

LG Protocol

28 December 2000

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1 LVC-A800 Commands

All commands start with a start of command byte (of 0xC5 PC_AMC) and end with a Camera Id byte (range of 0 → 255₁₀) and an arithmetic checksum byte of the full message. None of these are shown in the following command table. All commands are six bytes long.

The following items have the indicated uses and ranges: (Unused/unspecified values are ignored.)

1. **AGC_CTL** This is an 8 bit value for setting the AGC level of the camera. Range is 0₁₀ → 255₁₀, with 0 being the minimum AGC level and 255₁₀ being the maximum level.
2. **BL_level** This is an 8 bit value for controlling the camera's backlight level. Range is 0₁₀ → 255₁₀.
3. **BLUE_ADJ** This is a signed 8 bit value which has a range of -3 to +3 for controlling the Blue point in Special White Balance mode. (0xFD = -3, 0xFE = -1, 0xFF = -1, 0x00 = 0, 0x01 = 1, 0x02 = 2 and 0x03 = 3.)
4. **Brightness** Used to adjust the brightness level of the camera. Range is 0₁₀ → 99₁₀.
5. **Camera Id** This is an 8 bit value used to identify a camera. Range is 0₁₀ → 255₁₀.
6. **DZP** The Digital Zoom value. Range is unknown.

¹\$Header: d:/protocol/lg/RCS/lgproto.tex 1.7 2000-12-28 10:30:18-08 Hamilton Exp Hamilton \$

²\$Header: d:/protocol/lg/RCS/lgproto.inc,v 1.6 2000-12-14 15:38:16-08 Hamilton Exp Hamilton \$

7. **FPL** Lower portion of the preset focus value. Preset focus values are 12 bits long with the most significant 4 bits coming from lower **PRE_I_FH**.
8. **INDEX** For “external” commands that store their data into “volatile RAM”, this is the preset index number ($0 \rightarrow 7$) is stored in the full byte. External commands include
- For “internal” commands that store their data into “non-volatile RAM”, this is the preset index number ($0_{10} \rightarrow 49_{10}$) is stored in the full byte. Internal commands include
- For “Digital Zoom Power Adjust”, use the following table:

INDEX	Max Power	Maximum Zoom
0	$2 \times$	$32 \times$
1	$3 \times$	$48 \times$
2	$4 \times$	$64 \times$
3	$5 \times$	$80 \times$
4	$6 \times$	$96 \times$
5	$7 \times$	$112 \times$
6	$8 \times$	$128 \times$

9. **IRIS_CTL** This is an 8 bit value for setting the Iris. Range is $0_{10} \rightarrow 255_{10}$.
10. **KEY_NUM** Key number, see Section 1.2, page 7 for a full listing.
11. **MODE** In general 0 is used for OFF and 1 for ON.
- The exceptions are:
- “Auto Back Light Mode On/Off control”, **MODE** means: **AUTO** for 1 and **OFF** for 0.
 - “Focus Mode Setting”, **MODE** means: **PUSH_AUTO** for 1 and **AUTO/MANUAL** for 0.
12. **MWB_CTL** Adjusts Hue in the Manual White Balance mode. Range is $0_{10} \rightarrow 99_{10}$.
13. **NEW_C_ID** New Camera ID # ($0 \rightarrow 255_{10}$).
14. **OSD_CNT** This changes to OSD display mode according to the following table:

OSD_CNT	Description
0	All OSD Off mode
1	Zoom Only Off mode
2	Zoom Only On mode
3	All Functions On mode

15. **PRE_I** The preset index number ($0 \rightarrow 7$) is stored in the full byte.
16. **PRE_I_FH** The preset index number ($0 \rightarrow 7$) is stored in the upper nibble. The upper 4 bits of the preset focus value are stored in the lower nibble (bits $0 \rightarrow 3$). Preset focus values are 12 bits long with the least significant 8 bits coming from all of **FPL**.

17. **PRE_I_ZH** The preset index number ($0 \rightarrow 7$) is stored in the upper nibble. The upper 4 bits of the preset zoom value are stored in the lower nibble (bits $0 \rightarrow 3$). Preset zoom values are 12 bits long with the least significant 8 bits coming from all of ZPL.
18. **RED_ADJ** This is a signed 8 bit value which has a range of -3 to +3 for controlling the Red point in the Special White Balance mode. (0xFD = -3, 0xFE = -1, 0xFF = -1, 0x00 = 0, 0x01 = 1, 0x02 = 2 and 0x03 = 3.)
19. **Sharpness** Used to adjust the sharpness level of the camera. Range is $0_{10} \rightarrow 14_{10}$.
20. **Special Blue** Range is $0_{10} \rightarrow 255_{10}$.
21. **Special Hue** Range is $0_{10} \rightarrow 99_{10}$.
22. **Special Red** Range is $0_{10} \rightarrow 255_{10}$.
23. **SSC_CNT** Used to set the shutter speed. Values come from the following table: (Shutter speeds for NTSC and PAL are the same.)

SSC_CNT	Speed	SSC_CNT	Speed	SSC_CNT	Speed	SSC_CNT	Speed
0	$\frac{1}{60}$	7	$\frac{1}{400}$	14	$\frac{1}{1000}$	21	$\frac{1}{2000}$
1	$\frac{1}{125}$	8	$\frac{1}{450}$	15	$\frac{1}{1100}$	22	$\frac{1}{2500}$
2	$\frac{1}{150}$	9	$\frac{1}{500}$	16	$\frac{1}{1200}$	23	$\frac{1}{3000}$
3	$\frac{1}{200}$	10	$\frac{1}{600}$	17	$\frac{1}{1300}$	24	$\frac{1}{3500}$
4	$\frac{1}{250}$	11	$\frac{1}{700}$	18	$\frac{1}{1500}$	25	$\frac{1}{4000}$
5	$\frac{1}{300}$	12	$\frac{1}{800}$	19	$\frac{1}{1600}$	26	$\frac{1}{6000}$
6	$\frac{1}{350}$	13	$\frac{1}{900}$	20	$\frac{1}{1800}$	27	$\frac{1}{10000}$

24. **Weight** This is a single byte that has in its upper nibble (bits $7 \rightarrow 4$) the Iris weighting to use in the lower rim of a picture. In the lower nibble (bits $3 \rightarrow 0$). Which is the Iris weighting value to use in the center of the picture.
25. **ZPL** Lower portion of the preset zoom value. Preset zoom values are 12 bits long with the most significant 4 bits coming from lower PRE_I_ZH.

White Balance Mode
— Special
— Indoor
— Outdoor
— Manual Hue
— Push Auto
— Auto

Automatic Exposure Mode
— Auto
— Shutter Fixed
— Iris Fixed
— AGC Fixed
— Manual Mode

Auto/Manual or Push_Auto Toggle
— Push_Auto
— A/M Auto Focus
— A/M Manual Focus

1.1 Command Codes

	Art	2	3	4
EEPROM Data Write Command	2.2	0x0F/15 ₁₀	EEPROM_WR	E2_ADR
Auto Hall Adj	—	0x21/33 ₁₀	A_HALLADJ	—
Auto COLOR REP. Adj	—	0x22/34 ₁₀	A_COLORADJ	—
Manual WB IN Adj	—	0x23/35 ₁₀	M_WBINADJ	—
Manual WB OUT Adj	—	0x24/36 ₁₀	M_WBOUTADJ	—
Auto WB IN Adj	—	0x25/37 ₁₀	A_WBINADJ	—
Auto WB OUT Adj	—	0x26/38 ₁₀	A_WBOUTADJ	—
SEPIA mode Auto COLOR Rep. Adj	—	0x27/39 ₁₀	A_SCOLORADJ	—
CORE Adj. OUT data read svc	—	0x30/48 ₁₀	CORCAT1_RD	—
CORE AE OUT data read svc	—	0x31/49 ₁₀	CORCAT3_RD	—
CORE AWB OUT data read svc	—	0x32/50 ₁₀	CORCAT4_RD	—
OPD AF OUT data read svc	—	0x33/51 ₁₀	CORCAT5_RD	—
Current HALL data read svc	—	0x34/52 ₁₀	HALL_RD	—
Current AEW_Mean data read svc	—	0x35/53 ₁₀	AEWM_RD	—
Zoom Lens Position Read	2.10	0x36/54 ₁₀	ZOOM_RD	0x00
Focus Lens Position Read	2.11	0x37/55 ₁₀	FOCUS_RD	0x00
Manual Focus 1 step NEAR move svc	—	0x38/56 ₁₀	MF_NEAR	—
Manual Focus 1 step FAR move svc	—	0x39/57 ₁₀	MF_FAR	—
Camera Power On	2.12	0x3A/58 ₁₀	PWR_ON	0x00
PC adjust mode ON/OFF	—	0x3B/59 ₁₀	PC_ADJONOFF	—
Digital Zoom Coefficient WRITE svc	—	0x3C/60 ₁₀	DZCOEF_WR	—
Digital Zoom Coefficient READ svc	—	0x3D/61 ₁₀	DZCOEF_RD	—
Camera Power Off	2.13	0x3E/62 ₁₀	PWR_OFF	0x00
Current ADJ_okP port read svc	—	0x3F/63 ₁₀	ADJokP_RD	—
EVR write only svc	—	0x40/64 ₁₀	EVR_WR	—
CORE Category 0 write svc	—	0x41/65 ₁₀	CORCAT0_CWR	—
CORE Category 1 write svc	—	0x42/66 ₁₀	CORCAT1_CWR	—
CORE Category 2 write svc	—	0x43/67 ₁₀	CORCAT2_CWR	—
CORE Category 3 write svc	—	0x44/68 ₁₀	CORCAT3_CWR	—
CORE Category 4 write svc	—	0x45/69 ₁₀	CORCAT4_CWR	—
CORE Category 6 write svc	—	0x46/70 ₁₀	CORCAT6_CWR	—
—	—	0x47/71 ₁₀	TG_CWR	—
—	—	0x48/72 ₁₀	ZTG_CWR	—
Memorize Zoom Lens Position for External Preset Control	2.14	0x49/73 ₁₀	Z_PRE_SET	PRE_I_ZH
Memorize Focus Lens Position for External Preset Control	2.15	itt0x4A/74 ₁₀	F_PRE_SET	PRE_I_FH
Memorize Digital Zoom Position for External Preset Control	2.16	0x4B/75 ₁₀	E_PRE_SET	PRE_I
—	—	0x4C/76 ₁₀	CORCAT5_CWR	—
Non Zoom Tracking External Preset Move Control	2.17	0x4D/77 ₁₀	PRESET_CTL	INDEX
—	—	0x4E/78 ₁₀	CORCAT7_CWR	—
Camera Reset	2.18	0x4F/79 ₁₀	RESET	0x00
—	—	0x50/80 ₁₀	PKDATA_RD	—
—	—	0x51/81 ₁₀	PKDATA_WR	—

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	Art	2	3	4	
Digital Zoom Power Adjust	2.14	0x52/82 ₁₀	DZ_PWR_SET	INDEX	0x00
—	—	0x53/83 ₁₀	RKDATA_WR	—	—
—	—	0x54/84 ₁₀	CK1DATA_RD	—	—
—	—	0x55/85 ₁₀	CK1DATA_WR	—	—
—	—	0x56/86 ₁₀	CK2DATA_RD	—	—
—	—	0x57/87 ₁₀	CK2DATA_WR	—	—
—	—	0x58/88 ₁₀	MEMTEST_WR	—	—
—	—	0x59/89 ₁₀	MEMADJ_RD	—	—
—	—	0x5A/90 ₁₀	MEMADJ_WR	—	—
Manual WB IN Adj. OK	—	0x5B/91 ₁₀	M_WBINADJOK	—	—
Manual WB OUT Adj. OK	—	0x5C/92 ₁₀	M_WBOUT- ADJOK	—	—
Zoom lens move to target position	—	0x5D/93 ₁₀	ZM_P_MOVE	—	—
Focus lens move to target position	—	0x5E/94 ₁₀	FM_P_MOVE	—	—
Key Action	2.20	0x5F/95 ₁₀	PC_KEY_- SVC	KEY_NUM	0x00
—	—	0x70/112 ₁₀	OFF_FZ_ENDC	—	—
—	—	0x71/113 ₁₀	FSST_ACT	—	—
—	—	0x72/114 ₁₀	ZSST_ACT	—	—
—	—	0x73/115 ₁₀	FAF_ACT	—	—
—	—	0x74/116 ₁₀	ZAF_ACT	—	—
PC_MONI ON service	—	0x75/117 ₁₀	PC_OFFREL	—	—
Offset Adj. mode set	—	0x76/118 ₁₀	PC_OFFSET	—	—
Changing Cam ID	2.21	0x78/120 ₁₀	PC_CAMID_WR	NEW_C_ID	0x00
Memorize Internal Preset Position for Internal Preset Control	2.62	0x79/121 ₁₀	IPRESET_SAVE	INDEX	0x00
Internal Non Zoom Tracking Preset Moving Control	2.63	0x7A/122 ₁₀	IPRESET_MOVE	INDEX	0x00
Slow Speed Zoom Tracking External Preset Move	2.43	0x7B/123 ₁₀	AUTO_ES_- PRESET	INDEX	0x00
Quick Speed Zoom Tracking External Preset Move	2.44	0x7C/124 ₁₀	AUTO_EQ_- PRESET	INDEX	0x00
Slow Speed Internal Zoom Tracking Preset Moving Control	2.64	0x7D/125 ₁₀	AUTO_IS_- PRESET	INDEX	0x00
Quick Speed Internal Zoom Tracking Preset Moving Control	2.65	0x7E/126 ₁₀	AUTO_IQ_- PRESET	INDEX	0x00
Zoom Tracking Preset Status Read	2.45	0x7F/127 ₁₀	AUTO_-PRE_- STOPC	0x00	0x00
Exposure Mode Set Commands	Many	0xAA/170 ₁₀	ADJK_C	EXP_MODE	—
Cam ID Read	2.22	0xCC/204 ₁₀	PC_CAMID_RD	0x00	0x00
EEPROM Data Read Command	2.1	0xF0/240 ₁₀	EEPROM_RD	E2_ADR	0x00

1.2 Keyboard codes

These codes are for use with command PC_KEY_SVC (0x5F/95₁₀).

Name	Code	Description
KN_NOT	0x00/0 ₁₀	No operation
KN_TELE	0x01/1 ₁₀	Slow Tele Menu mode “scroll up”
KN_QTELE	0x02/2 ₁₀	Fast Tele Menu mode “scroll up”
KN_WIDE	0x03/3 ₁₀	Slow Wide Menu mode “scroll down”
KN_QWIDE	0x04/4 ₁₀	Fast Wide Menu mode “scroll down”
KN_AM_PMDN	0x05/5 ₁₀	Unknown
KN_FAM	0x06/6 ₁₀	Unknown
KN_PAUTO	0x07/7 ₁₀	Unknown
KN_FAR	0x08/8 ₁₀	Fast Far Focus Menu mode “increment selected item”
KN_NEAR	0x09/9 ₁₀	Fast Near Focus Menu mode “decrement selected item”
KN_SFAR	0x0A/10 ₁₀	Manual mode “Focus lens to Far in one step” Menu mode “increment selected item”
KN_SNEAR	0x0B/11 ₁₀	Manual mode “Focus lens to Near in one step” Menu mode “decrement selected item”
KN_STOP	0x0C/12 ₁₀	Stop all keyboard functions
KN_PAE	0x0D/13 ₁₀	Unknown
KN_DEFT	0x0E/14 ₁₀	Digital Effect Scroll
KN_SSC_UP	0x0F/15 ₁₀	Unknown
KN_SSC_DN	0x10/16 ₁₀	Unknown
KN_AW_UP	0x11/17 ₁₀	White Balance Mode Up
KN_AW_DN	0x12/18 ₁₀	White Balance Mode Down
KN_HUEUP	0x13/19 ₁₀	Unknown
KN_HUEDN	0x14/20 ₁₀	Unknown
KN_BRTUP	0x15/21 ₁₀	Brightness up
KN_BRTDN	0x16/22 ₁₀	Brightness down
KN_SRTUP	0x17/23 ₁₀	Unknown
KN_SRTDN	0x18/24 ₁₀	Unknown
KN_IRIS_AM	0x19/25 ₁₀	Unknown
KN_BL	0x1A/26 ₁₀	Toggle Backlight mode
KN_FLICKER	0x1B/27 ₁₀	Toggle Flickerless mode
KN_ART	0x1C/28 ₁₀	Toggle Art mode
KN_MIRROR	0x1D/29 ₁₀	Toggle Mirror mode
KN_NEGA	0x1E/30 ₁₀	Toggle Negative mode
KN_NEGA100	0x1E/30 ₁₀	Toggle 100% Negative mode
KN_NEGA80	0x1F/31 ₁₀	Toggle 80% Negative mode
KN_D_WIDE	0x20/32 ₁₀	Toggle Wide Vision mode, “blackbar” type picture
KN_BW	0x21/33 ₁₀	Toggle Monochrome/Color mode
KN_DZOOM	0x22/34 ₁₀	Toggle Digital Zoom mode

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Name	Code	Description
KN_DFT	0x23/35 ₁₀	Unknown
KN_OSD	0x24/36 ₁₀	Toggle Key function OSD
KN_MENU	0x25/37 ₁₀	Toggle the main Menu
KN_M_MOVE	0x26/38 ₁₀	Unknown
KN_M_UP	0x27/39 ₁₀	Increment the selected menu item.
KN_M_DN	0x28/40 ₁₀	Decrement the selected menu item.
KN_MEMfreeze	0x29/41 ₁₀	Unknown
KN_MULTIC	0x2A/42 ₁₀	Unknown
KN_M_MERGE	0x2B/43 ₁₀	Unknown
KN_REVERSE	0x2C/44 ₁₀	Unknown
KN_M_V_REV	0x2D/45 ₁₀	Unknown
KN_M_H_REV	0x2E/46 ₁₀	Unknown
KN_MEMSEL	0x2F/47 ₁₀	Unknown
KN_MUL_SEL1	0x30/48 ₁₀	Unknown
KN_MUL_SEL2	0x31/49 ₁₀	Unknown
KN_POWER	0x32/50 ₁₀	Toggle camera power.
KN_LAMP	0x33/51 ₁₀	Unknown
KN_R_TELE	0x34/52 ₁₀	Unknown
KN_R_QTELE	0x35/53 ₁₀	Unknown
KN_R_WIDE	0x36/54 ₁₀	Unknown
KN_R_QWIDE	0x37/55 ₁₀	Unknown
KN_R_FAR	0x38/56 ₁₀	Slow Far Focus Menu mode “Increment selected item”
KN_R_NEAR	0x39/57 ₁₀	Slow Near Focus Menu mode “Decrement selected item”
KN_HUEUP	0x3A/58 ₁₀	Unknown
KN_HUEDN	0x3B/59 ₁₀	Unknown
KN_BRTUP	0x3C/60 ₁₀	Brightness up
KN_BRTDN	0x3D/61 ₁₀	Brightness down
KN_TWTEST	0x3E/62 ₁₀	Unknown
KN_AM_P	0x3F/63 ₁₀	Toggle “Auto/Manual”/“Push Auto”
KN_RS_SSCup	0x40/64 ₁₀	Increment Shutter Speed
KN_RS_SSCdn	0x41/65 ₁₀	Decrement Shutter Speed
KN_RS_IRISup	0x42/66 ₁₀	Increment the Iris
KN_RS_IRISdn	0x43/67 ₁₀	Decrement the Iris
KN_RS_AGCup	0x44/68 ₁₀	Increment the AGC level
KN_RS_AGCdn	0x45/69 ₁₀	Decrement the AGC level
KN_RS_BRTup	0x46/70 ₁₀	Increment the Brightness level.
KN_RS_BRTdn	0x47/71 ₁₀	Decrement the Brightness level.
KN_RS_Rup	0x48/72 ₁₀	Special White Balance increment Red
KN_RS_Rdn	0x49/73 ₁₀	Special White Balance decrement Red
KN_RS_Bup	0x4A/74 ₁₀	Special White Balance increment Blue
KN_RS_Bdn	0x4B/75 ₁₀	Special White Balance decrement Blue
KN_RS_HUEup	0x4C/76 ₁₀	Increment the HUE level in White Balance mode
KN_RS_HUEDn	0x4D/77 ₁₀	Decrement the HUE level in White Balance mode
KN_RS_WB_PUSH	0x4E/78 ₁₀	Toggle Push White Balance On/Off
KN_RS_MITEM_UP	0x4F/79 ₁₀	Scroll up a Menu item.
KN_RS_MITEM_DN	0x50/80 ₁₀	Scroll down a Menu item.
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Name	Code	Description
KN_RS_AMkey_SET	0x51/81 ₁₀	Toggle focus mode "AUTO/MANUAL"/"Push AUTO"
KN_RS_INIT_SET	0x52/82 ₁₀	Reset the camera mode to defaults.
KN_RS_SRPUP	0x53/83 ₁₀	Scroll up the Sharpness level.
KN_RS_SRPDN	0x54/84 ₁₀	Scroll down the Sharpness level.
KN_OSD_MSET	0x55/85 ₁₀	<i>Function OSD Display On/Off control. Whole OSD OFF --> Button line OSD OFF --> Top line OSD OFF --> Whole OSD ON --> Whole OSD OFF.</i>
KN_AUTO_ZOOM	0x56/86 ₁₀	Auto Zoom, Zooms in and out once
KN_MOSAIC	0x57/87 ₁₀	Toggle Mosaic mode
KN_WB_PUSH_AUTO	0x58/88 ₁₀	Push Auto White Balance On control
KN_INS_DZOOMcon	0x59/89 ₁₀	Instant Digital Zoom Control
KN_MENU_PRESET	0x5A/90 ₁₀	Menu On/Off & 2 sec Preset Setting Mode On/Off Control
KN_PRESET	0x5B/91 ₁₀	Preset Setting Mode On/Off Control
KN_PRESET1_CTL	0x5C/92 ₁₀	Preset 1 Setting or Moving Control
KN_PRESET2_CTL	0x5D/93 ₁₀	Preset 2 Setting or Moving Control
KN_PANrt	0x5E/94 ₁₀	Digital Pan Right Control
KN_PANlt	0x5F/95 ₁₀	Digital Pan Left Control
KN_TILTup	0x60/96 ₁₀	Digital Tilt Up Control
KN_TILTdn	0x61/97 ₁₀	Digital Tilt Down Control
KN_INS_X1_SVC	0x62/98 ₁₀	Instantaneous digital zoom range 1
KN_INS_X2_SVC	0x63/99 ₁₀	Instantaneous digital zoom range 2
KN_INS_X4_SVC	0x64/100 ₁₀	Instantaneous digital zoom range 4
KN_INS_X8_SVC	0x65/101 ₁₀	Instantaneous digital zoom range 8
KN_PRESET3_CTL	0x66/102 ₁₀	Preset 3 Setting or Moving Control
KN_PRESET4_CTL	0x67/103 ₁₀	Preset 4 Setting or Moving Control
KN_MAX	0x68/104 ₁₀	Instantaneous Maximum Zoom

These codes are for use with command EXP_MODE (0xAA/170₁₀).

Name	Art	Code	Argument	Description
AEmodeSET	2.3	0x60/96 ₁₀	AEmodeCNT	Exposure Mode Set Command
ittBLlevelRD	2.4	0x61/97 ₁₀	0x00	Backlight Level Read
BLlevelSET	2.5	0x62/98 ₁₀	BL_level	Adjust Backlight Level
MENU_OnOff	2.35	0x63/99 ₁₀	MODE	Menu OSD Display On/Off Setting
OSD_MODE_SET	2.39	0x64/100 ₁₀	OSD_CNT	Function OSD Display Mode Change
WBmodeSET	2.6	0x65/101 ₁₀	WB_CNT	White Balance Mode Set Command
AI_AUTO	—	0x66/102 ₁₀	—	Auto IRIS mode set
AI_MANUAL	—	0x67/103 ₁₀	—	Manual IRIS mode set
AWB_AUTO	—	0x68/104 ₁₀	—	Auto WB mode set
AWB_MAN	—	0x69/105 ₁₀	—	Manual WB mode set
CAMID_ONOFF	2.7	0x6A/106 ₁₀	0x00	Camera ID Display On/Off Control
WEIGHT_RD	2.8	0x6B/107 ₁₀	0x00	Iris Area Weighting Value Read
WEIGHT_WR	2.9	0x6C/108 ₁₀	Weight	Iris Area Weighting Value Adjust
ABLC_ONOFF	2.23	0x6D/109 ₁₀	MODE	Auto Back Light Mode On/Off Control
DZOOM_OnOff	2.40	0x6E/110 ₁₀	MODE	Digital Zoom Mode On/Off Setting
BLC_OnOff	2.24	0x70/112 ₁₀	MODE	Backlight On/Off Control
COLOR_OnOff	2.25	0x71/113 ₁₀	MODE	Color On/Off Control
NEGA_OnOff	2.26	0x72/114 ₁₀	MODE	100% Negative On/Off Control
FOCUS_MODE	2.27	0x73/115 ₁₀	MODE	Focus Mode Setting
FLK_OnOff	2.28	0x74/116 ₁₀	MODE	Flickerless Mode On/Off Setting
RED_ADJ_SET	2.29	0x75/117 ₁₀	RED_ADJ	Special White Balance Mode Red Adjust Data Setting
BLUE_ADJ_SET	2.30	0x76/118 ₁₀	BLUE_ADJ	Special White Balance Mode Blue Adjust Data Setting
MWB_CTL_SET	2.31	0x77/119 ₁₀	MWB_CTL	Manual White Balance Mode MWB_CTL Setting
WB_PUSH_OnOff	2.32	0x78/120 ₁₀	MODE	White Balance PUSH_AUTO On/Off Setting
SHARPNESS_SET	2.33	0x79/121 ₁₀	Sharpness	Sharpness Data Setting
BRIGHTNESS_SET	2.34	0x7A/122 ₁₀	Brightness	Brightness Data Setting
SSC_CNT_SET	2.36	0x7B/123 ₁₀	SSC_CNT	Shutter Speed Setting
IRIS_CTL_SET	2.37	0x7C/124 ₁₀	IRIS_CTL	Iris Open Level Setting
AGC_CTL_SET	2.38	0x7D/125 ₁₀	AGC_CTL	AGC Level Setting
NEGA80_OnOff	2.41	0x7E/126 ₁₀	MODE	80% Negative On/Off Setting
MIRROR_OnOff	2.42	0x7F/127 ₁₀	MODE	Screen Inversion (Full Mirror) On/Off Setting
CAM_CON1_RD	2.46	0x80/128 ₁₀	0x00	Camera Status Read Command 1
CAM_CON2_RD	2.47	0x81/129 ₁₀	0x00	Camera Status Read Command 2
DEFT_CON_RD	2.48	0x82/130 ₁₀	0x00	Digital Effect Status of the Camera Read Command
WB_MODE_RD	2.49	0x83/131 ₁₀	0x00	Read the White Balance Mode
AE_MODE_RD	2.50	0x84/132 ₁₀	0x00	Read the Exposure Mode
RcontADD_RD	2.51	0x85/133 ₁₀	0x00	Read the Red Adjust data at the Special White Balance Mode
BcontADD_RD	2.52	0x86/134 ₁₀	0x00	Read the Blue Adjust data at the Special White Balance Mode
MWB_BUF_RD	2.53	0x87/135 ₁₀	0x00	Read the Current MWB_CTL data at the Manual White Balance Mode

Continued on the next page.

<i>Continued from the previous page.</i>				
Name	Art	Code	Argument	Description
SRPconR_RD	2.54	0x88/136 ₁₀	0x00	Read the Current Sharpness data
TAR_MEAN_RD	2.55	0x89/137 ₁₀	0x00	Read the Current Brightness data
SSC_CNT_RD	2.56	0x8A/138 ₁₀	0x00	Read the Current Shutter Speed Control Counter Value
zIrisEVR_RD	2.57	0x8B/139 ₁₀	0x00	Read the Iris Control Data
zAgcEVR_RD	2.58	0x8C/140 ₁₀	0x00	Read the AGC Control Data
MENU_ONOFF_RD	2.59	0x8D/141 ₁₀	0x00	Read the Menu OSD On/Off Status
OSD_MODE_RD	2.60	0x8E/142 ₁₀	0x00	Read the Function OSD Display Mode
V_PWR_MAX_RD	2.61	0x8F/143 ₁₀	0x00	Read the Digital Zoom Max Power Mode

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1.3 a60_cmd.h

```

1  //*****
2  // c30_cmd.H
3  // The c300's PC Command definition Header
4  //
5  // 1997.05.02
6  // Copyright (c) 1997, By Park Jin Soo
7  //*****
8  #ifndef c30_cmd_H
9  #define c30_cmd_H
10
11  //////////////////////////////////////
12  // Define Adjust ID(UART_V1) ////
13  // Serial Communiaction 1'st Byte
14  //////////////////////////////////////
15  #define VCR_CMC 0x55
16  #define CAM_AMC 0x95
17  #define VCR_AMC 0x65
18  //#define OFF_AMC 0x77
19  #define PC_AMC 0xC5
20  #define PC_CAMID_RD 0xCC
21
22  //////////////////////////////////////
23  // Define Adjust ID(UART_V2) ////
24  // Serial Communiaction 2'nd Byte
25  //////////////////////////////////////
26  #define EEPROM_RD 0xF0 // EEPROM data read svc.
27  #define EEPROM_WR 0x0F // EEPROM/EVR write svc.
28  #define EEPROM_H_RD 0xF1 // EEPROM High Block data read svc.
29  #define EEPROM_H_WR 0x1F // EEPROM High Block write svc.
30  #define ADJ_K_C 0xAA // Adj. Key Code indi.
31
32  //#define AJ_NKEY 0x20 // Not Use
33  #define A_HALLadj 0x21 // Auto Hall Adj.
34  #define A_COLORadj 0x22 // Auto COLOR REP. Adj.
35  #define M_WBINadj 0x23 // Manual WB IN Adj.
36  #define M_WBOUAdj 0x24 // Manual WB OUT Adj.
37  #define A_WBINadj 0x25 // Auto WB IN Adj.
38  #define A_WBOUAdj 0x26 // Auto WB OUT Adj.
39  #define A_SCOLORadj 0x27 // SEPIA mode Auto COLOR Rep. Adj.
40  //#define AJ_NKEY 0x28 // Not Use
41  //#define AJ_NKEY 0x29 // Not Use

```

```

42  // #define AJ_NKEY      0x2A      // Not Use
43  // #define AJ_NKEY      0x2B      // Not Use
44  // #define AJ_NKEY      0x2C      // Not Use
45  // #define AJ_NKEY      0x2D      // Not Use
46  // #define AJ_NKEY      0x2E      // Not Use
47  // #define AJ_NKEY      0x2F      // Not Use
48
49
50  #define CORcat1_RD      0x30      // CORE Adj. OUT data read svc.
51  #define CORcat3_RD      0x31      // CORE AE OUT data read svc.
52  #define CORcat4_RD      0x32      // CORE AWB OUT data read svc.
53  #define CORcat5_RD      0x33      // OPD AF OUT data read svc.
54  #define HALL_RD         0x34      // Current HALL data read svc.
55  #define AEWM_RD         0x35      // Current AEW_Mean data read svc.
56  #define ZOOM_RD         0x36      // Current Zoom Position read svc.
57  #define FOCUS_RD        0x37      // Current Focus Position read svc.
58  #define MF_NEAR         0x38      // Manual Focus 1 step NEAR move svc.
59  #define MF_FAR          0x39      // Manual Focus 1 step FAR move svc.
60  #define PWR_ON          0x3A      // Camera Power ON
61  #define PC_ADJONOFF     0x3B      // PC adjust mode ON/OFF
62  #define DZcoef_WR       0x3C      // Digital Zoom Coefficient WRITE svc.
63  #define DZcoef_RD       0x3D      // Digital Zoom Coefficient READ svc.
64  #define PWR_OFF         0x3E      // Camera Power OFF
65  #define ADJokP_RD       0x3F      // Current ADJ_okP port read svc.
66
67  #define EVR_WR          0x40      // EVR write only svc.
68  #define CORcat0_CWR     0x41      // CORE Category 0 write svc.
69  #define CORcat1_CWR     0x42      // CORE Category 1 write svc.
70  #define CORcat2_CWR     0x43      // CORE Category 2 write svc.
71  #define CORcat3_CWR     0x44      // CORE Category 3 write svc.
72  #define CORcat4_CWR     0x45      // CORE Category 4 write svc.
73  #define CORcat6_CWR     0x46      // CORE Category 6 write svc.
74  #define TG_CWR          0x47
75  #define ZTG_CWR         0x48
76  #define Z_PRE_SET       0x49      // Preset ZOOM Position Set
77  #define F_PRE_SET       0x4A      // Preset FOCUS Position Set
78  #define E_PRE_SET       0x4B      // Preset E-ZOOM Position Set
79  #define CORcat5_CWR     0x4C
80  #define PRESET_CTL      0x4D      // Preset Control service
81  #define CORcat7_CWR     0x4E
82  #define RESET           0x4F
83

```

```

84 #define PKdata_RD      0x50
85 #define PKdata_WR      0x51
86 #define DZ_PWR_SET     0x52
87 #define RKdata_WR      0x53
88 #define CK1data_RD     0x54
89 #define CK1data_WR     0x55
90 #define CK2data_RD     0x56
91 #define CK2data_WR     0x57
92 #define MEMtest_WR     0x58
93 #define MEMadj_RD      0x59
94 #define MEMadj_WR      0x5A
95 #define M_WBINadjOK    0x5B    // Manual WB IN Adj. OK
96 #define M_WBOUadjOK    0x5C    // Manual WB OUT Adj. OK
97 #define ZM_P_MOVE      0x5D    // Zoom lens move to target position
98 #define FM_P_MOVE      0x5E    // Focus lens move to target position
99 #define PC_KEY_SVC     0x5F    // Camera Key Action Test by PC
100
101 #define OFF_FZ_ENDC     0x70
102 #define FSST_ACT       0x71
103 #define ZSST_ACT       0x72
104 #define FAF_ACT        0x73
105 #define ZAF_ACT        0x74
106 #define PC_OFFREL      0x75    // PC_MONI ON service.
107 #define PC_OFFSET      0x76    // Offset Adj. mode set
108 // #define AJ_NKEY      0x77    //
109 #define PC_CAMID_WR     0x78    // Camera ID write svc.
110 #define IPRESET_SAVE    0x79    // Internal PRESET position save
111 #define IPRESET_MOVE    0x7A    // Internal PRESET position move
112 #define AUTO_ES_PRESET  0x7B    // AUTO EXTERNAL SLOW ZOOM PRESET
113 #define AUTO_EQ_PRESET  0x7C    // AUTO EXTRENAL QUICK ZOOM PRESET
114 #define AUTO_IS_PRESET  0x7D    // AUTO INTERNAL SLOW ZOOM PRESET
115 #define AUTO_IQ_PRESET  0x7E    // AUTO INTERNAL QUICK ZOOM PRESET
116 #define AUTO_PRE_STOPC  0x7F    // AUTO ZOOM PRESET STATUS READ
117
118 //////////////////////////////////////////////////
119 // Define Adjust ID(UART_V3) //
120 // Adjust Key Action
121 //////////////////////////////////////////////////
122 #define FmodeSAVE       0x50    // Focus mode SAVE
123 #define ZOOM_STOP       0x51    // Zoom lens STOP svc.
124 #define ZOOM_TELE       0x52    // Zoom lens TELE move svc.
125 #define ZOOM_WIDE       0x53    // Zoom lens WIDE move svc.

```

```

126 #define FADE_ON      0x54    // FADE ON svc.
127 #define FADE_OFF     0x55    // FADE OFF svc.
128 #define BL_ON        0x56    // Back Light ON svc.
129 #define BL_OFF       0x57    // Back Light OFF svc.
130 #define AF_AUTO      0x58    // Auto Focus mode set.
131 #define AF_MANUAL     0x59    // Manual Focus mode set.
132 #define FOCUS_FAR     0x5A    // Focus lens FAR move svc.
133 #define FOCUS_NEAR    0x5B    // Focus lens NEAR move svc.
134 #define FOCUS_STOP    0x5C    // Focus lens STOP svc.
135 //#define AJ_NKEY     0x5D    // Not Use
136 //#define AJ_NKEY     0x5E    // Not Use
137 //#define AJ_NKEY     0x5F    // Not Use
138
139 #define AEmodeSET      0x60    // Auto Exposure mode set.
140 #define BLlevelRD      0x61    // Current Back Light Level read.
141 #define BLlevelSET     0x62    // Back Light Level set.
142 #define MENU_OnOff    0x63    // MENU ON/OFF CONTROL
143 #define OSD_MODE_SET   0x64    // OSD Display Mode set
144 #define WBmodeSET      0x65    // White Balance mode set.
145 #define AI_AUTO        0x66    // Auto IRIS mode set.
146 #define AI_MANUAL      0x67    // Manual IRIS mode set.
147 #define AWB_AUTO       0x68    // Auto WB mode set.
148 #define AWB_MANUAL     0x69    // Manual WB mode set.
149 #define CAMID_ONOFF    0x6A    // CAM_ID On/Off
150 #define WEIGHT_RD      0x6B    // AE Area Weight value read.
151 #define WEIGHT_WR      0x6C    // AE Area Weight value write.
152 #define ABLC_ONOFF     0x6D    // Auto Backlight mode On/Off.
153 #define DZOOM_OnOff    0x6E    // DIGITAL ZOOM mode On/Off
154 //#define AJ_NKEY     0x6F    // Not Use
155
156 #define BLC_OnOff      0x70    // BACKLIGHT ON/OFF CONTROL
157 #define COLOR_OnOff    0x71    // COLOR ON/OFF CONTROL
158 #define NEGA_OnOff     0x72    // NEGATIVE ON/OFF CONTROL
159 #define FOCUS_MODE     0x73    // FOCUS MODE CHANGE
160 #define FLK_OnOff      0x74    // FLICKERLESS ON/OFF CONTROL
161 #define RED_ADJ_SET     0x75    // SPECIAL RED ADJ SETTING
162 #define BLUE_ADJ_SET    0x76    // SPECIAL BLUE ADJ SETTING
163 #define MWB_CTL_SET     0x77    // MANUAL MWB_CTL SETTING
164 #define WB_PUSH_OnOff   0x78    // PUSH AUTO WB ON/OFF CONTROL
165 #define SHARPNESS_SET   0x79    // SHARPNESS DATA SETTING
166 #define BRIGHTNESS_SET  0x7A    // BRIGHTNESS DATA SETTING
167 #define SSC_CNT_SET     0x7B    // SHUTTER SPEED SETTING

```

```
168 #define IRIS_CTL_SET 0x7C // IRIS CPNTROL DATA SETTING
169 #define AGC_CTL_SET 0x7D // AGC CONTROL DATA SETTING
170 #define NEGA80_OnOff 0x7E // 80% NEGATIVE ON/OFF CONTROL
171 #define MIRROR_OnOff 0x7F // MIRROR On/Off CONTROL
172
173 #define CAM_CON1_RD 0x80 // CAMERA CONTROL REGISTER 1 READ
174 #define CAM_CON2_RD 0x81 // CAMERA CONTROL REGISTER 2 READ
175 #define DEFT_CON_RD 0x82 // DIGITAL EFFECT CONTROL REGISTER READ
176 #define WB_MODE_RD 0x83 // WB MODE COUNTER data READ
177 #define AE_MODE_RD 0x84 // AE MODE COUNTER data READ
178 #define RcontADD_RD 0x85 // SPECIAL WB MODE RcontADD data READ
179 #define BcontADD_RD 0x86 // SPECIAL WB MODE BcontADD data READ
180 #define MWB_BUF_RD 0x87 // MANUAL WB MODE MWB_BUF data READ
181 #define SRPconR_RD 0x88 // MANUAL SHARPNESS data READ
182 #define TAR_MEAN_RD 0x89 // TAR_MEAN data READ
183 #define SSC_CNT_RD 0x8A // SHUTTER COUNTER data READ
184 #define zIrisEVR_RD 0x8B // zIrisEVR data READ
185 #define zAgcEVR_RD 0x8C // zAgcEVR data READ
186 #define MENU_ONOFF_RD 0x8D // MENU On/Off Status READ
187 #define OSD_MODE_RD 0x8E // OSD MODE COUNTER data READ
188 #define V_PWR_MAX_RD 0x8F // DIGITAL ZOOM MAX POWER data READ
189 #endif
190
```

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1.4 a60_key.h

```
1 //*****
2 // File : c30_key.H
3 // The c300's Key definition header
4 //
5 // 1997.05.02
6 // Copyright(c) 1997, By Park Jin Soo
7 //*****
8 #ifndef a700_key_H
9 #define a700_key_H
10
11 #define KN_NOT 0x00
12 #define KN_TELE 0x01
13 #define KN_QTELE 0x02
14 #define KN_WIDE 0x03
15 #define KN_QWIDE 0x04
16
17 #define KN_AM_P_MDN 0x05
18 #define KN_FAM 0x06
19 #define KN_PAUTO 0x07
20
21 #define KN_FAR 0x08
22 #define KN_NEAR 0x09
23 #define KN_SFAR 0x0A
24 #define KN_SNEAR 0x0B
25 #define KN_STOP 0x0C
26
27 #define KN_PAE 0x0D
28 #define KN_DEFT 0x0E
29 #define KN_SSC_UP 0x0F
30 #define KN_SSC_DN 0x10
31 #define KN_AW_UP 0x11
32 #define KN_AW_DN 0x12
33 #define KN_HUEUP 0x13
34 #define KN_HUEDN 0x14
35 #define KN_BRTUP 0x15
36 #define KN_BRTDN 0x16
37 #define KN_SRPUP 0x17
38 #define KN_SRPDN 0x18
39
40 #define KN_IRIS_AM 0x19
41 #define KN_BL 0x1A
```

```
42 #define KN_FLICKER      0x1B
43 #define KN_ART           0x1C
44 #define KN_MIRROR       0x1D
45 #define KN_NEGA100      0x1E
46 #define KN_NEGA80       0x1F
47 #define KN_D_WIDE       0x20
48 #define KN_BW           0x21
49 #define KN_DZOOM        0x22
50
51 #define KN_DFT           0x23
52 #define KN_OSD           0x24
53 #define KN_MENU         0x25
54 #define KN_M_MOVE       0x26
55 #define KN_M_UP         0x27
56 #define KN_M_DN         0x28
57
58 #define KN_MEMfreeze     0x29
59 #define KN_MULTIC        0x2A
60 #define KN_M_MERGE      0x2B
61 #define KN_REVERSE      0x2C
62 #define KN_M_V_REV      0x2D
63 #define KN_M_H_REV      0x2E
64 #define KN_MEMSEL       0x2F
65 #define KN_MUL_SEL1     0x30
66 #define KN_MUL_SEL2     0x31
67
68 #define KN_POWER         0x32
69 #define KN_LAMP          0x33
70
71 #define KN_R_TELE        0x34
72 #define KN_R_QTELE      0x35
73 #define KN_R_WIDE        0x36
74 #define KN_R_QWIDE      0x37
75 #define KN_R_FAR         0x38
76 #define KN_R_NEAR       0x39
77
78 #define KN_R_HUEUP       0x3A
79 #define KN_R_HUEDN      0x3B
80 #define KN_R_BRTUP       0x3C
81 #define KN_R_BRTDN      0x3D
82
83 #define KN_TWTEST        0x3E
```

```

84 #define KN_AM_P 0x3F
85
86 #define KN_RS_SSCup 0x40
87 #define KN_RS_SSCdn 0x41
88 #define KN_RS_IRISup 0x42
89 #define KN_RS_IRISdn 0x43
90 #define KN_RS_AGCup 0x44
91 #define KN_RS_AGCdn 0x45
92 #define KN_RS_BRTup 0x46
93 #define KN_RS_BRTdn 0x47
94
95 #define KN_RS_Rup 0x48
96 #define KN_RS_Rdn 0x49
97 #define KN_RS_Bup 0x4A
98 #define KN_RS_Bdn 0x4B
99 #define KN_RS_HUEup 0x4C
100 #define KN_RS_HUEdn 0x4D
101 #define KN_RS_WB_PUSH 0x4E
102
103 #define KN_RS_MITEM_UP 0x4F
104 #define KN_RS_MITEM_DN 0x50
105
106 #define KN_RS_AMkey_SET 0x51
107 #define KN_RS_INIT_SET 0x52
108 #define KN_RS_SRPUP 0x53
109 #define KN_RS_SRPDN 0x54
110 #define KN_OSD_MSET 0x55
111 #define KN_AUTO_ZOOM 0x56
112 #define KN_MOSAIC 0x57
113
114 #define KN_WB_PUSH_AUTO 0x58 // Push Auto White Balance ON control
115 #define KN_INS_DZOOMcon 0x59 // Instant Digital Zoom control
116 #define KN_MENU_PRESET 0x5A // MENU On/Off & 2sec PRESET Setting
    Mode On/Off Control
117 #define KN_PRESET 0x5B // PRESET Setting Mode On/Off Control
118 #define KN_PRESET1_CTL 0x5C // PRESET 1 Setting or Moving control
119 #define KN_PRESET2_CTL 0x5D // PRESET 2 Setting or Moving control
120
121 #define KN_PANrt 0x5E // DIGITAL PAN Right control
122 #define KN_PANlt 0x5F // DIGITAL PAN Left control
123 #define KN_TILTup 0x60 // DIGITAL TILT Up control
124 #define KN_TILTdn 0x61 // DIGITAL TILT Down control

```

```
125 #define KN_INS_X1_SVC 0x62 //
126 #define KN_INS_X2_SVC 0x63 //
127 #define KN_INS_X4_SVC 0x64 //
128 #define KN_INS_X8_SVC 0x65 //
129 #define KN_PRESET3_CTL 0x66 // PRESET 3 Setting or Moving control
130 #define KN_PRESET4_CTL 0x67 // PRESET 4 Setting or Moving control
131
132 #define KN_MAX 0x68
133
134 #endif
135
```

1.5 keytest.h

```

1  //*****
2  //*****
3  // File : KeyTest.CPP
4  // Camera Key Action Test class
5  //
6  // 1999.1.15
7  // Copyright(c) 1999, By JinSoo Park
8  //*****
9  #ifndef KEYTEST_H
10 #define KEYTEST_H
11
12 #include "ADJWin.H"
13
14 extern WORD p_zp_cnt[3][8], p_fp_cnt[3][8];
15 extern BYTE p_v_mag[3][8];
16
17 //--- Focus concern Keys :: Total 13 keys
18 //Focus Mode select ==> Name :: KN_RS_AMkey_SET Code :: 0x51
19 //Auto/Manual or Push Auto ==> Name :: KN_AM_P Code :: 0x3F
20 //Auto Zoom ==> Name :: KN_AUTO_ZOOM Code :: 0x56
21 //Slow Tele ==> Name :: KN_TELE Code :: 0x01
22 //Quick Tele ==> Name :: KN_QTELE Code :: 0x02
23 //Slow Wide ==> Name :: KN_WIDE Code :: 0x03
24 //Quick Wide ==> Name :: KN_QWIDE Code :: 0x04
25 //Slow Far ==> Name :: KN_R_FAR Code :: 0x38
26 //Slow Near ==> Name :: KN_R_NEAR Code :: 0x39
27 //Quick Far ==> Name :: KN_FAR Code :: 0x08
28 //Quick Near ==> Name :: KN_NEAR Code :: 0x09
29 //Digital Zoom On/Off ==> Name :: KN_DZOOM Code :: 0x22
30
31 //--- White Balance concern Keys :: Total 9 keys
32 //White Balance Mode Up ==> Name :: KN_AW_UP Code :: 0x11
33 //White Balance Mode Down ==> Name :: KN_AW_DN Code :: 0x12
34 //Special WB RED Up ==> Name :: KN_RS_Rup Code :: 0x48
35 //Special WB RED Down ==> Name :: KN_RS_Rdn Code :: 0x49
36 //Special WB BLUE Up ==> Name :: KN_RS_Bup Code :: 0x4A
37 //Special WB BLUE Down ==> Name :: KN_RS_Bdn Code :: 0x4B
38 //Manual HUE Up ==> Name :: KN_RS_HUEup Code :: 0x4C
39 //Manual HUE Down ==> Name :: KN_RS_HUEdn Code :: 0x4D
40 //Push Auto WB On/Off ==> Name :: KN_RS_WB_PUSH Code :: 0x4E
41

```

```

42 //--- Exposure concern Keys :: Total 10 keys
43 //BackLight On/Off ==> Name :: KN_BL          Code :: 0x1A
44 //Flickerless On/Off ==> Name :: KN_FLICKER    Code :: 0x1B
45 //Shutter Speed Up Scroll ==> Name :: KN_RS_SSCup  Code :: 0x40
46 //Shutter Speed Down Scroll ==> Name :: KN_RS_SSCdn  Code :: 0x41
47 //Iris Up Control ==> Name :: KN_RS_IRISup    Code :: 0x42
48 //Iris Down Control ==> Name :: KN_RS_IRISdn    Code :: 0x43
49 //Agc Up Control ==> Name :: KN_RS_AGCup      Code :: 0x44
50 //Agc Down Control ==> Name :: KN_RS_AGCdn     Code :: 0x45
51 //Bright Up Control ==> Name :: KN_RS_BRTup    Code :: 0x46
52 //Bright Down Control ==> Name :: KN_RS_BRTdn   Code :: 0x47
53
54 //--- Digital Effect concern Keys :: Total 9 keys
55 //Digital Effect Scroll ==> Name :: KN_DEFT      Code :: 0x0E
56 //Art On/Off ==> Name :: KN_ART                Code :: 0x1C
57 //Mirror On/Off ==> Name :: KN_MIRROR          Code :: 0x1D
58 //100% Negative On/Off ==> Name :: KN_NEGA100   Code :: 0x1E
59 //80% Negative On/Off ==> Name :: KN_NEGA80     Code :: 0x1F
60 //Wide Vision On/Off ==> Name :: KN_D_WIDE      Code :: 0x20
61 //Mosaic On/Off ==> Name :: KN_MOSAIC          Code :: 0x57
62 //Color On/Off ==> Name :: KN_BW               Code :: 0x21
63
64 class AllKeyWin: public ADJWin
65 {
66     private:
67         BYTE      CameraId, CameraModId;
68         BYTE      CamOSDmode, CamWBmode, CamAEmode;
69         BYTE      trans_data[4], ret_data[9];
70         time_t    first, second;
71     public:
72         AllKeyWin(int x1, int y1, int x2, int y2, char *title);
73         virtual ~AllKeyWin(void);
74         virtual void DrawADJWin(void);
75
76         void OSDmodeDisplay(int color);
77         void FOCUSmodeDisplay(int color);
78         void WBmodeDisplay(int color);
79         void WB_PUSHmodeDisplay(int color);
80         void AEmodeDisplay(int color);
81         void DEFTmodeDisplay(int color);
82
83         void RunOnOffWin(int op);

```

```
84         void RunUpDownWin(int op);
85         void RunKeyWin(int key);
86
87         void PublicKeyDisplay(void);           // Public Key Box Display
88         void FocusKeyDisplay(void);           // Focus concern Key Box Display
89         void WbKeyDisplay(void);              // White Balance concern Key Box
90         void AeKeyDisplay(void);              // Exposure concern Key Box
91         void DeftKeyDisplay(void);            // Digital Effect concern Key Box
92
93         void PublicKeyCheck(int x, int y);    // Public Key IN check
94         void FocusKeyCheck(int x, int y);    // Focus concern Key IN check
95         void WbKeyCheck(int x, int y);       // White Balance concern Key IN
96         void AeKeyCheck(int x, int y);       // Exposure concern Key IN check
97         void DeftKeyCheck(int x, int y);     // Digital Effect concern Key IN
98
99         void CameraActCheck(int x, int y);
100        void CamIdSet(int op);
101        void CamIdMod(int op);
102    };
103
104 #endif
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