

## I - ENTER/EXIT SERVICE MODE

### 1.1. Accessing Service Mode

- A) Switch the TV set into the Standby Mode.
- B) Switch off Power Supply.
- C) Switch on Power supply whilst pressing the magenta "TEXT" key continuously until TV set switch on and enter service mode.

### 1.2. Page selecting

Press 1,2,...8 or 9 key of the RCU to enter page 1,2,...8 or 9 of Service Mode.

### 1.3. Navigation:

- Press "Up" and "Down" key to select option;
- Press "Left" and "Right" key to adjust or select option.
- All change in service mode will be saved in EEPROM automatically

### 1.4 Temporary exit from Service Mode

- Press "9" key and select MODE 1.
- Set D-MODE to "Direct key enter enable" .
- Press "OK" KEY on the RC to exit or access to service menu.

### 1.5. Exiting from Service Mode

- Press "OK" KEY on the RC.

Note : Before exiting from Service mode check that D-MODE is set to "Direct key enter disable" (see 1.4).

### 1.6. Brief introduction on some special modes

#### 1.6.1. Aging Mode

It is used before set alignment and should operate in Service mode;  
The TV set cannot enter standby after 15 minutes when no signal if the "AGING" Mode is selected.  
Press blue "GUIDE" Key, the Aging Mode will be entered when "Aging Mode" is shown on screen.  
Press blue "GUIDE" key again will exit "Aging Mode".

#### 1.6.2. Vertical Stop mode

- it is used to adjust the screen voltage.
- Press red "PRESETS" key and repress "PRESETS" (red) key to exit.

#### 1.6.3. White balance alignment mode

- Press "EXIT" key on factory RCU, The set will display "BUS OPEN", which means the I2C bus from the CPU to other UOC3 module and ICs had been released. This is only used during automatic adjustment of white balance.
- Press other key will exit "BUS OPEN".

#### 1.6.4. Reset

- Initialization before the set will took away from factory.
- In factory mode, press "INFO" (P<P) key, then "RESET" will be shown.
- Press "ZOOM+", "BUSY" will be shown.
- Initialization will be finished until "BUSY" disappear.

U03C00C 1.8 2005.07. 20-01

ADR0	01111010	ADR1	01010000
ADR2	10000010	ADR3	00011110
AFC	00000000	RG	00110111
GG	10110111	BG	00110111

DEFL	00001111	DISC	128
LAST	NV : 1878		
ERR:	00000000		
REV:	882204		

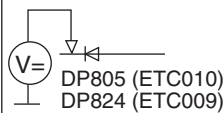
## II . FLOW OF ALIGNMENT PROCEDURE

- 1) B+ Adjustment
- 2) RF AGC Adjustment
- 3) Crystal Oscillator Frequency Adjustment
- 4) Screen & Focus adjustment
- 5) Sub-color adjustment
- 6) White balance adjustment
- 7) Sub-brightness adjustment
- 8) Picture Geometric adjustment
- 9) Reset TV set

### III - ALIGNMENT PROCEDURE

**Notes:** - Alignment should be done after 3 minutes warm up of TV .

#### 3.1. B+ VOLTAGES

<b>B+ Voltage</b>	ETC009: VR801	Standard TV - Settings : ☀️ + 🎯 + 🎯 =50% TV to AV1 : Black test pattern		<b>CRT type</b>	<b>B+ Voltage</b>
	ETC010: - (no alignment)			IRICO A36CPAA 00X02	108V +/- 0.5V
				TTD A51ELD 032X004	112V +/- 0.5V
				LGPD A51ERS 357X440 (SLIM)	108V +/- 0.5V
				ZHONGHUA CHA34AGT13X53	108V +/- 0.5V
				TTD ELM021X001	130V +/- 1.5V
				TTD W76ELC011X001	132.5V +/- 1.5V

#### 3.2. RF AGC

##### 3.2.1. Method 1

- 1) Input 60dB PAL BG , with half-Color Bar signal
- 2) Press key "2" to enter page 2 of factory mode (Fig.1)
- 3) Select RF AGC with " up " or " down " key. .
- 4) Press "ZOOM- " (left) and " ZOOM+ " (light) key until the hint display just change from "Inactive" to "active".)
- 5) Adjust AGCL for SECAM L /L' same as the PAL.

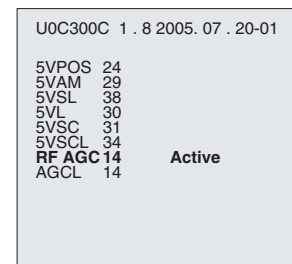
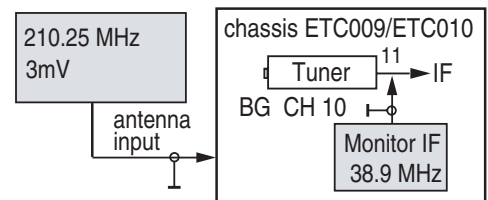


Fig.1

page 2

##### 3.2.2. Method 2

- 1) Apply RF signal of 210.25MHz (BG CH 10) modulated with color bar at 3mVmx to Tuner input
- 2) Tune to CH10
- 3) Go to factory mode, entry page 2 (Fig.1) & set "RF AGC" to 00 (max IF output).
- 4) Monitor 38.9MHz IF frequency response at Tuner pin11 with spectrum analyzer by using high impedance probe or equivalent.
- 5) Increase RF AGC control until IF frequency response 8 +1/-2 d B down from maximum.



#### 3.3. CRYSTAL OSCILLATOR FREQUENCY

**Notes:** - If TV had NICAM function, we recommend to adjust crystal with NICAM.

##### 3.3.1. Crystal oscillator frequency adjustment with NICAM

- a) Apply PAL BG NICAM signal with good reception quality.
- b) Enter factory mode, press "Vol -"(FORMAT) key , it will display " DCXOAUTO " , (Fig.2) then press "ZOOM+" (light) key to start auto adjust , when it displays "DCXOAUTO OK" , the adjust is finished .

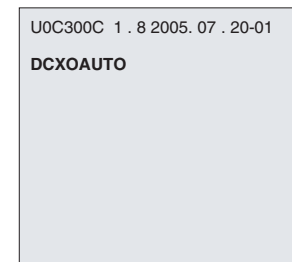


Fig.2

##### 3.3.2. Crystal oscillator frequency adjustment without NICAM

( for software with UOC3 TDA12070/12072 only )

- a) Input PAL color bar signal.
- b) Enter factory mode, press "Vol -"(FORMAT) key , it will display " DCXOAUTO " , then press "ZOOM+" (light) key to start auto adjust , when it displays "DCXOAUTO OK" , the adjust is finished .

##### 3.3.3. Crystal oscillator frequency adjustment without NICAM

- a) Input PAL color bar signal.
- b) In factory mode, press "0" to entry page 0 , (Fig.3). Adjust "DCXO CAP" until display " DISC " is steady at 128.

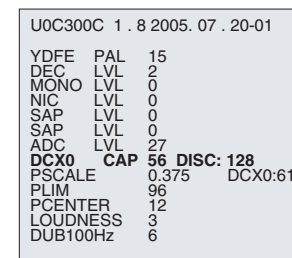
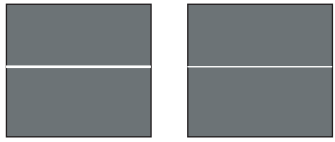

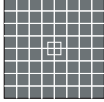


Fig.3

page 0

Notes: - Alignment below should be done after 15 minutes warm up of TV.

### 3.4. G2 & FOCUS

<p><b>U G2</b> <b>Screen voltage adjustment</b></p>	<p>G2 potentiometer : SCREEN Focus-Block</p>	<p>Standard TV - Settings : ☀ + 🌐 + 🌑 = 50% TV to AV1 : Black test pattern</p>	<p>1- Press red "PRESETS" (Led) Key on the remote control and the screen will become a horizontal line, 2- adjust the "screen voltage" of the fly back transformer until the horizontal line can just be seen barely (minimum visible intensity).</p>	
<p><b>FOCUS</b></p>	<p>FOCUS VR Focus-Block</p>	<p>Standard TV - Settings : ☀ + 🌐 + 🌑 = 50%</p>	<p>TV to AV1 Test pattern</p> 	<p>Sharp picture</p> 

### 3.5. SUB COLOR

- Input NTSC Video pattern : AV
- Press key "4" : page 4. (Fig.4).  
Measure at the CRT blue Cathode (Fig.5).
- Adjust COLC to make level a and d equal;  
then TNTC to make level b and c equal;
- Input PAL color bar signal.
- Adjust COLP to make level of a,b,c,d equal ;
- Input SECAM color bar signal, and adjust COLS to make level of a,b,c,d equal.

U0C300C 1 . 8 2005. 07 . 20-01		
VOL	01	30
VOL	10	104
VOL	90	170
VOL	100	188
CNTC		31
BRTC		30
COLC		23
TNTC		35
COLP		3
COLS		23
SHPTV		32

Fig.4

page 4

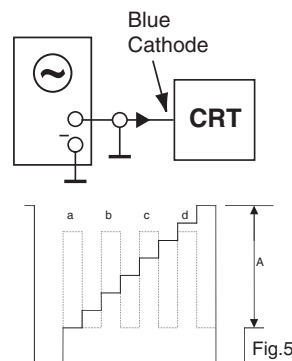


Fig.5

### 3.6. WHITE BALANCE

#### White Balance adjustment (neutral)

- Input RF Black and White pattern signal (PAL).
- Press "1" key to enter white balance adjustment (Page 1:Fig.6)
- Measure the dark side of the picture with a color analyzer.  
Adjust RED and GRN until the data on the analyzer become  $x=284 \pm 8, y=299 \pm 8$ .
- Measure the bright side of the picture.  
Adjust WPR, WPG and WPB until the data on the analyzer become  $x=284 \pm 8, y=299 \pm 8$ .
- Repeat step c and d until you get right white balance on both dark and bright side of the screen.
- Input RGB Black and White pattern signal (PAL).
- Measure the dark side of the picture with a color analyzer.  
Adjust REDC and GRNC until the data on the analyzer become  $x=284 \pm 8, y=299 \pm 8$ .
- Measure the bright side of the picture.  
Adjust WPRC and WPGC until the data on the analyzer become  $x=284 \pm 8, y=299 \pm 8$ .
- Input SECAM L Black and White pattern signal.
- Measure the dark side of picture with a color analyzer,  
Adjust REDSECAM and GRNSECAM until the data on the analyzer become  $x=284 \pm 8, y=299 \pm 8$ .

U0C300C 1 . 8 2005. 07 . 20-01					
		WPR	26	GRNC	40
		WPG	29	WPRC	18
RED	31	WPB	31	WPGC	18
GRN	29	REDC	32	WPBC	15

page 1

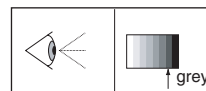


Fig.6

#### Warm color temperature

- Press green "LIST" key .
- item: Warm R ; Warm G ; Warm B : Factory adjust
- Check the item values are as shown opposite.

#### Alignment of Cool color temperature

- Press green "LIST" key.
- item: Cool R ; Cool G ; Cool B : : Factory adjust
- Check the item values are as shown opposite.

U0C300C 1 . 8 2005. 07 . 20-01		
Warm	R	10
Warm	G	10
Warm	B	10
Cool	R	10
Cool	G	10
Cool	B	10

### 3.7. SUB BRIGHTNESS

#### 3.7.1. Sub brightness adjustment

- 1) Input eight steps gray signal.
- 2) Press key "4" to enter sub-brightness adjustment.
- 3) Adjust "BRTC" until the secondary gray bar just to be seen.(Fig.7).

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U0C300C 1 . 8 2005. 07 . 20-01

VOL 01 30
VOL 10 104
VOL 90 170
VOL 100 188
CNTC 31
BRTC 30
COLC 23
TNTC 35
COLP 3
COLS 23
SHPTV 32
    
```

page 4

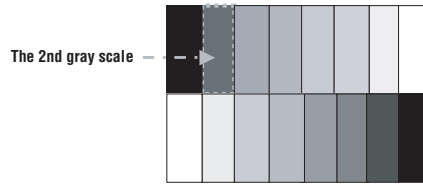


Fig.7

### 3.8 PICTURE GEOMETRY ADJUSTMENT

#### 3.8.1. Vertical geometry items

- Press key "2" to enter Vertical geometry adjustment.

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U0C300C 1 . 8 2005. 07 . 20-01

5VPOS 24
5VAM 29
5VSL 38
5VL 30
5VSC 31
5VSC 34
RF AGC 14
AGCL 14
Active
    
```

page 2

VERTICAL GEOMETRY ITEMS					
<b>5VSL (V-Slope)</b>			<b>5VL (V-Linearity)</b>		
<b>5VAM (V-Amplitude)</b>			<b>5SCL (Vertical S-Correction)</b>		
<b>5VPOS (V-Position)</b>			<b>5VX* (Vertical Over scan)</b>		

\* According to Software

#### 3.8.2. Horizontal geometry items

- Press key "3" to enter Horizontal geometry adjustment.

```

U0C300C 1 . 8 2005. 07 . 20-01

5HSH 36
5PAR 24
5BOW 22
5EWW 33
5EWP 35
5UCR 42
5LCR 32
5EWT 36
5WBR 7
5WBF 7
    
```

page 3

HORIZONTAL GEOMETRY ITEMS					
<b>5HSH* (H-Position)</b>			<b>5UCR (EW-Upper Corner)</b>		
<b>5PAR* (Parallelogram)</b>			<b>5LCR (EW-Lower Corner)</b>		
<b>5BOW* (Bow Adjust.)</b>			<b>5EWT (EW - Trapezium)</b>		
<b>5EWW (H-Amplitude)</b>			<b>5WBR**</b>		<b>End of Blanking</b>
<b>5EWP (Pincushion correct.)</b>			<b>5WBF**</b>		<b>Start of Blanking</b>

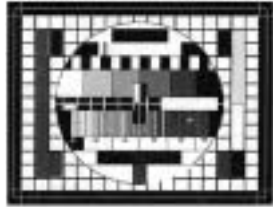














\* Only valid for ETC009 except models with Slim CRT

\*\* Only valid with 16:9 tubes

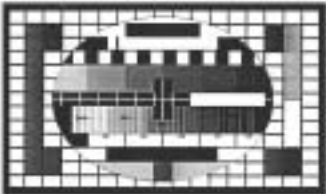














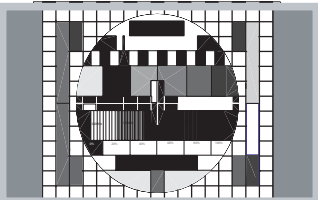




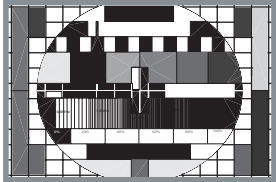




### 3.8.3. Adjustments

Signal : 4/3 test pattern - Cross hatch pattern (PAL or SECAM), NTSC signal to adjust NTSC geometry.

#### 4/3 picture tube

<p>4 / 3 standard mode</p> 		<p style="text-align: center;"><b>Overscan V=107% , H=107%</b></p> <p><b>Vertical adjustment</b> : press "2"          1- Check the Factory adjust 5VSC = 31; Adjust Vertical Slope : 5VSL</p> <div style="display: flex; justify-content: center; gap: 20px;">   </div> <p>2- Adjust Vertical Position (5VPOS) , Vertical amplitude (5VAM).          3- Adjust Vertical Linearity (5VL) and S correction</p> <div style="display: flex; justify-content: center; gap: 10px;">     </div> <p><b>Horizontal adjustment</b> : press "3"          1- Adjust Horizontal Position (5HSH) and Horizontal parallelogram (5PAR),          2- Adjust Horizontal Bow (5BOW)          3- Adjust Horizontal width (5EWW) and Pincushion correction (5LCR)</p> <div style="display: flex; justify-content: center; gap: 10px;">     </div> <p>4 -Adjust EW Amplitude (5EWP) , EW Upper (5UCR) / Lower Corner (5LCR)          5 -Adjust Trapezium correction (5EWT)</p> <div style="display: flex; justify-content: center; gap: 10px;">     </div>
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#### 16/9 picture tube

<p>16 / 9 standard mode</p> 		<p style="text-align: center;"><b>Overscan V=107% , H=107%</b></p> <p><b>Vertical adjustment</b> : press "2"          1- Check the Factory adjust 5VSC = 31; Adjust Vertical Slope : 5VSL</p> <div style="display: flex; justify-content: center; gap: 20px;">   </div> <p>2- Adjust Vertical Position (5VPOS) , Vertical amplitude (5VAM).          3- Adjust Vertical Linearity (5VL) and S correction</p> <div style="display: flex; justify-content: center; gap: 10px;">     </div> <p><b>Horizontal adjustment</b> : press "3"          1- Adjust Horizontal Position (5HSH) and Horizontal parallelogram (5PAR),          2- Adjust Horizontal Bow (5BOW)          3- Adjust Horizontal width (5EWW) and Pincushion correction (5LCR)</p> <div style="display: flex; justify-content: center; gap: 10px;">     </div> <p>4 -Adjust EW Amplitude (5EWP) , EW Upper (5UCR) / Lower Corner (5LCR)          5 -Adjust Trapezium correction (5EWT)</p> <div style="display: flex; justify-content: center; gap: 10px;">     </div>
<p>4 / 3 centered</p> 		<p style="text-align: center;"><b>Overscan V=107% , H=77%</b></p> <p>1 - Check the 16 / 9 standard mode geometry.          2 - Adjust H. width 77% (5EWW) and pincushion correction (5LCR)          3 - Adjust if necessary lower/upper corner (5UCR/5LCR)          4 - Adjust if necessary the Bow correction (5BOW) and parallelogram (5PAR).</p> <div style="display: flex; justify-content: center; gap: 10px;">     </div> <p>5 - Adjust 5WBF 4/3 and 5WBR 4/3to make the castellation just un-visible.</p>
<p>14 / 9</p> 		<p style="text-align: center;"><b>Overscan V=122% , H=90%</b></p> <p>1 - Check the 16 / 9 standard mode geometry.          2 - Adjust H. width 90% (5EWW) and pincushion correction (5LCR)          3 - Adjust if necessary lower/upper corner (5UCR/5LCR)          4 - Adjust if necessary the Bow correction (5BOW) and parallelogram (5PAR).</p> <div style="display: flex; justify-content: center; gap: 10px;">     </div> <p>5 - Adjust 5WBF 14/9 and 5WBR 14/9 to make the castellation just un-visible.</p>

### 3.9 RESET TV

When all item alignment is finished, please make the TV to RESET as 1.4.4.

#### IV - FACTORY ALIGNMENT VALUES

KEY 1		KEY 2		KEY 3		KEY 4	
Item	Data	Item	Data	Item	Data	Item	Data
RED	32	5VPOS	32	5HSH	42	VOL 01	30
GRN	32	5VAM	23	5PAR	33	VOL 10	104
WPR	32	5VSL	28	5BOW	29	VOL 90	170
WPB	32	5VL	30	5EWW	39	VOL 100	188(ETC009 5W)
							194(ETC010 6W)
							176(ETC010,10W)
WPG	32	5VSC *	31	5EWP	34	CNTC	31(ETC009)
							21( for 14"15")
							31(ETC010)
REDC	32	5SCL	31	5UCR	46	BRTC	30
GRNC	32	RF AGC	22	5LCR	43	COLC	23
WPRC	32	AGCL	22	5EWT	26	TNTC	35
WPGC	32			5WBR	7	COLP	3
WPBC	32			5WBF	7	COLS	23
REDSECAM	32					SHPTV	32
GRNSECAM	32						

\* No adjustable

#### V - SERVICE MODE VALUES

##### 5.1 Analog control adjustment

Press key "5" to enter analog adjustment.

KEY 5		
Item	Data	
	ETC009	ETC010
CNTX Max. Contrast value	63	63
CNTN Min. Contrast value	1	3
BRTX Max. Brightness value	63	63
BRTN Min. Brightness value	15	15
COLX Max. Color value	50	50
COLN Min. Color value	0	0
TNTX Max. Tint value	63	63
TNTN Min. Tint value	0	0
SHPX Max. Sharpness value	63	63
SHPN Min. Sharpness value	0	0

##### 5.2 - Picture item adjustment

Press key "6" to enter analog adjustment.

Item	Data	
	ETC009	ETC010
CPFK PAL Peaking value	32	32
CFPEK PAL PAL peaking frequency & value	3.5M 143NS	3.5M 143NS
CFPEK NTS NTS peaking frequency & value	3.1M 160NS	3.1M 160NS
CFPEK YUV YUV peaking frequency & value	4.0M 125NS	4.0M 125NS
IFPL IF Offset	32	32
BBTC Base-band tint control (phase U,V signal)	32	32
PGR Original value of R	55	55
PGG Original value of G	55	55
PGB Original value of B	55	55
ON VAM (depends on tube)	3 ( depends on tube)	0
VG2BRI Brightness of V line when adjust G2	20	20
HDOL RGB drive gain.	3	4

##### 5.3 - OSD Position adjustment

Press key "7" to enter analog adjustment.

Item	Data
OSD BRI OSD brightness	8
CC BRI Teletext brightness	5
5CCD H Position for Teletext	11
5CCD V Position for Teletext	40
5OSD H OSD H position	9
5OSD V OSD V position	32
5MENU V Menu V. position	55
5MENU H Menu H. position	10

## 5.4 - Option adjustment

Press key "8" to enter Option adjustment.

U0C300C 1 . 8 2005. 07 . 20-01	
OP01	00001110
OP02	10000100
OP03	00010011
OP04	00000000
OP05	00100111
OP06	00001011
OP07	11000011
OP08	00000000
OP09	00001100
OP010	00110000

Item	Data
OP01	00001110
OP02	10000100
OP03	00010011
OP04	00000000
OP05	00100111 (10100111 for TDA12070/12072/H/N1F00)
OP06	00001011 (00000100 for TDA12070H/N1F00)
OP07	11000011
OP08	00000000
OP09	00001100
OPT010	00110000

Fig.8

Bit 7 00001110 Bit 0

Check the bytes values. They indicate the configuration of the chassis and are given for information only. The default values are indicated in the follow table.

- Choose the item Op01 ,Op02 ... by pressing **up/down** key.
- Access to the selected Option adjustments by pressing "**Left**" or "**Right**" key

### OP01

U0C300C 1 . 8 2005. 07 . 20-01	
FMWS0/1	450kHz
AGN	6dB
AGC0/1	Normal
AVLM	Normal gain
CMCA	Stereo mode
MAT	Adapted to standard

OP01 : default value : **00001110**

Bit 0 - Bit 1 : FMWS0/1 (Band width FM; 10: 450kHz)  
 Bit 2 : AGN (Audio output amplitude; 1: +6dB gain)  
 Bit 3-Bit 4 : AGC0/1 (AGC time content selection; 01: Normal)  
 Bit 5 : AVLM (Gain for analog FM decoder; 0: Normal gain)  
 Bit 6 : CMCA (stereo/mono- 0: stereo 1: mono)  
 Bit 7 : MAT (Y,U,V to RGB matrix selection - 0:adapted to standard).

### OP02

U0C300C 1 . 8 2005. 07 . 20-01	
MUS	japanese matrix
CB	FSC
CHSE0/1	-37dB
CL0	4.29MHz
DTR	single chroma trap
SDC	Duty cycle 55:45
HC0	EHT tracking on vertical and EW

OP02 : default value : **10000100**

Bit 0 : MUS (Y,U,V to RGB matrix selection).  
 Bit 1 : CB (Select. for center of chroma band; 0: Fsc)  
 Bit 2-Bit 3 : CHSE0/1 (Sensivity of color killer; 01: -37dB)  
 Bit 4 : CL0 (center frequency of SECAM bell filter; 0: 4.29MHz)  
 Bit 5 : DTR (Dual Chroma trap; 0: single chroma trap) .  
 Bit 6 : SDC (Hor. drive pulse width; 0: Duty cycle 55:45).  
 Bit 7 : HC0 (EHT tracking only vertical or vertical and EW).

### OP03

U0C300C 1 . 8 2005. 07 . 20-01	
MVK	Macro vision key active
FBC	off with fix beam current
EVB	Norman vertical blanking
SLG	280uA
ACL	Not active
IFS	Normal
GD L I	No group correction

OP03 : default value : **00010011**

Bit 0 : MVK (Macro Vision Keying; 1: active).  
 Bit 1 : FBC (switch-off with blanked RGB outputs or fixed beam current)  
 Bit 2 : EVB (normal Vert. picture or extended vertical blanking)  
 Bit 3-Bit 4 : SLG0-SLG1 (selection of AKB black current; 10: 280uA)  
 Bit 5 : ACL (control the ratio of chroma/color burst; 0: Not active).  
 Bit 6 : IFS (IF sensitivity; 0: Normal).  
 Bit 7 : GDLI (group correction/group delay correction switch for L and I.  
 0: No group correction).

### OP04

U0C300C 1 . 8 2005. 07 . 20-01	
FFI	Normal time constant
BPB	Normal operation
BPB2	bandpass filter
SSL	50%
FSL	dependent on noise detector
No use	OFF

OP04 : default value : **00000000**

Bit 0 : FFI (IF PLL lock time constant, used for over modulation).  
 Bit 1 : BPB (sound bandpass - filter for mono 0: Normal operation).  
 Bit 2 : BPB2 (stereo band pass - filter for stereo/dual 0: active).  
 Bit 3 : SSL (slice level of Hor. syn. Pulse; 0: 50%).  
 Bit 4 : ACL (slice level of Vert. syn. Pulse; 0: dependant on noise detector).  
 Bit 5,6,7 : No use

## OP05

U0C300C 1 . 8 2005. 07 . 20-01

VAI Amplitude 12%  
VA0/VA1 Amplitude +5%  
FC0 OFF  
VG2 MODE LIGHT LINE  
DSS Normal operation  
DSG 0dB

OP05 : default value : **00100111**

Bit 0 : VAI (gain correction; 0: no correction 1: +12% PAL I).  
Bit 1-Bit 2 : VA0/VA1 (IF CVBS output amplitude correction; 10: +5%).  
Bit 3 : OFB (Offset control on Red and Blue channel).  
Bit 4 : FCO (force color on when bad signal, color killer not active).  
Bit 5 : VG2 MODE (0:OSD indication 1:Line).  
Bit 6 : DSS (0: normal operation 1: LCD / Pscan  
Bit 7 : DSG (audio output selection amplitude; 0: 0dB)

## OP06

U0C300C 1 . 8 2005. 07 . 20-01

DCXOMUX Nicam  
QSS QSS Amp active  
FMI Output conn to QSS0  
NICAM ON  
RPA0/1 1:1  
RPO0/1 1:1

OP06 : default value : **00001011**

Bit 0 : DCXOMUX (0:P3DCX0 TDA12070/12072/without NICAM  
1: NICAM).  
Bit 1 : QSS (validation QSS amplifier; 1: active).  
Bit 2 : FMI (connexion QSS AMP output to SSD module or sound  
PLL demodulator; 0: Output conn to QSS0).  
Bit 3 : NICAM (NICAM selection; 1: ON)  
Bit 4-Bit 5 : RPA0 /1 (00)  
Bit 6-Bit 7 : RPO0/1 (00)

## OP07

U0C300C 1 . 8 2005. 07 . 20-01

PWL 3  
SOC0/1 0% above PWL  
PWL ON PWL circuit active  
GD BG DK Group delay correction

OP07 : default value : **11000011**

Bit 0-1-2-3 : PWL (peak white limit; default : 3)  
Bit 4-Bit 5 : SOC0/1 (% above PW level; 00: 0% above PWL).  
Bit 6 : PWL ON (activation of the peak white limiting circuit; 1: active)  
Bit 7 : GD BG DK (activation of the Group delay correction;  
0: group correction)

## OP08

U0C300C 1 . 8 2005. 07 . 20-01

No use OFF

OP08 : default value : **00000000**

Bit : OFF (No use)

## OP09

U0C300C 1 . 8 2005. 07 . 20-01

AFG False  
TYUV1 False  
BPBS True  
CLF True  
BWYC False  
CBPS False  
SLD False  
OSB False

OP09 : default value : **00001100**

Bit 0 : AFG (AFC measurement; 0: AFC False)  
Bit 1 : TYUV1(Analog output selection for text; valid if TYUV0=1)  
Bit 2 : BPBS (Enable bypass of sound filter at stereo mode)  
Bit 3 : CLF (Comb filter diode clamp; set to1)  
Bit 4 : BWYC (Bandwidth of anti aliasing filter at YC mode of  
3.58MHz systems; 0: False)  
Bit 5 : CBPS (Internal chroma bandpass filter mode; 0: False)  
Bit 6 : SLD (Sleep mode detector status; 0: sleep enabled, False)  
Bit 7 : OSB (width of Burstkey; 0: False burstkey=3.52us)

## OP10

U0C300C 1 . 8 2005. 07 . 20-01

BKC False  
TYUV0 False  
QDT False  
TCCON True  
TCI2X True  
TXTS False  
Blue SCN False

OP10 : default value : **00110000**

Bit 0 : BKC (Internal burst key position; 0: False normal position)  
Bit 1 : TYUV0 (TXT/CC output selection; 0: False, RGB format)  
Bit 2 : QDT (Q values of Second chroma trap; 0: False)  
Bit 3 : FBC1 (Fixed beam current during switch off; 0: False, 1mA)  
Bit 4 : TCCON (Top sync. clamp control; 1: True , active)  
Bit 5 : TCI2X (Top sync. clamp time constant; 1: True)  
Bit 6 : TXTS (TXTS Mode : TEXT source; 0: False TXT from CVBS)  
Bit 7 : Blue SCN (Blue screen with no signal; 0: False)



## 5.5 - Mode adjustment

Press key "9" to enter Mode adjustment.

U0C300C 1 . 8 2005. 07 . 20-01	
MODE 1	00110101
MODE 2	10010111
MODE 3	00000000
MODE 4	11111101
MODE 5	11000000
MODE 6	10001100
MODE 7	01110010
MODE 8	00101000
MODE 9	11001000
MODE 10	00100000

Item	Data
MODE 1	010110100
MODE 2	10011111 (10011011 for TDA12070/12072 without L standard)
MODE 3	00000000
MODE 4	11111101
MODE 5	01000000
MODE 6	10001100
MODE 7	01110010
MODE 8	00000000
MODE 9	11001000
MODE 10	00110000

Bit 7 00001110 Bit 0

Check the bytes values. They indicate the configuration of the chassis and are given for information only. The default values are indicated in the follow table.

- Choose the item MODE 1 ,MODE 2 ... by pressing **up/down** key.
- Access to the selected MODE adjustments by pressing "**Left**" or "**Right**" key

### MODE 1

U0C300C 1 . 8 2005. 07 . 20-01	
D-MODE	Direct Key enter disabled
AV OUT	Always TV
NO SIG.	Mute when no signal
MUTE AV0	Don't mute AV-Out
NI ADISP	OFF
SEARCH	Fast
TUNER CP	OFF
TXT FIN	OFF

MODE1	: default value : <b>10110100</b>
Bit 0	: D-MODE (Direct enter D-mode (Service mode) with "OK" key 0:enable 1:disable)
Bit 1	: AV OUT (0: Always TV - 1: Follow source)
Bit 2	: No Signal (0: Demute when no signal - 1 mute when no signal)
Bit 3	: MUTE AV0 (Mute AV-out)
Bit 4	: NI ADISP (1: Nicam auto detection OSD display enable)
Bit 5	: SEARCH (Auto search speed setting)
Bit 6	: TUNER CP (CP bit selection of tuner)
Bit 7	: TXTFIN (TXT fine tuning selection)

### MODE 2

U0C300C 1 . 8 2005. 07 . 20-01	
SOUND DK	ON
SOUND BG	ON
SOUND M	OFF
DEF SND	BG
MAX PROG	100 Prog
AUTO SND	Request auto sound

MODE 2	: default value : <b>10011111</b>
Bit 0	: SOUND DK (depends on requirement)
Bit 1	: SOUND BG (depends on requirement)
Bit 2	: SOUND L (or I)* (depends on requirement)
Bit 3	: SOUND M (or I)* (depends on requirement)
Bit 4 - Bit5	: DEF SOUND (00: DK; 01: BG; 10: I; 11:M)
Bit 6	: MAX PROG. (0: 100, 1:200 (no used))
Bit 7	: AUTO SND (Request auto sound detect when auto searching (0: Don't request 1: request auto sound))

\* according models

### MODE 3

U0C300C 1 . 8 2005. 07 . 20-01	
DBB/DVB	DVB
AVL	OFF
Tilt	OFF
COMBFILT	OFF
VM	OFF
Secam	OFF
SuperRec	OFF

MODE 3	: default value : <b>00000000</b>
Bit 0-Bit 1	: DBB/DVB (Woofer 00:DVB; 01:DB; 10: Woofer, 11:OFF)
Bit 2	: AVL (0: OFF)
Bit 3	: Tilt (0: OFF)
Bit 4	: COMB (Comb filter : 0: OFF)
Bit 5	: VM (0:OFF)
Bit 6	: SECAM (0:OFF)
Bit 7	: SUPERREC (0:OFF)

### MODE 4

U0C300C 1 . 8 2005. 07 . 20-01	
IF Freq	38.9MHz
AV1	ON
AV2	ON
AV3	ON
S-VIDEO1	ON
S-VIDEO2	ON
RGB	ON

MODE 4	: default value : <b>11111101</b>
Bit 0-Bit 1	: IF FREQ (00:45.75MHz; 01:38.9MHz; 10: 38MHz)
Bit 2	: AV1 (1:ON) (depends on requirement)
Bit 3	: AV2 (1: ON) (depends on requirement)
Bit 4	: AV3 (1: ON) (depends on requirement)
Bit 5	: S-VIDEO1 (1: ON) (depends on requirement)
Bit 6	: S-VIDEO2 (1: ON) (depends on requirement)
Bit 7	: RGB (1: ON) (depends on requirement)

## MODE 5

U0C300C 1 . 8 2005. 07 . 20-01

RADIO	OFF
EQ BAR	Equalizer Bar
BCFCHECK	ON

MODE 5 : default value : **01000000**

Bit 0,1,2,3,4 : No use  
Bit 5 : Radio (FM Radio 0:OFF)  
Bit 6 : EQ BAR (User menu display (0: bass & Treble; 1:Equalizer)  
Bit 7 : BCF CHEK (Beam current protection 1:ON)

## MODE 6

U0C300C 1 . 8 2005. 07 . 20-01

POWER	ON	Power On
MUTE	PIC	ON
HCT		ON
DURATION		8

MODE 6 : default value : **10001100**

Bit 0 - Bit 1 : Power ON (Power on status 00:ON, 01:standby, 10 last status)  
Bit 2 : MUTE PIC (Mute picture when changing channel; 1:ON)  
Bit 3 : HCT (High Contrast for OSD; 1:ON)  
Bit 4,5,6,7 : DURATION (mute time when changing channel; default 8)

## MODE 7

U0C300C 1 . 8 2005. 07 . 20-01

16:9TUBE	OFF
XRAY V	1.9V
XRAY T	750ms
4:3 OSVE	ON
DOLBY	OFF

MODE 7 : default value : **01110010**

Bit 0 : No use  
Bit 1 - Bit 2 : X-RAY V (Detection voltage for X-ray protection; 01:1.9V)  
Bit 3 - Bit 4 : X-RAY T (Detect. time for X-ray protection; 10: 750ms)  
Bit 5 : No use  
Bit 6 : 4:3 OSVE (selection of vertical over scan; 1:ON)  
Bit 7 : DOLBY (selection of DOLBY; 1:ON)

## MODE 8

U0C300C 1 . 8 2005. 07 . 20-01

VMA	ST off
SVM	ST 50ns
SPR	ST 0/-3/-3

MODE 8 : default value : **00101000**

Bit 0-Bit 1 : VMA (Amplitude of SVM output ; 00 : ST OFF)  
Bit 2,3,4 : SVM (Delay of RGB to SVM output; 010 : ST 50ns)  
Bit 5,6,7 : SPR (Parabola on SVM output; 001 : 0/-3/-3)

## MODE 9

U0C300C 1 . 8 2005. 07 . 20-01

VMA	WK off
SVM	WK 50ns
SPR	WK -6/-3/-0

MODE 9 : default value : **11001000**

Bit 0-Bit 1 : VMA (WEAK status 00: OFF)  
Bit 2,3,4 : SVM (WEAK status 010: 50ns)  
Bit 5,6,7 : SPR (WEAK status 110: -6/-3/-0)

## MODE 10

U0C300C 1 . 8 2005. 07 . 20-01

SVMA	600mVpp
CRA0	8%
TXTLV	0
COFF	False
No use	OFF

MODE 10 : default value : **00100000**

Bit 0 : SVMA (SVM output signal ; 0 : 600mVpp)  
Bit 1 : CRA0 ( adjusted to 8% - Bit 1 = 0)  
Bit 2,3 : TXTLV (Scavem on TXT ampl.; 10: 1000mVpp)  
Bit 4 : COFF ( adjusted to False - Bit 4= 0)  
Bit 5,6,7 : No use

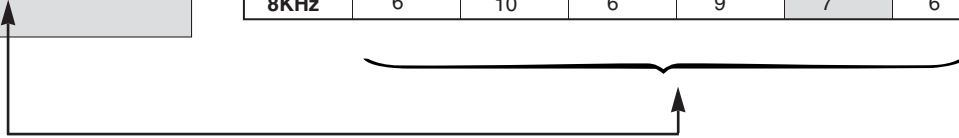
## VI - TEXT KEY

Press the "Text" key and check the item values are as shown below.

Text key menu according to equalizer presetted in sound menu: ie "Standard"

U0C300C 1 . 8 2005. 07 . 20-01	
BASS	S 16
TREBBLE	S 16
100Hz	S 6
300Hz	S 9
1KHz	S 8
3KHz	S 6
8KHz	S 7

KEY TEXT (change item in sound menu / Equalizer)						
Item	Data					
	FL (Flat)	M (Music)	V (Voice)	F (Film)	S (Standard)	P (Perso..)
BASS	12	24	24	16	16	12
TREBLE	20	24	16	24	16	20
100HZ	6	7	6	7	6	6
300Hz	6	9	9	8	9	6
1KHz	6	6	9	6	8	6
5KHz	6	8	9	6	6	6
8KHz	6	10	6	9	7	6



## VII - "PR-" / "0" KEYS

Press the "PR-" then "0" key and check the item values are as shown below.

### "PR-" KEY

U0C300C 1 . 8 2005. 07 . 20-01	
SET P1	147MHz
SET P2	423MHz
DATA VL	00000001
DATA VH	00000010
DATA UF	00001000
SPE POS1	00000000
SPE DATA	00000000
SENSI ON	00000000
SENSI OFF	00000000

### "0" KEY

U0C300C 1 . 8 2005. 07 . 20-01	
YDFE PAL	15
DEC LVL	2
MONO LVL	0
NIC LVL	0
SAP LVL	0
ADC LVL	27
DCX0 CAP	56 DISC:127
PSCALE	0.375 DCX0:56
PLIM	96
PCENTER	12
LOUDNESS	3
DUB100Hz	6