

## 2. Alignment and Adjustments

### 2-1 Service Mode

#### 2-1-1 SERVICE MODE Entry Method

■ For the General Transmitter

1. Turn the power off and set to stand-by mode.
2. Press the buttons of the transmitter in this order; INFO-MENU-MUTE-POWER ON to turn the set on.
3. The set turns on and enters service mode.

■ For the Factory Transmitter

1. Turn the power on.
2. Press the buttons of the transmitter in this order : INFO-Factory.
3. The set enters service mode.

\* If you fail to enter service mode, repeat steps 1 and 2 above.

#### 2-1-2 Initial DISPLAY State of SERVICE MODE

##### 2-1-2(A) OSD DISPLAY

###### Factory Mode

01. Picture Improvement
02. Initial Setting
03. PIP/TTX/Test Pattern
04. Option-1
05. Option-2
06. Reset


Release : 2004-06-10-10:15  
Version : T-NPL42PEA-1108

###### Current Input Mode



- ▶ Indicates selected input mode
- ▶ Picture Adjustment
- ▶ Setting the Initial Values
- ▶ Setting the Special Features
- ▶ Options-1 : Options of the Product Particulars
- ▶ Options-2 : Options of the PDP Properties
- ▶ Initializing after saving the adjustments
- ▶ Software Version Information

##### 2-1-2(B) Button Operations in SERVICE MODE

Menu	Displays all menus
UP/DOWN	Cursor move to select items
LEFT/RIGHT	Enable to increase and decrease the data of the selected items
 (ENTER)	Confirm your choice(Store OR Enter)
SOURCE	Change input source

♣ While in Tuner mode, the direct access buttons can be used to select and change channels.

## 2-2 WHITE Balance Coordinates

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### 2-2-1 PS-42P4H White Balance Adjustment

1. W/B Adjustment is required for the following six modes :  
DVI ' Component(1080i) ' Component(720p) ' PC ' VIDEO (Video port) ' VIDEO (Graphic port)
2. Adjustment Method (Signal equipment : MSPG-925LTH, Measurement equipment : CA210)

■ MSPG-925LTH

Equipment that outputs analog and digital signals simultaneously  
(Analog / Digital signal output / TV signal output (S-Video included) / HDTV signal output)

- . Digital Serial : TMDS (DVI24, Si160) + DVI-I (Analog, Digital)
- . Monitor Signal (Analog): R, G, B, HS, VS, CS
- . TV Signal (CVBS) : NTSC M, NTSC J (7.5 IRE On/Off) (BNC or RCA), PAL B, D, G, H, I, PAL M, Nc
- . D-TV Signal (1080i, 720p, 480p)

※ MSPG-925 is used to adjust the W/B.

■ CA210 : Color Analyzers adjusting brightness, chromaticity and etc.

- . R.G.B monochrome correction, brightness and gamma character adjustment
- . White Balance and flickering measurement

(a) DVI

- 1) Input Toshiba pattern (#16) at 720p resolution.



- 2) Select 02. Picture Improvement -> 01. White Balance.
- 3) Adjust items 07(Sub Contrast) & 08(Sub Brightness).
- 4) Adjust Items 01-03 (RGB Drives) and Items 04-06 (RGB Cutoffs).

(b) Component

- 1) Input Toshiba Pattern (#16) at 1080i resolution.
- 2) Select 01. Picture Improvement > 01. White Balance.
- 3) Adjust White Balance by selecting and adjusting Items 01. - 08. as performed in DVI mode.
- 4) Change input to Toshiba Pattern (#16) at 720p resolution.
- 5) Adjust White Balance by selecting and adjusting Items 01. - 08. as performed in DVI mode.

(c) PC

- 1) Input Toshiba Pattern (#16) in PC input at 1024 x 768 @ 60Hz.
- 2) Select 01. Picture Improvement -> 01. White Balance.
- 3) Adjust White Balance by selecting and adjusting Items 01 - 08 as performed in DVI mode.

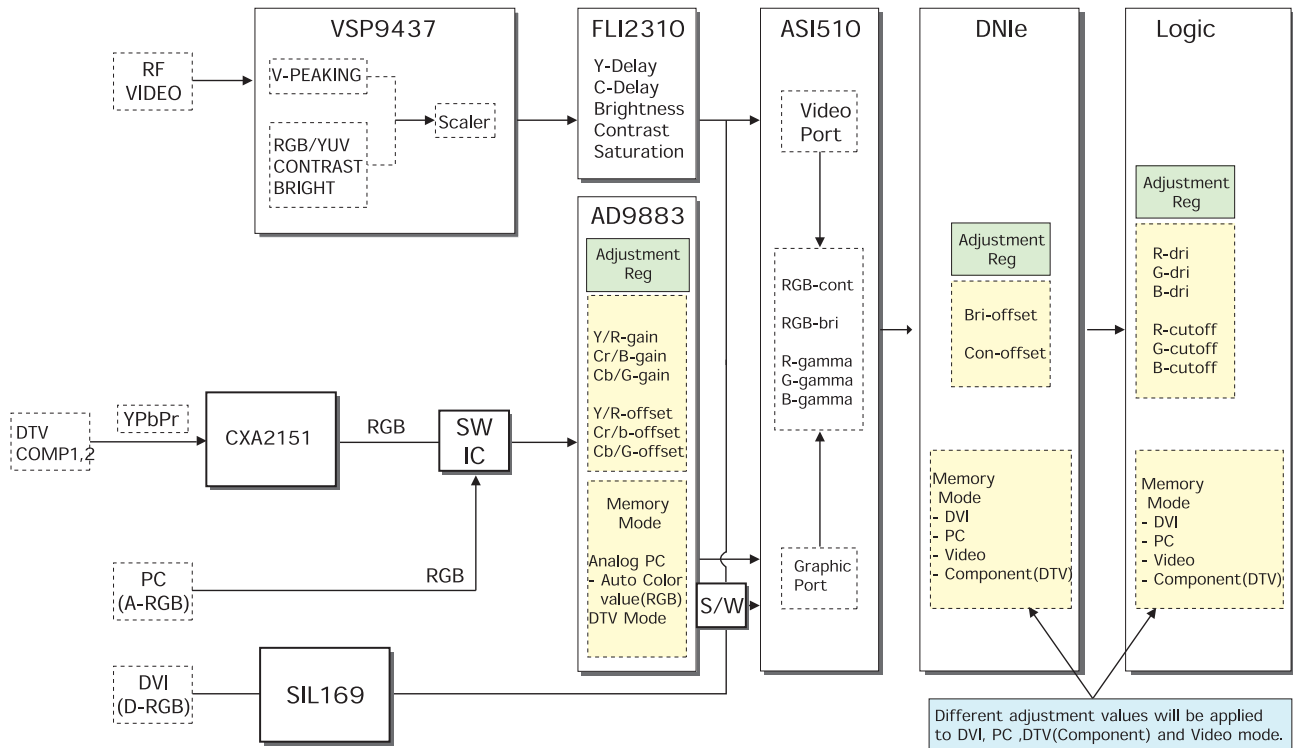
(d) Video

The video signal uses the video port when there is no other input signal.

However, signal uses the graphic port in PIP mode, which includes other input signals (PC, DVI, Component, etc.), Video adjustment should be performed with Video port and Graphic port separately.

- 1) Input Toshiba Pattern (#16) to Video Input.
- 2) Select 04. Option-1 -> 10. Video Port.
- 3) Set 10. Video Port equal to Video.
- 4) At Main SVC Menu, select 01. Picture Improvement -> 01. White Balance.
- 5) Adjust Items 01 - 08 as performed in DVI mode.
- 6) Return to Main SVC menu and select 04. Option-1 -> 10. Video Port.
- 7) Set 10. Video Port equal to Graphic.
- 8) At Main SVC Menu, select 01. Picture Improvement -> 01. White Balance.
- 9) Adjust Items 01 -> 08 as performed in DVI Mode.

\* Thus, Micom saves the WB data separately for each memory mode of the block (See the block diagram given below) during WB adjustment.



## 2-2-2 White Balance Coordinates by Mode

		VIDEO	Component	PC	DVI
H/L	x	269	269	285	285
	y	273	273	295	295
	Y(fL)	35	37	30	33
L/L	x	269	269	285	285
	y	273	273	295	295
	Y(fL)	2.5	0.9	0.9	0.8

## 2-3 Factory Data

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### 2 -3-1 Factory OSD Main Menu

#### Factory Mode

- 01. Picture Improvement
- 02. Initial Setting
- 03. PIP/TTX/Test Pattern
- 04. Option-1
- 05. Option-2
- 06. Reset

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#### Current Input Mode

- ▶
- ▶
- ▶
- ▶
- ▶
- ▶

- Ⓜ Indicates selected input mode
- Ⓜ Picture Adjustment
- Ⓜ Setting the Initial Values
- Ⓜ Setting the Special Features
- Ⓜ Setting the Options of the Product Particulars
- Ⓜ Setting the Options of the PDP Properties
- Ⓜ Initializing after saving the adjustments
- Ⓜ Software Version Information

### 01.Picture Improve

#### 01.Picture Improvement

- 01. White Balance
- 02. Color
- 03. Cont/Bri Enhancement
- 04. Detail Enhancement
- 05. Y/C Delay
- 06. Motion
- 07. DNle
- 08. DNle Additional
- 09. Logic
- 10. Picture Size

#### Current Input Mode

- ▶
- ▶
- ▶
- ▶
- ▶
- ▶
- ▶
- ▶
- ▶
- ▶

- Ⓜ White Balance Adjustment
- Ⓜ Color Adjustment
- Ⓜ Contrast & Brightness Enhancement
- Ⓜ Detail Enhancement Sharpness Adjustment
- Ⓜ Y/C Delay Setting according to the System and Input Modes
- Ⓜ Motion Enhancing Adjustment
- Ⓜ DNle Registers
- Ⓜ DNle Registers
- Ⓜ Logic Registers of the Panel
- Ⓜ Picture Size Registers

**01.Picture Improve => 01.White Balance Adjustment**

ITEM		Relevant IC	Initial Values of Input Modes			
			Video	Component	PC	DVI
01.White Balance	TV		Mode-1	Mode-2	Mode-3	Mode-4
01.R Drive	128	Logic	128	128	128	128
02.G Drive	128		128	128	128	128
03.B Drive	128		128	128	128	128
04.R Cutoff	120		120	120	120	120
05.G Cutoff	120		120	120	120	120
06.B Cutoff	120		120	120	120	120
07.Sub Contrast	31	DNle	W/B	W/B	W/B	W/B
08.Sub Brightness	63		W/B	W/B	W/B	W/B
09.R Gain	X	AD9883	x	142	142	x
10.G Gain	X		x	142	142	x
11.B Gain	X		x	142	142	x
12.R/Cr Offset	X		x	60	60	x
13.G/Y Offset	X		x	48	48	x
14.B/Cb Offset	X		x	64	64	x
15.Auto color	on/off		x	O	O	x
※ Input modes require respective storing the changes after adjustment.						

01~06 : Logic

07~08 : DNle

09~15 : AD9883

**01.Picture Improve => 02.Color Adjustment**

ITEM		Relevant IC	Initial Values of Input Modes			
			Video	Component	PC	DVI
02.Color	TV		Mode-1	Mode-2	Mode-3	Mode-4
01.U-Saturation	36	VSP9437	35	x	x	x
02.V-saturation	36		35	x	x	x
03.RGB/YUV U-SAT	22		22	x	x	x
04.RGB/YUV V-SAT	22		22	x	x	x
05.RGB/YUV Tint	3		3	x	x	x
06.FLI-saturation	110	FLI2310	125	x	x	x
07.R Gamma	29	ASI510	29	32	32	32
08.G Gamma	29		29	32	32	32
09.B Gamma	29		29	32	32	32
10.Gain-Sel	1	CXA2151Q	x	1	x	x
11.Cr Gain	7		x	7	x	x
12.Cb Gain	7		x	7	x	x
13.Y Gain	1		x	1	x	x

01 ~05 : VSP9437

07~09 : ASI510

06 , 14~16 : FLI2310

10~13 : CXA2151

## 01.Picture Improve => 03.Contrast & Brightness Enhancement

ITEM		Relevant IC	Initial Values of Input Modes			
			Video	Component	PC	DVI
03.Cont/Bri Enhancement	TV		Mode-1	Mode-2	Mode-3	Mode-4
01.Contrast	32	VSP9437	32	x	x	x
02.Brightness	48		45	x	x	x
03.RGB/YUV Contrast	32		Scart_RGB:32 , YUV:35	x	x	x
04.RGB/YUV Brightness	16		16	x	x	x
05.FLI-Contrast	128	FLI2310	128	x	x	x
06.FLI-Brightness	128		128	x	x	x
07.R Contrast	32	ASI510	32	32	32	32
08.G Contrast	32		32	32	32	32
09.B Contrast	32		32	32	32	32
10.R Brightness	0		0	0	0	0
11.G Brightness	0		0	0	0	0
12.B Brightness	0		0	0	0	0

01~04 : VSP9437

07~12 : ASI510

05~06 : FLI2310

**01.Picture Improve => 04.Detail Enhancement**

ITEM		Relevant IC	Initial Values of Input Modes			
			Video	Component	PC	DVI
04.Detail Enhancement	TV		Mode-1	Mode-2	Mode-3	Mode-4
01.VAPGAIN	x	uPD64083	x	x	x	x
02.VAPINV	x		x	x	x	x
03.YPFT	x		x	x	x	x
04.YPFG	x		x	x	x	x
05.APK-1st-BPM	1	VSP9437	1	x	x	x
06.APK-2nd-BPM	0		0	x	x	x
07.Denoise-BPM	0		0	x	x	x
08.APK-1st-HPM	7		480i,Scart_RGB:5, Etc. Input mode:7	x	x	x
09.APK-2nd-HPM	3		3	x	x	x
10.Denoise-HPM	0	FLI2310	0	x	x	x
11.HenhGain	64		64	x	x	x
12.HLEGain	64		64	x	x	x

01~04 : uPD64083

05~10 : VSP9437

11~12 : FLI2310

**01.Picture Improve => 05.Y/C Delay Setting according to the System and Input Modes**

ITEM		Relevant IC	Initial Values of Input Modes			
			Video	Component	PC	DVI
05.Y/C Delay	TV		Mode-1	Mode-2	Mode-3	Mode-4
01. PAL-B/G	254	VSP9437	254	x	x	x
02. PAL-D/K/L	254		254	x	x	x
03. PAL-I	254		254	x	x	x
04. SECAM-B/G	254		254	x	x	x
05. SECAM-D/K/L	251		251	x	x	x
06. NTSC	254		254	x	x	x
07. PAL-AV	254		254	x	x	x
08. SECAM-AV	252		252	x	x	x
09. NTSC-AV	254		254	x	x	x
10. RGB/YUV-Y	90		90	x	x	x
11. RGB/YUV-UV	90		90	x	x	x
12. FLI-Y	5	FLI2310	5	x	x	x
13. FLI-C	11		11	x	x	x

01~11 : VSP9437

12~13 : FLI2310

**01.Picture Improve => 06.Motion Enhancing Adjustment**

ITEM		Relevant IC	Initial Values of Input Modes			
			Video	Component	PC	DVI
06.Motion	TV		Mode-1	Mode-2	Mode-3	Mode-4
01.HPLL Speed-1	0	VSP9437-M	0	x	x	x
02.HPLL Speed-2	0	VSP9437-S	0	x	x	x
03.V-motion Tresh	42	FLI2310	42	x	x	x

01 : VSP9437-M

02 : VSP9437-S

03 : FLI2310

**01.Picture Improve => 07.DNle Registers**

ITEM		Relevant IC	Initial Values of Input Modes			
			TV AV1,1,3 V1,2,3 S-V1,2 Comp1,2-i	Comp1,2-p	PC	DVI
07.DNle	Range		Mode-1	Mode-2	Mode-3	Mode-4
01.SUB BRIGHT	0~94	DNle	W/B	W/B	W/B	W/B
02.SUB CONT	0~94		W/B	W/B	W/B	W/B
03.SCALE MAX	0~255		48	36	36	36
04.SCALE MIN	0~255		16	16	16	16
05.DCE CUTOFF	0~255		16	16	16	16
06.DCE UPPER	0~255		230	230	230	230
07.R GAIN 1X	0~63		12	16	10	10
08.CE UPPER	0~255		220	220	220	220
09.CE CUTOFF	0~255		32	32	32	32
10.R GAIN 1Y	0~63		11	11	8	8
11.R D ALPHAL	0~255		48	48	48	48
12.R GAIN 2X	0~63		5	5	6	6
13.R GAIN 2Y	0~63		5	5	4	4
14.R ND ON	0~1		1	1	1	1
15.R CORING ON	0~1		1	1	1	1
16.PATT SEL	0~19		0	0	0	0
17.R CORING TH1	0~7		1	1	1	1
18.R CORING TH2	0~7		1	1	1	1
19.R CORING TH3	0~7		1	1	1	1
20.BLACK GAIN	0~2048		400	188	188	188
21.WHITE GAIN	0~2048		156	156	156	156
22.WTE GAIN	0~1024		300	300	300	300
23.CTE GAIN	0~255		176	176	176	176

01~23 : DNle

## 01.Picture Improve =&gt; 08.DNle Additional Registers

ITEM		Relevant IC	Initial Values of Input Modes			
			TV AV1,1,3 V1,2,3 S-V1,2 Comp1,2-i	Comp1,2-p	PC	DVI
08. DNle Additional	Range		Mode-1	Mode-2	Mode-3	Mode-4
01. R D ALPHAU	0~255	DNle	75	75	75	75
02. R BLACK GAIN MAX	0~1023		300	300	300	300
03. R BLACK TILT	0~255		90	90	90	90
04. R WHITE GAIN MAX	0~1023		300	300	300	300
05. DNle GAMMA	0~7		0	0	0	0
06. R GAIN 3 X	0~63		0	0	0	0

## 01.Picture Improve =&gt; 09.Logic Registers

ITEM		Relevant IC	Initial Values of Input Modes			
			Video	Component	PC	DVI
08.Logic	TV		Mode-1	Mode-2	Mode-3	Mode-4
01.R DRIVE	W/B	Logic	W/B	W/B	W/B	W/B
02.G DRIVE	128		128	128	128	128
03.B DRIVE	W/B		W/B	W/B	W/B	W/B
04.R CUTOFF	W/B		W/B	W/B	W/B	W/B
05.G CUTOFF	128		128	128	128	128
06.B CUTOFF	W/B		W/B	W/B	W/B	W/B
07.GAMMA	1		1	1	1	1
08.GTS SET	1		0	0	0	0
09.ERD MODE	2		2	2	2	2
10.RANDOM NOISE	0		0	0	0	0
11.DIFF FILTER	1		1	1	1	1
12.APC	1		1	1	1	1
13.APC SET	0		0	0	0	0
14.APC VALUE	127		127	127	127	127
15.ACTIVE VPOS	12		12	12	12	12
16.ACTIVE HPOS	19		19	19	19	19
17.VSYNC POS	3		3	3	3	3
18.HSYNC POS	32		32	32	32	32
19.VSYNC WIDTH	2		2	2	2	2
20.HSYNC WIDTH	12		12	12	12	12

01~20 : Logic

## 01.Picture Improve => 09.Picture Size Registers

ITEM		Relevant IC	Initial Values of Input Modes			
			Video	Component	PC	DVI
09.Picture Size	TV		Mode-1	Mode-2	Mode-3	Mode-4
01. H START OFFSET	0	ASI510	0	0	0	0
02. V START OFFSET	0		0	0	0	0
03. H END OFFSET	0		0	0	0	0
04. V END OFFSET	0		0	0	0	0
05.OVERSCAN B	63		63	63	63	63
06.OVERSCAN G	63		63	63	63	63
07.OVERSCAN R	63		63	63	63	63

01~07 : ASI510

## 02.Setting the Initial Values

### 02.Initial Setting

- 01. Initial P-Mode
- 02. P-Mode Value
- 03. Initial Color Tone
- 04. Color Tone Value

### Current Input Mode



- ☞ Indicates selected input mode
- ☞ Reset after saving the P-Mode adjustments
- ☞ P-MODE the data Values
- ☞ Reset after saving the color tone adjustments
- ☞ Color tone the data Values

## 02.Initial Setting => 01.Initial P-Mode

### 01.Initial P-Mode Current Input Mode

- 01. Dynamic
- 02. Standard
- 03. Movie
- 04. Custom

Available options for the PC/DVI Mode are High,Middle, Low and Custom.

## 02.Initial Setting => 02.P-Mode Value

### 02. P-Mode Value

- 01. Dynamic
- 02. Standard
- 03. Movie
- 04. Custom

### Current Input Mode



Available options for the PC/DVI Mode are High,Middle, Low and Custom.

**02.Initial Setting => 02.P-Mode Value => 01.Dynamic**

<b>01.Dynamic</b>	<b>Current Input Mode</b>
01. Contrast	◀ 100 ▶
02. Brightness	◀ 45 ▶
03. Sharpness	◀ 75 ▶
04. Color	◀ 55 ▶
05. Tint	◀ 50 ▶

**02.Initial Setting => 02.P-Mode Value => 02.Standard**

<b>02.Standard</b>	<b>Current Input Mode</b>
01. Contrast	◀ 80 ▶
02. Brightness	◀ 50 ▶
03. Sharpness	◀ 50 ▶
04. Color	◀ 50 ▶
05. Tint	◀ 50 ▶

**02.Initial Setting => 02.P-Mode Value => 03.Movie**

<b>03.Movie</b>	<b>Current Input Mode</b>
01. Contrast	◀ 50 ▶
02. Brightness	◀ 55 ▶
03. Sharpness	◀ 25 ▶
04. Color	◀ 40 ▶
05. Tint	◀ 50 ▶

**02.Initial Setting => 02.P-Mode Value => 04.Custom**

<b>04.Custom</b>	<b>Current Input Mode</b>
01. Contrast	◀ 80 ▶
02. Brightness	◀ 50 ▶
03. Sharpness	◀ 50 ▶
04. Color	◀ 50 ▶
05. Tint	◀ 50 ▶

**02.Initial Setting => 03.Initial Color Tone**

<b>02.Initial Setting</b>	<b>Current Input Mode</b>
01. Cool2	
02. Cool1	
03. Normal	
04. Warm1	
05. Warm2	

- ♣ Available Settings for the PC Mode are Custom, Color Tone 1, Color Tone 2, Color Tone 3
- ♣ Available options for the DVI Mode are ColorTone1, ColorTone2, ColorTone3

**02.Initial Setting => 04.Color Tone Value**

04.Color Tone Value	Current Input Mode
01. Cool2	
02. Cool1	
03. Normal	
04. Warm1	
05. Warm2	

- ※ Adjusting and Storing the Changes :
- Change the White Balance (Color Temperature)
1. Selecting an item will display the same options as those of White Balance.
  2. Available options for the PC Mode are Custom, Color Tone 1, Color Tone 2, Color Tone 3
  3. Available options for the DVI Mode are ColorTone1, ColorTone2, ColorTone3.
  4. Data Storing is classified according to the PC Mode & Other Modes.

**02.Initial Setting => 04.Color Tone Value => 01.Cool2**

01.Cool2	Current Input Mode
01. R Drive Offsett	◀ 251 ▶
02. G Drive Offset	◀ 0 ▶
03. B Drive Offset	◀ 7 ▶
04. R Cutoff Offset	◀ 3 ▶
05. G Cutoff Offset	◀ 0 ▶
06. B Cutoff Offset	◀ 8 ▶
07. R Gain	◀ 0 ▶
08. G Gain	◀ 0 ▶
08. B Gain	◀ 0 ▶

**02.Initial Setting => 04.Color Tone Value => 02.Cool1**

02.Cool1	Current Input Mode
01. R Drive Offsett	◀ 0 ▶
02. G Drive Offset	◀ 0 ▶
03. B Drive Offset	◀ 4 ▶
04. R Cutoff Offset	◀ 3 ▶
05. G Cutoff Offset	◀ 0 ▶
06. B Cutoff Offset	◀ 7 ▶
07. R Gain	◀ 0 ▶
08. G Gain	◀ 0 ▶
08. B Gain	◀ 0 ▶

**02.Initial Setting => 04.Color Tone Value => 03.Normal**

03.Normal	Current Input Mode
01. R Drive Offset	◀ 0 ▶
02. G Drive Offset	◀ 0 ▶
03. B Drive Offset	◀ 0 ▶
04. R Cutoff Offset	◀ 0 ▶
05. G Cutoff Offset	◀ 0 ▶
06. B Cutoff Offset	◀ 0 ▶
07. R Gain	◀ 0 ▶
08. G Gain	◀ 0 ▶
08. B Gain	◀ 0 ▶

**02.Initial Setting => 04.Color Tone Value => 04.Warm1**

04.Warm1	Current Input Mode
01. R Drive Offset	◀ 4 ▶
02. G Drive Offset	◀ 0 ▶
03. B Drive Offset	◀ 248 ▶
04. R Cutoff Offset	◀ 3 ▶
05. G Cutoff Offset	◀ 0 ▶
06. B Cutoff Offset	◀ 248 ▶
07. R Gain	◀ 0 ▶
08. G Gain	◀ 0 ▶
08. B Gain	◀ 0 ▶

**02.Initial Setting => 04.Color Tone Value => 05.Warm2**

05.Warm2	Current Input Mode
01. R Drive Offset	◀ 8 ▶
02. G Drive Offset	◀ 0 ▶
03. B Drive Offset	◀ 242 ▶
04. R Cutoff Offset	◀ 16 ▶
05. G Cutoff Offset	◀ 0 ▶
06. B Cutoff Offset	◀ 240 ▶
07. R Gain	◀ 0 ▶
08. G Gain	◀ 0 ▶
08. B Gain	◀ 0 ▶

## 03.PIP/TTX/Test Pattern

ITEM		Relevant IC	Initial Values of Input Modes			
			Video	Component	PC	DVI
03.PIP/Test Pattern	TV		Mode-1	Mode-2	Mode-3	Mode-4
01.PIP R CONT	32	ASI510	32	32	32	32
02.PIP G CONT	32		32	32	32	32
03.PIP B CONT	32		32	32	32	32
04.PIP R BRIGHT	0		0	0	0	0
05.PIP G BRIGHT	0		0	0	0	0
06.PIP B BRIGHT	0		0	0	0	0
07.PIP FILTER LC	0		0	0	0	0
08.PIP FILTER ML	0		0	0	0	0
09.PIP FILTER MR	0		0	0	0	0
10.PIP FILTER UC	0		0	0	0	0
11. TTX CONT	0	SDA6001	0	0	0	0
12. TTX BRIGHTNESS	0		0	0	0	0
13.LOG PATTERN	0	Logic ASI510	0	0	0	0
14.LOG HIGH LEVEL	255		255	255	255	255
15.LOG LOW LEVEL	0		0	0	0	0
16.ASI COLORBAR	1		1	1	1	1

01~10 : ASI510

11~12 : SDA6001

13~16 : Logic, ASI510

### 04.Option-1

04.Option-1	Current Input Mode	
00. AGC	◀ Off ▶	00. Off => On
01. TTX	ON	01. Scart(Full input) => RCA(Scart delete)
02. CW/CS	CS	02. CW(EUROPE) => CS(SOUTHASIA)
03. TELE-WEB	OFF	03. Off => On
04. LANGUAGE GROUP	ASIA	04. Europe => Asia
05. LANGUAGE	ENGLISH	05. English => 18 Language(Europe)
06. ATM	ON	06. On => Off
07. Melody Volume	10	07. On => Off
08. TUNER	2-TUNER	08. 2-Tuner => 1-Tuner => Off
09. LNA	ON	09. On => Off
10. CHILD LOCK	ON	10. On => Off
11. TOP TTX	ON	11. On => Off
12. TTX GROUP	Language	12. W.Europe => 6 Group
13. HIGH DEVIATION	OFF	13. Off => On
14. SD Delay	3	14. O(default),1(27ms),2(54ms),3(108ms)
15. HD Delay	2	15. O(default),1(27ms),2(54ms),3(108ms)
16. Video Port	Graphic	16. Graphic <-> Video

01. TTX : ON <-> OFF

- ON : The other area with the exception of china
- OFF : China area

02. CW/CS : CW => CS

- CW : PAL, SECAM-B/G, D/K, I, L/L', NTSC4.43 = West Europe
- CS : PAL, SECAM-B/G, D/K, I, NTSC3.58/4.43 = Countries except West Europe.  
Ex) Southeast Asia,the Middle East,Russia,China, etc.

03. Tele-Web

- Off : TeleWeb non-broadcasting Country
- On : TeleWeb broadcasting Country

04. Language Group : Europe => Asia

- Europe : 18 languages
- Asia : 7 languages

05. Language : Select language

- Language Group is Europe : 18 languages  
(English=>Bulgarian=>Croatian=>Czechoslovak=>Netherlandish=>French=>German=>Greek=>Hungarian=>Italian=>Poland=>Portuguese=>Rumanian=>Russian=>Spanish=>Swedish=>Turki=>Yugoslave)
- Language Group is Asia : 7 languages  
(English=>Arabic=>French=>Indonesian=>Malay=>Persian=>Chinese)

06. ATM : On => Off

- ATM available region : On
- ATM non-available region : Off

07. Melody Volume

- 0 ~ 20 (In case of power ON/OFF, Melody volume setting up)

- 08. Tuner
  - 2-Tuner / 1-Tuner / Off
- 09. LNA
  - On : Using LNA built-in Tuner
  - Off : Not in use LNA built-in Tuner
- 10. Child Lock
  - On : TV Model
  - Off : Model has deletion of Child Lock function
- 11. Top TTX
  - On : Only Top broadcasting region set 'On'  
Ex) Germany, Switzerland, etc
  - Off : Country except Top broadcasting region.
- 12. TTX Group : TTX Language Group and National Option Code
  - By language, Select at the factory option table.
  - TTX language will be displayed by National Option code.
  - TTX Language Group by each country : 6 Groups  
West Europe => East Europe => Turkish/Greek => Cyrillic => Arabic/Hebrew => Farsi/Hebrew
- 13. High Deviation : To prevent the Sound Buzz according to the regional characteristics of the input signal.
  - Set to 'Off' for the standardized sound input signal, in the region such as Europe.
  - Set to 'On' for the over-modulated sound input signal, in the region such as Southeast Asia.
- 14. SD Delay : AV mode Delay
  - 1.8ms delay ----- delay0
  - 27ms delay ----- delay1
  - 54ms delay ----- delay2
  - 108ms delay (max) ----- delay3
- 15. HD Delay : DTV/PC/DVI mode Delay
- 16. Video Port : Setting of Aurora Input Port for VIDEO signal
  - Graphic : Input Video Signal though Graphic port of Aurora (In case of NON-PIP VIDEO)
  - Video : Input Video Signal though Graphic port of Aurora (In case of PIP VIDEO)

### 05.Option-2

05.Option-2	Current Input Mode	
00. Pixel Shift	◀ V ▶	00. On => Off
01. Shift Test	0	01. 0: minute , 1: SEC
02. Pixel Number	1	02. Left,right movement Pixel
03. Shift Line	1	03. Upper, low movement Pixel
04. Shift Time	4	04. Shift Test
05. Number Range	4	05. Left, Right movement pixel range
06. Line Range	4	06. Upper, Low movement line range
07. Temp Protection	On	07. Protection of SMPS temperature
08. DNle DEMO	On	08. DNle DEMO OSD : ON, OFF
09. PILOT HIGH	21	09. Setting value of Stereo Identify Level
10. PILOT LOW	16	10. Setting value of Mono Identify Level
11. CHECKSUM	0000	11. EEPROM Code Check

# MEMO