Sub-contrast [06H, bit 3 ~ 0]
CNTC	50% contrast
TNTCT	50% tint level (TV mode)
TNTCV	50% tint level (AV mode)

Menu 6(Remote key: “6”)

<i>Item</i>	<i>Remark</i>
ST3	50% Sharpness (TV mode, 3.58 system)
SV3	50% Sharpness (AV mode, 3.58 system)
SV4	50% Sharpness (AV mode, other system)
SVD	50% Sharpness (DVD mode)
ASSH	Asymmetric sharpness [04H, bit 7 ~ 5]
SHPX	Maximum sharpness
SHPN	Minimum sharpness

Menu 7(Remote key: “7”)

<i>Item</i>	<i>Remark</i>	
MOD1	Bit 0, Bit 1	under factory mode : 00,11, STD 01:IRC 10:HRC
	Bit 2	STD, IRC,HRC 1: user control 0: under factory mode
	Bit 3	1: forbid CATV 95/96/97
	Bit 4	
	Bit 5	1: have CCD
	Bit 6	1:have V-CHIP
	Bit 7	1:as Monitor no TV mode
MOD2	Bit 0, Bit 1	Speed of searching
	Bit 2	High sensitivity 1 yes 0:no
	Bit 3	Volume control 1:PWM
	Bit 4	AV1: 1 yes 0:no
	Bit 5	AV2: 1 yes 0:no
	Bit 6	YUV: 1 yes 0:no
	Bit 7	
MOD3	Bit 0	
	Bit 1	
	Bit 2	

	Bit 3	
	Bit 4	
	Bit 5	TV MSP AVL: 1: yes
	Bit 6	AV MSP AVL 1:yes
	Bit 7	MONO+SAP 1 yes 0 no
OPT	Bit 0	When blue background off (mute pin of CPU): 0: audio mute on 1: audio mute off
	Bit 1	When blue background off (external mute pin of CPU): 0: audio mute on 1: audio mute off
	Bit 2	When change channel: 0: picture mute off 1: picture mute on
	Bit 3	Switch between TV and CATV or change channel in the tune menu 1: picture mute on
	Bit 4	AFT –MUTE 1: ON,
	Bit 5	Polarity of Tint
	Bit 6	
	Bit 7	
OPTM1	Bit 0	TDA98500 0:no 1:yes
	Bit 1	MSP34xx 0:no 1:yes
	Bit 2	1: AV audio out mute when volume is zero or mute
	Bit 3	1: decreasing contrast when menu on
	Bit 4	1: OSD don't disappear automatically
	Bit 5	1:biological
	Bit 6	0: CH LOCK W/O V-CHIP
	Bit 7	When turn on 0:child lock off 1:child lock on
OPTM2	Bit 0	
	Bit 1	Power on mode: 00: standby 01:previous
	Bit 2	10&11: force power on
	Bit 3	Hotel mode 1:on 0: off
	Bit 4	Power on under hotel mode
	Bit 5	00: TV 01: Video1 02: TV2 03: Last
	Bit 6	1: under factory mode turn off the set by the remote or power off, then turn on or power on, the set enter factory mode
	Bit 7	1: D-MODE
HDCNT		
HSTOP		

Menu 8 (Remote key: “8”)

Item	Remark
RFAGC	RFAGC [12H, bit 5 ~ 0]
BRTS	Sub brightness for SECAM
OSD	Horizontal position of OSD
OSDF	OSD PLL DATA
CCD OSD	Horizontal position of CCD OSD
CCD OSDF	PLL DATA of CCD OSD
TXCX	OSD intensity when maximum contrast
RGCN	OSD intensity when minimum contrast

Menu 9(Remote key: “9”)

<i>Item</i>	<i>Remark</i>
V01	Volume 1
V25	Volume 25
V50	Volume 50
V100	Volume 100
VOLMAX	Max volume under hotel mode
CURTCEN	Center of the curtain
VOLX	Output gain of PIN28 of TMPA8823 or MSP34x5
PWTM	When use PWM to mute and no sound when changing channel, this item should be minimum as possible

Menu 10(Remote key: “0”)

<i>Item</i>	<i>Remark</i>							
MDOE4	Bit 0	TV Color system	AUTO	1	yes	0	no	
	Bit 1	TV Color system	NTSC358	1	yes	0	no	
	Bit 2	TV Color system	PALM	1	yes	0	no	
	Bit 3	TV Color system	PALN	1	yes	0	no	
	Bit 4	AV Color system	AUTO	1	yes	0	no	
	Bit 5	AV Color system	NTSC358	1	yes	0	no	
	Bit 6	AV Color system	PALM	1	yes	0	no	
	Bit 7	AV Color system	PALN	1	1	yes	0	no
MDOE5	Bit 0	English:	1	yes	0	no		
	Bit 1	French:	1	yes	0	no		
	Bit 2	Portuguese:	1	yes	0	no		
	Bit 3	Spanish :	1	yes	0	no		
	Bit 4	AV Color system PAL443	1	1	yes	0	no	
	Bit 5	AV Color system NTSC443	1	1	yes	0	no	
	Bit 6	AV AUTO 1:AUTO1(PAL443 NTSC358 NTSC443) 0:AUTO2(NTSC358 PALM PALN)						
	Bit 7							
MDOE6	Bit 0	1:auto search function of the menu key on the front panel						
	Bit 1	1: curtain when turn on the set						
	Bit 2	1: curtain when turn off the set						
	Bit3~ 7	V-mute timing when changing channel(01H = 8ms) max :248ms						
MDOE7	Bit 0 Bit 1	When sound mode change 11:change to the corresponding mode and ODS display automatically 01: change to the corresponding mode and ODS doesn't display 00,10: change to MONO ODS doesn't display						
	Bit 2	00 10 detect BTSC and Korea stereo automatically						
	Bit 3	01 force BTSC 11 force Korea stereo						
	Bit 4	FINE, 1:yes 0 no						
	Bit 5	50Hz block 1:yes 0 no						
	Bit 6	1: contrast change when power on						

	Bit 7	
MDOE8	Bit 0	America V-CHIP standard 1 yes 0 no
	Bit 1	Canadian V-CHIP 1 yes 0 no
	Bit 2	UNRATED 1 yes 0 no
	Bit 3	NO RATING 1 yes 0 no
	Bit 4 ~Bit 7	Time setting for curtain when turn on the set
MDOE9	Bit 0 ~Bit 2	N/A
	Bit 3	S-VIDEO ,0:parallel to AV1 1: parallel to AV2
	Bit 4	1:sound effect w/o mpx (MSP3465)
	Bit 5 ~Bit 7	N/A

Menu 12(Remote key: “CAP”)

Item	Remark
OSD2	OSD Horizontal Position
OSDF2	OSD PLL DATA except
PYNX	Normal H.SYNC max
PYNN	Normal H.SYNC min
PYXS	Search H.SYNC max
PYNS	Search H.SYNC min

Menu 13 (Remote key: “Display”)

Item	Remark	
CLTM	TV mode	
CLVO	Video mode	
CLVS	s-video mode	
	Bit 2 ~ 0	YDL [15H, bit 2 ~ 0] (-40ns~240ns)
	Bit 4 ~ 3	NTSC matrix [03H, bit 7 ~ 6] (N1,N2,DVD)
	Bit 5	C gamma [02H, bit 7] (color gamma on/off)
	Bit 6	P/N ID [17H, bit 4] (PAL/NTSC killer sensit.)
	Bit 7	FID [17H, bit 3] (Killer off)
ABL	Bit 1 ~ 0	ABL gain [16H, bit 5 ~ 4]
	Bit 3 ~ 2	ABL start point [16H, bit 7 ~ 6]
	Bit 4	WPS [00H, bit 7]
	Bit 5	OSD ABCL [16H, bit 3]
DCBS	Bit 1 ~ 0	Black stretch [15H, bit 4 ~ 3]
	Bit 3 ~ 2	Y gamma [15H, bit 6 ~ 5]
	Bit 5 ~ 4	OSD level [16H, bit 1 ~ 0]
	Bit 7	Blank switch [0CH, bit 7]
FLG0	Bit 0	Over modulation [13H, bit 5]
	Bit 1	Aft window size [13H, bit 6]
	Bit 2	Buzz reducer [13H, bit 7]
	Bit 3	Audio gain switch [14H, bit 7]
	Bit 4	
	Bit 5	
	Bit 6	
	Bit 7	1: VCO adjust automatically when changing channel
FLG1	Bit 0	CW SW [06H, bit 7], control PIN26,
	Bit 1	Slice level [1EH, bit 6]
	Bit 2	Mix gain [15H, bit 7]
	Bit 3	V ramp bias [1DH, bit 4]

	Bit 4	
	Bit 5	
	Bit 6	
	Bit 7	SLO f0 shift(test only)

Menu 14(Remote key: “sleep)

<i>Item</i>	<i>Remark</i>	
HAFC	Bit 1 ~ 0	AFC gain (TV mode) [1CH, bit 5 ~ 4]
	Bit 3 ~ 2	AFC gain (AV mode) [1CH, bit 5 ~ 4]
AGCC		
NOIS		
ONTM	V-mute timing when power on (01H = 16ms)	
NSHP	Decreased level of sharpness when noise reduction is on	
PVLVL	X-ray protection start point (00H à 0V & FFH à 5V)	
PLMT	(01H = 8ms)	

Menu 15 (Remote key: “Calendar”)

<i>Item</i>	<i>Remark</i>
RC-C	R cut-off setting (for cool color temperature)
GC-C	G cut-off setting (for cool color temperature)
BC-C	B cut-off setting (for cool color temperature)
GD-C	G drive setting (for cool color temperature)
BD-C	B drive setting (for cool color temperature)

Menu 16 (Remote key: “System/INS”)

<i>Item</i>	<i>Remark</i>
RC-W	R cut-off setting (for warm color temperature)
GC-W	G cut-off setting (for warm color temperature)
BC-W	B cut-off setting (for warm color temperature)
GD-W	G drive setting (for warm color temperature)
BD-W	B drive setting (for warm color temperature)
YUVGC	YUV R cut-off
YUVBC	YUV B cut-off

Menu 17 (Remote key: “FAV”)

<i>Item</i>	<i>Remark</i>
D-COL	Dynamic color
D-BRI	Dynamic brightness
D-CON	Dynamic contrast
D-SHP	Dynamic sharpness

Menu 18 (Remote key: “Return”)

<i>Item</i>	<i>Remark</i>
S-COL	Standard color
S-BRI	Standard brightness
S-CON	Standard contrast
S-SHP	Standard sharpness

Menu 19 (Remote key: “Picture”)

<i>Item</i>	<i>Remark</i>
M-COL	Mild color
M-BRI	Mild brightness
M-CON	Mild contrast
M-SHP	Mild sharpness

Menu 20: no shortcut key

<i>Item</i>	<i>Remark</i>
SEG_POINT1	Highest frequency of VHFL
SEG_POINT2	Highest frequency of VHFH
DATA_VL	VHFL bandswitch BB
DATA_VH	VHFH bandswitch BB
DATA_UF	UHF bandswitch BB
SPE_POS1	The channel number treated specially
SPE_DATA1	Bandswitch in which the special channel BB
SENSI_ON	
SENSI_OFF	

Menu 21: no shortcut key

<i>Item</i>	<i>Remark</i>
THEATER-BAS	Theater bass
THEATER-TRE	Theater treble
CONCERT-BAS	Concert bass
CONCERT-TRE	Concert treble
BROADCAST-BAS	Brocast bass
BROADCAST-TRE	Brocast treble

Menu 22: no shortcut key

<i>Item</i>	<i>Remark</i>
VOL_MAI	Volume Loudspeaker
GATE	Carrier-Mute
VOL-OUT	AV output gain
AV GAIN	AV input Gain

Note:

Provided the production line is equipped with the self-adjusting equipment, The adjusted item should be based on the result by such equipment.

There's difference between PAL geometric/OSD adjustment and NTSC geometric/OSD adjustment. PAL adjustment must be done before NTSC adjustment.

