

# SERVICE MANUAL

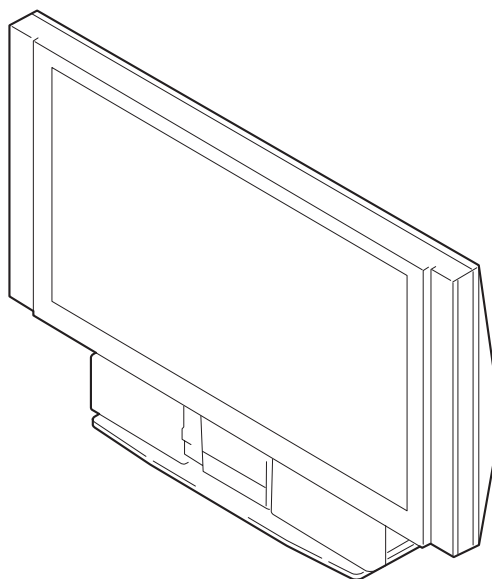
## LE-3A CHASSIS

<u>MODEL</u>	<u>COMMANDER</u>	<u>DEST.</u>
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<i>KF-50SX200</i>	<i>RM-905</i>	<i>AEP</i>
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<i>KF-50SX200K</i>	<i>RM-905</i>	<i>OIRT</i>
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<i>KF-50SX200U</i>	<i>RM-905</i>	<i>UK</i>
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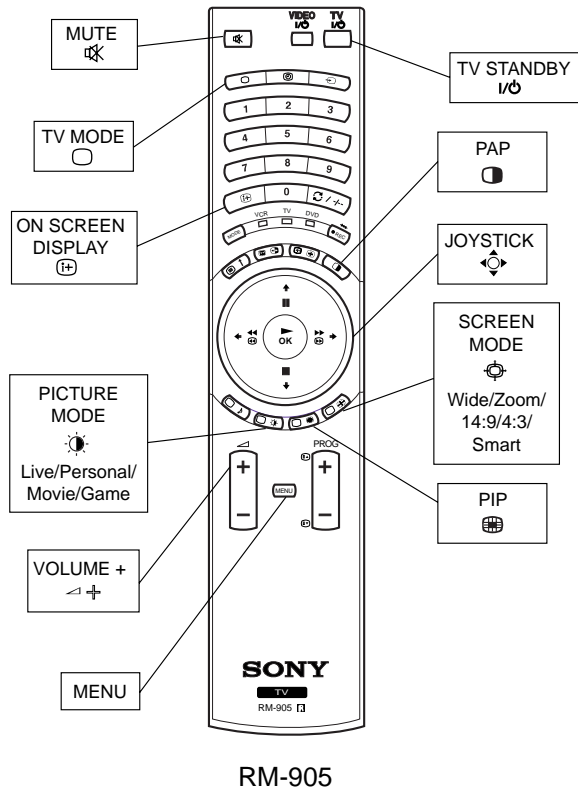
LCD PROJECTION TV  
**SONY**®

## SECTION 3

### ELECTRICAL ADJUSTMENTS

#### 3-1. ADJUSTMENTS WITH COMMANDER

Service adjustment to this model can be performed with the supplied remote commander RM-905.



##### 3-1-1. How to Select Each Mode

###### 1. Selection of Mode between PAL and NTSC

PAL mode : Enter PAL signal with color burst.

NTSC mode: Enter NTSC signal with color burst. (VIDEO input only)

###### 2. Selection of Picture Mode

- 1) Press “ (GREEN)” button on the commander.
- 2) Press or key on the joystick to select picture mode and press “ (OK)” button. At this time, normal screen comes back. (In the TT mode, the menu is switched to the Service menu.)

###### 3. Selection of Screen Mode

- 1) Press “ (BLUE)” button on the commander.
- 2) Press or key on the joystick to select screen mode and press “ (OK)” button. At this time, normal screen comes back. (In the TT mode, the menu is switched to the Service menu.)

###### 4. Displaying Multi PIP Mode

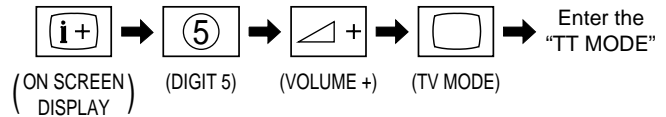
- 1) Press “ (YELLOW)” button on the commander.
- 2) Press it once more, normal screen comes back. (In the TT mode, the menu is switched to the Service menu.)

###### 5. Displaying PAP Mode

- 1) Press “” button on the commander.
- 2) Press it once more, normal screen comes back. (In the TT mode, the menu is switched to the Service menu.)

##### 3-1-2. How to Enter TT Mode

1. Turn on the main power switch to place this set in standby mode. (LED will light in red.)
2. Press the buttons on commander as follows, and the TT mode will be selected.



“TT - -” will appear in the top right corner of the screen.

Other status information will also be displayed.

3. If “ (TV MODE)” button or “ + ” button is pressed, the set exits from the TT mode and returns to normal TV mode.

##### 3-1-3. How to Enter Service Menu

1. Select TT mode.
2. Press “MENU” button on the commander once, and normal menu screen will appear, or press it once more, and the following service menu screen will appear.

```
Service AE5(A)

Initialising
Reset Devices
Monitoring
Device Register Setting
Special Adjustment

Select : ▲▼ Next menu : ►
```

3. Following the screen, press or key on the joystick to select the desired item, and press key to enter the selected item.
4. Press or key on the joystick to change data of each item, and press “ (OK)” button to write changed data. (Except Projector Engine mode)
5. To return from each item, press key on the joystick. Or, to return to the TT mode, press the “MENU” button. (Except Projector Engine mode)

### 3-1-4. Screen Display for Service Menu

If each item of service menu is selected, the following screen is displayed.

#### • Initialising

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Initialising

Model Setting
Destination Setting
Basic Setting
Feature Setting

Select : ▲▼ Next menu : ►

```

#### • Initialising ➔ Model Setting

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Model Setting

1 KV-29FX60
2 KV-29FC60
3 KV-29FS60
4 KV-28FX60
5 KV-32FX60
6 KV-32FS60
7 KV-28FC60
8 KV-32FC60
9 KP-44PS3
10 KP-51PS3
11 KF-50SX200
12 KDP-44NX1U
13 KDP-51NX1U
14 KP-48PS1/PS2
15 KP-53PS1/PS2
16 KP-61PS1/PS2
17 KP-44PS2
18 KP-51PS2
19 KF-50SX100

BLACK = No conformity
GREEN = Compatible Model
RED = Conformity for all data

Select : ▲▼ Last menu : ◀ Set Model : ►

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#### • Initialising ➔ Destination Setting

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Destination Setting

Multi
A
B
D
E
K
R
U
GA

BLACK = No conformity
GREEN = Compatible Destination
RED = Conformity for all data

Select : ▲▼ Last menu : ◀ Set Dest. : ►

```

#### • Initialising ➔ Basic Setting

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Basic Setting

No  Descr.          Min    Max    Data
1  Sys. B/G        OFF    ON     ON
2  Sys. D/K        OFF    ON     ON
3  Sys. L          OFF    ON     ON
4  Sys. I (UK)     OFF    ON     ON
5  Sys. I (IRL)    OFF    ON     OFF
6  TXT Nat.Option   1      4      3
7  Simple PAT      OFF    ON     ON
8  16 : 9 CRT      OFF    ON     ON
9  Sub-Woofers     OFF    ON     ON
10 Auto Stand-By   OFF    ON     ON
11 Comb-Filter     OFF    ON     ON
12 Auto YC det     OFF    ON     ON
13 Auto Comb det   OFF    ON     ON
14 AV2 Available   OFF    ON     ON
15 AV3 Available   OFF    ON     ON
16 AV4 Available   OFF    ON     ON
17 AV3 Front&Rear  OFF    ON     OFF
18 SECAM Tape      OFF    ON     ON
19 AV1 SoundMute   OFF    ON     OFF

Select : ▲▼ Last menu : ◀ Enter Item : ►

```

#### • Initialising ➔ Feature Setting

```

Feature Setting

No  Descr.          Min    Max    Data
1  PAP             OFF    ON     ON
2  PAT             OFF    ON     ON
3  INDEX           OFF    ON     ON
4  EPG             OFF    ON     ON
5  Full EPG        OFF    ON     ON
6  PictBoostBypass OFF    ON     OFF

Select : ▲▼ Last menu : ◀ Enter Item : ►

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#### • Reset Devices

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Reset Devices

Colour Decoder 1
Colour Decoder 2
Audio/Video Switch
MID-X
External PLL MID-X
Gate Array Chip
AutoWide
Sound
Picture Booster
MCP
Analog NR

Select : ▲▼ Last menu : ◀ Reset Dev. : ►

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### • Monitoring

#### Monitoring

Device Status Monitor  
Error Monitor  
LCD-Engine error menu  
Production Monitor  
NVM Monitor  
Format Monitor  
CNI Monitor

Select : ▲▼ Next menu : ►

### • Device Register Setting

#### Device Register Setting

Colour Decoder 1  
Colour Decoder 2  
Audio/Video Switch  
MID-X  
External PLL MID-X  
Gate Array Chip  
Autowide  
Sound  
Projector Engine  
Picture Booster  
MCP  
Analog NR

Select : ▲▼ Next menu : ►

### • Device Register Setting ➔ Colour Decoder 1

#### Colour Decoder 1

No	Descr.	Def.	Min	Max	Data
1	TINT	31	0	63	31
2	SUB COLOUR	7	0	15	7
3	SUB CONTR	7	0	15	7
4	SHARP GAIN	8	0	15	8
5	Y-OUT LEV.	35	0	63	35
6	C-OUT LEV.	45	0	63	45
7	Y-DL	8	0	10	8
8	Cr OFF.1	7	0	15	7
9	Cb OFF.1	7	0	15	7
10	Cr OFF.2	7	0	15	7
11	Cb OFF.2	7	0	15	7
12	V CD FREQ	3	0	7	3
13	V CD MODE	1	0	3	1
14	MVM	OFF	OFF	ON	OFF
15	S R-Y ADJ	7	0	15	7
16	S B-Y ADJ	2	0	15	2
17	BELL/HPF	2	0	3	2
18	BELL F0	OFF	OFF	ON	OFF
19	S GP	0	0	3	0

Select : ▲▼ Last menu : ◀ Enter Item : ►

### • Device Register Setting ➔ Colour Decoder 2

#### Colour Decoder 2

No	Descr.	Def.	Min	Max	Data
1	TINT	31	0	63	31
2	SUB COLOUR	7	0	15	7
3	SUB CONTR	7	0	15	7
4	SHARP GAIN	8	0	15	8
5	Y-OUT LEV.	35	0	63	35
6	C-OUT LEV.	45	0	63	45
7	Y-DL	8	0	10	8
8	Cr OFF. 1	7	0	15	7
9	Cb OFF. 1	7	0	15	7
10	Cr OFF. 2	7	0	15	7
11	Cb OFF. 2	7	0	15	7
12	V CD FREQ	3	0	7	3
13	V CD MODE	1	0	3	1
14	MVM	OFF	OFF	ON	OFF
15	S R-Y ADJ	7	0	15	7
16	S B-Y ADJ	2	0	15	2
17	BELL/HPF	2	0	3	2
18	BELL F0	OFF	OFF	ON	OFF
19	S GP	0	0	3	0

Select : ▲▼ Last menu : ◀ Enter Item : ►

### • Device Register Setting ➔ Audio/Video Switch

#### Audio/Video Switch

No	Descr.	Def.	Min	Max	Data
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### • Device Register Setting ➔ MID-X

#### MID-X

No	Descr.	Def.	Min	Max	Data
1	M H POS	8	-31	31	8
2	S H POS	2	-8	8	2
3	D YS SEL	1	0	3	1
4	D YS DELAY	7	0	7	7
5	D SYNC MOD	ON	OFF	ON	ON
6	Text Sharp	OFF	OFF	ON	OFF

Select : ▲▼ Last menu : ◀ Enter Item : ►

## • Device Register Setting ➔ External PLL MID-X

External PLL MID-X					
No	Descr.	Def.	Min	Max	Data
1	VC07-0PAL	184	0	255	184
2	VC07-0NTSC	172	0	255	172
3	VC011-8	6	0	15	6
4	DIV1,2,4,8	2	0	3	2
5	Fine Delay	0	0	63	0
6	Coar.Delay	0	0	3	0
7	Ch. Pump	0	0	3	0
8	PD Pol.	ON	OFF	ON	ON
9	DSync Wdth	3	0	3	3
10	DSync Del	OFF	OFF	ON	OFF
11	Sync Pol	ON	OFF	ON	ON
12	DSync Pol	ON	OFF	ON	ON
13	Clk En	ON	OFF	ON	ON
14	NClk En	OFF	OFF	ON	OFF
15	Clk/2 En	OFF	OFF	ON	OFF
16	NClk/2 En	OFF	OFF	ON	OFF
17	DSync En	ON	OFF	ON	ON
18	Unlock En	OFF	OFF	ON	OFF
19	VCO Bypass	ON	OFF	ON	ON
20	Synth Pwr	ON	OFF	ON	ON
21	Rdout Pwr	OFF	OFF	ON	OFF
22	DIVOUT En	ON	OFF	ON	ON
23	DSync Byp	OFF	OFF	ON	OFF
24	DSync Hold	OFF	OFF	ON	OFF

Select : ▲▼ Last menu : ◀ Enter Item : ▶

## • Device Register Setting ➔ Gate Array Chip

Gate Array Chip					
No	Descr.	Def.	Min	Max	Data
1	SMART	OFF	OFF	ON	OFF
2	ROM Curve	0	0	1	0
3	H Offset	0	-15	15	0

Select : ▲▼ Last menu : ◀ Enter Item : ▶

## • Device Register Setting ➔ Auto wide

Auto wide					
No	Descr.	Def.	Min	Max	Data
1	Upaara	ON	OFF	ON	ON
2	Upthin	OFF	OFF	ON	OFF
3	Enjtoz	OFF	OFF	ON	OFF
4	X149j	ON	OFF	ON	ON
5	Syncslc	OFF	OFF	ON	OFF
6	Tm	1	0	3	1
7	Uprlv1	OFF	OFF	ON	OFF
8	Ofslvl	OFF	OFF	ON	OFF
9	Alpf	3	0	3	3
10	eddec2	3	0	3	3
11	Lnstblz	ON	OFF	ON	ON
12	Lnhys	OFF	OFF	ON	OFF
13	Drkpri	ON	OFF	ON	ON

Select : ▲▼ Last menu : ◀ Enter Item : ▶

## • Device Register Setting ➔ Sound

Sound					
No	Descr.	Def.	Min	Max	Data
1	Carr.-Mute	ON	OFF	ON	ON
2	SCART1 Vol	79	0	127	79
3	SCART2 Vol	79	0	127	79
4	SCART-Pr.	27	0	127	27
5	I2S1-Pr.	16	0	127	16
6	I2S2-Pr.	16	0	127	16
7	FM Pr.	27	0	127	27
8	BG Nic.Pr.	53	0	127	53
9	L Nic. Pr.	59	0	127	59
10	DK Nic.Pr.	53	0	127	53
11	I Nic. Pr.	97	0	127	97
12	Irl NicPr.	97	0	127	97
13	Subw. Vol.	-2	-127	0	-2
14	Bass Offs	0	-3	3	0
15	TrebleOffs	0	-3	3	0
16	Loudn.Offs	0	0	9	0
17	HP-VolOffs	-2	-5	5	-2
18	M-S Limit	30	-128	127	30
19	M-B Limit	-30	-128	127	-30
20	S-M Limit	12	-128	127	12
21	S-B Limit	-20	-128	127	-20
22	B-M Limit	-12	-128	127	-12
23	B-S Limit	20	-128	127	20
24	Err. Max	40	0	255	40
25	Err. Min	18	0	255	18
26	Vol.Offset	0	-6	0	0
27	High Dev.	OFF	OFF	ON	OFF
28	FIR2 500k	ON	OFF	ON	ON
29	Loud.Gain	0	0	68	29
30	Loud.Mode	50	0	8	8
31	Virt.Surr.	OFF	OFF	ON	OFF
32	Spat.Eff.	64	0	127	0
33	Virt.Eff.	90	0	127	90
34	Virt.Mode	6	5	6	6
35	Noise Gen.	OFF	OFF	ON	OFF
36	Channel	10	10	13	10

Select : ▲▼ Last menu : ◀ Enter Item : ▶

## • Device Register Setting ➔ Picture Booster

Picture Booster					
No	Descr.	Def.	Min	Max	Data
1	DEM	OFF	OFF	ON	OFF

Select : ▲▼ Last menu : ◀ Enter Item : ▶

## • Device Register Setting ➔ MCP

MCP					
No	Descr.	Def.	Min	Max	Data
1	Contrast	46	0	63	46
2	Hue	32	0	63	32
3	System	1	0	3	1
4	Colour	29	0	63	24
5	Brightness	55	0	63	55
6	Sharpness	31	0	63	29
7	R-Drive	42	0	63	42
8	D-Col	OFF	OFF	ON	OFF
9	G-Drive	42	0	63	42
10	B-Drive	42	0	63	42
11	R-Cutoff	20	0	63	20
12	G-Cutoff	20	0	63	20
13	B-Cutoff	20	0	63	20
14	H-Width	0	0	3	0
15	CR-Offset 1	2	0	15	11
16	CB-Offset 1	2	0	15	11
17	Sub-Contr.	7	0	15	7
18	Sub-Colour	7	0	15	7
19	Sub-Hue	7	0	15	7
20	CTI-Level	1	0	3	1
21	R-Y/R	10	0	15	10
22	R-Y/B	15	0	15	15
23	G-Y/R	10	0	15	10
24	G-Y/B	7	0	15	7
25	Gamma	3	0	15	3
26	P-Abl	15	0	15	15
27	BLK-Bottom	5	0	15	5
28	Sub-Sharp	1	0	3	1
29	Sharp.F0	2	0	3	2
30	Pre/Over	1	0	3	1
31	LTI-Level	1	0	3	1
32	DC-Tran	0	0	3	0
33	DPIC-Level	0	0	3	0

Select : ▲▼ Last menu : ◀ Enter Item : ▶

## • Special Adjustment

Special Adjustment				
No	Descr.	Min	Max	Data
1	RGB Level	0	7	0
2	RGB Gain	0	31	23
3	RGB PAT Level	0	7	0
4	RGB PAT Gain	0	31	18
5	Extra FW	0	255	255
6	EPG ChkS Check	OFF	ON	ON
7	Slicer High	OFF	ON	ON
8	FCW Wide	OFF	ON	ON
9	Mpeg NR	OFF	ON	OFF
10	Notch Filter	OFF	ON	OFF
11	NLD step	-7	0	-1
12	PKD step	-15	0	-5
13	CRD step	0	15	3
14	SHP step	-7	0	-3
15	COL step	-7	0	-1
16	NTSC AutoYc AV2	OFF	ON	OFF
17	NTSC AutoYc AV3	OFF	ON	OFF
18	RGB Disable	OFF	ON	OFF
19	Telop C/M	OFF	ON	ON
20	Intern GD	OFF	ON	ON
21	AV2 YC mix out	OFF	ON	OFF
22	Line 318 TXT	OFF	ON	ON
23	L Gating Main	OFF	ON	OFF
24	L Gating Sub	OFF	ON	OFF
25	Audio Gain Sub	OFF	ON	OFF
26	Auto Mute Sub	OFF	ON	ON

Select : ▲▼ Last menu : ◀ Enter Item : ▶

## • Device Register Setting ➔ Analog NR

Analog NR					
No	Descr.	Def.	Min	Max	Data

3-1-5. Service List (Projector Engine)   : Fixed data

**D9512 TG**

Category	Item number	Adjustment item	Standard data	Data range	Note	Device
D9512 TG	0	INV CTL	0	0, 1	INVERT CONTROL	CXD9512
	1	POS CTL	13	0-15	POSITION CONTROL	
	2	H POS	9	0-255	TG H POSITION	
	3	V POS H	4	0-255	TG V POSTION H	
	4	V POS D	30	0-255	TG V POSITION DOT	
	5	HST POL	0	0, 1	HST POLARITY	
	6	HCK W	0	0, 1	HCK WIDTH	
	7	HST POS	15	0-63	HST POSITION	
	8	HCK POL	1	0, 1	HCK POLARITY	
	9	HCK A-INV	0	0, 1	HCK AUTO INVERT	
	10	VST POL	0	0, 1	VST POLARITY	
	11	VST A-INV	0	0, 1	VST AUTO INVERT	
	12	HST PHA	1	0-15	HST PHASE	
	13	VCK POL	0	0, 1	VCK POLARITY	
	14	VST POS	0	0-127	VST POSITION	
	15	ENB POS	23	0-255	ENB POSITION	
	16	ENB W	40	0-255	EMB POSITION	
	17	BLK ON	0	0, 1	BLK ON	
	18	BLK POL	0	0, 1	BLK POLARITY	
	19	PCG POS	2	0-63	PCG POSITION	
	20	PCG B-OR	0	0, 1	PCG BLK OR	
	21	PCG B-SEL	0	0, 1	PCG BLK SELECT	
	22	PCG W	3	0-63	PCG WIDTH	
	23	PRG POS	2	0-63	PRG POSION	
	24	PRG B-OR	0	0, 1	PRG BLK OR	
	25	PRG B-SEL	0	0, 1	PRG BLK SELECT	
	26	PRG W	9	0-63	PRG WIDTH	
	27	BLK POS	0	0-255	BLK POSTION	
	28	BLK W	0	0-255	BLK WIDTH	
	29	CLR W	0	0-255	CLR WIDTH	

**D9512 IM**

Category	Item number	Adjustment item	Standard data	Data range	Note				Device
D9512 IM	0	V-ST-POS	9	0-255	V START POSITION				CXD9512
	1	H-ST-POS	97	0-255	H START POSITION				
	2	SUB CON	32	0-63	SUB CONTRAST LEVEL				
	3	SUB BRT	12	0-63	SUB BRIGHT LEVEL				
	4	V BLKT H	0	0-255	V BLANKING POSITION TOP				
	5	V BLKT L	0	0-3	V BLANKING POSITION TOP2				
	6	V BLKB H	0	0-255	V BLANKING POSITION BOTTOM				
	7	V BLKB L	0	0-3	V BLANKING POSITION BOTTOM 2				
	8	H BLKL H	0	0-255	H BLANKING POSITION LEFT				
	9	H BLKL L	0	0-3	H BLANKING POSITION LEFT 2				
	10	H BLKR H	0	0-255	H BLANKING POSITION RIGHT				
	11	H BLKR L	0	0-3	H BLANKING POSITION RIGHT 2				
	12	ASL SW	0	0, 1	ASL SWITCH				
	13	ASL SEL	0	0-3	ASL SELECT				
	14	B PIC LV	0	0-15	BLUE PICASL LEVEL				
	15	B BRT LV	15	0-15	BLUE BRTASL LEVEL				
	16	G PIC LV	0	0-15	GREEN PICASL LEVEL				
	17	G BRT LV	15	0-15	GREEN BRTASL LEVEL				
	18	R PIC LV	0	0-15	RED PICASL LEVEL				
	19	R BRT LV	15	0-15	RED BRTASL LEVEL				
	20	PIC AREA	7	0-7	PICASL AREA				
	21	BRT AREA	7	0-7	BRTASL AREA				
	22	PIC ST	0	0-3	PICASL START TIMING				
	23	BRT ST	0	0-3	BRTASL START TIMING				
	24	PRE SL	3	0-3	PRE SLOPE				
	25	POST SL	3	0-3	POST SLOPE				
	26	APC MODE	2	0-2	APC MODE				
	27	APC SW	1	0, 1	APC SWITCH				
	28	APC TH	10	0-255	APC THRESHOLD				
	29	APC LIMT	30	0-63	APC LIMITTER				
30	APC LEV	60	0-255	APC LEVEL					
	31	G-PICT	LIVE 100	PERSONAL 69	MOVIE 66	GAME 69	0-100	PICTURE	
	32	G-BRIGHT	51	51	51	51	0-100	BRIGHT	

### D9512 WB

Category	Item number	Adjustment item	Standard data	Data range	Note	Device
D9512 WB	0	B GAIN	127	0-255	W/B GAIN BLUE	CXD9512
	1	G GAIN	127	0-255	W/B GAIN GREEN	
	2	R GAIN	127	0-255	W/B GAIN RED	
	3	B BIAS	85	0-255	W/B BIAS BLUE	
	4	G BIAS	85	0-255	W/B BIAS GREEN	
	5	R BIAS	85	0-255	W/B BIAS RED	
	6	B GAIN H	143	0-255	W/B GAIN BLUE	
	7	G GAIN H	125	0-255	W/B GAIN GREEN	
	8	R GAIN H	130	0-255	W/B GAIN RED	
	9	B BIAS H	127	0-255	W/B BIAS BLUE	
	10	G BIAS H	130	0-255	W/B BIAS GREEN	
	11	R BIAS H	128	0-255	W/B BIAS RED	
	12	B GAIN L	115	0-255	W/B GAIN BLUE	
	13	G GAIN L	125	0-255	W/B GAIN GREEN	
	14	R GAIN L	144	0-255	W/B GAIN RED	
	15	B BIAS L	128	0-255	W/B BIAS BLUE	
	16	G BIAS L	127	0-255	W/B BIAS GREEN	
	17	R BIAS L	120	0-255	W/B BIAS RED	

### D9512 TES

Category	Item number	Adjustment item	Standard data	Data range	Note	Device
D9512 TES	0	REF PER	1	0, 1	REFRESH PERMISSION	CXD9512
	1	REF LENG	0	0-7	REFRESH LENGTH	
	2	G-LUT SW	0	0, 1	GAMMA LUT THROUGH	
	3	CORR WGT	2	0-3	CORRECT WEIGHT	
	4	SHAD SW	0	0, 1	SHADING SWITCH	
	5	3D-G SW	1	0, 1	3D GAMMA SWITCH	
	6	3D-G Z	0	0, 1	3D GAMMA MODE Z	
	7	3D-G VH	0	0, 1	3D GAMMA MODE VH	
	8	3D-G BS	1	0, 1	3D GAMMA BLOCK SIZE	
	9	AGC P SW	1	0, 1	AGC PULSE SWITCH	
	10	AGC SHP POS	43	0-127	AGC SH PULSE POSITION	
	11	AGC SHP SEL	1	0-3	AGC SH PULSE SELECT	
	12	AGC SHP W	2	0-63	AGC SH PULSE WIDTH	

### D9512 TPN

Category	Item number	Adjustment item	Standard data	Data range	Note	Device
D9512 TPN	0	T-PATN SW	0	0, 1	TEST PATTERN SWITCH	CXD9512
	1	T-SIG SEL	1	0-7	TEST SIGNAL SELECT	
	2	PATN DIR	1	0, 1	PATTERN DIRECTION	
	3	SIG LV DIR	0	0, 1	SIGNAL LEVEL DIRECTION	
	4	T-PATN PIT	144	0-255	TEST PATTERN PITCH	
	5	B-LV	25	0-63	BLUE TEST PATTERN LEVEL	
	6	G-LV	25	0-63	GREEN TEST PATTERN LEVEL	
	7	R-LV	25	0-63	RED TEST PATTERN LEVEL	
	8	T-PATN RGB	4	0-7	RGB TEST ENABLE	

### D9512 TFR

Category	Item number	Adjustment item	Standard data	Data range	Note	Device
D9512 TFR	0	CRIP	1	0, 1	FRAME CRIP	CXD9512
	1	CUR TOP	0	0, 1	FRAME CURSOR TOP	
	2	CUR BOT	0	0, 1	FRAME CURSOR BOTTOM	
	3	CUR L	0	0, 1	FRAME CURSOR LEFT	
	4	CUR R	0	0, 1	FRAME CURSOR RIGHT	
	5	POS TOP	0	0-255	FRAME POSITION TOP	
	6	POS BOT	255	0-255	FRAME POSITION BOTTOM	
	7	POS L	0	0-255	FRAME POSION LEFT	
	8	POS R	255	0-255	FRAME POSITION RIGHT	
	9	OSD B	25	0-31	BLUE OSD LEVEL	
	10	OSD G	25	0-31	GREEN OSD LEVEL	
	11	OSD R	25	0-31	RED OSD LEVEL	
	12	OSD YM	0	0-7	PICTURE HALF TONE LEVEL	
	13	OSD I	3	0-7	OSD HALF TONE LEVEL	



## GAMMA

Category	Item number	Adjustment item	Standard data	Data range	Note	Device
GAMMA	0	ADJ ON	0	0, 1	INVERT CONTROL	
	1	GAMMA R0	255	0-255	GAMME ADJ (R)	
	2	GAMMA R1	255	0-255	GAMME ADJ (R)	
	3	GAMMA R2	255	0-255	GAMME ADJ (R)	
	4	GAMMA R3	255	0-255	GAMME ADJ (R)	
	5	GAMMA R4	255	0-255	GAMME ADJ (R)	
	6	GAMMA R5	255	0-255	GAMME ADJ (R)	
	7	GAMMA R6	255	0-255	GAMME ADJ (R)	
	8	GAMMA R7	255	0-255	GAMME ADJ (R)	
	9	GAMMA G0	255	0-255	GAMME ADJ (G)	
	10	GAMMA G1	255	0-255	GAMME ADJ (G)	
	11	GAMMA G2	255	0-255	GAMME ADJ (G)	
	12	GAMMA G3	255	0-255	GAMME ADJ (G)	
	13	GAMMA G4	255	0-255	GAMME ADJ (G)	
	14	GAMMA G5	255	0-255	GAMME ADJ (G)	
	15	GAMMA G6	255	0-255	GAMME ADJ (G)	
	16	GAMMA G7	255	0-255	GAMME ADJ (G)	
	17	GAMMA B0	255	0-255	GAMME ADJ (B)	
	18	GAMMA B1	255	0-255	GAMME ADJ (B)	
	19	GAMMA B2	255	0-255	GAMME ADJ (B)	
	20	GAMMA B3	255	0-255	GAMME ADJ (B)	
	21	GAMMA B4	255	0-255	GAMME ADJ (B)	
	22	GAMMA B5	255	0-255	GAMME ADJ (B)	
	23	GAMMA B6	255	0-255	GAMME ADJ (B)	
	24	GAMMA B7	255	0-255	GAMME ADJ (B)	

## LCD-DR

Category	Item number	Adjustment item	Standard data	Data range	Note	Device
LCD-DR	0	FRP CNT	0	0, 1	FR PULSE CONT	
	1	R VCOM	127	0-255	V COM ADJ (R)	
	2	R ODD VR	24	0-255	ODD ADJ (R)	
	3	R EVEN VR	24	0-255	EVEN ADJ (R)	
	4	R DLY CNT	127	0-255	DLY CONT (R)	
	5	R DA VSET	44	0-255	D/A VOLTAGE SET (R)	
	6	G VCOM	127	0-255	V COM ADJ (G)	
	7	G ODD VR	194	0-255	ODD ADJ (G)	
	8	G EVEN VR	24	0-255	EVEN ADJ (G)	
	9	G DLY CNT	127	0-255	DLY CONT (G)	
	10	G DA VSET	109	0-255	D/A VOLTAGE SET (G)	
	11	B VCOM	127	0-255	V COM ADJ (B)	
	12	B ODD VR	245	0-255	ODD ADJ (B)	
	13	B EVEN VR	97	0-255	EVEN ADJ (B)	
	14	B DLY CNT	127	0-255	DLY CONT (B)	
	15	B DA VSET	11	0-255	D/A VOLTAGE SET (B)	
	16	R VREF SEL	0	0, 1	VOLTAGE REF SELECT (R)	
	17	G VREF SEL	0	0, 1	VOLTAGE REF SELECT (G)	
	18	B VREF SEL	0	0, 1	VOLTAGE REF SELECT (B)	

## GPLL-C-JPN

Category	Item number	Adjustment item	Standard data	Data range	Note	Device
GPLL-C-JPN	0	VCOL	248	0-255	COUNTER L	
	1	VCOH	5	0-15	COUNTER H	
	2	DIV	2	0-3	DIVIDER	
	3	CODL	0	0-3	DELAY	
	4	FIDL	15	0-31	FINE DELAY	
	5	PPOL	1	0, 1	PHASE COMP. INPUT POLARITY SET	
	6	CPMP	2	0-3	CHARGE PUMP	
	7	UNLO	1	0, 1	UNLOCK OUT ON/OFF	
	8	DSYN	1	0, 1	DELAY SYNC ON/OFF	
	9	CL2	1	0, 1	1/2 TTL CLOCK ON/OFF	
	10	DSYP	0	0, 1	DELAY SYNC OUTPUT POLARITY	
	11	SYP	0	0, 1	INPUT SYNC POLARITY	

## PLL-C-N/P

Category	Item number	Adjustment item	Standard data	Data range	Note	Device
PLL-C-N/P	0	VCOL	248	0-255	COUNTER L	
	1	VCOH	5	0-15	COUNTER H	
	2	DIV	2	0-3	DIVIDER	
	3	CODL	0	0-3	DELAY	
	4	FIDL	15	0-31	FINE DELAY	
	5	PPOL	1	0, 1	PHASE COMP. INPUT POLARITY SET	
	6	CPMP	2	0-3	CHARGE PUMP	
	7	UNLO	1	0, 1	UNLOCK OUT ON/OFF	
	8	DSYN	1	0, 1	DELAY SYNC ON/OFF	
	9	CL2	1	0, 1	1/2 TTL CLOCK ON/OFF	
	10	DSYP	0	0, 1	DELAY SYNC OUTPUT POLARITY	
	11	SYP	0	0, 1	INPUT SYNC POLARITY	

# IP00C741A

No mark : PAL or commom, ( ) : NTSC

Category	Item number	Adjustment item	Standard data	Data range	Note	Device
IP00C741A	0	CALCULATION	0	0, 1		
	1	OACTHST-L	92 (95)	0-255	OUTPUT PORT ACT HORIZONTAL START POINT	
	2	OACTHST-H	0	0-15	OUTPUT PORT ACT HORIZONTAL START POINT	
	3	SYRDLY	22 (11)	0-255	FORCED SYNC RESET DELAY	
	4	HZOOM-L	30	0-255	HORIZONTAL ENLARGEMENT CONTROL	
	5	HZOOM-H	14	0-15	HORIZONTAL ENLARGEMENT CONTROL	
	6	VZOOM-L	0 (10)	0-15	VERTICAL ENLARGEMENT CONTROL	
	7	VZOOM-H	192 (160)	0-255	VERTICAL ENLARGEMENT CONTROL	
	8	OHCYCL-L	127 (16)	0-255	OUTPUT PORT HORIZONTAL SYNC SIGNAL CYCLE	
	9	OHCYCL-H	3	0-15	OUTPUT PORT HORIZONTAL SYNC SIGNAL CYCLE	
	10	OVCYCL-L	232	0-255	OUTPUT PORT VERTICAL SYNC SIGNAL CYCLE	
	11	OVCYCL-H	3	0-15	OUTPUT PORT VERTICAL SYNC SIGNAL CYCLE	
	12	OACTHW-L	168	0-255	OUTPUT PORT ACT HORIZONTAL WIDTH	
	13	OACTHW-H	2	0-15	OUTPUT PORT ACT HORIZONTAL WIDTH	
	14	OACTVST-L	0	0-255	OUTPUT PORT ACT VERTICAL DIRECTION START POINT	
	15	OACTVST-H	0	0-15	OUTPUT PORT ACT VERTICAL DIRECTION START POINT	
	16	OACTVW-L	0	0-255	OUTPUT PORT ACT VERTICAL WIDTH	
	17	OACTVW-H	3	0-15	OUTPUT PORT ACT VERTICAL WIDTH	
	18	IACTHST-L	111 (116)	0-255	INPUT PORT ACT HORIZONTAL START POINT	
	19	IACTHST-H	0	0-15	INPUT PORT ACT HORIZONTAL START POINT	
	20	IACTHW-L	88	0-255	INPUT PORT ACT HORIZONTAL WIDTH	
	21	IACTHW-H	2	0-15	INPUT PORT ACT HORIZONTAL WIDTH	
	22	IACTVST-L	23 (4)	4-255	INPUT PORT ACT VERTICAL START POINT	

Category	Item number	Adjustment item	Standard data	Data range	Note	Device
	23	IACTVST-H	0	0-15	INPUT PORT ACT VERTICAL START POINT	
	24	IACTVW-L	64 (226)	0-255	INPUT PORT ACT VERTICAL WIDTH	
	25	IACTVW-H	2 (1)	0-15	INPUT PORT ACT VERTICAL WIDTH	

# IP00C741E

Category	Item number	Adjustment item	Standard data	Data range	Note	Device
IP00C741E	0	OHSC	8	0-31	OUTPUT PORT HORIZONTAL SYNC SIGNAL CONTROL	
	1	OVP	0	0-7	OUTPUT PORT VERTICAL SYNC SIGNAL CONTROL	
	2	OVSCT	7	0-15	OUTPUT PORT VERTICAL SYNC SIGNAL CONTROL	
	3	IIMGCT	0	0, 1	INPUT IMAGE CONTROL SIGNA	
	4	IBIE	0	0, 1	BUSY/INT ENABLE BIT	
	5	BI	0	0, 1	BUSY/INT SPECIFICATION BIT	
	6	ICMD	1	0, 1	IMAGE INPUT COMMAND	
	7	OCMD	1	0, 1	IMAGE OUTPUT COMMAND	
	8	SYREN	1	0, 1	FORCED SYNCHRONIZATION ENABLE	
	9	SYRMOD	1	0, 1	FORCED SYNCHRONIZATION TIMING CONTROL	
	10	ACTPOL	0	0, 1	POACT OUTPUT POLARITY SELECT	
	11	ACTS	0	0-3	POACT SELECT	
	12	OGEN	1	0, 1	IMAGE OUTPUT PORT SYNC SIGNAL GENERATION ENABLE	
	13	OHPOL	0	0, 1	POLARITY OF THE POHS SIGNAL	
	14	OVPOL	0	0, 1	OUTPUT PORT VERTICAL SYNC SIGNAL CONTROL	
	15	OACT-MOD	1	0, 1	OUTPUT PORT ACT MODE SELECT	
	16	OACT-DL	0	0-3	OUTPUT PORT ACT START TIMING	
	17	OACT-HMK	0	0, 1	OUTPUT PORT ACT START POHS MARK	
	18	OMOD	0	0, 1	IMAGE OUTPUT MODE	
	19	OBKSL	0	0, 1	IMAGE OUTPUT SELECT	
	20	OFILLEN	0	0, 1	OUTPUT FILL	
	21	OPXDLY	0	0, 1	OUTPUT 1 PIXEL DELAY	
	22	IAPOL	0	0, 1	PIACT SIGNAL POLARITY SELECT	
	23	IVPOL	1	0, 1	V SYNC SIGNAL POLARITY SELECT	

Category	Item number	Adjustment item	Standard data	Data range	Note	Device
	24	IHPOL	0	0, 1	H SYNC SIGNAL POLARITY SELECT	
	25	IVSSEL	0	0-3	V SYNC SIGNAL SELECT	
	26	IHSSEL	0	0, 1	H SYNC SIGNAL SELECT	
	27	IMOD	0	0, 1	IMAGE INPUT MODE	
	28	VAL	0	0-3	PIXEL VALUE MEASUREMENT MODE	
	29	UPSEL	0	0, 1	PIXEL SELECTION DURING INTERLEAVED INPUT	
	30	MONSTV-L	5	0-255	IMAGE MONITOR VERTICAL START POINT	
	31	MONSTV-H	0	0-7	IMAGE MONITOR VERTICAL START POINT	
	32	MONEDV-L	5	0-255	IMAGE MONITOR VERTICAL END POINT	
	33	MONEDV-H	1	0-7	IMAGE MONITOR VERTICAL END POINT	
	34	MONSTH-L	0	0-255	IMAGE MONITOR HORIZONTAL START POINT	
	35	MONSTH-H	0	0-7	IMAGE MONITOR HORIZONTAL START POINT	
	36	MONVW	0	0-255	IMAGE MONITOR VERTICAL WIDTH	
	37	MONHW	0	0-255	IMAGE MONITOR HORIZONTAL WIDTH	
	38	ECLP	0	0, 1	ERROR PROPAGATION OVERFLOW PROTECTION ENABLE	
	39	EDMOD0	0	0, 1	ERROR DIFFUSION MODE	
	40	EDEN	0	0, 1	ERROR DIFFUSION ENABLE	
	41	GOHSW-L	0	0-255	VERTICAL SYNC SIGNAL JUDGE COUNTER VALUE	
	42	GOHSW-H	0	0-15	VERTICAL SYNC SIGNAL JUDGE COUNTER VALUE	
	43	RTG1	2	0-3	REGISTER TRANSFER CONTROL	
	44	RTG0	2	0-3	REGISTER TRANSFER CONTROL	
	45	POSNEG	0	0, 1	IMAGE OUTPUT SYNC CLOCK SELECT	
	46	OBTSWP	0	0, 1	INPUT/OUTPUT SIGNAL SELECTION	
	47	OBYSWP	0	0, 1	INPUT/OUTPUT SIGNAL SELECTION	
	48	IBTSWP	0	0, 1	INPUT/OUTPUT SIGNAL SELECTION	
	49	IBYSWP	0	0, 1	INPUT/OUTPUT SIGNAL SELECTION	
	50	ISMPMD	0	0-3	INPUT/OUTPUT SIGNAL SELECTION	

# IP00C741L

Category	Item number	Adjustment item	Standard data	Data range	Note	Device
IP00C741L	0	HZAS	0	0, 1	H ZOOM AS	
	1	HZLE	0	0, 1	HORIZONTAL ENLARGEMENT INTERPOLATION COEFFICIENT LOOKUP TABLE ENABLE	
	2	HZMD	1	0, 1	HORIZONTAL ENLARGEMENT MODE	
	3	HZIP	1	0, 1	HORIZONTAL ENLARGEMENT INTERPOLATION ENABLE	
	4	VZAS	0	0, 1	V ZOOM AS	
	5	VZLE	0	0, 1	VERTICAL ENLARGEMENT INTERPOLATION COEFFICIENT LOOKUP TABLE ENABLE	
	6	VZMD	1	0, 1	VERTICAL ENLARGEMENT MODE	
	7	VZIP	1	0, 1	VERTICAL ENLARGEMENT INTERPOLATION ENABLE	
	8	COLUTH0	0	0-63	HORIZONTAL INTERPOLATION COEFFICIENT LOOKUP TABLE REGISTER	
	9	COLUTH1	0	0-63	HORIZONTAL INTERPOLATION COEFFICIENT LOOKUP TABLE REGISTER	
	10	COLUTH2	0	0-63	HORIZONTAL INTERPOLATION COEFFICIENT LOOKUP TABLE REGISTER	
	11	COLUTH3	0	0-63	HORIZONTAL INTERPOLATION COEFFICIENT LOOKUP TABLE REGISTER	
	12	COLUTH4	0	0-63	HORIZONTAL INTERPOLATION COEFFICIENT LOOKUP TABLE REGISTER	
	13	COLUTH5	0	0-63	HORIZONTAL INTERPOLATION COEFFICIENT LOOKUP TABLE REGISTER	
	14	COLUTH6	0	0-63	HORIZONTAL INTERPOLATION COEFFICIENT LOOKUP TABLE REGISTER	
	15	COLUTH7	0	0-63	HORIZONTAL INTERPOLATION COEFFICIENT LOOKUP TABLE REGISTER	
	16	COLUTV0	0	0-63	VERTICAL INTERPOLATION COEFFICIENT LOOKUP TABLE REGISTER	
	17	COLUTV1	0	0-63	VERTICAL INTERPOLATION COEFFICIENT LOOKUP TABLE REGISTER	

Category	Item number	Adjustment item	Standard data	Data range	Note	Device
	18	COLUTV2	0	0-63	VERTICAL INTERPOLATION COEFFICIENT LOOKUP TABLE REGISTER	
	19	COLUTV3	0	0-63	VERTICAL INTERPOLATION COEFFICIENT LOOKUP TABLE REGISTER	
	20	COLUTV4	0	0-63	VERTICAL INTERPOLATION COEFFICIENT LOOKUP TABLE REGISTER	
	21	COLUTV5	0	0-63	VERTICAL INTERPOLATION COEFFICIENT LOOKUP TABLE REGISTER	
	22	COLUTV6	0	0-63	VERTICAL INTERPOLATION COEFFICIENT LOOKUP TABLE REGISTER	
	23	COLUTV7	0	0-63	VERTICAL INTERPOLATION COEFFICIENT LOOKUP TABLE REGISTER	

#### IP00C741R

Category	Item number	Adjustment item	Standard data	Data range	Note	Device
IP00C741R	0	IFV L	0	0-255	NUMBER OF H SYNC SIGNALS ON INPUT PORT DURING V SYNC PERIOD	
	1	IFV H	0	0-3	NUMBER OF H SYNC SIGNALS ON INPUT PORT DURING V SYNC PERIOD	
	2	IPXCNT L	0	0-255	NUMBER OF IMAGE OUTPUT CLOCKS FOR ARBITRARY INPUT IMAGE LINES	
	3	IPXCNT M	0	0-255	NUMBER OF IMAGE OUTPUT CLOCKS FOR ARBITRARY INPUT IMAGE LINES	
	4	IPXCNT H	0	0-31	NUMBER OF IMAGE OUTPUT CLOCKS FOR ARBITRARY INPUT IMAGE LINES	
	5	IPX00	0	0-255	INPUT SCREEN SPECIFIED POSITION PIXEL VALUE MONITOR	
	6	IPX01	0	0-255	INPUT SCREEN SPECIFIED POSITION PIXEL VALUE MONITOR	

Category	Item number	Adjustment item	Standard data	Data range	Note	Device
	7	IPX02	0	0-255	INPUT SCREEN SPECIFIED POSITION PIXEL VALUE MONITOR	
	8	IPX03	0	0-255	INPUT SCREEN SPECIFIED POSITION PIXEL VALUE MONITOR	
	9	IPX10	0	0-255	INPUT SCREEN SPECIFIED POSITION PIXEL VALUE MONITOR	
	10	IPX11	0	0-255	INPUT SCREEN SPECIFIED POSITION PIXEL VALUE MONITOR	
	11	IPX12	0	0-255	INPUT SCREEN SPECIFIED POSITION PIXEL VALUE MONITOR	
	12	IPX13	0	0-255	INPUT SCREEN SPECIFIED POSITION PIXEL VALUE MONITOR	
	13	IPX20	0	0-255	INPUT SCREEN SPECIFIED POSITION PIXEL VALUE MONITOR	
	14	IPX21	0	0-255	INPUT SCREEN SPECIFIED POSITION PIXEL VALUE MONITOR	
	15	IPX22	0	0-255	INPUT SCREEN SPECIFIED POSITION PIXEL VALUE MONITOR	
	16	IPX23	0	0-255	INPUT SCREEN SPECIFIED POSITION PIXEL VALUE MONITOR	
	17	IPX30	0	0-255	INPUT SCREEN SPECIFIED POSITION PIXEL VALUE MONITOR	
	18	IPX31	0	0-255	INPUT SCREEN SPECIFIED POSITION PIXEL VALUE MONITOR	
	19	IPX32	0	0-255	INPUT SCREEN SPECIFIED POSITION PIXEL VALUE MONITOR	
	20	IPX33	0	0-255	INPUT SCREEN SPECIFIED POSITION PIXEL VALUE MONITOR	

### OSD E

Category	Item number	Adjustment item	Standard data	Data range	Note	Device
IOSD E	0	VPOS	8	0-31	ENGINE SERVICE INDICATION V POSTION	
	1	HPOS	15	0-63	ENGINE SERVICE INDICATION H POSTION	
	2	OUT SYNC	0	0, 1	NOT USED ON SERVICE	
	3	OUT TIMI	1	0, 1	NOT USED ON SERVICE	
	4	OUT PHAS	0	0, 1	NOT USED ON SERVICE	
	5	OUT SEL	1	0, 1	NOT USED ON SERVICE	

### OPTION E

Category	Item number	Adjustment item	Standard data	Data range	Note	Device
OPTION E	0	LAMP TIME	0	0, 1	LAMP LIGHTING TIME	
	1	LAMP OFF	0	0, 1	TIME FROM POWER OFF TO LAMP OFF (0: 0sec., 1: 5sec.)	
	2	FAN OFF	1	0, 1	TIME TO FAN STOP (0: 2min., 1: 2min.)	
	3	FAN1 RPM1	2	0-3	ROTATING SPEED OF FAN FOR OPTICS ON NORMAL CONDITION	
	4	FAN1 RPM2	2	0-3	ROTATING SPEED OF FAN FOR OPTICS AFTER POWER OFF	
	5	FAN2 RPM1	1	0-3	ROTATING SPEED OF FAN FOR LAMP ON NORMAL CONDITION	
	6	FAN2 RPM2	1	0-3	ROTATING SPEED OF FAN FOR LAMP AFTER POWER OFF	
	7	FLAG1	8	0-15	NOT USED ON SERVICE	
	8	AGING PT	1	0, 1	NOT USED ON SERVICE	
	9	TEMP SHIFT	1	0, 1	TEMPERATURE CORRECTION ON/OFF (0: OFF, 1: ON)	

### LM75

Category	Item number	Adjustment item	Standard data	Data range	Note	Device
LM75	0	SET	41DEG	0-99DG	TEMPERATURE SWITCHING TO MAXIMUM VELOCITY OF WIND	
	1	TIME	10MIN	0-99MIN	TIME TO KEEP MAXIMUM VELOCITY OF WIND AND TO DETECT	