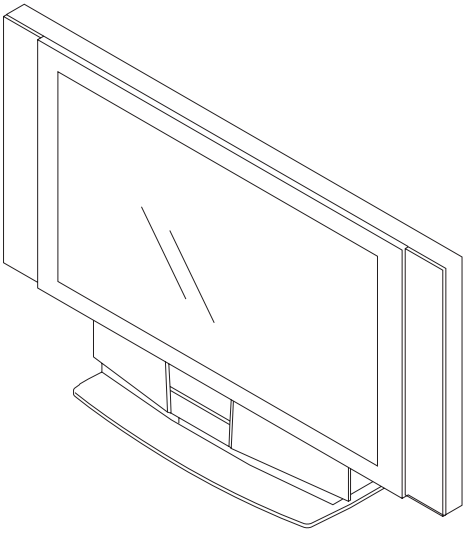
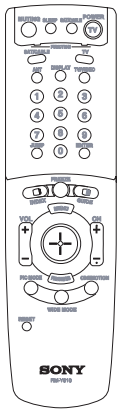
Self Diagnosis Supported model

SERVICE MANUAL LA-1 CHASSIS

MODEL	COMMANDER	DEST.
KF-60DX100	RM-Y910	US
KF-60DX100	RM-Y910	Canadian



KF-60DX100



RM-Y910

LCD PROJECTION TV

SONY®

SECTION 3
ELECTRICAL ADJUSTMENTS

3-1. ELECTRICAL ADJUSTMENT BY REMOTE COMMANDER

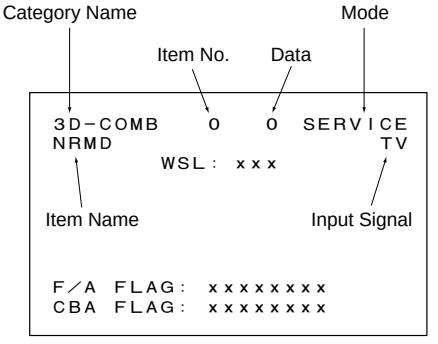
By using remote commander (RM-Y910), all circuit adjustments can be made.

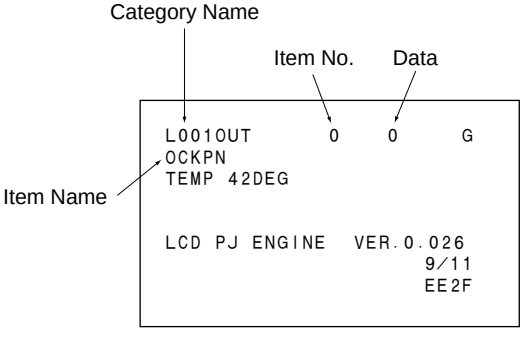
NOTE : Test Equipment Required.

1. Pattern Generator (with component outputs)
2. Oscilloscope
3. Digital multimeter

3-1-1. Method of Setting the Service Adjustment Mode

1. Standby mode. (Power off)
2. DISPLAY → 5 → VOL (+) → TV POWER
   on the remote commander.
   (Press each button within a second.)
   The following service screen will appear.

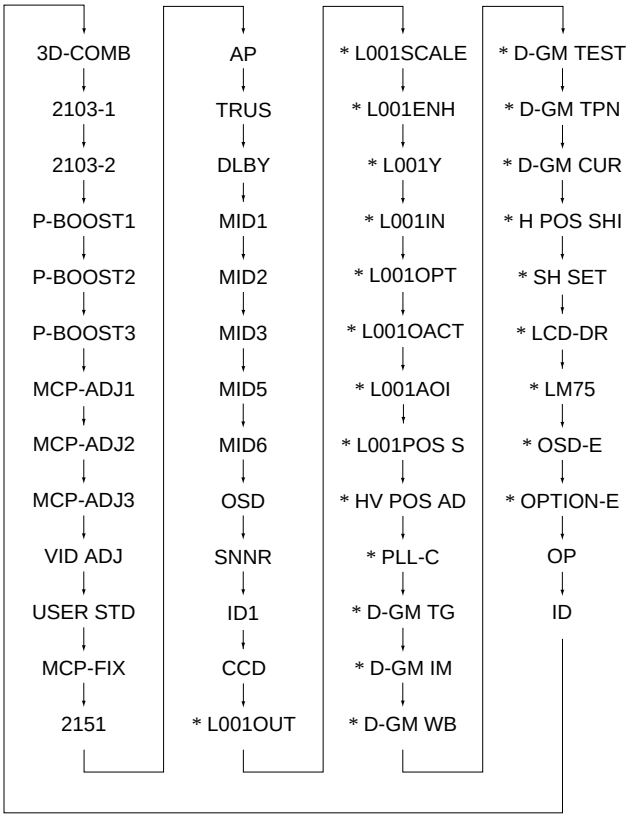




<LCD PROJECTOR ENGINE>

3-1-2. Service Mode Adjustment

1. The SCREEN displays the item being adjusted.
2. Press "①" or "④" on the remote commander to select the adjustment item.
3. Press "③" or "⑥" on the remote commander to change the data.
4. Press "②" or "⑤" on the remote commander to select the category.
   Every time you press "②" (Category up), Service mode changes in the order as shown below.



* : LCD Projector Engine

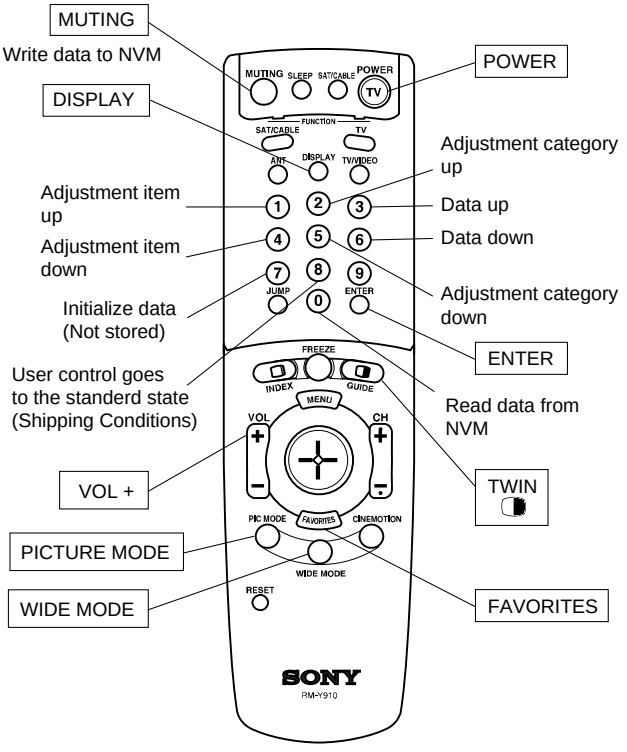
5. If you want to recover the latest values press "⓪" then "ENTER" to read the memory.
6. Press "MUTING" then "ENTER" to write into memory.
7. Turn power off.

Note: Press "⑧" then "ENTER" on the remote commander to set the shipping conditions or turn set off and on to exit.

3-1-3. Memory Write Confirmation Method

1. After adjustment, turn power off with the remote commander.
2. Turn power on and set to service mode.
3. Call the adjusted items again and confirm they were adjusted.

3-1-4. Adjusting Buttons and Indicator



RM-Y910

FUNCTION OF KEYS ON COMMANDER

- ① : Changes adjustment item. (item No. moves up)
- ④ : Changes adjustment item. (item No. moves down)
- ② : Changes adjustment category. (category moves up)
- ⑤ : Changes adjustment category. (category moves down)
- ③ : Changes data value. (up)
- ⑥ : Changes data value. (down)

Commander Function

Button	Mode	Description
MUTING + ENTER	WRITE	Writes data to NVM.
⓪ + ENTER	READ	Reads data from NVM.
⑧ + ENTER	RESET	Set the shipping condition.
⑦ + ENTER	INT–	Service data initialization. Not stored. (Be sure not to use usually)

3-1-5. Service Mode List

Note: • shaded items are fixed. There is no need to change data. Others are different a little in the sets individually. Basically, there is no need to change data, too.

3D-COMB

Item		Function	Data Range	Data
No.	Name			
0	NRMD	Noise reduction mode setting	0 - 3	Table 1
1	YAPS	Y output correction	0 - 3	3
2	CLKS	System clock setting	0 - 3	1
3	NSDS	Selection for standard/non-standard signal processing	0 - 3	Table 1
4	MSS	Selection for inter-frame/inter-line processing	0 - 3	0
5	KILS	Killer processing selection	0 - 3	2
6	CDL	C-signal phase with respect to the Y-signal	0 - 7	Table 5
7	DYCO	DY detection coring level (Y motion detection coring)	0 - 15	Table 2
8	DYGA	DY detection gain (Y motion detection gain)	0 - 15	Table 2
9	DCCO	DC detection coring level (C motion detection coring)	0 - 15	Table 2
10	DCGA	DC detection gain (C motion detection gain)	0 - 15	Table 2
11	YNRL	Frame recursive YNR nonlinear filter limit level	0 - 3	1
12	CNRL	Frame recursive CNR nonlinear filter limit level	0 - 3	1
13	VTRH	Hysteresis for H sync non-standard signal detection	0 - 3	Table 3
14	VTRR	Sensitivity for H sync non-standard signal detection	0 - 3	Table 3
15	LDSR	Sensitivity for frame non-standard signal detection	0 - 3	Table 3
16	VAPG	V aperture compensation gain	0 - 7	Table 6
17	VAPI	V aperture compensation convergence point	0 - 31	Table 6
18	YPFT	Y peaking filter (BPF) center frequency	0 - 3	3
19	YPFG	Y peaking filter (BPF) gain	0 - 15	7
20	YHCO	Y output high frequency component coring	0 - 3	0
21	YHCG	Y output high frequency component coring gain	0 - 1	0
22	HSSL	H sync slice level	0 - 15	12
23	VSSL	V sync slice level	0 - 15	8
24	ADCL	ADC clock delay	0 - 3	3
25	D2GA	Moving detection gain	0 - 7	Table 2
26	KILR	Killer detection reference	0 - 15	3
27	OP	Option : Selection of comb filter & recursive noise reduction types	0 - 1	1
28	NR1	Noise reduction on/off	0 - 1	Table 1
29	NR2	SNNR control on/off	0 - 1	0
30	WSL	Noise level detection level data	0 - 255	Read
31	HPLL	H PLL filter	0 - 1	1
32	BPLL	Burst PLL filter	0 - 1	1
33	FSCF	Burst extraction gain	0 - 1	0
34	PLLF	PLL loop gain	0 - 1	1
35	CC3N	Selection if a line comb filter C separation filter characteristic	0 - 1	Table 3
36	HDP	Fine adjustment of the system H phase	0 - 7	5
37	BGPS	Burst gate start	0 - 15	4
38	BGPW	Burst gate width	0 - 15	10
39	TEST	Test bit (0 : Normal mode, 1 : Test mode) (*forbidden setting)	0 - 1	0
40	WSC	Amount of noise detection coring	0 - 3	1
41	LIND	DRC-M line doubling setting for non-standard signal UHF/VHF & Video 1-4	0 - 15	Table 4
42	PFGO	YPFG offset at GR on (*not used)	0 - 7	3

Table 1

		RF/Video				S Video			
		Standard		Non-standard		Standard		Non-standard	
		3D (COMB)	3L (THROUGH)	3L (ROUND)	3L (THROUGH)	COMB/ROUND	THROUGH	ROUND	THROUGH
28	**NR=**	**0**	**1**	**0**	**1**	**0**	**1**	**0**	**1**
0	NRMD	0	0	1	1	3 (when OP=0) 2 (when OP=1)	2	3	3
3	NSDS	0	3	0	3	0	3	0	3

Table 2

		3DYC	2DYC + YCNR	MNNR	YCNR
0	**NRMD=**	**0**	**1**	**2**	**3**
7	DYCO	2	2	2	4
8	DYGA	10	10	10	10
9	DCCO	5	5	3	5
10	DCGA	5	5	10	5
25	D2GA	4	4	4	4

Table 3

		RF	Video (CV/S)	Component
13	VTRH	1	1	1
14	VTRR	1	1	1
15	LDSR	2	2	2
35	CC3N	0	0	0

Table 4

		RF	Video (1,2,3,4)	Video (5,6)
41	LIND	0	0	2

Table 5

		RF	Video (CV/S)
6	CDL	3	3

Table 6

		VIVID	STANDARD	MOVIE	MILD
16	VAPG	0	3	3	0
17	VAPI	6	10	10	4

2103-1

Item No.	Item Name	Function	Data Range	One screen (Mild) RF/Video	One screen (Mild) Component (480i)	Others RF/Video	Others Component (480i)
0	YLEV	Y out gain	0 - 63	45	50	28	33
1	CLEV	Cb & Cr out gain	0 - 63	35	58	13	31

Item No.	Item Name	Function	Data Range	RF	Video
2	SCON	Sub contrast	0 - 15	8	9
3	SCOL	Sub color	0 - 15	6	7
4	SHUE	Sub hue	0 - 15	9	8
5	YDLY	Y/C delay time	0 - 3	0	0

Item No.	Item Name	Function	Data Range	RF	Composite Video	S Video	Component (480i)
6	SHAP	Sharpness	0 - 15	5	6	6	5
7	SHF0	Sharpness f0 selector	0 - 3	1	2	2	2
8	PREO	Shapeness pre/over-shoot ratio	0 - 3	0	3	3	0
9	BPF0	Chroma band filter f0 setting	0 - 3	3	0	0	0
10	BPFQ	Chroma band filter Q setting	0 - 3	0	0	0	0
11	BPSW	Chroma band filter on/off	0 - 1	1	0	0	0
12	TRAP	Y block chroma trap filter on/off	0 - 1	0	0	0	0
13	LPF	Y/Cb/Cr output LPF on/off	0 - 1	1	1	1	1

Item No.	Item Name	Function	Data Range	RF	Video	Component (480i)
14	AFCG	AFC loop gain (PLL between H sync & H VCO)	0 - 1	1	0	0
15	CDMD	V countdown system mode selector	0 - 3	3	3	3
16	SSMD	H & V sync slide level setting	0 - 3	0	0	0
17	HMSK	Masking of macrovision signal on/off	0 - 1	1	1	1
18	HALI	H automatic adjustment on/off	0 - 1	0	0	0
19	PPHA	H TIM phase adjustment video	0 - 15	6	8	8

Item No.	Item Name	Function	Data Range	One screen (Mild) RF/Video	One screen (Mild) Component (480i)	Others RF/Video	Others Component (480i)
20	CBOF	Cb/EXT Cb offset	0 - 63	32	34	36	36
21	CROF	Cr/EXT Cr offset	0 - 63	32	31	33	33

Item No.	Item Name	Function	Data Range	One screen	Others	
22	ATPD	Auto-pedestal inflection point	0 - 3	0	3	
				0		Movie
23	DCTR	DC transmission ratio	0 - 3	0	2	
				0		Movie

2103-2

Item No.	Item Name	Function	Data Range	RF/Video VDO	RF/Video DRC
0	YLEV	Y out gain	0 - 63	26	22
1	CLEV	Cb & Cr out gain	0 - 63	23	16

Item No.	Item Name	Function	Data Range	RF	Video
2	SCON	Sub contrast	0 - 15	8	12
3	SCOL	Sub color	0 - 15	6	6
4	SHUE	Sub hue	0 - 15	9	8
5	YDLY	Y/C delay time	0 - 3	0	0

Item No.	Item Name	Function	Data Range	RF	Composite Video	S Video
6	SHAP	Sharpness	0 - 15	6	6	6
7	SHF0	Sharpness f0 selector	0 - 3	1	1	1
8	PREO	Shapeness pre/over-shoot ratio	0 - 3	0	3	3
9	BPF0	Chroma band filter f0 setting	0 - 3	0	0	0
10	BPFQ	Chroma band filter Q setting	0 - 3	0	0	0
11	BPSW	Chroma band filter on/off	0 - 1	0	0	0
12	TRAP	Y block chroma trap filter on/off	0 - 1	0	0	0
13	LPF	Y/Cb/Cr output LPF on/off	0 - 1	1	1	1

Item No.	Item Name	Function	Data Range	RF	Video
14	AFCG	AFC loop gain (PLL between H sync & H VCO)	0 - 1	1	0
15	CDMD	V countdown system mode selector	0 - 3	3	3
16	SSMD	H & V sync slide level setting	0 - 3	0	0
17	HMSK	Masking of macrovision signal on/off	0 - 1	1	1
18	HALI	H automatic adjustment on/off	0 - 1	0	0
19	PPHA	H TIM phase adjustment video	0 - 15	7	8

Item No.	Item Name	Function	Data Range	RF/Video VDO	RF/Video DRC
20	CBOF	Cb/EXT Cb offset	0 - 63	32	36
21	CROF	Cr/EXT Cr offset	0 - 63	33	34

Item No.	Item Name	Function	Data Range	Data
22	ATPD	Auto-pedestal inflection point	0 - 3	*1
23	DCTR	DC transmission ratio	0 - 3	*1

*1 The same data as 2103-1.

P- BOOST 1

Item		Function	Data Range	Data
No.	Name			
0	BSET	Data table selection	0 - 7	Table1
1	AMS	Amplitude mode selection	0 - 1	1
2	DEMO	Demonstration mode on/off	0 - 1	0
3	SN	Steepness correction	0 - 63	-

Table1

SCREEN MODE		Vivid	Standard	Movie	Mlid
One screen	RF	2	4	6	4
	Video	5	7	6	7
	Component	1	3	6	3
Two screen		0	0	0	0

P- BOOST 2

Item		Function	Data Range	BSET data (P-BOOST1 _0_BSET=)							
No.	Name			0	1	2	3	4	5	6	7
0	LWID	Line width correction	0 - 63	0	31	31	31	31	31	31	31
1	STEP	Steeness correction	0 - 63	0	0	0	0	0	0	0	0
2	CRNG	Coring level	0 - 63	0	15	25	10	30	15	5	15
3	VDC	Video dependent coring on/off	0 - 1	0	1	1	1	1	1	1	1
4	OSP	Overrrule smart peaking	0 - 1	0	0	1	0	0	0	0	0
5	BOST	Black offset compensation on/off	0 - 1	0	0	0	0	0	0	0	0
6	ABST	Adaptive black stretch	0 - 63	0	0	0	0	0	0	0	0
7	VGAM	Variable gamma	0 - 63	32	28	24	24	22	27	31	22
8	NLMP	Non-linearity amplifier	0 - 63	0	22	20	21	15	22	7	18
9	PKNG	Peaking amplitude	0 - 63	0	37	15	32	25	35	20	42
10	CFS	Contour filter selection	0 - 1	0	1	1	1	1	1	1	1
11	FHS	Line frequency selection	0 - 1	0	0	0	0	0	0	0	0
12	LDH	Luminance determined histogram	0 - 1	0	1	1	1	1	1	1	1
13	SNOW	Snow color adjustment by green stretch	0 - 1	1	1	1	1	1	1	1	1
				Comon							
14	WLB	Window letterbox format	0 - 1	0							

P- BOOST 3

Item		Function	Data Range	BSET data (P-BOOST1 _0_BSET=)							
No.	Name			0	1	2	3	4	5	6	7
0	CDS	Color dependent sharpness on/off	0 - 1	1	1	1	1	1	1	1	1
1	CTI	Color transient improvement on/off	0 - 1	0	0	0	0	0	0	0	0
2	WPO	White-point stretch on/off	0 - 1	1	1	1	1	1	1	1	1
3	DBL	Blue stretch on/off	0 - 1	0	0	0	0	0	0	0	0
4	GBL	Blue stretch gain	0 - 1	0	0	0	0	0	0	0	0
5	SBL	Blue stretch size	0 - 1	0	0	0	0	0	0	0	0
6	DSK	Dynamic skin tone on/off	0 - 1	0	0	0	0	0	0	0	0
7	ASK	Dynamic skin tone angle	0 - 1	0	0	0	0	0	0	0	0
8	WSK	Dynamic skin tone width	0 - 1	0	0	0	0	0	0	0	0
9	SSK	Dynamic skin tone size	0 - 1	0	0	0	0	0	0	0	0
10	DGR	Green enhancement on/off	0 - 1	0	1	1	0	0	1	0	0
11	GGR	Green enhancement gain	0 - 1	0	0	0	0	0	0	0	0
12	WGR	Green enhancement width	0 - 1	0	0	0	0	0	0	0	0
13	SGR	Green enhancement size	0 - 1	0	0	0	0	0	0	0	0
14	CDLY	Chrominance delay	0 - 7	4	7	7	7	7	4	5	4

MCP-ADJ1

Item		Function	Data Range	RF / Video		Component				Twin , Favorite, Index, Freeze
				480i		480i		480p/720p	1080i	
No.	Name			Mild	Others	Mild	Others	All mode	All mode	
0	RDRV	RED drive gain control	0 - 63	50	50	50	50	50	50	50
1	RCUT	RED cutoff control	0 - 63	40	40	40	40	40	40	40
2	GDRV	GREEN drive gain control	0 - 63	50	50	50	50	50	50	50
3	GCUT	GREEN cutoff control	0 - 63	40	40	40	40	40	40	40
4	BDRV	BLUE drive control	0 - 63	50	50	50	50	50	50	50
5	BCUT	BLUE cutoff control	0 - 63	40	40	40	40	40	40	40
6	CROF	DC offset for Cr signal	0 - 15	9	9	9	9	6	7	9
7	CBOF	DC offset for Cb signal	0 - 15	7	7	7	7	6	7	7
8	SCON	Sub contrast gain control	0 - 15	4	4	4	4	5	5	4
9	SBRT	Sub brightness control	0 - 63	31	31	31	31	31	31	31
10	PICT	Picture gain control	0 - 63	53	53	50	50	50	50	53
11	BRT	Brightness control	0 - 63	55	55	55	55	55	55	55

MCP-ADJ2

Item		Function	Data Range	RF	Video	Component				Twin , Favorite, Index, Freeze			Shift value of HD system	
No.	Name					480i	480p	720p	1080i		Neutral	Warm	Neutral	Warm
0	SCOL	Color gain control	0 - 15	7	7	7	8	7	7	7	-	-	-	-
1	SHUE	Hue center control	0 - 15	8	8	8	8	8	7	9	-	-	-	-
2	RYR	Sets +(R-Y) component in R-Y axes	0 - 15	2	2	2	2	4	4	2	0	0	0	0
3	RYB	Sets -(B-Y) component in R-Y axes	0 - 15	10	10	10	10	12	12	10	+4	+4	0	0
4	GYR	Sets -(R-Y) component in G-Y axes	0 - 15	10	10	10	12	10	10	10	0	0	0	0
5	GYB	Sets -(B-Y) component in G-Y axes	0 - 15	8	8	8	5	5	5	8	0	0	0	0

MCP-ADJ3

Item		Function	Data Range	RF		Video		Component								Twin , Favorite, Index, Freeze
								480i		480p		720p		1080i		
No.	Name			Mild	Others	Mild	Others	Mild	Others	Mild	Others	Mild	Others	Mild	Others	
0	SSHP	Sharpness center control	0 - 3	1	1	0	0	0	0	0	1	0	1	0	0	0
1	F0	Sets sharpness f0	0 - 3	1	3	1	3	1	3	1	3	3	3	3	3	3
2	POVR	Sets the preshoot to overshoot ratio	0 - 3	1	3	1	3	2	2	2	2	2	2	2	2	0
3	SYSM	Sets signal bandwidth	0 - 3	1	1	1	1	1	2	1	1	1	1	2	2	2
4	CTI	Sets edge improvement of color difference signal	0 - 3	0	0	0	0	0	1	0	1	0	0	0	1	1

VID ADJ

Item		Function	Data Range	RF				Video				Component 480i			
No.	Name			Vivid	Standard	Movie	Mild	Vivid	Standard	Movie	Mild	Vivid	Standard	Movie	Mild
0	LTI	Sets edge improvement of brightness signal	0 - 3	0	0	0	0	0	0	0	0	0	0	0	0
1	GAM	Gamma offset control	0 - 15	6	1	7	1	1	1	7	1	2	1	7	1
2	DCTN	Sets Y-system DC transmission rate	0 - 3	1	1	0	1	1	1	0	1	1	1	0	1
3	DPIC	Dynamic picture control	0 - 3	3	2	0	2	3	2	0	2	1	1	0	1
4	MIDE	Sets MID enhancement	0 - 31	15	14	13	12	3	2	1	0	7	6	5	4	Full / Normal
				15	14	13	12	3	2	1	0	7	6	5	4	Zoom / Caption

				Component 480p				Component 720p				Component 1080i			
				Vivid	Standard	Movie	Mild	Vivid	Standard	Movie	Mild	Vivid	Standard	Movie	Mild
0	LTI	Sets edge improvement of brightness signal	0 - 3	0	0	0	0	0	0	0	0	0	0	0	0
1	GAM	Gamma offset control	0 - 15	4	3	12	3	6	1	7	1	6	1	7	1
2	DCTN	Sets Y-system DC transmission rate	0 - 3	1	1	0	1	1	1	0	1	1	1	0	1
3	DPIC	Dynamic picture control	0 - 3	2	1	0	1	2	1	0	1	2	1	0	1
4	MIDE	Sets MID enhancement	0 - 31	11	10	9	8	19	18	17	16	15	14	13	12	Full / Normal
				11	10	9	8	-	-	-	-	-	-	-	-	Zoom / Caption

				Twin Picture , Freeze, Favorite				Index				
				Vivid	Standard	Movie	Mild	Vivid	Standard	Movie	Mild	
0	LTI	Sets edge improvement of brightness signal	0 - 3	0	0	0	0	0	0	0	0	
1	GAM	Gamma offset control	0 - 15	6	2	7	2	6	2	7	2	
2	DCTN	Sets Y-system DC transmission rate	0 - 3	0	0	0	0	0	0	0	0	
3	DPIC	Dynamic picture control	0 - 3	0	0	0	0	0	0	0	0	
4	MIDE	Sets MID enhancement	0 - 31	23	22	21	20	23	22	21	20	Full / Normal
				-	-	-	-	-	-	-	-	Zoom / Caption

USER STD

No.	Name	Function	Data Range	Vivid	Standard	Movie	Mild
0	UPIC	Picture	0 - 63	63	48	31	48
1	UBRT	Brightness	0 - 63	17	26	21	26
2	UCOL	Color gain control	0 - 63	31	31	35	31
3	UHUE	Hue control	0 - 63	31	31	31	31
4	USHP	Sharpness gain control	0 - 63	37	37	31	31
5	UHWT	Dynamic color on/off	0 - 1	0	0	0	0
6	UTMP	Color temperature (9 : Warm, 1 : Neutral, 2 : Cool)	0 - 3	2	1	0	1

*In case of USER RESET or TEST RESET, write in data of USER STD

	Vivid	Standard	Movie	Mild
Picture	63	48	31	48
Brightness	17	26	21	26
Color	31	31	35	31
Hue	31	31	31	31
Sharpness	37	37	31	31
Color Temp	2	1	0	1

				RF				Video				Component 480i				Component 480i			
				Vivid	Standard	Movie	Mild	Vivid	Standard	Movie	Mild	Vivid	Standard	Movie	Mild	Vivid	Standard	Movie	Mild
7	UPOF	Offset for UPIC (picture cliarity adjustment)	0 - 31 - 63	30	33	31	33	28	33	31	31	28	33	31	33	27	34	27	34
8	UBOF	Offset for UBRT (Picture cliarity adjustment)	0 - 31 - 63	32	31	26	34	38	29	26	31	31	31	32	31	38	36	32	36
9	UCOF	Offset for UCOL (Picture cliaruty adjustment)	0 - 31 - 63	36	30	31	28	35	31	31	31	33	31	31	31	36	35	27	35
10	UHOF	Offset for UHUE (Picture cliarity adjustment)	0 - 31 - 63	26	26	28	26	31	31	28	31	31	31	28	31	31	31	28	31
11	USOF	Offset for USHP (Picture cliarity adjustment)	0 - 31 - 63	33	28	31	31	38	42	37	31	28	31	31	31	33	43	40	31

				Component 720p				Component 1080i				Twin Picture , Freeze, Index , Favorite			
				Vivid	Standard	Movie	Mild	Vivid	Standard	Movie	Mild	Vivid	Standard	Movie	Mild
7	UPOF	Offset for UPIC (picture cliarity adjustment)	0 - 31 - 63	29	33	31	33	31	31	31	31	31	34	36	34
8	UBOF	Offset for UBRT (Picture cliarity adjustment)	0 - 31 - 63	31	36	32	36	31	36	32	36	32	37	29	37
9	UCOF	Offset for UCOL (Picture cliaruty adjustment)	0 - 31 - 63	34	29	31	29	34	29	31	29	35	31	30	31
10	UHOF	Offset for UHUE (Picture cliarity adjustment)	0 - 31 - 63	31	31	28	31	31	31	28	31	26	26	28	26
11	USOF	Offset for USHP (Picture cliarity adjustment)	0 - 31 - 63	31	31	31	31	31	31	31	31	31	37	31	25

*set 31 in the center, and shift to USER DATA

*About color, if USER DATA becomes 0, data of CXA2101_COLOR becomes 0 compulsorily

MCP-FIX

Item		Function	Data Range	Data
No.	Name			
0	RON	Turns on/off RED video output not including reference pulse	0-1	1 (*1)
1	GON	Turns on/off GREEN video output not including reference pulse	0-1	1 (*1)
2	BON	Turns on/off BLUE video output not including reference pulse	0-1	1 (*1)
3	CBLK	Turns on/off H, V blanking for RGB outputs	0-1	0
4	AKBT	Selects the timing pulse that generates reference pulse	0-1	1
5	BLKS	Selects H, V blanking system for RGB outputs	0-1	1
6	LIMI	Limiter to excess input	0-3	0
7	YSYM	Sets valid/invalid to the input pin YS/YM-1	0-1	0
8	YMVM	Turns on/off MUTE function for VM OUT in YM ON section	0-1	0
9	CLPS	Selects color difference input pin offset control pulse	0-1	1
10	CLPM	Changes over clamp pulse width	0-3	0
11	ABLM	Changes over ABL mode	0-3	0
12	ABLT	Adjusts threshold voltage to the input of ABL IN pin	0-3	0
13	HSMA	Sets whether H sync is added to V sync at HS-OUT and SELH-OUT	0-1	1
14	LRGB	Picture level control in LRGB2 system	0-15	15
15	PABL	Sets level detection DC at RGB-OUT of PEAK-ABL	0-15	15
16	BLKB	RGB-OUT bottom limiter level control	0-15	5

*1 Don't memorize

AP

Item		Function	Data Range	Data
No.	Name			
0	SVOL	Volume offset for volume	0 - 15	0
1	SBAL	Balance offset for balance	0 - 15	7
2	SBAS	Bass offset for bass	0 - 15	3
3	STRE	Treble offset for treble	0 - 15	4
4	BBLP	BBE low pass filter	0 - 15	13
5	BBHP	BBE high pass filter	0 - 15	10
6	SREF	Surround effect	0 - 15	11
7	AGC	Auto gain control	0 - 1	0
8	BBE	BBE on/off	0 - 1	1

TRUS

Item		Function	Data Range	Data
No.	Name			
0	TSMD	Trusurround effect selection	0 - 3	2
1	ATT		0 - 1	0

DLBY

		Function	Data Range	Data
No.	Name			
0	DBMD		0 - 7	0
1	SCH		0 - 1	0
2	ADSW		0 - 1	0
3	CECH		0 - 3	0
4	DELY		0 - 7	7
5	SSEL		0 - 3	0

2151

Item		Function	Data Range	15.75 kHz	31.5 kHz	33.75 kHz	45 kHz
No.	Name						
0	MTRX	Matrix out	0 - 3	0	0	1	1
				COMMON			
1	GAIN	Gain select	0 - 3	0			
2	CBGN	Cb gain	0 - 15	9			
3	VTC	V TC	0 - 3	1			
4	HWID	H width	0 - 3	1			
				RF/Video 1, 2, 3, 4 (Video 5, 6 no signal)		Video 5 (480i, 480p, 720p, 1080i)	Video 6 (480i, 480p, 720p, 1080i)
5	HSEP	HSEP select	0 - 1	1		1	1
				COMMON			
6	TEST	Test	0 - 1	0			
7	FRGB		0 - 1	0			
				1080i	Others		
8	HMSK	H sync masking in vertical retrace	0 - 1	0	1		

MID1

Item No.	Item Name	Function	Data Range	Comon
0	DHPH	H active display area phase	0 - 255	108
1	DVPH	V active display area phase	0 - 63	17
2	DHAR	H active display area size	0 - 255	230
3	DVAR	V active display area size	0 - 255	120
4	DHPW	Display H pulse width	0 - 63	59
5	DVPW	Display V pulse width	0 - 7	5
6	DYCD	Display output Y-C delay correction	0 - 63	2
7	DYSD	Display output YS signal delay select	0 - 7	7

No.	Name	Function	Data Range	480i, 480p Normal	480i, 480p Others	720i, 1080i (Parent)	1080i (Child)	Favorite
8	MDHP	Main display picture H position	0 - 255	139		0		4
9	MDVP	Main display picture V position	0 - 255	0		8	8	4
10	MDHS	Main display picture H size	0 - 255	163		230		167
11	MDVS	Main display picture V size	0 - 255	120		120	120	111

No.	Name	Function	Data Range	INDEX	Others
12	MLHP	Multi picture mode H position	0 - 255	19	16
13	MLVP	Multi picture mode V position	0 - 255	8	0

No.	Name	Function	Data Range	Favorite	Others
14	SDHP	Sub display picture H position	0 - 255	173	148
15	SDVP	Sub display picture V position	0 - 255	4	84
16	SDHS	Sub display picture H size	0 - 255	52	62
17	SDVS	Sub display picture V size	0 - 255	35	31

No.	Name	Function	Data Range	Comon
18	PDHP	P & P large mode H position	0 - 255	99
19	PDVP	P & P large mode V position	0 - 255	55
20	PDHS	P & P large mode H size	0 - 255	117
21	PDVS	P & P large mode V size	0 - 255	60
22	DPSW	Display PLL switch	0 - 1	1
23	MDL	Model select (16:9/4:3)	0 - 1	0

No.	Name	Function	Data Range	Normal	Others
24	BCOL	Background Y level	0 - 15	0	0

MID2

Item No.	Item Name	Function	Data Range	One screen Normal YC 480i	One screen Normal YCbCr 480i	One screen Others YC 480i	One screen Others YCbCr 480i	PAP , Favorite YC 480i (Parent)	PAP , Favorite YCbCr 480i	PAP , Favorite YC 480i (Child)
0	DRHP	DRC H active area position	0 - 255	146	145	120	119	130	130	140
1	DRHS	DRC H active area size	0 - 255	163	163	174	174	167	167	167
2	DRVP	DRC V active area position	0 - 63	38	38	38	38	55	55	55
3	DRVS	DRC V active area size	0 - 255	120	120	120	120	111	111	111

No.	Name	Function	Data Range	INDEX YC 480i (Parent)	INDEX YCbCr 480i	INDEX YC 480i (Child)	Freeze YC 480i (Parent)	Freeze YCbCr 480i
0	DRHP	DRC H active area position	0 - 255	130	130	143	146	145
1	DRHS	DRC H active area size	0 - 255	167	167	163	163	163
2	DRVP	DRC V active area position	0 - 63	46	46	55	55	55
3	DRVS	DRC V active area size	0 - 255	116	116	111	111	111

MID3

Item No.	Item Name	Function	Data Range	One screen / Normal: DRC Through (Mild)	One screen / Normal: 480p	One screen / Others: DRC Through (Mild)	One screen / Others: 480p	One screen / Others: 720p	One screen / Others: 1080i (Don't used)
0	VDHP	VDO H active area position	0 - 255	208	131	179	110	95	104
1	VDHS	VDO H active area pixel size	0 - 255	213	154	227	164	106	147
2	VDVE	VDO V active area even position	0 - 63	17	38	17	38	41	31
3	VDVS	VDO V active area line size	0 - 255	60	120	60	120	178	135

Item No.	Item Name	Function	Data Range	PAP, Favorite: 480i (Parent)	PAP, Favorite: 480p (Parent)	PAP, Favorite: 720p (Parent)	PAP, Favorite: 1080i (Parent)	Index: 480i (Parent)	Index: 480p (Parent)	Index: 720p (Parent)	Index: 1080i (Parent)
0	VDHP	VDO H active area position	0 - 255	199	117	99	84	197	117	Same as PAP, Favorite	Same as PAP, Favorite
1	VDHS	VDO H active area pixel size	0 - 255	217	157	102	152	213	157		
2	VDVE	VDO V active area even position	0 - 63	25	55	54	41	25	46		
3	VDVS	VDO V active area line size	0 - 255	56	111	165	124	56	116		

Item No.	Item Name	Function	Data Range	Freeze: 480i (Mild) (Parent)	Freeze: 480i (Others) (Parent)	Freeze: 1080i (Parent)	Freeze: 480p (Parent)	Freeze: 720p (Parent)
0	VDHP	VDO H active area position	0 - 255	208	99		131	111
1	VDHS	VDO H active area pixel size	0 - 255	213	148		154	99
2	VDVE	VDO V active area even position	0 - 63	25	41		55	54
3	VDVS	VDO V active area line size	0 - 255	56	124		111	165

Item No.	Item Name	Function	Data Range	DRC Through (Mild)	480p	720p	1080i
4	VDVO	VDO V active area odd position	0 - 3	0	0	0	0
5	VCPO	VDO clamp pulse output timing	0 - 255	95	70	40	40
6	VCWD	VDO clamp pulse width	0 - 7	3	3	3	3
7	VYCD	VDO Y/C delay	0 - 63	0	0	0	0

Item No.	Item Name	Function	Data Range	DRC Through (Mild)	480p	480i	1080i	720p
8	VSTP	VDO PLL phase detect stop line count	0 - 255	119		160		146
9	VSTT	VDO PLL phase detect start line count	0 - 15	4		0		0

Item No.	Item Name	Function	Data Range	Common
10	VHSC	VDO H sync cycle	0 - 255	130

MID5 (1/2)

Item		Function	Data Range											
No.	Name			POP=0	POP=1	POP=2	POP=3	POP=4	POP=5	POP=6	POP=7	POP=8	POP=9	POP=10	POP=11
0	POP	Table select	0 - 23												
1	MHLY	Main H LPF Y coefficient select	0 - 3	1	2	2	2	1	0	0	0	1	0	0	0
2	MHLC	Main H LPF C coefficient select	0 - 3	0	0	0	0	0	0	0	0	0	0	0	0
3	MVLY	Main V LPF Y coefficient select	0 - 3	0	0	0	0	0	0	0	0	0	0	0	0
4	MVLC	Main V LPF C coefficient select	0 - 3	0	0	0	0	0	0	0	0	0	0	0	0
5	MHYR	Main H enhance. Y coreing level	0 - 3	0	1	1	2	0	0	0	2	0	0	1	1
6	MHYL	Main H enhance. Y clip level	0 - 3	0	2	2	2	0	1	1	1	0	1	1	1
7	MHYE	Main H enhance. Y enhancement level	0 - 7	0	3	3	7	0	7	7	7	0	7	7	7
8	MHYO	Main H enhance. Y coefficient select	0 - 1	0	1	1	1	0	1	1	1	0	1	1	1
9	MHCR	Main H enhance. C coreing level	0 - 3	0	0	0	0	0	0	0	0	0	0	0	0
10	MHCL	Main H enhance. C clip level	0 - 3	0	0	0	0	0	0	0	0	0	0	0	0
11	MHCE	Main H enhance. C enhancement level	0 - 7	0	0	0	0	0	0	0	0	0	0	0	0
12	MHCO	Main H enhance. C coefficient select	0 - 1	0	0	0	0	0	0	0	0	0	0	0	0
13	MVYR	Main V enhance. Y coreing level	0 - 3	0	0	1	1	0	0	1	1	0	0	1	1
14	MVYL	Main V enhance. Y clip level	0 - 3	0	0	1	1	0	0	2	2	0	0	2	2
15	MVYE	Main V enhance. Y enhancement level	0 - 7	0	0	3	3	0	0	7	7	0	0	7	7
16	MVCR	Main V enhance. C coreing level	0 - 3	0	0	0	0	0	0	0	0	0	0	0	0
17	MVCL	Main V enhance. C clip level	0 - 3	0	0	0	0	0	0	0	0	0	0	0	0
18	MVCE	Main V enhance. C enhancement level	0 - 7	0	0	0	0	0	0	0	0	0	0	0	0

0	POP	Table select	0 - 23	POP=12	POP=13	POP=14	POP=15	POP=16	POP=17	POP=18	POP=19	POP=20	POP=21	POP=22	POP=23
1	MHLY	Main H LPF Y coefficient select	0 - 3	1	0	1	1	1	2	2	2	0	0	0	0
2	MHLC	Main H LPF C coefficient select	0 - 3	0	0	0	0	0	2	2	2	0	0	0	0
3	MVLY	Main V LPF Y coefficient select	0 - 3	0	0	0	0	0	0	0	0	0	0	0	0
4	MVLC	Main V LPF C coefficient select	0 - 3	0	0	0	0	0	0	0	0	0	0	0	0
5	MHYR	Main H enhance. Y coreing level	0 - 3	0	1	1	2	0	1	1	1	0	0	0	0
6	MHYL	Main H enhance. Y clip level	0 - 3	0	1	1	1	0	1	1	1	0	0	0	0
7	MHYE	Main H enhance. Y enhancement level	0 - 7	0	7	7	7	0	7	7	7	0	0	0	0
8	MHYO	Main H enhance. Y coefficient select	0 - 1	0	1	1	1	0	1	1	1	0	0	0	0
9	MHCR	Main H enhance. C coreing level	0 - 3	0	0	0	0	0	0	0	0	0	0	0	0
10	MHCL	Main H enhance. C clip level	0 - 3	0	0	0	0	0	0	0	0	0	0	0	0
11	MHCE	Main H enhance. C enhancement level	0 - 7	0	0	0	0	0	0	0	0	0	0	0	0
12	MHCO	Main H enhance. C coefficient select	0 - 1	0	0	0	0	0	0	0	0	0	0	0	0
13	MVYR	Main V enhance. Y coreing level	0 - 3	0	0	2	2	0	1	1	1	0	0	0	0
14	MVYL	Main V enhance. Y clip level	0 - 3	0	0	1	1	0	2	2	2	0	0	0	0
15	MVYE	Main V enhance. Y enhancement level	0 - 7	0	0	7	7	0	7	7	7	0	0	0	0
16	MVCR	Main V enhance. C coreing level	0 - 3	0	0	0	0	0	0	0	0	0	0	0	0
17	MVCL	Main V enhance. C clip level	0 - 3	0	0	0	0	0	0	0	0	0	0	0	0
18	MVCE	Main V enhance. C enhancement level	0 - 7	0	0	0	0	0	0	0	0	0	0	0	0

MID5 (2/2)

				Common
19	SHLY	(Not used)	0 - 7	0
20	SHLC	(Not used)	0 - 7	0
21	SVLY	(Not used)	0 - 7	0
22	SVLC	(Not used)	0 - 7	0
23	SHYR	(Not used)	0 - 3	0
24	SHYL	(Not used)	0 - 3	0
25	SHYE	(Not used)	0 - 7	0
26	SHYO	(Not used)	0 - 1	0
27	SHCR	(Not used)	0 - 3	0
28	SHCL	(Not used)	0 - 3	0
29	SHCE	(Not used)	0 - 7	0
30	SHCO	(Not used)	0 - 1	0
31	SVYR	(Not used)	0 - 3	0
32	SVYL	(Not used)	0 - 3	0
33	SVYE	(Not used)	0 - 7	0
34	SVCR	(Not used)	0 - 3	0
35	SVCL	(Not used)	0 - 3	0
36	SVCE	(Not used)	0 - 7	0

MID6

Item		Function	Data Range	480p			480i (Mild)			Others		
No.	Name			Full/Normal	Zoom	W-Zoom	Full/Normal	Zoom	W-Zoom	Full/Normal	Zoom	W-Zoom
0	MCUT	Main picture cut out mode	0 - 1	0	1	1	0	1	1	0	1	1
1	MWHS	Main write picture horizontal size	0 - 255	-	164	164	-	227	227	-	174	174
2	MWVS	Main write picture vertical size	0 - 255	-	120	120	-	60	60	-	120	120
3	MRHP	Main read picture horizontal position	0 - 255	-	0	0	-	0	0	-	0	0
4	MRVP	Main read picture vertical position	0 - 255	-	30	11	-	30	11	-	30	11
5	MRHS	Main read picture horizontal size	0 - 255	-	164	164	-	227	227	-	174	174
6	MRVS	Main read picture vertical size	0 - 255	-	90	109	-	90	109	-	90	109

OSD

Item		Function	Data Range	Data
No.	Name			
0	HPOS	OSD horizontal position	0 - 255	10
1	HPOF	Horizontal position for Favorite mode	0 - 255	25
2	VPOS	OSD vertical position	0 - 255	11
3	VPOT	Vertical position for P&P (Twin) mode	0 - 255	29

SNNR

Item		Function	Data Range	Data
No.	Name			
0	SNNR	SNNR Data Label	0 - 3	SNNR data Label
1	SNFX	Selection of SNNR data setting	0 - 1	Table 1
2	WSLT	Noise level detection data thresholds for SNNR data (read data)	0 - 255	Table 1
3	CPFG	Related to 3D-COMB (uPD64802) / 19_YPFG settings	0 - 7	Table 1
4	CPFT	Related to 3D-COMB (uPD64802) / 18_YPFT settings	0 - 3	Table 1
5	CCOR	Related to 3D-COMB (uPD64802) / 20_YHCO settings	0 - 3	Table 1
6	CHCG	Related to 3D-COMB (uPD64802) / 21_YHCG settings	0 - 1	Table 1
7	CAPG	Related to 3D-COMB (uPD64802) / 16_VAPG settings	0 - 4	Table 1
8	3SHP	Related to 2103 (CXA2103) / 6_SHAP settings	0 - 3	Table 1
9	MIDD	Related to VID ADJ / 4_MIDE setting	0 - 3	Table 1
10	USHS	Related to USER STD / 4_USHP setting	0 - 7	Table 1
11	NLMP	Related to TDA9178 / NLAMP setting	0 - 15	Table 1
12	PKNG	Related to TDA9178 / PKNG setting	0 - 15	Table 1
13	CRNG	Related to TDA9178 / CRNG setting	0 - 15	Table 1

Table 1

0	SNNR	SNNR Data Label (0 - 3)					SNNR data Label
1	SNFX	-					*1
				(WSLT : A)	(WSLT : B)	(WSLT : C)	
2	WSLT	Threshold of SNNR (0 - 255)		31	63	127	Threshold of SNNR *2
			(SNNR : 0)	(SNNR : 1)	(SNNR : 2)	(SNNR : 3)	
3	CPFG	uPD64082 : YPFG (0 - 7)	0	1	3	4	(-) Offset for uPD64082 : YPFG
4	CPFT	uPD64082 : YPFT (0 - 3)	0	0	0	0	(-) Offset for uPD64082 : YPFT
5	CCOR	uPD64082 : YHCOR (0 - 3)	0	1	1	1	Data for uPD64082 : YHCOR
6	CHCG	uPD64082 : YHCGAIN (0 - 1)	1	1	1	1	Data for uPD64082 : YHCGAIN
7	CAPG	uPD64082 : VAPGAIN (0 - 4)	0	0	0	0	(-) Offset for uPD64082 : VAPGAIN
8	3SHP	CXA2103 : SHAP (0 - 3)	0	1	2	3	(-) Offset for CXA2103 : SHAP
9	MIDD	VID ADJ : 4.MIDE (0 - 3)	0	0	0	0	(-) Offset for VDO ADJ : 4.MIDE *3
10	USHS	USER STD : 4.USHP (0 - 7)	0	2	5	6	x4 (-) Offset for USER STD 4 : USHP
11	NLMP	TDA9178 : NLAMP(0 - 15)	0	2	4	5	x2 (-) Offset for TDA9178 : NLAMP
12	PKNG	TDA9178 : PKNG(0 - 15)	0	2	3	4	x4 (-) Offset for TDA9178 : PKNG
13	CRNG	TDA9178 : CRNG(0 - 15)	0	2	5	4	x4 (+) Offset for TDA9178 : CRNG

*1 : SNFX =0 : SNNR will be controled by Micro which depends on the value of WSLT.
=1 : SNNR will be controled with service.

*2 : WSLT

SNFX=1 & SNNR=0 --> WSLT= --
SNNR=1 --> WSLT= A
SNNR=2 --> WSLT= B
SNNR=3 --> WSLT= C
} Service ----------> SNFX=0 & 0 < WSL < A --> SNNR=0
A < WSL < B --> SNNR=1
B < WSL < C --> SNNR=2
C < WSL < 255 --> SNNR=3

WSL Detection
10-time mean of the Return Data of 3D-Comb(SubAdd.01 "WSL") should be applied as the value of WSL.
Return Data should be detected in every 100msec, so WSL will be renewed in every 1sec.

*3 : MIDD
MIDE = 0 - 3 ------> MIDE = MIDE - MIDD
MIDE = 4 - 7 ------> MIDE = MIDE - MIDD
MIDE = 8 - 11 ------> MIDE = MIDE - MIDD
MIDE = 12 - 15 ------> MIDE = MIDE - MIDD

ID1

Item		Function	Data Range	Data
No.	Name			
0	XJGL	Setting for memorizing or not the ID1 detection status	0 - 1	0
1	LNJI	Setting for the multi/single line ID1 detection	0 - 1	0

CCD

Item		Function	Data Range	Data
No.	Name			
0	HPRM	Horizontal position of CCD (main)	0 - 255	46
1	HPRS	Horizontal position of CCD (sub)	0 - 255	46
2	RND	OSD rounding control	0 - 1	1
3	CCDI	Interruption control	0 - 7	3
4	CRIP	CRI count & parity count	0 - 7	4
5	CRIT	Charge/Discharge timing control for slice voltage level	0 - 1	0
6	CHMK	Horizontal mask width	0 - 63	42
7	FPOL	Field polarity selection	0 - 1	1
8	LANG			0
9	DATA	Switch for CCD service/test data	0 - 1	0
10	VCHP	Selection Vchip control	0 - 1	1

L001OUT

Item		Function	Data Range	Data
No.	Name			
0	OCKPN	Inverts OCK polarity	0 - 1	1
1	OSDCKPN	Inverts OSD CK polarity	0 - 1	0
2	FLENB	Pads the inside of OACTB with fill value	0 - 1	0
3	FLENA	Pads the inside of OACTA with fill value	0 - 1	0
4	MSKB	Pads the outside of OACTB with background value	0 - 1	0
5	ASL	Selects OACT to be outputted	0 - 3	0
6	OVSCYCL	Sets the cycle of output vertical sync signal (OVSB)	0 - 255	85
7	OVSCYCU	Sets the cycle of output vertical sync signal (OVSB)	0 - 15	3
8	OVSDLYEN	OVSDLY enable	0 - 1	1
9	IVSPRN	Disables the propagation of IVS signal to internal OVSB	0 - 1	0
10	OVPOL	Specifies the polarity of output vertical sync signal (OVSB)	0 - 1	0
11	OVSD	Specifies the output timing of OVSB	0 - 3	0
12	OVSWD	Specifies the number of lines for active period of OVSB	0 - 15	3
13	ACYC	Automatic cycle setting enable	0 - 1	0
14	OHPOL	Specifies the polarity of output horizontal sync signal (OHSB)	0 - 1	0
15	OHSWD	Specifies the number of lines for active period of OHSB	0 - 15	4
16	VHSAME	Outputs the output vertical sync signal (OVSB) simultaneously with the output horizontal sync signal (OHSB) at all times	0 - 1	1
17	OFLDP	Inverts the polarity of output field signal (OFLD)	0 - 1	0
18	HSCUT	Disables the output of OHSB generated simultaneously with OVSB	0 - 1	1
19	SYNGO	Enables the generation of OVSB and OHSB	0 - 1	1
20	SRES	Clears OHSMON and OLNMON registers to 0	0 - 1	0
21	MGREN	Enables OHS phase measurement and start point measurement of output active area (OACT) in vertical direction	0 - 1	1
22	OVFCHK	Resets the overflow check of line buffer	0 - 1	0
23	ATPOS	Enables automatic LNSEL setting	0 - 1	0
24	LNSEL	Sets line buffer read start position	0 - 7	3
25	OHSDLYL	Sets OHSB signal delay amount	0 - 255	0
26	OHSDLYU	Sets OHSB signal delay amount	0 - 15	0
27	OHSDLYEN	Enables OHSDLY set value	0 - 1	0
28	ATHDLY	Enables automatic OHSDLY setting	0 - 1	0

L001SCALE

Item		Function	Data Range	Data
No.	Name			
0	VSCLEN	Selects enable/disable of vertical interpolation	0 - 1	1
1	VBEN		0 - 1	0
2	VDECSFT	Specifies decimal point place of factor in vertical interpolation table	0 - 1	0
3	ODDINI	Specifies vertical scaling initial value for odd field	0 - 7	0
4	EVEINI	Specifies vertical scaling initial value for even field	0 - 7	4
5	HSCKL	Specifies horizontal scaling factor	0 - 255	0
6	HSCKM	Specifies horizontal scaling factor	0 - 255	0
7	HSCKU	Specifies horizontal scaling factor	0 - 3	1
8	HSCK SCLEN	Selects enable/disable of horizontal enlarged interpolation	0 - 1	1
9	HSCK BEN		0 - 1	0
10	HSCK DECSFT	Specifies decimal point place of factor in vertical enlarged interpolation table	0 - 1	0
11	HKINI	Specifies horizontal enlargement initial value	0 - 7	0
12	HSRK SCLEN	Selects enable/disable of horizontal reduced interpolation	0 - 1	1
13	HSRK DECSFT	Specifies decimal point place of factor in horizontal reduced interpolation table	0 - 1	0
14	HSRKINI	Specifies horizontal reduction initial value	0 - 7	0

L001ENH

Item		Function	Data Range	Data
No.	Name			
0	SCENH	Data table selection (Table2)	0 - 3	Table1
1	VCOFEN	Specifies vertical interpolation method	0 - 1	Table1
2	VCOFSEL	Data table selection of vertical interpolation	0 - 7	Table1
3	HCOFEN	Specifies horizontal enlarged interpolation method	0 - 1	Table1
4	HCOFSEL	Data table selection of horizontal interpolation	0 - 7	Table1
5	HSRK COFEN	Specifies horizontal reduced interpolation method	0 - 1	Table2
6	SVDANEN	Enables vertical coring (lower threshold)	0 - 1	Table2
7	SVDAN	Specifies lower threshold of brightness gap range for vertical contour accentuation	0 - 31	Table2
8	SVCLPEN	Enables vertical coring (upper threshold)	0 - 1	Table2
9	SVCLP	Specifies upper threshold of brightness gap range for vertical contour accentuation	0 - 31	Table2
10	SHDANEN	Enables horizontal coring (lower threshold)	0 - 1	Table2
11	SHDAN	Specifies lower threshold of brightness gap range for horizontal contour accentuation	0 - 31	Table2
12	SHCLPEN	Enables horizontal coring (upper threshold)	0 - 1	Table2
13	SHCLP	Specifies upper threshold of brightness gap range for horizontal contour accentuation	0 - 31	Table2
14	EYEN	Selects enable/disable of contour accentuation	0 - 1	Table2
15	EYMOD	Selects thin/thick of contour width	0 - 1	Table2
16	AOISEL	AOI control	0 - 3	Table2
17	EYD	Sets the degree of contour accentuation	0 - 7	Table2
18	YDANEN	Selects enable/disable of coring lower threshold	0 - 1	Table2
19	YDAN	Specifies lower threshold of brightness gap range for contour accentuation	0 - 31	Table2
20	HICLPEN	Selects enable/disable of coring upper threshold	0 - 1	Table2
21	HICLPH	Specifies upper threshold of brightness gap range for contour accentuation	0 - 31	Table2

L001Y

Item		Function	Data Range	Data
No.	Name			
0	SIGNA	Makes linear correction (addition) to brightness with positive/negative value	0 - 1	0
1	OFSETA	Makes linear correction (addition) to brightness with absolute value	0 - 127	0
2	SIGNB	Makes linear correction (addition) to brightness with positive/negative value	0 - 1	0
3	OFSETB	Makes linear correction (addition) to brightness with absolute value	0 - 127	0
4	GAINA	Makes linear correction (multiplication) to brightness	0 - 255	0
5	GAINB	Makes linear correction (multiplication) to brightness	0 - 255	0
6	BCUT	Clips BLUE to 0	0 - 1	0
7	GCUT	Clips GREEN to 0	0 - 1	0
8	RCUT	Clips RED to 0	0 - 1	0
9	RND	Enables 8 bits -> 6 bits forced round-down	0 - 1	0
10	DTH	Selects the mode for dithering	0 - 3	0

Table 1

		FULL , NORMAL											
		RF				Video				Component			
	PICMD=	Vivid (0)	Standard (1)	Movie (2)	Mild (3)	Vivid (4)	Standard (5)	Movie (6)	Mild (7)	Vivid (8)	Standard (9)	Movie (10)	Mild (11)
0	SCENH	1	1	1	1	1	1	1	1	1	1	1	1
1	VCOFEN	0	0	0	0	0	0	0	0	0	0	0	0
2	VCOFSEL	1	1	1	1	1	1	1	1	1	1	1	1
3	HCOFEN	1	1	1	1	1	1	1	1	1	1	1	1
4	HCOFSEL	0	0	0	0	0	0	0	0	0	0	0	0

		FULL , NORMAL											
		Component											
		480p				720p				1080i			
	PICMD=	Vivid (12)	Standard (13)	Movie (14)	Mild (15)	Vivid (16)	Standard (17)	Movie (18)	Mild (19)	Vivid (20)	Standard (21)	Movie (22)	Mild (23)
0	SCENH	1	1	1	1	4	4	5	1	0	0	1	1
1	VCOFEN	0	0	0	0	0	0	0	0	0	0	0	0
2	VCOFSEL	1	1	1	1	1	1	1	1	5	5	1	1
3	HCOFEN	1	1	1	1	1	1	1	1	1	1	1	1
4	HCOFSEL	0	0	0	0	0	0	0	0	0	0	0	0

		WIDE ZOOM , ZOOM											
		RF				Video				Component 480i			
	PICMD=	Vivid (24)	Standard (25)	Movie (26)	Mild (27)	Vivid (28)	Standard (29)	Movie (30)	Mild (31)	Vivid (32)	Standard (33)	Movie (34)	Mild (35)
0	SCENH	1	1	1	1	1	1	1	1	1	1	1	1
1	VCOFEN	0	0	0	0	0	0	0	0	0	0	0	0
2	VCOFSEL	1	1	1	1	1	1	1	1	1	1	1	1
3	HCOFEN	1	1	1	1	1	1	1	1	1	1	1	1
4	HCOFSEL	0	0	0	0	0	0	0	0	0	0	0	0

		WIDE ZOOM , ZOOM											
		Component											
		480p				720p				1080i			
	PICMD=	Vivid (36)	Standard (37)	Movie (38)	Mild (39)	Vivid (40)	Standard (41)	Movie (42)	Mild (43)	Vivid (44)	Standard (45)	Movie (46)	Mild (47)
0	SCENH	1	1	1	1	4	4	5	1	0	0	1	1
1	VCOFEN	0	0	0	0	0	0	0	0	0	0	0	0
2	VCOFSEL	1	1	1	1	1	1	1	1	5	5	1	1
3	HCOFEN	1	1	1	1	1	1	1	1	1	1	1	1
4	HCOFSEL	0	0	0	0	0	0	0	0	0	0	0	0

		Twin Picture , Freeze				Index				Favorite			
	PICMD=	Vivid (48)	Standard (49)	Movie (50)	Mild (51)	Vivid (52)	Standard (53)	Movie (54)	Mild (55)	Vivid (56)	Standard (57)	Movie (58)	Mild (59)
0	SCENH	1	1	1	1	1	1	1	1	1	1	1	1
1	VCOFEN	0	0	0	0	0	0	0	0	0	0	0	0
2	VCOFSEL	1	1	1	1	1	1	1	1	1	1	1	1
3	HCOFEN	1	1	1	1	1	1	1	1	1	1	1	1
4	HCOFSEL	0	0	0	0	0	0	0	0	0	0	0	0

Table 2

0	SCENH=	0	1	2	3	4	5	6	7	8	9
5	HSRK COFEN	0	0	0	0	0	0	0	0	0	0
6	SVDANEN	0	0	0	0	0	0	0	0	0	0
7	SVDAN	28	28	28	28	28	28	0	0	0	0
8	SVCLPEN	0	0	0	0	0	0	0	0	0	0
9	SVCLP	5	5	5	5	5	5	0	0	0	0
10	SHDANEN	0	0	0	0	0	0	0	0	0	0
11	SHDAN	28	28	28	28	28	28	0	0	0	0
12	SHCLPEN	0	0	0	0	0	0	0	0	0	0
13	SHCLP	5	5	5	5	5	5	0	0	0	0
14	EYEN	1	0	1	1	1	1	0	0	0	0
15	EYMOD	0	0	1	1	1	1	0	0	0	0
16	AOISEL	0	0	0	0	0	0	0	0	0	0
17	EYD	3	0	4	3	2	1	0	0	0	0
18	YDANEN	1	0	1	1	0	0	0	0	0	0
19	YDAN	3	0	2	2	0	0	0	0	0	0
20	HICLPEN	0	0	0	0	0	0	0	0	0	0
21	HICLPH	31	31	31	31	31	31	0	0	0	0

0	SCENH=	10	11	12	13	14	15
5	HSRK COFEN	0	0	0	0	0	0
6	SVDANEN	0	0	0	0	0	0
7	SVDAN	0	0	0	0	0	0
8	SVCLPEN	0	0	0	0	0	0
9	SVCLP	0	0	0	0	0	0
10	SHDANEN	0	0	0	0	0	0
11	SHDAN	0	0	0	0	0	0
12	SHCLPEN	0	0	0	0	0	0
13	SHCLP	0	0	0	0	0	0
14	EYEN	0	0	0	0	0	0
15	EYMOD	0	0	0	0	0	0
16	AOISEL	0	0	0	0	0	0
17	EYD	0	0	0	0	0	0
18	YDANEN	0	0	0	0	0	0
19	YDAN	0	0	0	0	0	0
20	HICLPEN	0	0	0	0	0	0
21	HICLPH	0	0	0	0	0	0

L001IN

Item		Function	Data Range	Data
No.	Name			
0	SYNSEL	Selects sync signal (IVS, HIS, IACT, IFLD) input pin	0 - 3	0
1	CLKSEL	Selects clock pin	0 - 1	0
2	IMACTP	Specifies IACT pin polarity for pulse width measurement	0 - 1	0
3	IMHSP	Specifies IHSB pin polarity for pulse width measurement	0 - 1	0
4	IMVSP	Specifies IVSB pin polarity for pulse width measurement	0 - 1	0
5	IFLDP	Specifies IFLD pin polarity	0 - 1	0
6	IACTP	Specifies IACT pin polarity	0 - 1	0
7	IHSP	Specifies IHSB pin polarity	0 - 1	0
8	IVSP	Specifies IVSB pin polarity	0 - 1	0
9	ASEL	Selects input ACT	0 - 1	0
10	COMMOD	Selects false sync signal input waveform	0 - 1	0
11	VSEL	Selects input vertical sync signal	0 - 1	0
12	HSEL	Selects input horizontal sync signal	0 - 3	0
13	COMIN	Selects false sync signal input pin	0 - 3	0
14	IFLDL	Sets when field signal is automatically generated in LSI	0 - 255	24
15	IFLDU	Sets when field signal is automatically generated in LSI	0 - 15	0
16	FUSE	Selects the signal selected by IFSEL as field signal used in LSI, or the FVAL value	0 - 1	0
17	FVAL	Specifies field signal value used in LSI	0 - 1	0
18	IFSEL	Selects the signal entered from IFLD pin as input field signal or the signal automatically generated in LSI	0 - 1	1
19	OFINV	Inverts field signal automatically generated in LSI	0 - 1	0
20	VSDLYEN	Enables IVSDLY set value	0 - 1	1
21	ASYNHS	Specifies sync method when IVS propagates in LSI	0 - 1	0
22	IVSDLY	Sets the delay amount with number of lines at which IVS propagates in LSI	0 - 63	3
23	IVSGENL	Specifies the timing with clocks (ICK) at which false IVS signal is generated	0 - 255	0
24	IVSGENU	Specifies the timing with clocks (ICK) at which false IVS signal is generated	0 - 255	0
25	OBN	Sets frequency dividing ratio to generate OCK	0 - 3	1
26	HBN	Sets frequency dividing ratio of clock (HCK) used when shaping waveform of COMSYN input pin or generating clamp pulses	0 - 1	0
27	PLLDIV	Sets multiplier for REFCK	0 - 7	3
28	OVSRG	Specifies propagation method of the register having OVS sync control	0 - 3	0
29	IVSRG	Specifies propagation method of the register having IVS sync control	0 - 3	0

L001OPT

Item		Function	Data Range	Data
No.	Name			
0	ERREN	Selects enable/disable of error diffusion	0 - 1	0
1	GMMEN	Selects enable/disable of gamma correction	0 - 1	0
2	YADEN	Selects enable/disable of brightness nonlinear correction	0 - 1	0
3	GNEN	Selects enable/disable of brightness gain	0 - 1	0
4	OFEN	Selects enable/disable of brightness offset	0 - 1	0
5	ACREN	Selects enable/disable of ACR	0 - 1	0
6	FCTEN	Selects enable/disable of FCT	0 - 1	0
7	FCTSL	Hue adjustment	0 - 63	0
8	IOSDEN	Selects enable/disable of internal OSD	0 - 1	0
9	EOSDEN	Selects enable/disable of external OSD	0 - 1	0

L001OACT

Item		Function	Data Range	Data
No.	Name			
0	OACTAVSTL	Sets output image start point coordinate in vertical direction	0 - 255	0
1	OACTAVSTU	Sets output image start point coordinate in vertical direction	0 - 15	0
2	AVST ATEN	Enables auto setting of output image start point coordinate in vertical direction	0 - 1	1
3	OACTAVWL	Sets output image vertical width	0 - 255	27
4	OACTAVWU	Sets output image vertical width	0 - 15	3
5	AVW POL	Sets polarity of OACT pin	0 - 1	0
6	OACTAHSTL	Sets output image start point coordinate in horizontal direction	0 - 255	102
7	OACTAHSTU	Sets output image start point coordinate in horizontal direction	0 - 15	0
8	OACTAHWL	Sets output image horizontal width	0 - 255	171
9	OACTAHWU	Sets output image horizontal width	0 - 15	2

L001AOI

Item		Function	Data Range	Data
No.	Name			
0	YUVIN	Specifies YUV input order at input of YUV 8 bits or YUV 16 bits	0 - 3	0
1	YUVSEL	Selects YUV 8 bit input or YUV 24 bit input	0 - 1	0
2	YUVEN	Selects YUV input or RGB input	0 - 1	0
3	ISTPR	Select input mode of RGB or YUV	0 - 1	0
4	ICLRS	Rearranges input image data (ID pin)	0 - 1	0
5	IBYTS	Rearranges input image data (ID pin)	0 - 1	1
6	IBITS	Rearranges input image data (ID pin)	0 - 1	1
7	LVDS	Changes pin arrangement of each color	0 - 1	0
8	OSTPR	Selects RGB 48/24 bit output	0 - 1	0
9	OCLRS	Rearranges output image data (OD pin)	0 - 1	1
10	OBYTS	Rearranges output image data (OD pin)	0 - 1	1
11	OBITS	Rearranges output image data (OD pin)	0 - 1	0
12	HMASTL	Sets the time from COMSYN signal active edge to mask start	0 - 255	0
13	HMASTU	Sets the time from COMSYN signal active edge to mask start	0 - 15	0
14	HMAWL	Sets active period of mask signal	0 - 255	0
15	HMAWU	Sets active period of mask signal	0 - 15	0
16	HSCSTL	Sets the time from COMSYN signal active edge to HS generation	0 - 255	0
17	HSCSTU	Sets the time from COMSYN signal active edge to HS generation	0 - 15	0
18	HSCWL	Selects active period of HS to be generated	0 - 255	0
19	HSCWU	Selects active period of HS to be generated	0 - 15	0
20	SPOL	Specifies polarity of HS to be generated	0 - 1	0
21	CPOL	Specifies polarity of sync signal entered from COMSYN pin	0 - 1	0
22	VSCSTL	Sets the time from recognition of vertical sync signal start point from COMSY signal to VS generation	0 - 255	0
23	VSCSTU	Sets the time from recognition of vertical sync signal start point from COMSY signal to VS generation	0 - 15	0
24	VSCW POL	Specifies polarity of VS to be generated	0 - 1	0
25	VSCW	Selects active period of VS to be generated	0 - 15	0

L001POS S

Item		Function	Data Range	Data
No.	Name			
0	IACTAHSTL	Sets input image start point coordinate in horizontal direction	0 - 255	Table 3
1	IACTAHSTU	Sets input image start point coordinate in horizontal direction	0 - 15	Table 3
2	IACTAVSTL	Sets input image start point coordinate in vertical direction	0 - 255	Table 3
3	IACTAVSTU	Sets input image start point coordinate in vertical direction	0 - 15	Table 3
4	OVSDLY	Sets delay of OVSB signal	0 - 255	Table 3
5	OHSCYCL	Sets cycle of output horizontal sync signal (OHSB)	0 - 255	Table 3
6	OHSCYCU	Sets cycle of output horizontal sync signal (OHSB)	0 - 15	Table 3
7	VSCKL	Specifies vertical scaling factor (enlargement/reduction)	0 - 255	Table 3
8	VSCKM	Specifies vertical scaling factor (enlargement/reduction)	0 - 255	Table 3
9	VSCKU	Specifies vertical scaling factor (enlargement/reduction)	0 - 3	Table 3
10	HSRKL	Specifies horizontal reduction ratio	0 - 255	Table 3
11	HSRKM	Specifies horizontal reduction ratio	0 - 255	Table 3
12	HSRKU	Specifies horizontal reduction ratio	0 - 3	Table 3
13	IACTAVWL	Sets input image vertical width	0 - 255	Table 3
14	IACTAVWU	Sets input image vertical width	0 - 15	Table 3
15	IACTAHWL	Sets input image horizontal width	0 - 255	Table 3
16	IACTAHWU	Sets input image horizontal width	0 - 15	Table 3

Table 3

	SCMD=	Normal					Full					Wide Zoom				
		480i		480p	720p	1080i	480i		480p	720p	1080i	480i		480p	720p	1080i
		Except Mild (0)	Mild (1)	(2)	(3)	(4)	Except Mild (5)	Mild (6)	(7)	(8)	(9)	Except Mild (10)	Mild (11)	(12)	(13)	(14)
0	IACTAHSTL	127	129	127	-	-	127	125	124	127	127	127	125	124	-	-
1	IACTAHSTU	0	0	0	-	-	0	0	0	0	0	0	0	0	-	-
2	IACTAVSTL	24	24	24	-	-	24	24	24	24	30	24	24	24	-	-
3	IACTAVSTU	0	0	0	-	-	0	0	0	0	0	0	0	0	-	-
4	OVSDLY	22	24	20	-	-	22	24	20	21	27	21	23	19	-	-
5	OHSCYCL	35	35	35	-	-	35	35	35	35	30	35	35	35	-	-
6	OHSCYCU	3	3	3	-	-	3	3	3	3	3	3	3	3	-	-
7	VSCKL	0	0	0	-	-	0	0	0	0	85	0	0	0	-	-
8	VSCKM	154	154	154	-	-	154	154	154	154	172	154	154	154	-	-
9	VSCKU	0	0	0	-	-	0	0	0	0	0	0	0	0	-	-
10	HSRKL	118	118	118	-	-	118	118	118	118	21	118	118	118	-	-
11	HSRKM	79	79	79	-	-	79	79	79	79	88	79	79	79	-	-
12	HSRKU	1	1	1	-	-	1	1	1	1	1	1	1	1	-	-
13	IACTAVWL	207	207	207	-	-	207	207	207	207	6	207	207	207	-	-
14	IACTAVWU	1	1	1	-	-	1	1	1	1	2	1	1	1	-	-
15	IACTAHWL	127	127	127	-	-	127	127	127	127	150	127	127	127	-	-
16	IACTAHWU	3	3	3	-	-	3	3	3	3	3	3	3	3	-	-

	SCMD=	Zoom					PAP	Freeze	Index	Favorite
		480i		480p	720p	1080i				
		Except Mild (15)	Mild (16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)
0	IACTAHSTL	127	125	124	-	-	122	108	126	124
1	IACTAHSTU	0	0	0	-	-	0	0	0	0
2	IACTAVSTL	24	24	24	-	-	21	21	24	24
3	IACTAVSTU	0	0	0	-	-	0	0	0	0
4	OVSDLY	20	22	18	-	-	17	17	21	19
5	OHSCYCL	35	35	35	-	-	44	44	35	35
6	OHSCYCU	3	3	3	-	-	3	3	3	3
7	VSCKL	0	0	0	-	-	0	0	0	0
8	VSCKM	154	154	154	-	-	156	156	154	154
9	VSCKU	0	0	0	-	-	0	0	0	0
10	HSRKL	118	118	118	-	-	118	213	118	118
11	HSRKM	79	79	79	-	-	79	88	79	79
12	HSRKU	1	1	1	-	-	1	1	1	1
13	IACTAVWL	207	207	207	-	-	213	213	207	207
14	IACTAVWU	1	1	1	-	-	1	1	1	1
15	IACTAHWL	127	127	127	-	-	127	152	127	127
16	IACTAHWU	3	3	3	-	-	3	3	3	3

HV POS AD

Item		Function	Data Range	Data
No.	Name			
0	H POS ADJ	Adjustment item for H position	0 - 255	128
1	V POS ADJ	Adjustment item for V position	0 - 255	128

PLL-C

Item		Function	Data Range	Data
No.	Name			
0	VCOL	Counter L	0 - 255	Table 1
1	VCOH	Counter H	0 - 15	Table 1
2	DIV	Divider	0 - 3	2
3	CODL	Delay	0 - 3	0
4	FIDL	Fine delay	0 - 31	Table 1
5	PPOL	Phase comp input polarity set	0 - 1	1
6	CPMP	Charge pump	0 - 3	2
7	UNLO	Unlock out on/off	0 - 1	1
8	DSYN	Delay sync on/off	0 - 1	1
9	CL2	1/2 TTL clock on/off	0 - 1	1
10	DSYP	Delay sync output polarity	0 - 1	0
11	SYP	Input sync polarity	0 - 1	0

Table 1

	WIDE=	Normal, Full, Wide Zoom, Zoom				PAP, Freeze, Index, Favorite
	SCMD=	480i	480p	720p	1080i	
	PLLMD=	(0)	(1)	(2)	(3)	(4)
0	VCOL	162	162	162	144	162
1	VCOH	9	9	9	8	9
4	FIDL	14	14	14	14	14

D-GM TG

Item		Function	Data Range	Data
No.	Name			
0	INV CTL	Invert control	0 - 1	0
1	POS CTL	Position control	0 - 15	11
2	H POS	TG H position	0 - 255	11
3	V POS H	TG V position H	0 - 255	4
4	V POS D	TG V position dot	0 - 255	30
5	HST POL	HST polarity	0 - 1	0
6	HCK W	HCK width	0 - 1	0
7	HST POS	HST position	0 - 63	15
8	HCK POL	HCK polarity	0 - 1	1
9	HCK A-INV	HCK auto invert	0 - 1	0
10	VST POL	VST polarity	0 - 1	0
11	VST A-INV	VST auto invert	0 - 1	0
12	HST PHA	HST phase	0 - 15	1
13	VCK POL	VCK polarity	0 - 1	0
14	VST POS	VST position	0 - 127	3
15	ENB POS	EMB position	0 - 255	5
16	ENB W	EMB width	0 - 255	40
17	BLK ON	BLK on	0 - 1	0
18	BLK POL	BLK polarity	0 - 1	0
19	PCG POS	PCG position	0 - 63	2
20	PCG B-OR	PCG BLK or	0 - 1	0
21	PCG B-SEL	PCG BLK select	0 - 1	0
22	PCG W	PCG width	0 - 63	3
23	PRG POS	PRG position	0 - 63	0
24	PRG B-OR	PRG BLK or	0 - 1	0
25	PRG B-SEL	PRG BLK select	0 - 1	0
26	PRG W	PRG width	0 - 63	9
27	BLK POS	BLK position	0 - 255	0
28	BLK W	BLK width	0 - 255	0
29	CLR W	CLR width	0 - 255	0

D-GM IM

Item No.	Item Name	Function	Data Range	Data
0	V-ST-POS	V start position	0 - 255	15
1	H-ST-POS	H start position	0 - 255	100
2	SUB CON	Sub contrast level	0 - 63	32
3	SUB BRT	Sub brightness level	0 - 63	13
4	V BLKT H	V blanking position top	0 - 255	0
5	V BLKT L	V blanking position top2	0 - 3	0
6	V BLKB H	V blanking position bottom	0 - 255	0
7	V BLKB L	V blanking position bottom2	0 - 3	0
8	H BLKL H	H blanking position left	0 - 255	0
9	H BLKL L	H blanking position left2	0 - 3	0
10	H BLKR H	H blanking position right	0 - 255	0
11	H BLKR L	H blanking position right2	0 - 3	0
12	ASL SW	ASL switch	0 - 1	0
13	ASL SEL	ASL select	0 - 3	0
14	B PIC LV	Blue picasl level	0 - 15	0
15	B BRT LV	Blue brtasl level	0 - 15	15
16	G PIC LV	Green picasl level	0 - 15	0
17	G BRT LV	Green brtasl level	0 - 15	15
18	R PIC LV	Red picasl level	0 - 15	0
19	R BRT LV	Red brtasl level	0 - 15	15
20	PIC AREA	Picasl area	0 - 7	7
21	BRT AREA	Brtasl area	0 - 7	7
22	PIC ST	Picasl start timing	0 - 3	0
23	BRT ST	Brtasl start timing	0 - 3	0
24	PRE SL	Pre slope	0 - 3	3
25	POST SL	Post slope	0 - 3	3
26	APC MODE	APC mode	-	Table2
27	APC TH	APC threshold	0 - 255	Table1
28	APC LIMT	APC limitter	0 - 63	Table1
29	APC LEV	APC level	0 - 255	Table1
30	G-PICT	Picture	0 - 127	100
31	G-BRIGHT	Brightness	0 - 127	57

Table1

26	0	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
27	APC TH	255	10	10	10	5	5	10	10	10	10	10	10	10	10	10	10
28	APC LIMT	0	20	20	30	30	30	30	30	30	30	30	30	30	30	30	30
29	APC LEV	0	80	60	45	45	100	45	45	45	45	45	45	45	45	45	45

Table2

	WIDE=	FULL,NORMAL (0 or 2)															
	INP=	RF (0)				Video (1)				Component (8)							
	SCMD=	-				-				480i (0)				480p (1)			
	PICMD=	Vivid (0)	Standard (1)	Movie (2)	Mild (3)	Vivid (0)	Standard (1)	Movie (2)	Mild (3)	Vivid (0)	Standard (1)	Movie (2)	Mild (3)	Vivid (0)	Standard (1)	Movie (2)	Mild (3)
26	APC MODE	3	3	3	3	3	3	3	3	4	4	3	5	4	4	3	5

	WIDE=	FULL,NORMAL (0 or 2)								WIDE ZOOM,ZOOM (3 or 6)							
	INP=	Component (8)								RF (0)				Video (1)			
	SCMD=	720p (4)				1080i (3)				-				-			
	PICMD=	Vivid (0)	Standard (1)	Movie (2)	Mild (3)	Vivid (0)	Standard (1)	Movie (2)	Mild (3)	Vivid (0)	Standard (1)	Movie (2)	Mild (3)	Vivid (0)	Standard (1)	Movie (2)	Mild (3)
26	APC MODE	3	3	3	3	1	1	3	3	3	3	3	3	3	3	3	3

	WIDE=	WIDE ZOOM,ZOOM (3 or 6)															
	INP=	Component (8)															
	SCMD=	480i (0)				480p (1)				720p (4)				1080i (3)			
	PICMD=	Vivid (0)	Standard (1)	Movie (2)	Mild (3)	Vivid (0)	Standard (1)	Movie (2)	Mild (3)	Vivid (0)	Standard (1)	Movie (2)	Mild (3)	Vivid (0)	Standard (1)	Movie (2)	Mild (3)
26	APC MODE	4	4	3	5	4	4	3	5	3	3	3	3	1	1	3	3

	WIDE=	Twin Picture,Freeze (8 or 9)				Index (10)				Favorite (11)			
	INP=	-				-				-			
	SCMD=	-				-				-			
	PICMD=	Vivid (0)	Standard (1)	Movie (2)	Mild (3)	Vivid (0)	Standard (1)	Movie (2)	Mild (3)	Vivid (0)	Standard (1)	Movie (2)	Mild (3)
26	APC MODE	3	3	3	3	3	3	3	3	3	3	3	3

D-GM WB

Item		Function	Data Range	Data
No.	Name			
0	B GAIN (*1)	White balance gain blue	0 - 255	127
1	G GAIN (*1)	White balance gain green	0 - 255	127
2	R GAIN (*1)	White balance gain red	0 - 255	127
3	B BIAS (*1)	White balance bias blue	0 - 255	85
4	G BIAS (*1)	White balance bias green	0 - 255	85
5	R BIAS (*1)	White balance bias red	0 - 255	85
6	B GAIN M	White balance gain blue	-	96
7	G GAIN M	White balance gain green	-	115
8	R GAIN M	White balance gain red	-	132
9	B BIAS M	White balance bias blue	-	128
10	G BIAS M	White balance bias green	-	127
11	R BIAS M	White balance bias red	-	122
12	B GAIN L	White balance gain blue	-	80
13	G GAIN L	White balance gain green	-	126
14	R GAIN L	White balance gain red	-	165
15	B BIAS L	White balance bias blue	-	119
16	G BIAS L	White balance bias green	-	127
17	R BIAS L	White balance bias red	-	136

*1: Adjustable, but not used on service.

D-GM TEST

Item		Function	Data Range	Data
No.	Name			
0	REF PER	Refresh permission	0 - 1	1
1	REF LENG	Refresh length	0 - 7	0
2	G-LUT SW	Gamma LUT through	0 - 1	0
3	CORR WGT	Correct weight	0 - 3	2
4	SHAD SW	Shading switch	0 - 1	0
5	3D-G SW	3D gamma switch	0 - 1	0
6	3D-G Z	3D gamma mode Z	0 - 1	0
7	3D-G VH	3D gamma mode VH	0 - 1	0
8	3D-G BS	3D gamma block size	0 - 1	1
9	AGC P SW	AGC pulse switch	0 - 1	0
10	AGC SHP POS	AGC SH pulse position	0 - 127	40
11	AGC SHP SEL	AGC SH pulse select	0 - 3	1
12	AGC SHP W	AGC SH pulse width	0 - 63	2

D-GM TPN

Item		Function	Data Range	Data
No.	Name			
0	T-PATN SW	Test pattern switch	0 - 1	0
1	T-SIG SEL	Test signal select	0 - 7	1
2	PATN DIR	Pattern direction	0 - 1	1
3	SIG LV DIR	Signal level direction	0 - 1	0
4	T-PATN PIT	Test pattern pitch	0 - 255	144
5	B-LV	Blue test pattern level	0 - 63	25
6	G-LV	Green test pattern level	0 - 63	25
7	R-LV	Red test pattern level	0 - 63	25
8	T-PATN RGB	RGB test enable	0 - 7	7

D-GM CUR

Item		Function	Data Range	Data
No.	Name			
0	CRIP	Frame crip	0 - 1	1
1	CUR TOP	Frame cursor top	0 - 1	0
2	CUR BOT	Frame cursor bottom	0 - 1	0
3	CUR L	Frame cursor left	0 - 1	0
4	CUR R	Frame cursor right	0 - 1	0
5	FPOS TOP U	Frame position top (High bit)	0 - 255	3
6	FPOS TOP L	Frame position top (Low bit)	0 - 7	0
7	FPOS BOT U	Frame position bottom (High bit)	0 - 255	92
8	FPOS BOT L	Frame position bottom (Low bit)	0 - 7	7
9	FPOS LEFT U	Frame position left (High bit)	0 - 255	5
10	FPOS LEFT L	Frame position left (Low bit)	0 - 7	3
11	FPOS RIGHT U	Frame position right (High bit)	0 - 255	165
12	FPOS RIGHT L	Frame position right (Low bit)	0 - 7	2
13	FCUR SIZE		0 - 1	0
14	CR CUR SIZE		0 - 3	3
15	CR CUR ON		0 - 1	0
16	CR VPOS U		0 - 255	48
17	CR VPOS L		0 - 7	0
18	CR HPOS U		0 - 255	85
19	CR HPOS L		0 - 7	2
20	OSD B	Blue OSD level	0 - 31	25
21	OSD G	Green OSD level	0 - 31	25
22	OSD R	Red OSD level	0 - 31	25
23	OSD YM	Picture half tone level	0 - 7	0
24	OSD I	OSD half tone level	0 - 7	3

H POS SHI

Item		Function	Data Range	Data
No.	Name			
0	VAR POS-CTL	Table select	0 - 15	Table 1
1	D-GM HP	Position control shift	0 - 15	Table 1

Table 1

0	VAR POS-CTL=	0	1	2	3	4	5	6	7
1	D-GM HP	9	9	8	8	7	7	6	6
0	VAR POS-CTL=	8	9	10	11	12	13	14	15
1	D-GM HP	11	11	10	10	11	11	10	10

SH SET

Item		Function	Data Range	Data
No.	Name			
0	SH	Table select	0 - 6	Table 1
1	SHIFT SET	Position control shift model select	0 - 31	Table 1

Table 1

0	SH=	0	1	2	3	4	5	6	7
1	SHIFT SET	15	16	17	18	16	16	16	16

LCD-DR

Item		Function	Data Range	Data
No.	Name			
0	FRP CNT	FR pulse control	0 - 1	0
1	R VCOM (*1)	V COM adjustment (R)	0 - 255	127
2	R ODD VR	ODD adjustment (R)	0 - 255	50
3	R EVEN VR	EVEN adjustment (R)	0 - 255	50
4	R DLY CNT	DELAY control (R)	0 - 255	127
5	R DA VSET (*1)	D/A voltage set (R)	0 - 255	220
6	G VCOM (*1)	V COM adjustment (G)	0 - 255	127
7	G ODD VR	ODD adjustment (G)	0 - 255	50
8	G EVEN VR	EVEN adjustment (G)	0 - 255	50
9	G DLY CNT	DELAY control (G)	0 - 255	127
10	G DA VSET (*1)	D/A voltage set (G)	0 - 255	220
11	B VCOM (*1)	V COM adjustment (B)	0 - 255	127
12	B ODD VR	ODD adjustment (B)	0 - 255	105
13	B EVEN VR	EVEN adjustment (B)	0 - 255	105
14	B DLY CNT	DELAY control (B)	0 - 255	127
15	B DA VSET (*1)	D/A voltage set (B)	0 - 255	195
16	R VREF SEL	Voltage ref select (R)	0 - 1	0
17	G VREF SEL	Voltage ref select (G)	0 - 1	0
18	B VREF SEL	Voltage ref select (B)	0 - 1	0

*1: Adjustable, but not used on service.

LM75 (TEMP)

Item		Function	Data Range	Data
No.	Name			
0	SET	Temperature switching to maximum velocity of wind	0 - 99	42 DEC
1	TIME	Time to keep maximum velocity of wind and to detect	0 - 99	10 MIN

OSD-E

Item		Function	Data Range	Data
No.	Name			
0	VPOS	Engine service indication V position	0 - 255	8
1	HPOS	Engine service indication H position	0 - 255	22

OPTION-E

Item		Function	Data Range	Data
No.	Name			
0	LAMP TIME	Lamp lighting time		0
1	LAMP OFF	Time from power off to lamp off (0 : 0 sec, 1 : 5 sec)	0 - 255	1
2	FAN OFF	Time to FAN stop (0 : 2 min, 1 : 2 min)	0 - 255	0
3	FAN1 RPM1	Rotating speed of FAN for optics on normal condition	0 - 3	2
4	FAN1 RPM2	Rotating speed of FAN for optics after power off	0 - 3	2
5	FAN2 RPM1	Rotating speed of FAN for lamp on normal condition	0 - 3	1
6	FAN2 RPM2	Rotating speed of FAN for lamp after power off	0 - 3	1
7	FLAG1	Not used on service	0 - 255	0
8	AGING PT	Not used on service	0 - 255	0
9	TEMP SHIFT	Temperature shift for LCD panel drive	0 - 255	1
10	ADJ	Not used on service	0 - 1	0
11	P CTL SHT1	LCD panel age-based change (position control) correction 1	0 - 255	10
12	P CTL SHT2	LCD panel age-based change (position control) correction 2	0 - 255	60

OP

Item		Function	Data Range	Data
No.	Name			
0	DLY1	Power on to relay timing = DLY1 x 50ms	0 - 15	4
1	DLY2	Power on mute timing = DLY2 x 50ms	0 - 31	12
2	DLY3	Relay on to start bus communication	0 - 15	7
3	AGC		0 - 255	255
4	RAMW		0 - 1	0

ID

Item		Function	Data Range	Data
No.	Name			
0	ID0	Selection of OSD languages & color system	0 - 255	89
1	ID1	Selection of composite & S-Video inputs	0 - 255	127
2	ID2	Selection of audio related controls	0 - 255	239
3	ID3	Selection of basic system settings	0 - 255	98
4	ID4	Selection of basic system settings	0 - 255	203
5	ID5	Selection of advanced system settings	0 - 255	177
6	ID6	Selection of sub picture related settings	0 - 255	54
7	ID7	Selection of some reserved settings	0 - 255	24