

3. Alignment & Adjustment

3-1 Service Instruction

■ Check items listed after changing each

Replaced Items \ Check Items	S/W Version	Front LED	Index Delay	Actuator Gain	V-Position H-Position	CCA	Board LED	Tilt Focus
Digital Board	●(1st)		●(3rd)	●(5th)	●(2nd)	●(4th)		
Analog Board		●					●	
Power Board(Line filter)		●					●	
Optical Engine		●	●(3rd)	●(5th)	●(2nd)	●(4th)		●(1st)
DMD Board				●				●
Lamp		●				●		
Color Wheel						●		
Front LED Assy		●						
Actuator Subdetector Board		●						

※ If you change digital board and optical engine, check in order.
 (For example, in case of "D/B", first 'S/W', second 'V/H position' and third 'Index'...)

1. Software version check :

After Entering the Service mode, Check the list below

* S/W Notation

"T_HUR2AUS5_0004" indicates "HURRICANE2 BASIC MODEL USA, ver. 0004".

T_HUR2AUS0_XXXX
 200X_XX_XX
 T-HURUCOM5-XXXX
 T-HUR2AUS1_XXXX

2. Front LED check : See page 6-11.

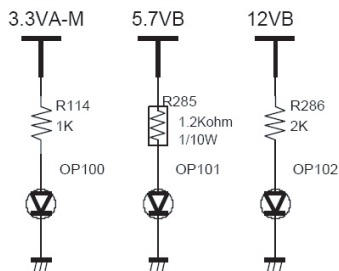
3. Index Delay adjustment : See page 3-13.

4. Actuator Gain adjustment : See page 3-15.

5. Vertical / Horizontal Position adjustment : See page 3-13.

6. CCA : See page 3-14.

7. Board LED check : Check all the LED are turned on.



Power Check Indicator LED

8. Tilt/Focus adjustment : See page 3-17.

3-2 How to Access Service Mode

1. Turn off the power to put the unit into the STAND-BY mode.
2. In order to enter the Service Mode, Press "Mute" → "1" → "8" → "2" → "POWER" button on the Remote Control.
In case entry into SERVICE MODE is unsuccessful, repeat the procedures above.
3. Initial DISPLAY State in times of Service Mode Switch overs

```

DDP1011(L6)
DNle
ADV7401(M)
ADV7401(S)
uPD64083
MSP4440
CCA(ON)
Cinema CCA
SP Actuator
ESP
CHECKSUM      0000
OPTION
SERVICE

T_HUR2AUS0_XXXX
200X_XX_XX
T-HURUCOM5-XXXX
T-HUR2AUS1_XXXX
    
```

4. Buttons operations within Service Mode

MENU	Full Menu Display / Move to Parent Menu
Direction keys ▲ / ▼	Item Selection by Moving the Cursor
Direction keys ◀ / ▶	Data Increase/Decrease for the Selected Item
Source	Cycles through the active input source that are connected to the unit

3-3 Factory Data

★ The underlined are items applied during the service adjustment. None of the others should be adjusted.

1. DDP1011

No	Item	Range	Default	Remark
1	<u>V-Position</u>	0-60	36	Screen upper and lower adjustment
2	<u>H-Position</u>	0~120	60	Screen left and right adjustments
3	LAMP SYNC		Pulse(P)	Pulse(P), Pass(T)
4	<u>INDEX DELAY</u>	0~359	40	Synchronizes the base position of the color wheel with the corresponding color signal. This is critical to the natural color display. If the index delay is not properly set, even the correct CCA coordinates will not help when displaying natural colors.
5	SEQ SELECT	0~15	5	Sequence Selection
6	<u>V-FLIP</u>	Normal/Flip	Normal	Vertical Flip Operation
7	<u>H-FLIP</u>	Normal/Flip	Normal	Horizontal Flip Operation
8	GAMMA	0 ~ 15	2	Gamma Table Selection
9	SLR	OFF/ON	OFF	SLR Function On/Off
10	DMD_BIAS	B,C,D,E	E	DMD Bias pin voltage selection
11	Lamp Boost	0~63	13	Lamp Boost value selection
12	Lamp Sync Delay	0~4095	0	Lamp Sync delay value selection
13	Engine Select		SAMSUNG	SAMSUNG and ZEISS Selection
14	Lamp Watt		120W	120W/132W Selection
15	Lamp Select		Osram	Philips/Osram/Ushio
16	<u>Test Pattern</u>		0	This displays the built-in pattern of the DDP1011 chip. DDP1011 drives the DMD panel, so displaying this pattern means there is no error in the DDP1011 projection function and the panel itself.

2. DNle

No	Item	Range	Default	Remark
1	Test Pattern		0	Test Pattern Selection
2	NR_MAX Y/C	0~255	48	Temporal NR Gain
3	NR_MIN Y/C	0~255	16	Temporal NR Gain
4	Core	0~15	4	NEOnDCE User Set Up
5	B_RATIO		12000	Low level information for the minimum value
6	BLACK_TILT	0~255	120	Black Stretch Area
7	W_RATIO		12000	High level information for the minimum value
8	WHITE_TILT	0~255	200	White Stretch Area
9	GAIN1X	0~63	30	Gain of horizontal high frequency region
10	GAIN1Y	0~63	20	Gain of vertical high frequency region
11	GAIN2X	0~63	17	Gain of horizontal middle frequency region
12	GAIN2Y	0~63	13	Gain of vertical middle frequency region
13	GAIN3X	0~63	11	Gain of horizontal low frequency region
14	NDON		ON	ON,OFF Background Noise Detection ON/OFF Switch
15	CORING_ON		ON	ON,OFFCoring On/Off
16	SCALE_R	0~255	160	Log Mapping Gain
17	WTE_CSC		YCCRGB	YCCRGB, YPPRGB
18	DITHER_MOD		0	1,2,3
19	RED_C_COEFF		128	Gain adjustment of the contrast for the Red signal
20	GRN_C_COEFF		128	Gain adjustment of the contrast for the Green signal
21	BLU_C_COEFF		128	Gain adjustment of the contrast for the Blue signal
22	RED_B_COEFF		128	Gain adjustment of the brightness for the Red signal
23	GRN_B_COEFF		128	Gain adjustment of the brightness for the Green signal
24	BLU_B_COEFF		128	Gain adjustment of the brightness for the Blue signal
25	Sub Contrast	0~150	120	Brightness adjustment for the high-light parts of the screen
26	Sub Brightness		230	Brightness adjustment for the low-light parts of the screen
27	ALPMAU/L	0~255	50	

3. ADV7401(M)

No	Item	Range	Default	Remark
1	AUTO COLOR			Auto Color function execution
2	SOG_SYNC_LEV			Embedded Sync Trigger Level
3	AGC_TIM			AGC Time Constant Selection
4	GAIN_MAN			ON,OFF Manual Gain Control Enable
5	A_GAIN			Manual Gain Value for Channel A
6	B_GAIN			Manual Gain Value for Channel B
7	C_GAIN			Manual Gain Value for Channel C
8	A_OFFSET			Channel A Offset
9	B_OFFSET			Channel B Offset
10	C_OFFSET			Channel C Offset
11	YPM	0~7	4	Y Peaking Filter Mode
12	YSFM	0~32	1	Y Shaping Filter Mode
13	WYSFM	0~32	19	Wide Band TY Shaping Filter Mode
14	CSFM		0	C Shaping Filter Mode
15	Contrast	0~255	128	Contrast Adjust
16	Brightness	0~255	128	Brightness Adjust
17	Hue	0~255	128	Hue Adjust
18	CKILLTHR	0~7	3	Colour Kill Threshold
19	SD_OFF_Cb	0~255	128	SD Offset Cb Channel
20	SD_OFF_Cr	0~255	128	SD Offset Cr Channel
21	SD_SAT_Cb	0~255	128	Saturation Cb Channel
22	SD_SAT_Cr	0~255	128	Saturation Cr Channel
23	IFFILTSEL	0~7	3	IF Filter Select
24	LTA	0~3	0	Luma Timing Adjust
25	CTA	0~7	2	Chroma Timing Adjust
26	DNR_TH1	0~255	0	DNR Noise Threshold
27	DCT	0~3	0	Digital Clamp Timing
28	LAGC	0~7	0	Luma Automatic Gain Control
29	LAGT	0~3	3	Luma Automatic Gain Timing
30	LMG		1144	Luma Manual Gain
31	CAGC	0~7	5	Chroma Automatic Gain Control
32	CAGT	0~3	3	Chroma Automatic Gain Timing
33	CMG		2458	Chroma Manual Gain
34	CTI_AB_EN		ON	ON,OFF Chroma Transient Improvement Alpha Blend Enable
35	CTI_AB	0~3	3	Chroma Transient Improvement Alpha Blend

No	Item	Range	Default	Remark
36	CTI_C_TH	0~255	8	CTI Chroma Threshold
37	NSFSEL	0~3	0	Split Filter Selection NTSC
38	CTAPSN	0~3	2	Chroma Comb Taps NTSC
39	CCMN	0~7	0	Chroma Comb mode NTSC
40	YCMN	0~7	0	
41	HSSLICE			
42	VSSLICE			
43	DLL_PH			
44	ST_NOISE		0xFFFF	
45	ALIAS_FILTER_EN			
46	DNR_TH2		4	

4. ADV7401(S)

No	Item	Range	Default	Remark
1	AUTO COLOR			Auto Color function execution
2	SOG_SYNC_LEV	0~31	11	Embedded Sync Trigger Level
3	AGC_TIM	0~7	0	AGC Time Constant Selection
4	GAIN_MAN		ON	ON,OFF Manual Gain Control Enable
5	A_GAIN	0~1024	275	Manual Gain Value for Channel A
6	B_GAIN	0~1024	287	Manual Gain Value for Channel B
7	C_GAIN	0~1024	287	Manual Gain Value for Channel C
8	A_OFFSET	0~1024	0	Channel A Offset
9	B_OFFSET	0~1024	512	Channel B Offset
10	C_OFFSET	0~1024	512	Channel C Offset
11	YPM	0~7	4	Y Peaking Filter Mode
12	YSFM	0~32	1	Y Shaping Filter Mode
13	WYSFM	0~32	19	Wide Band TY Shaping Filter Mode
14	CSFM	(0~7)	0	C Shaping Filter Mode
15	Contrast	0~255	128	Contrast Adjust
16	Brightness	0~255	126	Brightness Adjust
17	Hue	0~255	128	Hue Adjust
18	CKILLTHR	0~7	3	Colour Kill Threshold
19	SD_OFF_Cb	0~255	128	SD Offset Cb Channel
20	SD_OFF_Cr	0~255	128	SD Offset Cr Channel
21	SD_SAT_Cb	0~255	128	Saturation Cb Channel
22	SD_SAT_Cr	0~255	128	Saturation Cr Channel
23	IFFILTSEL	0~7	3	IF Filter Select
24	LTA	0~3	0	Luma Timing Adjust
25	CTA	0~7	3	Chroma Timing Adjust
26	DNR_TH	0~255	0	DNR Noise Threshold
27	DCT	0~3	0	Digital Clamp Timing
28	LAGC	0~7	0	Luma Automatic Gain Control
29	LAGT	0~3	3	Luma Automatic Gain Timing
30	LMG	0~4096	1064	Luma Manual Gain
31	CAGC	0~7(0~3)	2	Chroma Automatic Gain Control
32	CAGT	0~3	3	Chroma Automatic Gain Timing
33	CMG	0~4096	2458	Chroma Manual Gain
34	CTI_AB_EN		ON	ON,OFF Chroma Transient Improvement Alpha Blend Enable
35	CTI_AB	0~3	3	Chroma Transient Improvement Alpha Blend

No	Item	Range	Default	Remark
36	CTI_C_TH	0~255	8	CTI Chroma Threshold
37	NSFSEL	0~3	0	Split Filter Selection NTSC
38	CTAPSN	0~3	2	Chroma Comb Taps NTSC
39	CCMN	0~7	0	Chroma Comb mode NTSC
40	YCMIN	0~7	0	
41	HSSLICE	0~3	1	
42	VSSLICE	0~3	3	
43	DLL_PH			
44	ST_NOISE		0xFFFF	

5. Upd64083

No	Item	Range	Default	Remark
1	DYCOR	0 ~ 15	2	DY detection coring level
2	DYGAIN	0 ~ 15	9	DY detection gain
3	DCCOR	0 ~ 15	3	DC detection coring level
4	DCGAIN	0 ~ 15	6	DC detection gain
5	YHCOR	0 ~ 3	1	Y output high frequency component coring
6	CDELAY	0 ~ 3	4	C signal output delay
7	YPFT		3	YPFT adjustment
8	YPPG		8	YPPG adjustment

6. MSP4440

No	Item	Range	Default	Remark
1	MDB Effect	0~127	56	Micronas Dynamic Bass
2	SRS Dialog	0~127	64	SRS Dialog clarity adjustment
3	PLL			Pilot low adjustment
4	PLH			Pilot high adjustment

7. CCA(ON)

No	Item	Range	Default	Remark
1	CCA	On/Off	On	CCA On/Off Selection
2	Red-x	0~32768	640	Red-x adjustment
3	Red-y	0~32768	340	Red-y adjustment
4	Red-Y	0~32768	86	Red-Y adjustment
5	Green-x	0~32768	300	Green-x adjustment
6	Green-y	0~32768	620	Green-y adjustment
7	Green-Y	0~32768	300	Green-Y adjustment
8	Blue-x	0~32768	150	Blue-x adjustment
9	Blue-y	0~32768	60	Blue-y adjustment
10	Blue-Y	0~32768	53	Blue-Y adjustment
11	White-x	0~32768	291	White-x adjustment
12	White-y	0~32768	300	White-y adjustment
13	White-Y	0~32768	439	White-Y adjustment
14	WB Spread			Spread CCA value to all mode
15	Move HDMI			Move to the HDMI Mode
16	DRedX			Target Red X value for CCA
17	DRedY			Target Red Y value for CCA
18	DGreenX			Target Green X value for CCA
19	DGreenY			Target Green Y value for CCA
20	DBlueX			Target Blue X value for CCA
21	DBlueY			Target Blue Y value for CCA
22	DCyanX			Target Cyan X value for CCA
23	DCyanY			Target Cyan Y value for CCA
24	DMagentaX			Target Magenta X value for CCA
25	DMagentaY			Target Magenta Y value for CCA
26	DYellowX			Target Yellow X value for CCA
27	DYellowY			Target Yellow Y value for CCA
28	D_White_X			Target White X value for CCA
29	D_White_Y			Target White Y value for CCA
30	ATV/AV/SV			

8. Cinema CCA

No	Item	Range	Default	Remark
1	DRedX		640	Target Red X value for CCA
2	DRedY		340	Target Red Y value for CCA
3	DGreenX		300	Target Green X value for CCA
4	DGreenY		620	Target Green Y value for CCA
5	DBlueX		150	Target Blue X value for CCA
6	DBlueY		60	Target Blue Y value for CCA
7	DCyanX		205	Target Cyan X value for CCA
8	DCyanY		270	Target Cyan Y value for CCA
9	DMagentaX		290	Target Magenta X value for CCA
10	DMagentaY		140	Target Magenta Y value for CCA
11	DYellowX		425	Target Yellow X value for CCA
12	DYellowY		515	Target Yellow Y value for CCA
13	D-White-X		313	Target White X value for CCA
14	D-White-Y		329	Target White Y value for CCA

9. SP Actuator

No	Item	Range	Default	Remark
1	Actuator Gain	0~175	115	Actuator Gain adjustment
2	Actuator On/Off		On	Actuator On/Off selection

10. ESP

No	Item	Range	Default	Remark
1	Dynamic Con		Off	Dynamic Contrast On/Off
2	Dynamic Strength		Medium	Low/Mid/Mas
3	Dynamic Con Gain	0~100	0	Dynamic Contrast Gain Adjustment
4	Dynamic Sat		Off	Dynamic Saturation On/Off
5	Dynamic Sat Gain	0~255	176	Dynamic Saturation Gain Adjustment
6	Sharp Picture		Off	Sharp Picture On/Off
7	Sharp Filter		HD Low	HD High/HD Low/SD Image
8	Sharp Picture Gain	0~255	176	Sharp Picture Gain Adjustment

11. CHECKSUM 0000

Excute Checksum calcaution

12. OPTION

No	Item	Range	Default	Remark
1	Lamp Clear			Initialize lamp usage time. Lamp Life is set to zero
2	-			All setting is back to the default
3	WB Reset		OFF	Initialize the White Balance value
4	EER Reset			Clear the EEPROM
5	Lamp Life		0h	Lamp on time counter
6	AUTO POWER	ON/OFF	ON	The sets turns on automatically when the power cord is plugged in
7	DNle DEMO	ON/OFF	ON	DNle Demo function selection
8	Lamp Control		Dynamic	Dynamic, Always
9	MUTE TIME		600ms	Time which the screen will be black while switching channels
10	EDID WRITE			
11	DELAY MOD	ON/OFF	OFF	Sound Delay Module ON/OFF selection
12	DBG/ANY SEL	Debug/AnyNet		Select the use of the Anynet jack
13	GEM/GEMIR SEL	GemIR/Gemstar		Not used
14	226 TEST PATT			Xilleon 226 test pattern
15	Set Default Data			Initialize Service Data
16	DDC protection		OFF	DDC write ON/OFF selection
17	LNA Default		AUTO	LNA setting OFF/Auto selection
18	PROTECT		ON	Protection ON/OFF selection
19	WATCH DOG			Watch Dog ON/OFF selection
20	WD COUNT		0	Count for Watch Dog event
21	Auto Pgm Range		8	Not used
22	DIGITAL→DMD			Transfer engine adjustment data from digital to DMD
23	DMD→DIGITAL			Transfer engine adjustment data from DMD to digital

13. SERVICE

No	Item	Range	Default	Remark
1	V-Position	0 ~ 60	30	Screen upper and lower adjustment
2	H-Position	0 ~ 120	60	Screen left right adjustment
3	LAMP SYNC	Pulse/Pass	Pulse	
4	Actuator Gain		105	Actuator Gain adjustment
5	INDEX DELAY	0 ~ 1023	166	Index delay adjustment
6	AUTO COLOR		OFF	Auto Color function execution
7	CCA			CCA menu
8	Lamp Clear			Initialize Lamp usage time
9	User Reset			All setting is back to the default
10	Engine Select		SAMSUNG	SAMSUNG and ZEISS Selection
11	Lamp Watt		120W	120W/132W Selection
12	Lamp Select		Philips	Philips/Osram/Ushio

3-4 Service Adjustment

3-4-1 Vertical / Horizontal Position Adjustment

1. Turn off the power to put the unit into the STAND-BY mode.
 2. In order to enter the Service Mode, Press "Mute" → "1" → "8" → "2" → "POWER" button on the Remote Control.
 3. Select "Service" on the first display of the Service mode menu.
 4. Select the V-position for vertical positioning and H-position for horizontal positioning by using the ▲ ▼ (up, down) buttons.
- ※ Do not set the V-position value to 34 or 35. (Setting to these values will cause horizontal lines on the right side of the screen.)

3-4-2 INDEX DELAY Adjustment

1. Turn off the power to put the unit into the STAND-BY mode.
2. In order to enter the Service Mode, Press "Mute" → "1" → "8" → "2" → "POWER" button on the Remote Control.
3. Select "Service" on the first display of the Service mode menu.
4. Press the ▲ ▼ (Up or Down) button to move to INDEX DELAY, then press ENTER to select.
5. The INDEX DELAY setup screen (with a red bar at the bottom of the screen) will be displayed.
6. Press the ◀ ▶ (Left of Right) button to check the red color at the bottom of the screen at its minimum and maximum values of changing from red to magenta, then adjust to the mean value.

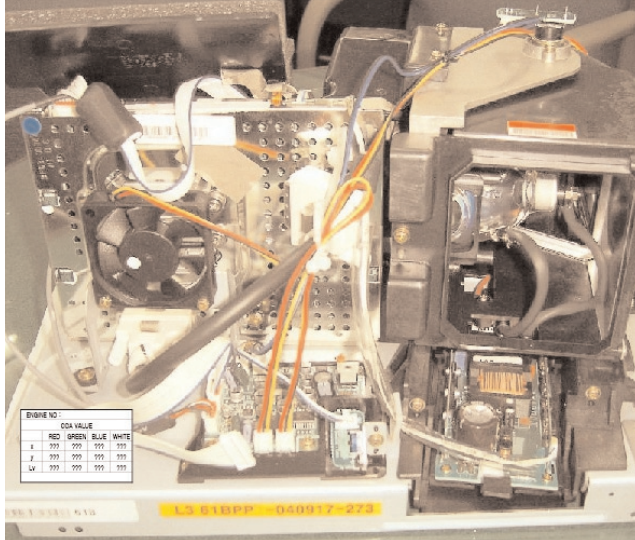
3-4-3 CCA Adjustment Service Methods : CCA Adjustment is needed after changing a light engine or digital board

■ CCA : In DLP TV, even the same RGB color may differ depending on the light engine. CCA (Color Coordinate Adjustment) corrects the color to achieve the color accuracy. CCA performs color correction after measuring and inputting the current light engine's data on actual color coordinates for displayed Red, Green, Blue, and White color patterns, using a color coordinate measuring equipment.

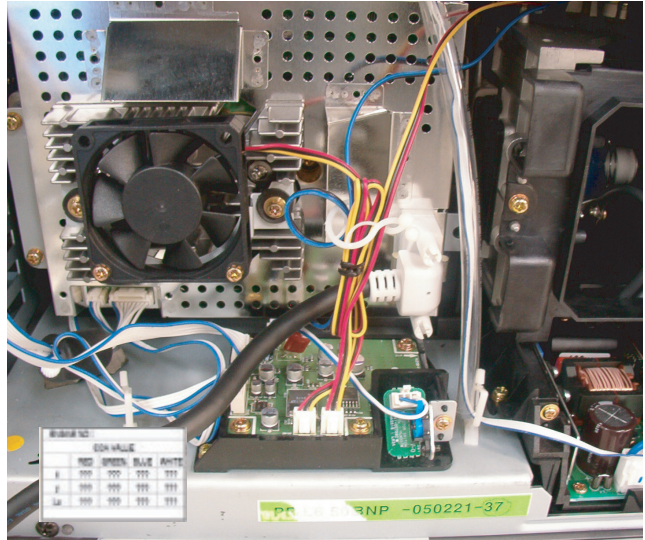
At this moment, color correction is performed on the basis of previously inputted Desired Color Coordinates and Measured Color Coordinates. Measured Data on Service Engine's color coordinates is presented on the CCA label. Input the label values to perform CCA color correction.

1. Condition of the CCA Label upon Receipt of the Service Engine

< L3 Engine >



< L6 Engine >



* "CCA LABEL" describes the measured color coordinates on the light engine.

2. CCA Service Procedures

To execute CCA adjustment , perform the following steps :

- 1) Turn off the power to put the unit into the STAND-BY mode.
- 2) In order to enter the Service Mode, Press "Mute" → "1" → "8" → "2" → "POWER" button on the Remote Control.
- 3) From the Factory Service Mode Menu; select SERVICE > CCA.
- 4) Switch the CCA OFF.
- 5) Enter the CCA Red, Green, Blue and White basic engine data to the DLP.
- 6) Input the D-White-x, y values in the coordinates per destination. (if necessary)
- 7) Select WB SPREAD, then press Enter to activate the WB Spread SET ensuring that you adjust until you get the OK sign. After adjusting, exit Factory Mode.
- 8) When the adjustment is complete, check the picture quality.

* Attention

Performing CCA is independent on current display's resolution and input signal type if you don't measure color coordinates data.

Measuring color coordinates data requires specific equipment not possessed by service personnel, that makes performing manual adjustment impossible. Adjusting CCA is applied to all the signal mode. Don't change Desired value because it will be harmful to the color of the SET.

CCA Menu in FACTORY Mode

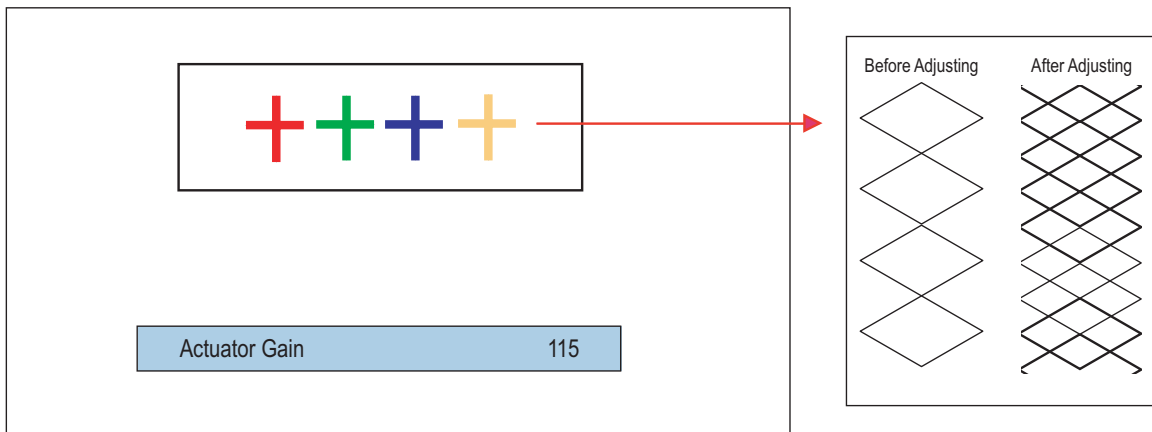
```

CCA ON/OFF
Red - x : ???
Red - y : ???
Red - Y : ???
Green - x : ???
Green - y : ???
Green - Y : ???
Blue - x : ???
Blue - y : ???
Blue - Y : ???
White - x : ???
White - y : ???
White - Y : ???
WB SPREAD
Move HDMI
    
```

3-4-4 ACTUATOR GAIN Adjustment

1. Before Adjustment

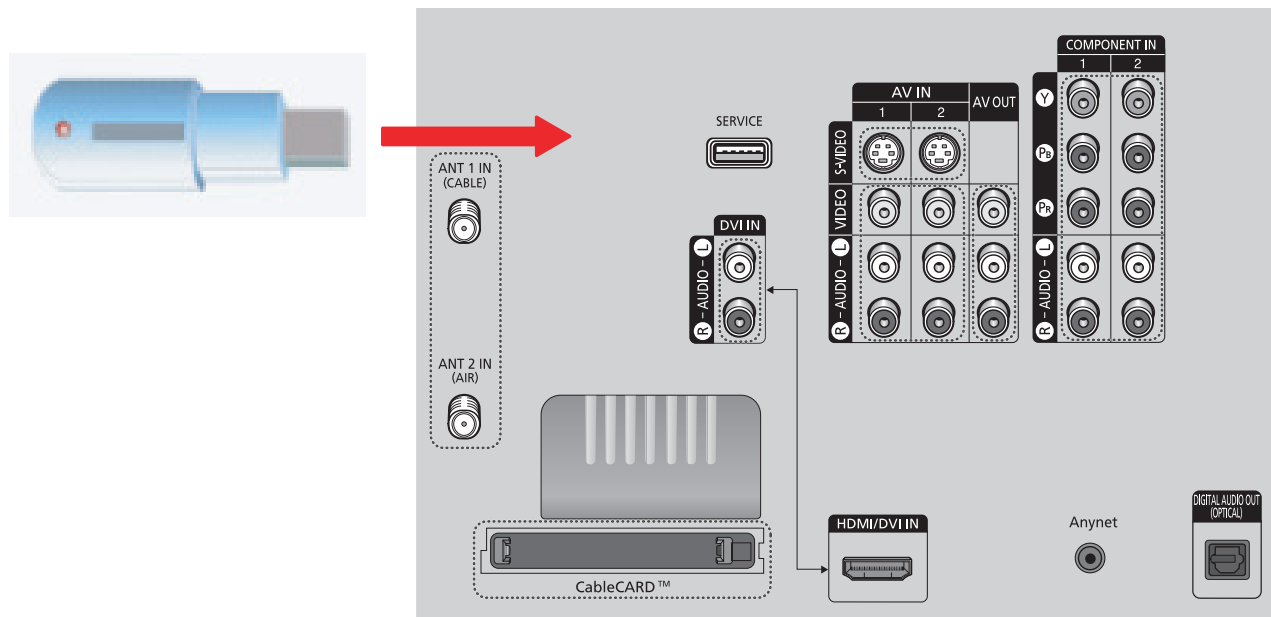
- 1) Turn off the power to put the unit into the STAND-BY mode.
- 2) In order to enter the Service Mode, Press "Mute" → "1" → "8" → "2" → "POWER" button on the Remote Control.
- 3) Select "Service" on the first display of the Service mode menu.
- 4) Press the ▲ ▼ (Up or Down) button to move to ACTUATOR GAIN, then press ENTER to select.



2. Making Adjustments

- 1) As shown in the picture above, change the actuator values to eliminate saw tooth shapes.
 - To fine tune, increase the data value ensuring that you get the center between the starting and ending points of the disappearing saw tooth shape.

3-5 Software Upgrade



1. Prepare the USB memory stick with the built-in firmware.
2. While the TV is off, insert the USB stick into the SERVICE terminal.
3. When turning on the TV, there should be a long beeping tone and the firmware download process should start. If there is no sound from the TV, turn it off and then on again.
4. When the download is complete, there will be another long beeping tone and the TV will go into standby mode.

※ Check for the Firmware Version

- 1) Turn off the power to put the unit into the STAND-BY mode.
- 2) In order to enter the Service Mode, Press "Mute" → "1" → "8" → "2" → "POWER" buttons on the Remote Control.
- 3) In case entry into SERVICE MODE is unsuccessful, repeat steps 1 and 2 directly above.
- 4) You can check the firmware version at the bottom of the Factory menu.

```
T_HUR2AUS0_XXXX
200X_XX_XX
T-HURUCOM5-XXXX
T-HUR2AUS1_XXXX
```


3-6 Replacements & Calibration

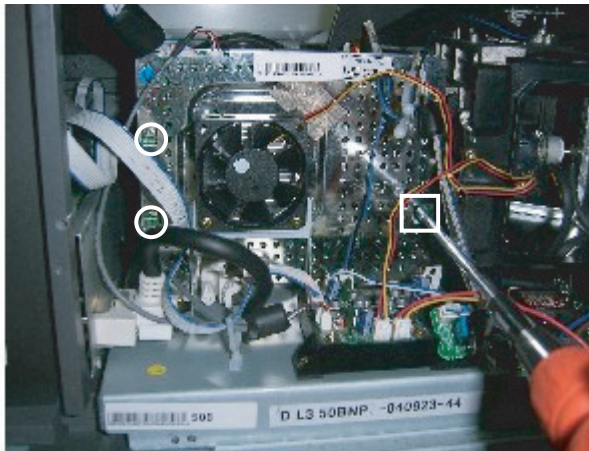
3-6-1 Tilt the Screen

1. Remove the 12 point screws. Remove the Bottom cover.
Fix the safety switch on the right with tape so that the set can be turned on after removing the bottom cover.
: TH,B,M4.L15,BLK,SWRCH18A

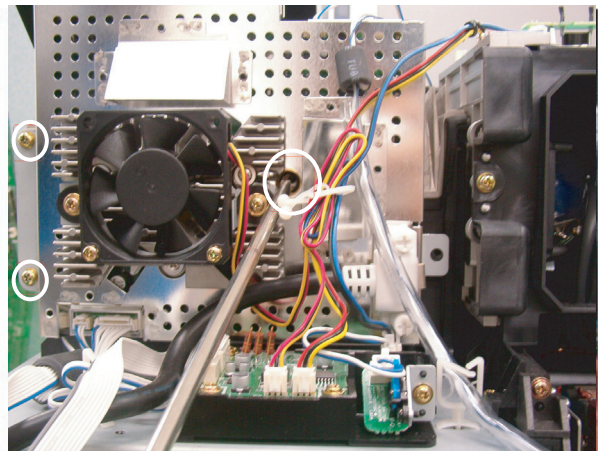


2. Remove the 3 points screws.
 - * Left 2 points screws
: PWH,S,M3,L8,ZPC(YEL),SWRCH18A
 - * Right 1 points screw
: PWH,S,M3,L7,ZPC(YEL),SWRCH18A

< L3 Engine >



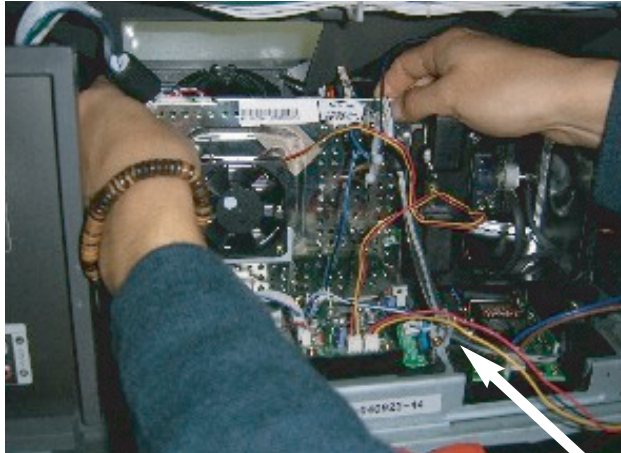
< L6 Engine >



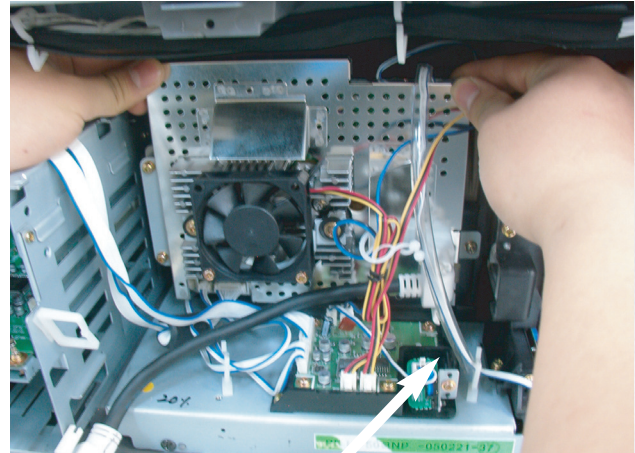
3. Turn off the power to put the unit into the STAND-BY mode.

In order to enter the Service Mode, Press "Mute" → "1" → "8" → "2" → "POWER" button on the Remote Control. Select "DDP1011(L6)" on the first display of the Service Mode menu. Press the ▲ ▼ (Up or Down) button to move to TEST PATTERN, then press ENTER to select. Press the ► (Right) button until you see CROSSHATCH PATTERN. Then, adjust the screen position, by holding both of the upper corners of the DMD board.

< L3 Engine >

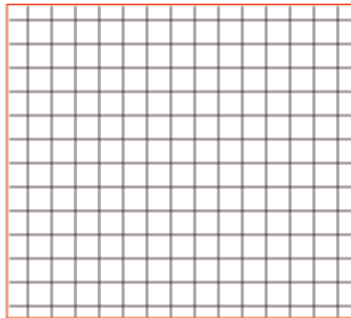


< L6 Engine >



Fix the safety switch on the right with tape so that the set can be turned on after removing the bottom cover.

CROSSHATCH PATTERN



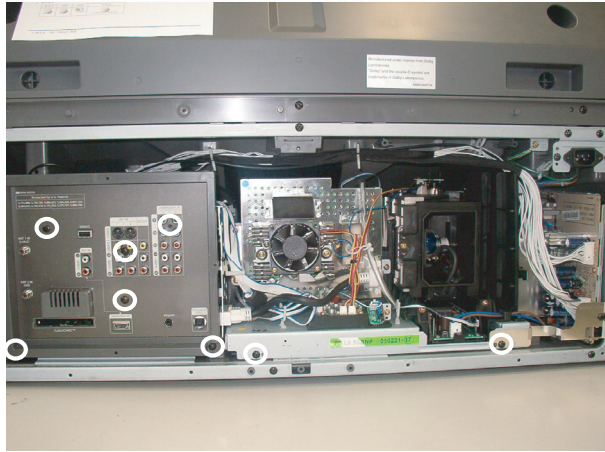
- ※ Even when those screws are removed, the board does not separate it can be moved within the adjustable range because there is a spring screw at the center that holds it.
- ※ When adjusting the screen, it is better for two people to work together.
One person should adjust the picture position while the other person looks at the screen.
- ※ The movement direction of the board and the picture are opposite.
 - When the board is lifted upward, the screen descends down.
 - When it is tilted to the left, the screen tilts to the right.
- ※ When the picture adjustment is completed:
First, tighten the two screws on the left of the DMD board and then slowly tighten the one screw on the bottom right.
Be careful not to touch the board while tightening the screws.
(When using an electric-powered screwdriver, be careful that the torque is not too high.)

3-6-2 Align the Focus

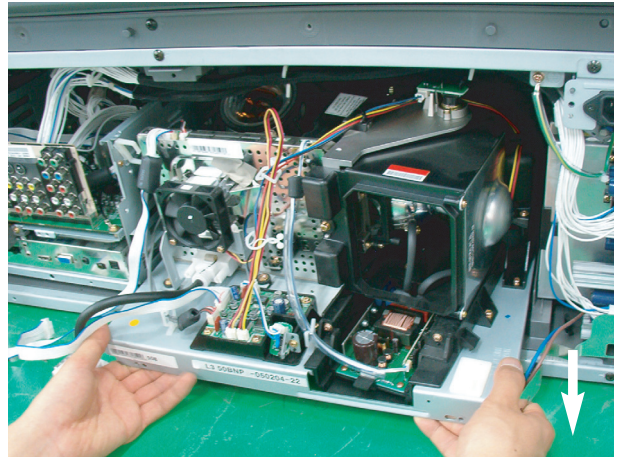
< L3 Engine >

1. Remove the 8 screws.

: TH,B,M4.L15,BLK,SWRCH18A

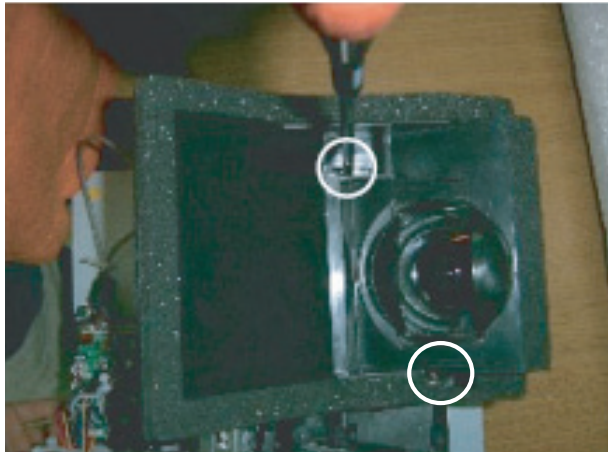


2. Pull out the Engine ass'y.

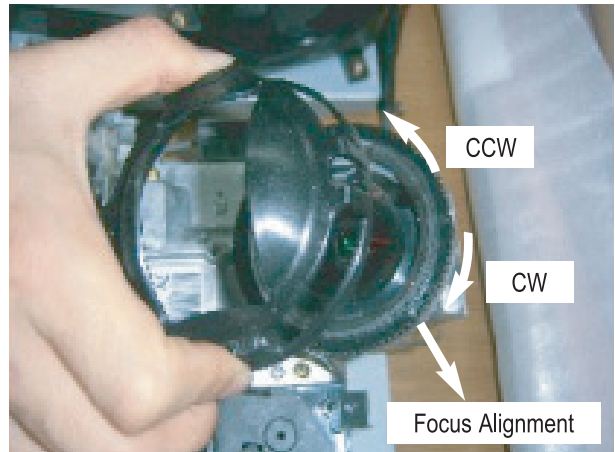


3. Remove 2 screws from the Cover Lens Holder.

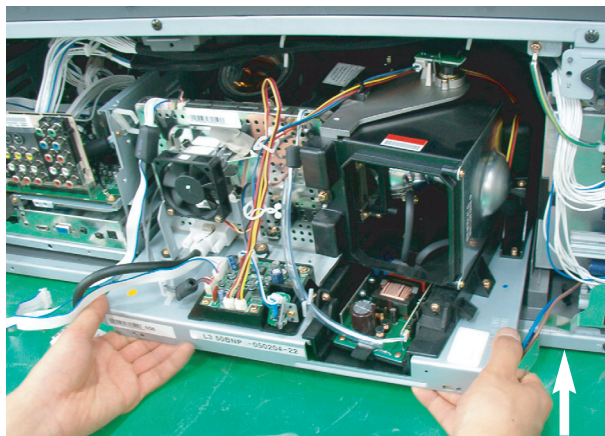
: PWH,B,M3,L10,ZPC(YEL),SWRCH18A



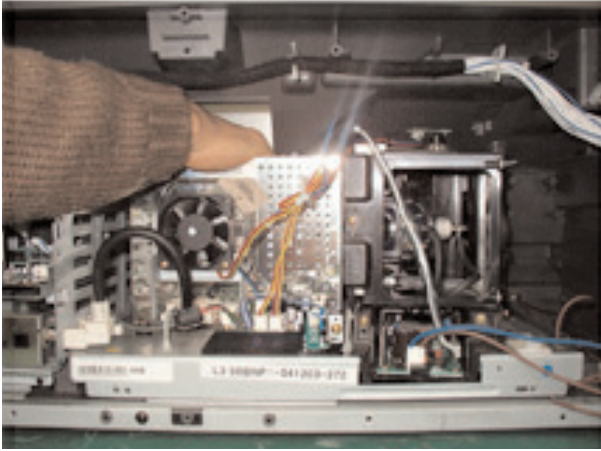
4. Remove Lens pedestal.



5. Insert Engine Ass'y with accuracy.



Alignment & Adjustment



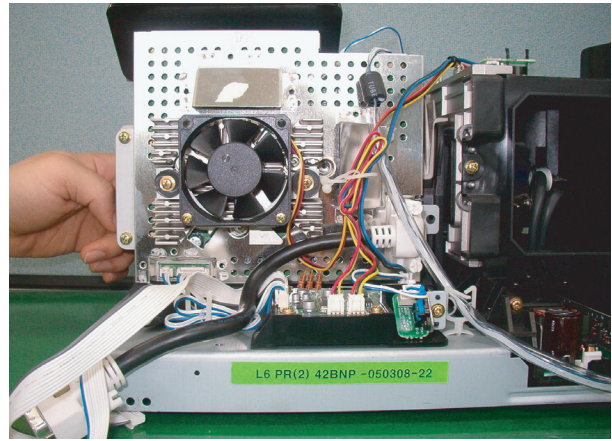
- 1) Input a Crosshatch pattern or enter service mode and use the internal generated patterns.
- 2) Adjust the focus alignment dial of the Projection Lens Clockwise or Counter Clockwise (See picture in step 4) until the picture is clear.
- 3) Since the alignment is done from the rear use a mirror or a second person to confirm the adjustment is complete.

6. After adjusting focus, assemble the reverse.

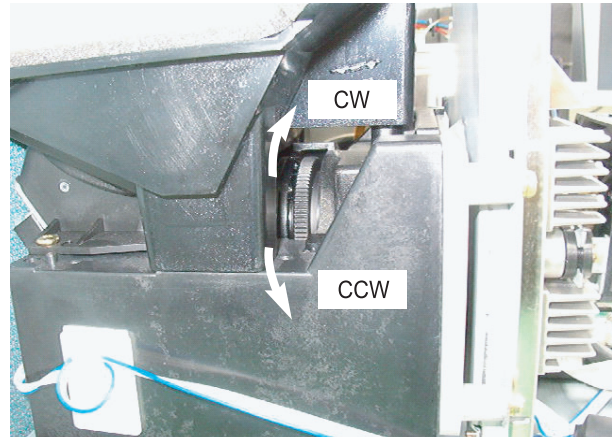
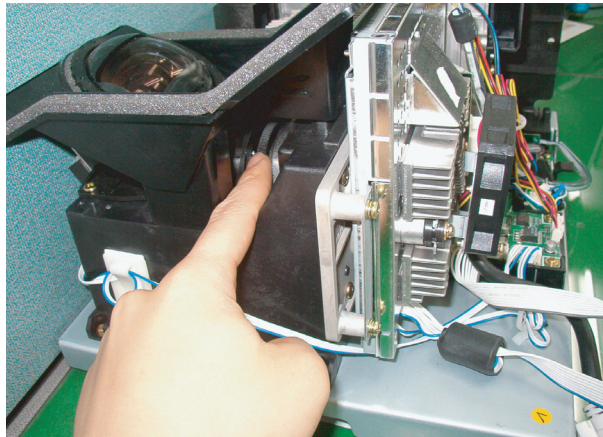


< L6 Engine >

1. Loosen and remove the 6 screws on the terminal board and jack.
: TH,B,M4.L15,BLK,SWRCH18A



2. It is not necessary that engine assy separate to adjust focus.
You put your hand in set below diagram. Move the focus alignment dial of Projection lens to the clockwise or counter clockwise until the picture is clear displayed. You are easy to work togher another service man.



MEMO