3. Alignment & Adjustment

3-1 Service Instruction

■ Check items listed after changing each

Check Items / Replaced Items	S/W Version	Front LCD	Actuator Gain	V-Position H-Position	Tilt Focus
Main Board	●	●	●	●	
Main Power Board					
Optical Engine		●	●	●	●
DMD Board			●	●	●
LAMP		●			
Front LED Assy		●			
Detect Board		●			

※ The Rear board is irremovable and supplied as a separate part in the field

1. Software version check :
   After Entering the Service mode, Check the list below
   * S/W Notation
   "T-ORCHAUSO_0001" indicates "Orchid basic model USA ver 0001".

T-ORCHAUSO_00XX
T-DLAMAUS5_10XX
RFS...
2007-00-00
DMD XXX
T-LEEUM-0399

2. Front LED check : In this S/M it is page 6-2-1.

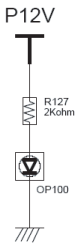
3. DMD 0x00000001 indicates DMD board bit sequence program version.

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

5. Vertical / Horizontal Position adjustment : See page 3-4-1.

6. CCA : See page 3-16.

7. Board LED check : Check the LED is turned on.
   (In the DMD Board)



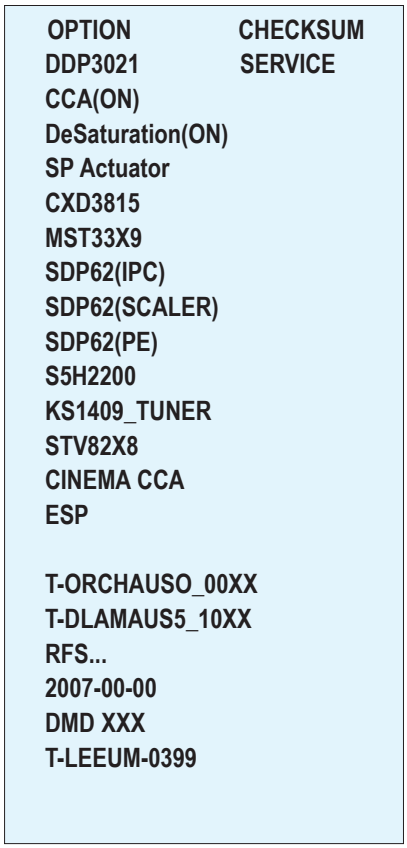
8. Tilt/Focus adjustment : See page 3-20/21/22.

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



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
Enter	Item Selection/execution

3-3 Factory Data

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

1. OPTION

No	Item	Range	Default	Remark
1	Factory Reset			
2	Lamp Control	0~1	Always	Dynamic, Always
3	WB Reset	ON/OFF	OFF	Initialize the White Balance value
4	EER Reset	-	-	Clear the EEPROM
5	User Reset			
6	DIGITAL→DMD	-	-	
7	Lamp Clear	-	-	Initialize lamp usage time. Lamp Life is set to zero
8	Lamp Life		h	Lamp on time counter
9	AUTO POWER	ON/OFF	ON	The sets turns on automatically when the power cord is plugged in
10	MUTE TIME(Video)	0~1000	440	Time which the screen will be black while switching
11	DDC Protection	ON/OFF	ON	DDC write ON/OFF selection
12	LNA Default	ON/OFF	Auto	LNA setting OFF/Auto selection
13	PROTECT	ON/OFF	ON	Protection ON/OFF selection
14	WATCH DOG	ON/OFF	ON	Watch Dog ON/OFF selection
15	WD COUNT	0	0	Count for Watch Dog event
16	DBG/RS232 SEL	0~1	RS232	Rs232/Debug
17	BUS STOP	ON/OFF	OFF	
18	FACTORY	ON/OFF	ON	
19	SMART DEBUG	ON/OFF	OFF	All user settings are set to default
20	EER COUNT ON/OFF	ON/OFF	OFF	
21	EER COUNT		0x90d0	
22	LNA+		ON	
23	LNA Check Count		10	
24	DMD→DIGITAL	-	-	To trans the CCA data form DMD to DIGITAL
25	Shop Mode	ON/OFF	OFF	
26	Color Gamut(Wide)			
27	PC Ident		Auto	
28	Hotplug On/Off		ON	
29	Hotplug Off Hold Time		1500ms	
30	HDMI Mute time		Oms	
31	DDP 3D Test			3D ready Function TEST

2. DDP3021

No	Item	Range	Default	Remark
1	H/V-Position	0 ~ 60	H:60/V:30	Horizontal and Vertical image adjustment
2	LAMP SYNC	0~3	2	Pulse(P), Pass(T)
3	INDEX DELAY			
4	SEQ SELECT	0~15	0x05	Sequence Selection
5	V-FLIP	Flip/Nomal	Normal	Vertical Flip Operation
6	H-FLIP	Flip/Nomal	Normal	Horizontal Flip Operation
7	GAMMA	0 ~ 15	[4]OEM	Gamma Table Selection
8	MPC	ON/OFF	OFF	MPC Funcion On/Off
9	Lamp Boost	0 ~ 63	15	Lamp Boost value selection
10	Lamp Sync Delay	0~4095	120	Lamp Sync delay value selection
11	Lamp Select	0~2	Philips	Philips, Osram, Ushio
12	3D GLS_Trans		1800	
13	Test Pattern (DDP)	0~18	0	This displays the built-in pattern of the DDP3021 chip. DDP3021 drives the DMD panel, so displaying this pattern means there is no error in the DDP3021 projection function and the panel itself.

3. CCA

No	Item	Range	Default	Remark
1	CCA	On/Off	ON	CCA On/Off Selection
2	Red-x	0~32768	646	Red-x measurement value using
3	Red-y	0~32768	340	Red-y measurement value
4	Red-Y	0~32768	86	Red-Y measurement value
5	Green-x	0~32768	295	Green-x measurement value
6	Green-y	0~32768	620	Green-y measurement value
7	Green-Y	0~32768	300	Green-Y measurement value
8	Blue-x	0~32768	146	Blue-xmeasurement value
9	Blue-y	0~32768	58	Blue-y measurement value
10	Blue-Y	0~32768	53	Blue-Y measurement value using
11	White-x			
12	White-y			
13	White-Y			
14	Yellow-x			
15	Yellow-y			
16	Yellow-Y			
17	Cyan-x			
18	Cyan-y			
19	Cyan-Y			
20	[COOL2]DWhite_X			
21	[COOL2]DWhite_Y			
22	[COOL1]DWhite_X			
23	[COOL1]DWhite_Y			
24	[NORMAL]DWhite_X			
25	[NORMAL]DWhite_Y			
26	[WARM1]DWhite_X			
27	[WARM1]DWhite_Y			
28	[WARM2]DWhite_X			
29	[WARM2]DWhite_Y			
30	WB Spread			WB adjusted value is spread to other mode

4. DeSaturation(ON)

No	Item	Range	Default	Remark
1	Desaturation Control		ON	
2	[NORMAL]Red-x	0~32768	646	
3	[NORMAL]Red-y	0~32768	340	
4	[NORMAL]Green-x	0~32768	295	
5	[NORMAL]Green-y	0~32768	620	
6	[NORMAL]Blue-x	0~32768	146	
7	[NORMAL]Blue-y	0~32768	58	
8	[NORMAL]Cyan-x	0~32768	274	
9	[NORMAL]Cyan-x	0~32768	285	
10	[NORMAL]Magenta-x	0~32768	439	
11	[NORMAL]Magenta-y	0~32768	424	
12	[NORMAL]Yellow-x	0~32768	571	
13	[NORMAL]Yellow-y	0~32768	446	
14	[sRGB]Red-x	0~32768	646	
15	[sRGB]Red-y	0~32768	340	
16	[sRGB]Green-x	0~32768	295	
17	[sRGB]Green-y	0~32768	620	
18	[sRGB]Blue-x	0~32768	146	
19	[sRGB]Blue-y	0~32768	58	
20	[sRGB]Cyan-x	0~32768	274	
21	[sRGB]Cyan-x	0~32768	285	
22	[sRGB]Magenta-x	0~32768	439	
23	[sRGB]Magenta-y	0~32768	424	
24	[sRGB]Yellow-x			
25	[sRGB]Yellow-y			
26	Desaturation mode		Normal	

5. SP Actuator

No	Item	Range	Default	Remark
1	Actu Gain Control	0~175	70	Actuator Gain adjustment
2	Actu Gain Detail	0~175	70	Actuator Gain adjustment
3	Actu On/Off	0~1	ON	Actuator On/Off selection
4	DB On/Off	0~1	ON	
5	DB Border	On / Off	OFF	
6	DB BP Weight	-	0%	
7	DB Gain	0~3	3	
8	DB Aperture	0~1	open	
9	SB Gain	0~255	0	
10	PC DB	0 ~ 255	3	

6. CXD 3815

RF

No	Item	Min	Max	Default	Remark
1	Y_LEVEL	0	255	200	
2	C_LELVEL	0	255	136	
3	YCDLY	0	15	8	
4	CVCOEF	0	3	3	
5	SUBHUE	0	63	32	
6	KILLEV	0	3	1	
7	PRESHOOT	0	15	8	
8	OVERSHOOT	0	15	8	
9	SHPCORE	0	3	0	
10	SHPF0	0	3	2	
11	NDPOS	0	3	0	
12	YCOREMT	0	15	1	
13	CCOREMT	0	15	1	
14	CNRSEL	0	1	0	
15	PHASEC	0	31	20	
16	LIMITC	0	31	2	
17	HIGHCOMP	0	15	8	
18	HIGFIL	0	3	3	
19	YHFLEV4	0	1	0	
20	VGAIN	0	7	0	
21	CLPPOS	0	15	8	
22	NOISE_LEV				No control value ,Only display the value

AV

No	Item	Min	Max	Default	Remark
1	Y_LEVEL	0	255	217	
2	C_LELVEL	0	255	147	
3	YCDLY	0	15	8	
4	CVCOEF	0	3	3	
5	SUBHUE	0	63	32	
6	KILLEV	0	3	1	
7	PRESHOOT	0	15	10	
8	OVERSHOOT	0	15	10	
9	SHPCORE	0	3	0	
10	SHPF0	0	3	2	
11	NDPOS	0	3	0	
12	YCOREMT	0	15	1	
13	CCOREMT	0	15	1	
14	CNRSEL	0	1	0	
15	PHASEC	0	31	20	
16	LIMITC	0	31	1	
17	HIGHCOMP	0	15	8	
18	HIGFIL	0	3	3	
19	YHFLEV4	0	1	0	
20	VGAIN	0	7	0	
21	CLPPOS	0	15	8	
22	NOISE_LEV				No control value ,Only display the value

S-VIDEO

No	Item	Min	Max	Default	Remark
1	Y_LEVEL	0	255	224	
2	C_LELVEL	0	255	147	
3	YCDLY	0	15	8	
4	CVCOEF	0	3	1	
5	SUBHUE	0	63	32	
6	KILLEV	0	3	1	
7	PRESHOOT	0	15	10	
8	OVERSHOOT	0	15	10	
9	SHPCORE	0	3	0	
10	SHPF0	0	3	2	
11	NDPOS	0	3	0	
12	YCOREMT	0	15	1	
13	CCOREMT	0	15	1	
14	CNRSEL	0	1	0	
15	PHASEC	0	31	20	
16	LIMITC	0	31	0	
17	HIGHCOMP	0	15	8	
18	HIGFIL	0	3	3	
19	YHFLEV4	0	1	0	
20	VGAIN	0	7	0	
21	CLPPOS	0	15	8	
22	NOISE_LEV				No control value ,Only display the value

7.MST3369

COMP 480I

No	Item	Min	Max	Default	Remark
1	RED CUTOFF	0	255	127	
2	GREEN CUTOFF	0	255	96	
3	BLUE CUTOFF	0	255	127	
4	PHASE	0	64	48	
5	RED GAIN	0	255	198	
6	GREEN GAIN	0	255	200	
7	BLUE GAIN	0	255	198	
8	PLLDIV	0	4096	857	
9	PLLGAIN	0	31	1	
10	CLPDLY	0	255	8	
11	CLPDUR	0	255	8	
12	HSOPW	0	255	24	
13	SYNC_CTRL	0	255	64	
14	SOGMID_CTRL	0	255	197	
15	SEP_THR	0	255	32	
16	PRECST	0	255	11	
17	POSTCST	0	255	21	
18	ADC_BWO	0	255	102	
19	ADC_BW1	0	255	6	
20	SOG_BW	0	255	221	
21	Test Pattern(MST3369)				test Pattern generation

COMP 480P

No	Item	Min	Max	Default	Remark
1	RED CUTOFF	0	255	128	
2	GREEN CUTOFF	0	255	96	
3	BLUE CUTOFF	0	255	128	
4	PHASE	0	64	32	
5	RED GAIN	0	255	198	
6	GREEN GAIN	0	255	200	
7	BLUE GAIN	0	255	198	
8	PLLDIV	0	4096	857	
9	PLLGAIN	0	31	4	
10	CLPDLY	0	255	8	
11	CLPDUR	0	255	8	
12	HSOPW	0	255	24	
13	SYNC_CTRL	0	255	64	
14	SOGMID_CTRL	0	255	189	
15	SEP_THR	0	255	32	
16	PRECST	0	255	11	
17	POSTCST	0	255	21	
18	ADC_BWO	0	255	85	
19	ADC_BW1	0	255	5	
20	SOG_BW	0	255	221	
21	Test Pattern(MST3369)				test Pattern generation

COMP720P

No	Item	Min	Max	Default	Remark
1	RED CUTOFF	0	255	127	
2	GREEN CUTOFF	0	255	96	
3	BLUE CUTOFF	0	255	127	
4	PHASE	0	64	55	
5	RED GAIN	0	255	202	
6	GREEN GAIN	0	255	204	
7	BLUE GAIN	0	255	202	
8	PLLDIV	0	4096	1649	
9	PLLGAIN	0	31	11	
10	CLPDLY	0	255	56	
11	CLPDUR	0	255	32	
12	HSOPW	0	255	48	
13	SYNC_CTRL	0	255	64	
14	SOGMID_CTRL	0	255	189	
15	SEP_THR	0	255	32	
16	PRECST	0	255	11	
17	POSTCST	0	255	14	
18	ADC_BWO	0	255	51	
19	ADC_BW1	0	255	3	
20	SOG_BW	0	255	221	
21	Test Pattern(MST3369)				test Pattern generation

COMP1080i

No	Item	Min	Max	Default	Remark
1	RED CUTOFF	0	255	127	
2	GREEN CUTOFF	0	255	96	
3	BLUE CUTOFF	0	255	127	
4	PHASE	0	64	55	
5	RED GAIN	0	255	200	
6	GREEN GAIN	0	255	204	
7	BLUE GAIN	0	255	203	
8	PLLDIV	0	4096	2199	
9	PLLGAIN	0	31	11	
10	CLPDLY	0	255	56	
11	CLPDUR	0	255	32	
12	HSOPW	0	255	48	
13	SYNC_CTRL	0	255	64	
14	SOGMID_CTRL	0	255	189	
15	SEP_THR	0	255	32	
16	PRECST	0	255	11	
17	POSTCST	0	255	14	
18	ADC_BWO	0	255	51	
19	ADC_BW1	0	255	3	
20	SOG_BW	0	255	221	
21	Test Pattern(MST3369)				test Pattern generation

COMP1080p

No	Item	Min	Max	Default	Remark
1	RED CUTOFF	0	255	127	
2	GREEN CUTOFF	0	255	96	
3	BLUE CUTOFF	0	255	127	
4	PHASE	0	64	50	
5	RED GAIN	0	255	200	
6	GREEN GAIN	0	255	204	
7	BLUE GAIN	0	255	203	
8	PLLDIV	0	4096	2199	
9	PLLGAIN	0	31	29	
10	CLPDLY	0	255	56	
11	CLPDUR	0	255	48	
12	HSOPW	0	255	96	
13	SYNC_CTRL	0	255	64	
14	SOGMID_CTRL	0	255	189	
15	SEP_THR	0	255	32	
16	PRECST	0	255	11	
17	POSTCST	0	255	14	
18	ADC_BWO	0	255	34	
19	ADC_BW1	0	255	2	
20	SOG_BW	0	255	221	
21	Test Pattern(MST3369)				test Pattern generation

PC

No	Item	Min	Max	Default	Remark
1	RED CUTOFF	0	255	128	
2	GREEN CUTOFF	0	255	128	
3	BLUE CUTOFF	0	255	128	
4	PHASE	0	64	0	
5	RED GAIN	0	255	145	
6	GREEN GAIN	0	255	145	
7	BLUE GAIN	0	255	145	
8	PLLDIV	0	4096	0	
9	PLLGAIN	0	31	0	
10	CLPDLY	0	255	0	
11	CLPDUR	0	255	0	
12	HSOPW	0	255	0	
13	SYNC_CTRL	0	255	0	
14	SOGMID_CTRL	0	255	0	
15	SEP_THR	0	255	0	
16	PRECST	0	255	0	
17	POSTCST	0	255	0	
18	ADC_BWO	0	255	0	
19	ADC_BW1	0	255	0	
20	SOG_BW	0	255	238	
21	Test Pattern(MST3369)				test Pattern generation

8. SDP62(IPC)

No	Item	Range	Default	Remark
1	(NR)M_NR_ON/OFF		ON	MAIN PICTURE NR ON/OFF
2	(NR)S_NR_ON/OFF		ON	SUB PICTURE NR ON/OFF
3	(NR)NR_Zeromotion_M		18	Gain control for motion compensation
4	(NR)NR_Fullmotion_M		240	
5	(NR)M_MAX_WEIGHT		110	MAIN NR FRAME WEIGHT
6	(NR)S_MAX_WEIGHT		110	SUB NR FRAME WEIGHT
7	(NR)GMV_ON		ON	Global Motion Vector ON/OFF
8	(NR)TH_FULLMD		3	
9	51FLT_ON		3	
10	FLT_SP		ON	
11	FLT_FP		OFF	
12	FLT_STL		0	
13	FLT_MOT		0	
14	Spatial_Analog_TH		0	0: Vertical Interpolation(do not use directional information)
15	Ticker_Mode		All on	All off,Interlace only,Ecxept film,All on
16	Debuger_Mode		0	off,film,Stop,Motion,Moving,Judder,Ticker,Weigh
17	(FILM)3:2_Mode		1	3:2 PULL DWON MODE SELECTION
18	(FILM)2:2_Mode		1	2:2 PULL DWON MODE SELECTION
19	(FILM)FLM_32_22		3	
20	CLK_OSD_PHASE		3	B1 OSD DATA LATCH PAHSE
21	MIX_STL_SLP		2	
22	(M)Test Pattern		0	INPUT TEST PATTERN
23	(S)Test Pattern		0	

9. SDP62(SCALER)

No	Item	Range	Default	Remark
1	Main AUTO_PAGE_SE		ROM	Filter Page Select
2	Main YH_PAGE		2	YH Filter Select
3	Main YV_PAGE		7	YV Filter Select
4	Main CH_PAGE		2	CH Filter Select
5	Main CV_PAGE		2	CV Filter Select
6	(CTI)GAINU		96	CB CTI gain
7	(CTI)GAINV		96	CR CTI gain
8	(CTI)R_CHCNT_ON		OFF	
9	(MADE)SDR_MAX_TH1		6	SDR STillFrame motion weight threshold
10	(MADE)SDR_MAX_TH2		6	SDR STillFrame motion weight threshold
11	(MADE)ANTI_V		ON	MADE IPC Motion V LPF ON/OFF
12	(MADE)ANTI_H		ON	MADE IPC Motion H LPF ON/OFF
13	MG_ON		ON	
14	MM_ON		OFF	
15	(MADE)DE_GAIN_X1		8	MADE Gain of horizontal high frequecy region
16	(MADE)DE_GAIN_X2		16	MADE Gain of horizontal middle frequecy region
17	(MADE)DE_GAIN_Y1		16	MADE Gain of vertical region
18	(MADE)DE_MR		24	LOG SCLAE GAIN
19	(MADE)H_RTH2		8	
20	(MADE)CORING_ON/O		ON	MADE CORING ON/OFF
21	(MADE)H_CORING_F1		6	MADE CORING Threshold
22	(MADE)H_CORING_F2		6	MADE CORING Threshold
23	(MADE)V_CORING_F3		6	MADE CORING Threshold
24	(MADE)NE_ON		OFF	MADE linkage NE ON/OFF
25	(MADE)SUP_LIFT		ON	
26	(MADE)H_FILTER1		1	MAIN H FILER1 SELECT
27	(MADE)H_FILTER2		10	MAIN H FILER2 SELECT
28	(MADE)V_FILTER1		4	MAIN V FILER SELECT
29	DB_DEMO		ON	De-blocking Processing ON/OFF
30	PRE_DEMO		OFF	Pre-DE Processing ON/OFF
31	SP_DEMO		ON	Super Precision Processing ON/OFF
32	CTI_DEMO		OFF	CTI Processing ON/OFF
33	JR_SUB		ON	
34	JR_DEMO		ON	

10. SDP62(PE)

No	Item	Range	Default	Remark
1	Test Pattern		0	OUTPUT TEST PATTERN SELECTION
2	SNI_PROC_CEP		ON	Contrast Enhancement ON/OFF
3	SNI_PROC_DEP		ON	Detail Enhancement Processing ON/OFF
4	SNI_PROC_CEA		ON	Contrast Enhancement ON/OFF
5	SNI_PROC_CCS		ON	Color Compensation Processing ON/OFF
7	SNI_PROC_MCC		ON	MCC Processing ON/OFF
8	SNI_PROC_CA		ON	Contrast Adjustment Processing ON/OFF
9	SNI_PROC_CVD		ON	Color Vision Deficiency Processing ON/OFF
11	SNI_BWS		Adaptive	BWS MODE SELECTION
12	B_RATIO		13000	Low lecel informatino for the minimum value
13	BLACK_TILT		110	Black Stretch Area
14	B_GAIN_MAX		380	Black slope gain limit
15	GAIN_X1		20	Gain of horizontal high frequecy region
16	GAIN_X2		24	Gain of horizontal middle frequecy region
17	GAIN_Y1		16	Gain of vertical high frequecy region
18	GAIN_Y2		24	Gain of vertical middle frequecy region
19	SUP_LIFT_SEL		OFF	
20	BOOL_SUPP_SELX1		ON	Horizontal high frequecy Shoot Shppression ON/OFF
21	BOOL_SUPP_SELX2		OFF	Horizontal middle frequecy Shoot Shppression ON/OFF
22	BOOL_SUPP_SELY1		ON	Vertical high frequecy Shoot Shppression ON/OFF
23	BOOL_SUPP_SELY2		ON	Vertical middle frequecy Shoot Shppression ON/OFF
24	BPPL_ENH_SEL		ON	Amplitude scaling block gain Processing ON/OFF
25	R_MR		150	
26	CORING_ON		ON	Post Coring ON/OFF
27	RTH2		4	Noise Detection Block Threshold2
28	NDON		ON	Noise Detection ON/OFF
29	WB_RED_C_COEFF		1024	
30	WB_GRN_C_COEFF		1024	
31	WB_BLU_C_COEFF		1024	
32	WB_RED_B_COEFF		1024	
33	WB_GRN_B_COEFF		1024	
34	WB_BLU_B_COEFF		1024	
35	R_Coring_TH1		2	Horizontal high frequecy Coring Threshold
36	R_Coring_TH2		2	Horizontal middle frequecy Coring Threshold
37	R_Coring_TH3		3	Vertical high frequecy Coring Threshold
38	R_Coring_TH4		3	Vertical middle frequecy Coring Threshold
39	H_FILTER1		5	DE horizontal high frequecy Filter selection

No	Item	Range	Default	Remark
40	H_FILTER2		5	DE horizontal middle frequecy Filter selection
41	V_FILTER1		1	DE vertical high frequecy Filter selection
42	V_FILTER2		1	DE vertical middle frequecy Filter selection
43	YSUBTRACT		0	Input Y channel Setup level
44	Sub Color		62	Color gain
45	Sub Color_Offset		0	N.C
46	DNIe On/Off		ON	DNIe Processing ON/OFF
47	Sub Contrast		107	Brightness adjustment for the high-light parts of the screen
48	Contrast Offset		5	Standard Contrast offset
49	(M)Contrast Offset		0	N.C
50	Sub Brightness		243	Brightness adjustment for the low-light parts of the screen
51	CRR		910	YCbCr TO RGB MATRIX
52	CBG		1830	YCbCr TO RGB MATRIX
53	CRG		1820	YCbCr TO RGB MATRIX
54	CBB		1023	YCbCr TO RGB MATRIX
55	CRR_MOVIE		750	MOVIE MODE YCbCr TO RGB MATRIX
56	CBG_MOVIE		1830	MOVIE MODE YCbCr TO RGB MATRIX
57	CRG_MOVIE		1700	MOVIE MODE YCbCr TO RGB MATRIX
58	CBB_MOVIE		1023	MOVIE MODE YCbCr TO RGB MATRIX
59	LGAIN		200	Contrast Adjustment dark gain
60	UGAIN		100	Contrast Adjustment bright gain

11. S5H2200

No	Item	Range	Default	Remark
1	Test Pattern(ALBA)	0~255	1	

12. KS1409_Tuner

No	Item	Range	Default	Remark
1	Rf_Agc	-	0x8a	
2	Vsb_CR_Gain	-	0x002e	
3	Vsb_CR_K1_1_Narrow	-	0x0e	
4	Vsb_CR_K1_1_Wide	-	0x0c	
5	Vsb_CR_K1_2_Narrow	-	0x0d	
6	Vsb_CR_K1_2_Wide	-	0x0c	
7	Vsb_CR_K2_1_Narrow	-	0x12	
8	Vsb_CR_K2_1_Wide	-	0x10	
9	Vsb_CR_K2_2_Narrow		0x11	
10	Vsb_CR_K2_2_Wide		0x10	
11	Vsb_Eq_Ctrl1		0x030e	
12	Vsb_Eq_Ctrl2		0x0104	
13	Vsb_Eq_Init_Step		0x3161	
14	Vsb_Eq_Step		0x6111	
15	Vsb_Ptl_Step		0x0522	
16	Vsb_Ptl_Alpha		0x0055	
17	Qam_Agc		0x2a38	
18	Qam_Eq_Step1		0x312f	
19	Qam_Eq_Step2		0xa8b0	
20	Qam_Ptl_K1		0x37	
21	Qam_Ptl_K2		0x2c	

13. STV82X8

No	Item	Range	Default	Remark
1	Stereo Pilot High	0-255	0x8A	
2	Stereo Pilot low	0-255	0x4a	
3	SAP Pilot_High	-	0x1010	
4	SAP Pilot_Low	-	0x01	
5	Melody-ON VOL	0-5	0x50	
6	Melody-Off VOL	0-5	0x030e	
7	Speaker Type		K3	
8	AMP Pwr(W)		10W	
9	Carrier Mute		ON	
10	SQTH		112	
11	CETH		16	
12	Audio Delay		1	
13	[NTP] PWM Mode		0xea	
14	[NTP] AMP Vol		0x17	
15	[NTP] DRC Thresh		0x1f	
16	EQ On/Off			

14. Cinema CCA

No	Item	Range	Default	Remark
1	[COOL2]DWhiteX	-	267	Target Red X value for CCA
2	[COOL2]DWhiteY	-	269	Target Red Y value for CCA
3	[COOL1]DWhiteX	-	274	Target Green X value for CCA
4	[COOL2]DWhiteY	-	276	Target Green Y value for CCA
5	[NORMAL]DWhiteX	-	282	Target Blue X value for CCA
6	[NORMAL]DWhiteY	-	285	Target Blue Y value for CCA
7	[WARM1]DWhiteX	-	293	Target Cyan X value for CCA
8	[WARM1]DWhiteY	-	300	Target Cyan Y value for CCA
9	[WARM2]DWhiteX	-	310	Target Magenta X value for CCA
10	[WARM2]DWhiteY	-	269	Target Magenta Y value for CCA

15. ESP

No	Item	Range	Default	Remark
1	Dynamic Global On / Off	0~1	OnOff	
2	Dynamic Local On / Off	0~2	OnOff	
3	Dynamic Skin On / Off	0~100	OnOff	
4	Dynamic Strength	0~2	Low	
5	Dynamic Cont Gain	0~100	0	
6	Dynamic Satu	0~1	OFF	
7	Dynamic Satu Gain	0~255	128	
8	Sharp Picture	0~1	ON	
9	VLUT	-	TBD0	
10	Sharp Filter	0~2	UCF	
11	Sharp Picture Gain	0~255	255	

16. SERVICE

No	Item	Range	Default	Remark
1	H/V-Position	0 ~ 60	H:60/V:30	
2	User Reset	-	-	All user settings are set to default
3	INDEX DELAY	0	45	Index delay adjustment
4	LAMP SYNC	0 ~ 3	0	
5	CCA(ON)			
6	DMD→Digital			
7	Digital→DMD			
8	Lamp Life		22h	
9	Lamp Clear			
10	MUTE TIME(VIDEO)	-	4	
11	Lamp Select	-	Philips	
12	Actu Gain Control	0 ~ 175	68	Actuator Gain adjustment
13	Actu Gain Detail	0 ~ 175	68	Actuator Gain adjustment

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" buttons on the Remote Control.

3. Select "Service" on the first display of the Service mode menu.

4. Select the H/V-Position for vertical and horizontal positioning by using the ▲ ▼ (Up & Down) buttons.
   Press the ◀ ▶ (Left or Right) buttons to adjust the screen position.

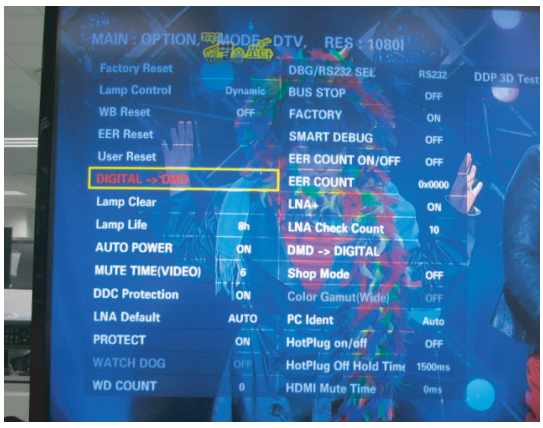
※ Do not set the V-position value to 34 or 35. (Setting to these values will cause horizontal lines on the right side of the screen.)

3-4-2 CCA Adjustment Service Methods : CCA Adjustment is needed after changing a DMD board or Main 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,Yellow,Cyan and White color patterns, using a color coordinate measuring equipment. At this moment, color correction is performed below.

1) This procedure is needed if the Main Board or DMD Board are changed.
2) Turn off power to put the unit into the STAND-BY mode.
3) In order to enter the Service Mode, press "Mute"→"1"→"8"→"2"→"Power" buttons on the Remote Control.

4) Select "Option" on the display of the Service mode menu
5) If the DMD PCB is changed, Press the ▼ ▲(Up or Down) button to move to Digital→DMD, then press ENTER to select.



6) Then Press ENTER to save CCA information to the DMD board
7) If the Main PCB is changed, Press the ▼ ▲(Up or Down) button to move to DMD→Digital, then press ENTER to select.

8) Then Press ENTER to save CCA information to the Main board

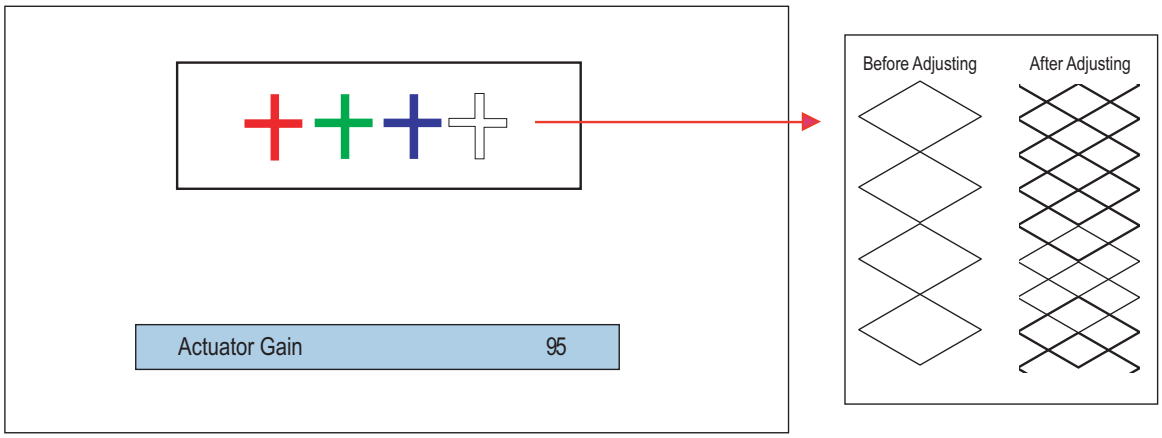
* Attention

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 per
sonnel, 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.

3-4-3 ACTUATOR GAIN Adjustment

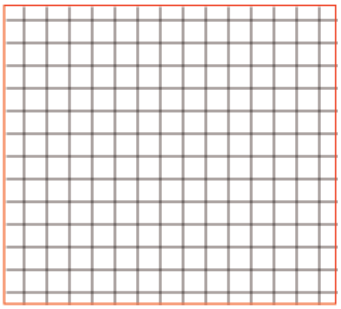
1. Before Adjustment
   1) Turn off the power to put the unit into the STAND-BY mode.
   2) In order to enter the Service Mode, Press "Mute" → "1" → "8" → "2" → "POWER" button on the Remote Control.
   3) Select "Service" on the first display of the Service mode menu.
   4) "Select Actu Gain Control or Actu Gain Detail."
   5) The Actuator gain control screen will be displayed.
   6) Press the ◀ ▶ (Left of Right) button to adjust. check the smooth picture at it's minimum and maximum values of changing ,then adjust to the mean value.

   - Actu Gain Control : In case of controlling with Cross Pattern.



   - Actu Gain Detail : In case of controlling with Crosshatch Pattern.
     You can see the Crosshatch Pattern when you press the ◀ ▶ (Left of Right) button to adjust

CROSSHATCH PATTERN

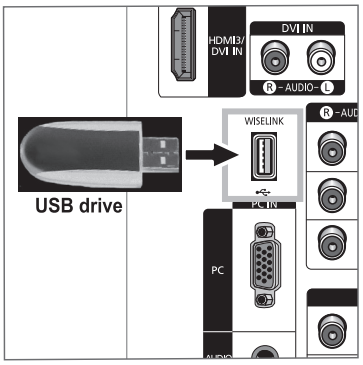


CAUSTION: Actu Gain Detail is just controlled by your eye because control value doesn't appear In picture.

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.

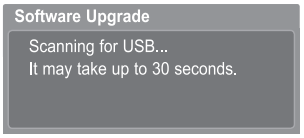
3-5 Software Upgrade

1. Insert a USB drive containing the firmware upgrade into the USB Upgrade Port on the side of the TV.



2. Press the MENU button.
   Press the ◀ or ▶ button to select Setup, then press the ENTER button.
   Press the ▲or ▼ button to select SW Upgrade, then press the ENTER button.
   The message Scanning for USB... It may take up to 30 seconds. is displayed.
   Please be careful to not disconnect the power or remove the USB drive while upgrades are being applied.
   The TV will shut off and turn on automatically after completing the firmware upgrade. Please check the firmware version after the upgrades are complete.

※ The firmware and upgrade process may be different by country and region.



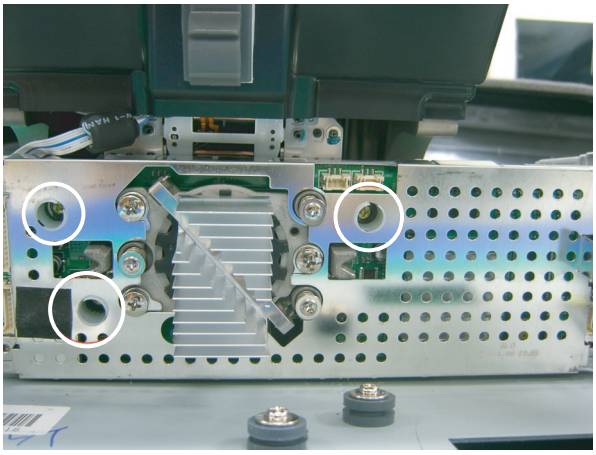
T-ORCHAUSO_00XX
T-DLAMAUS5
DMD 0x00000001
(DMD sequence ver)
DSP 0-0-0
(DMD DSP ver.)
RFS...
2007-01-17
T-LEEUM-0309

3-6 Replacements & Calibration

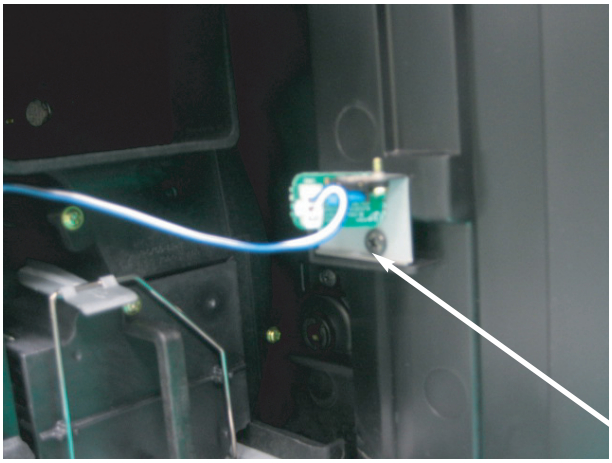
3-6-1 Tilt the Screen

1. Remove the 20 point screws. Remove the Bottom cover.
   : BH,+,S,M4,L10,ZPC(BLK),SWRCH18 (6ea)
   : BH,+,B,M4,L12,ZPC(BLK),SWRCH18 (14ea)

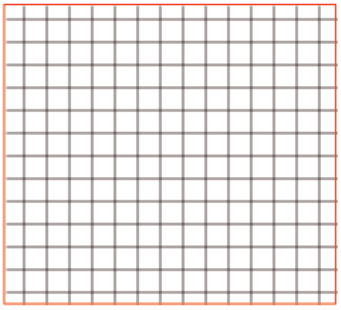
2. Loosen the 3 points screws.
   * Left 2 points screws
     : PWH,S,M3,L8,ZPC(YEL),SWRCH18A
   * Right 1 points screw
     : PWH,S,M3,L7,ZPC(YEL),SWRCH18A



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" buttons on the Remote Control.Select "DDP3021(LED)" on the first display of the Service Mode menu. Press the ▲ ▼(Up or Down) buttons, then press ENTER to select. Press the ▶ (Right) button until you see the CROSSHATCH PATTERN.Then, adjust the screen position, by holding both of the upper corners of the DMD board.



CROSSHATCH PATTERN



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

※ Even when those screws are loosened, the board does not separate it can be moved within the adjustable range because there are spring screws at the center holding 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.
If only one person is performing this adjustment, back port should be removed, and image on the screen monitored through there.

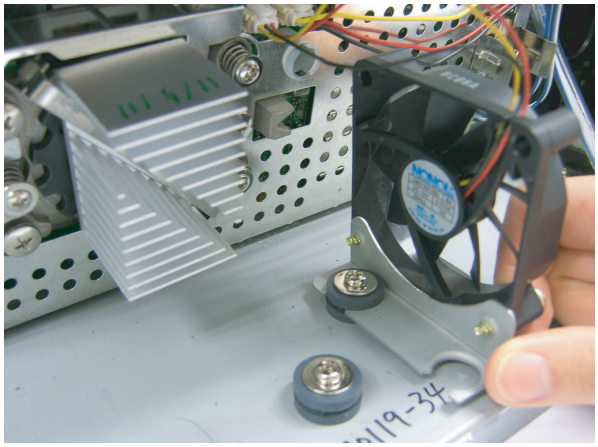
※ The movement direction of the board and the picture are different.
- When it is tilted to the left, the screen tilts to the right.
- But, When the board is lifted upward, the screen lifted upward, too.

※ 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.)

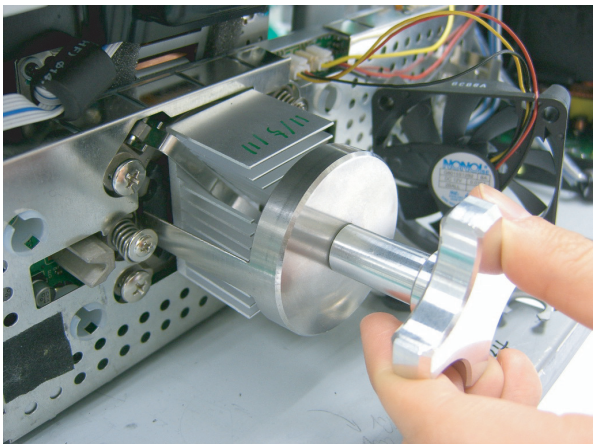
※ Notice
The proper geometry adjustment needs to be in this order
- 1)DMD Adj (Coarse) → 2) Back cabinet adj's and H/V position (Fine)

3-6-2 Align the Focus

1. Remove the DMD FAN.
   but don't disconnect connector



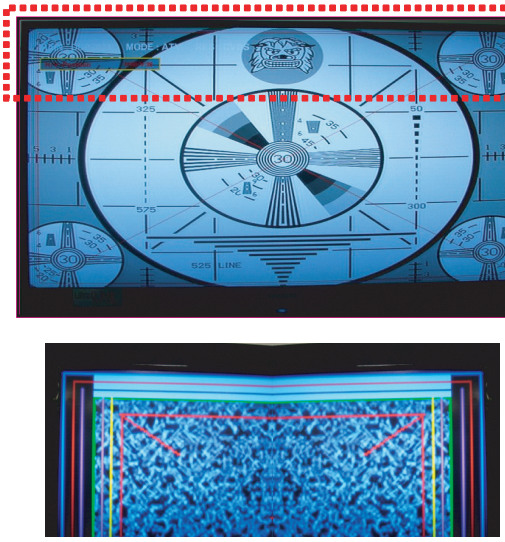
2. Turn the knob to find best focus at the screen
   the knob is black wheel under the heat sink.



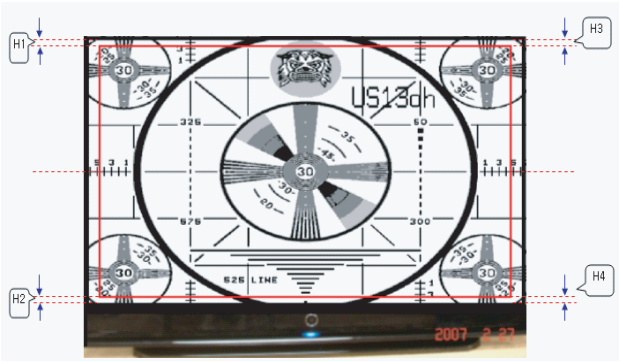
3-6-3 Tilt Adjustment

■ Tilt Inspection

1.Enter Factory(mute+182+Power) → H/V Position -> Appear tilt Pattern.



Tilt Pattern (Internal Pattern)



Inspect the Tilt
(with external Lionhead pattern)

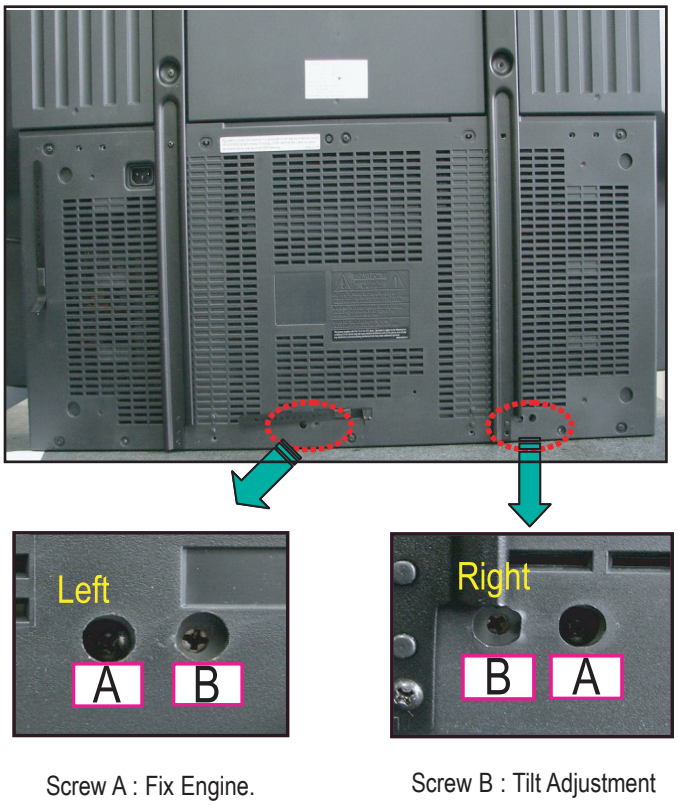
2.Tilt Specification

Inch	Spec	Remark
50",56"	7mm	*TOP Tilt : H1-H3 * BOTTOM TILT: H2-H4
61"	8mm	

■ Top Tilt Adjustment

1.Loosen Screw A at the 2 points shown.
2.Use Screw B to adjust Top Tilt
- Image Down → B(R or L) Rotate CCW
- Image Up → B(R or L) Rotate CW

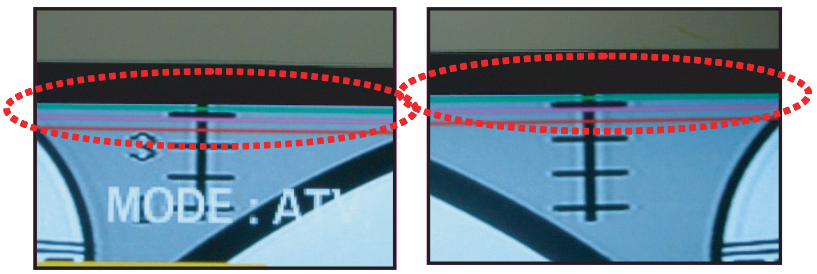
3.Refer to the Lionhead pattern to determine the correct adjustment. As shown in the figure below, align the blue line to the cabinet bezel.



Screw A : Fix Engine.

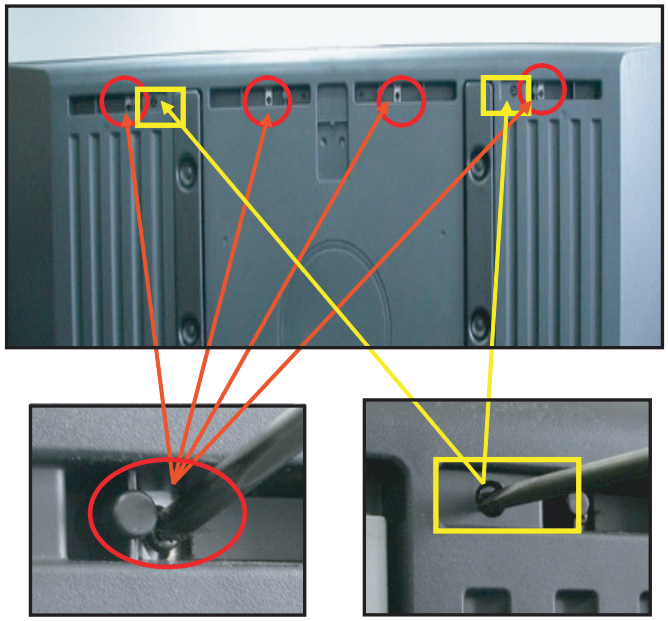
Screw B : Tilt Adjustment

4.Fix Screw A at the 2 points shown



■ Bottom Tilt Adjustment

1.Loosen Screw A at 4 points as shown.

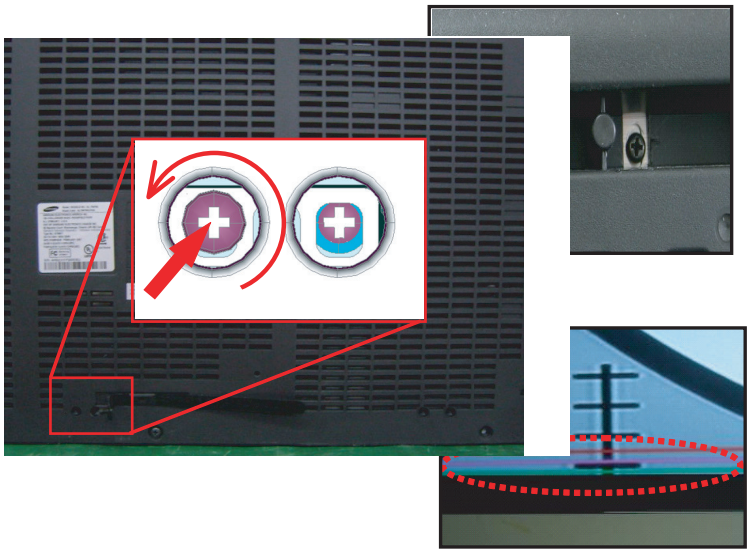


Screw A : Fix Mirror Screw B : Tilt Adjustment

3. Loosen 1ea of screw which is fixing engine base like the picture below. Make it half-assembled state, by loosing about 3 rounds without loosing all.

2.Rotate Screw B to adjust Bottom Tilt

- Image Down → B(Right) Rotate CW
  B(Left) Rotate CCW
- Image Up → B(Right) Rotate CCW
  B(Left) Rotate CW



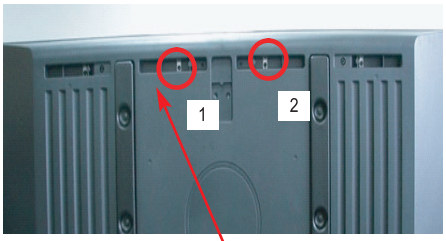
3.Refer to the Lionhead pattern to determine the correct adjustment.
As shown in the figure below, align the green line to the cabinet bezel.

4.Fix Screw A at the 4 points as shown.

■ Bottom bowing Adjustment

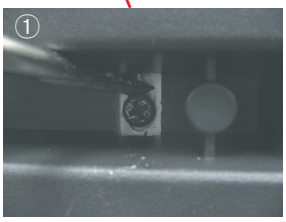
1.First loosen the 2 screws as shown Fig #1.
If the bottom of the screen is bowing down, (In most case)
- Insert a flat screwdriver above screw #1 as shown Fig #2.
- While applying upward force on the flat screwdriver handle
(causing downward motion of screw #1 by rocking against cabinet),
monitor bottom bowing on the screen and tighten screw #2 when straight.

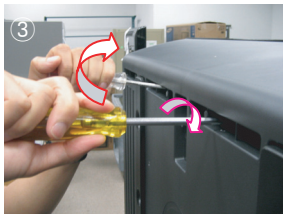
Fig #1



2.If the bottom of the screen is bowing up,
- Insert a flat screwdriver under #1 as shown Fig #3..
- While applying downward force on the flat screwdriver handle
(causing upward motion of screw #1 by rocking against cabinet),
monitor bottom bowing on the screen and tighten screw #2 when straight.

Fig #2





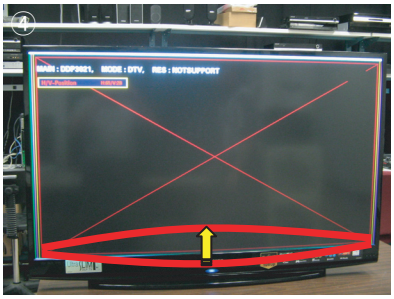
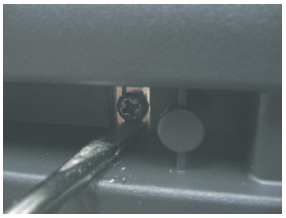


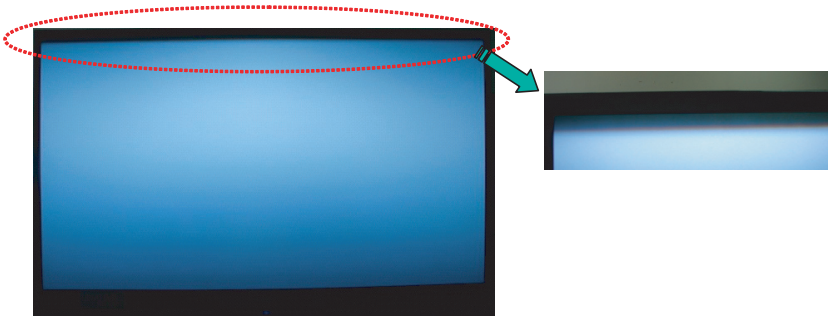
Fig #3



3-6-4 Light Shadow Adjustment

■ Shadow Inspection

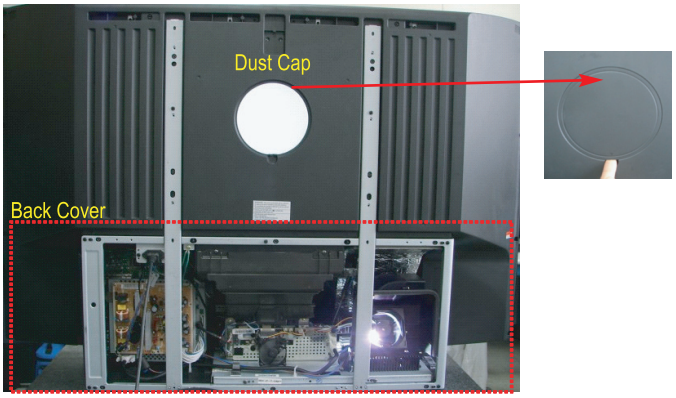
1.- Enter Factory → Test Pattern → Select White Pattern



■ Back Cover Open

1.Remove the Back Cover

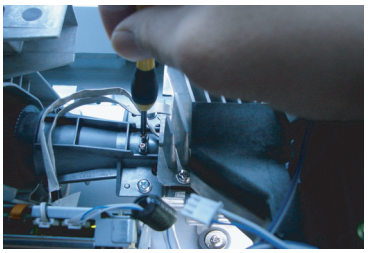
2.Remove the Dust Cap

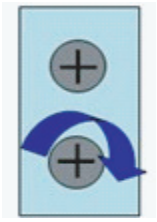


■ Adjust Light Tunnel

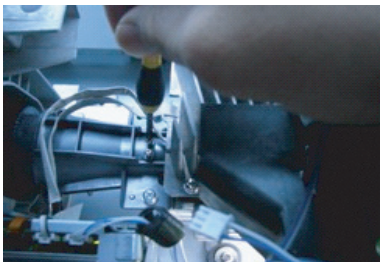
1.As shown in the left picture, adjust the light tunnel and inspect the adjust condition.

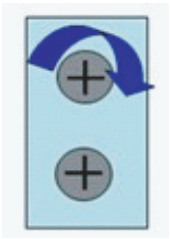
2.To remove the right side Shadow, do the following -
- Front Screw : Turn Right (CW)





3.To remove the upper side Shadow, do the following
- Rear Screw : Turn Right (CW)

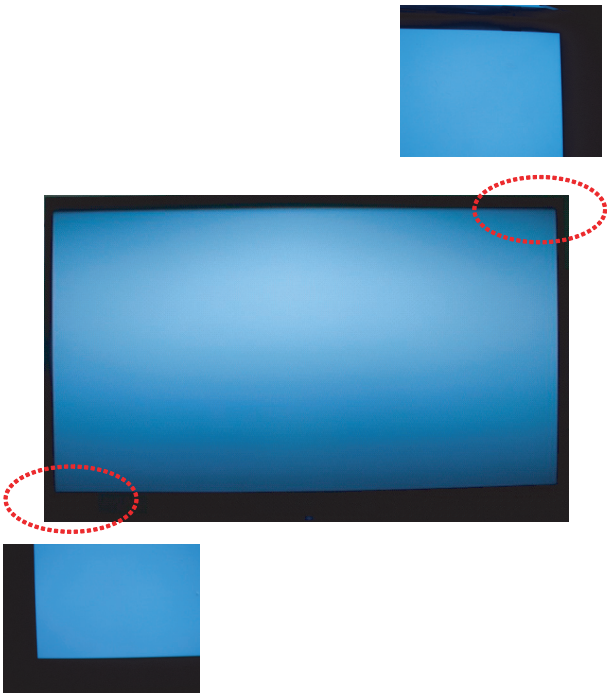




■ 3.Final Inspection

1.Shadow Inspection
- Enter Factory → Test Pattern → Select White Pattern

2.Make sure to inspect the left bottom and right upper corner of the screen for shadow defect.



MEMO