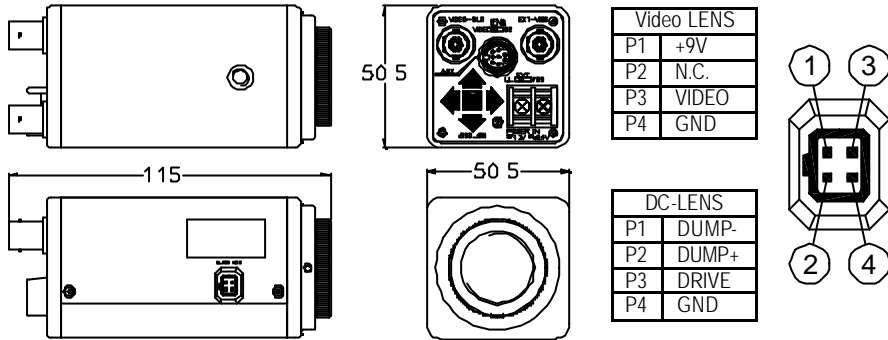


# MTV-63V5HN / MTV-63V5HP CAMERA INSTRUCTION

Dimension (Unit : mm)

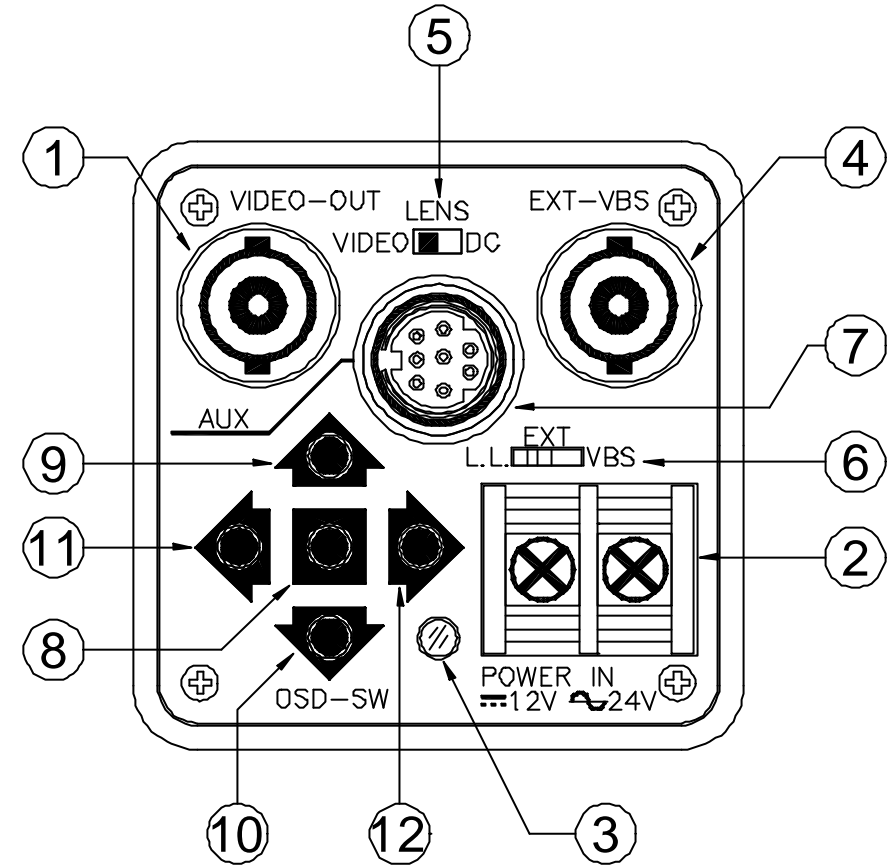


## SPECIFICATION

MODE NO.	MTV-63V5HN	MTV-63V5HP
TV SYSTEM	NTSC	PAL
IMAGE SENSOR	1/3-inch CCD Image Sensor	
CCD TOTAL PIXELS	811(H) X 508(V)	795(H) X 596(V)
SCANNING SYSTEM	525 lines, 60 fields/sec	625 lines, 50 fields/sec
SYNC SYSTEM	Internal / VD-Lock / Ext-VBS (Select by OSD)	
MINIMUM ILLUMINATION	Legacy mode	0.8 Lux ( F1.2 , 5600°K 30 IRE )
	Star light Mode	0.008 Lux ( F 0.8 , 5600°K 10 IRE )
RESOLUTION	470 TVL / 580 TVL ( Enhanced )	
WHITE BALANCE	Mode	ATW / AWC / FIX ( Zero color rolling )
	Range	3200 ~ 10000 °K ( 2200 ~ 15000 °K with S Filter )
GAIN CONTROL	Mode	AGC ( ON / OFF )
	Range	0 ~ 18dB
S / N RATIO	52dB ( MIN ) / 60dB ( TYP ) ( AGC OFF )	
ELECTRONIC SHUTTER	1/60-1/120,000 sec.	1/50-1/120,000 sec.
AUTO IRIS	A.E.S. / DC / Video	
FLICKERLESS	SELECTABLE BY OSD MANUAL	
MIRROR FUNCTION	SELECTABLE BY OSD MANUAL	
B.L.C. FUNCTION	SELECTABLE BY OSD MANUAL	
DIGITAL ZOOM (2X)	SELECTABLE BY OSD MANUAL	
NEGATIVE IMAGE	SELECTABLE BY OSD MANUAL	
MASKING AREA	SELECTABLE BY OSD MANUAL	
AGC GAIN ADJUSTMENT	SELECTABLE BY OSD MANUAL	
PICTURE FREEZE	ON/OFF & Ext.-Trigger	
ALARM OUT	Motion Detect	
RS-232C I/F	DIM connector	
PICTURE ENHANCE	SELECTABLE BY OSD MANUAL	
HIGH LIGHT SUPPRESS	SELECTABLE BY OSD MANUAL	
COLOR BAR	ON / OFF ( SELECTABLE BY OSD MANUAL )	
VIDEO OUTPUT	Composite 1.0V p-p at 75 ohm	
GAMMA CORRECTION	0.45 / 1.0 ( SELECTABLE BY OSD MANUAL )	
OPERATION TEMPERATURE	-20 TO 50	
OPERATIONAL HUMIDITY	within 85 % RH	
POWER SUPPLY	DC12V & AC24V / 3W	

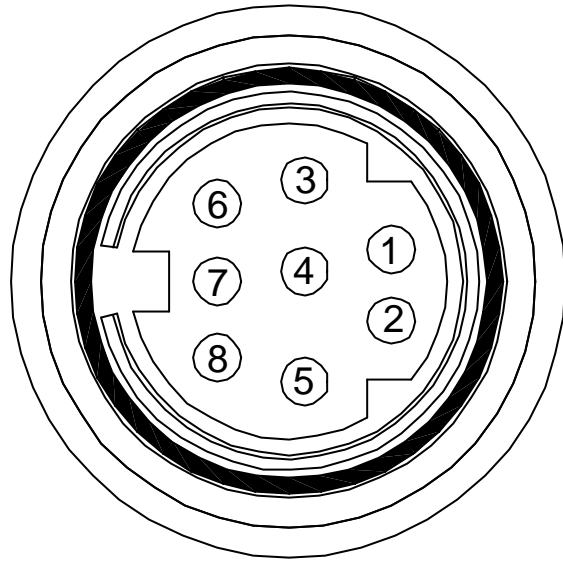
\* The specifications and appearance of the product may changed without notice.

## REAR PANEL

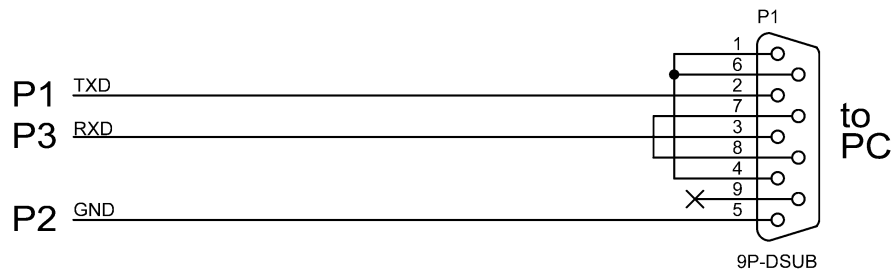


1	VIDEO OUTPUT
2	POWER INPUT
3	POWER ON INDEX LED
4	EXT-VBS INPUT FOR EXTERNAL SYNC.
5	AUTO IRIS LENS SELECT SW.
6	EXTERNAL SYNC SIGNAL SELECT SW.
7	AUX CONNECTOR
8	OSD-SW "ENTER"
9	OSD-SW "UP"
10	OSD-SW "DOWN"
11	OSD-SW "LEFT"
12	OSD-SW "RIGHT"

## AUX CONNECTOR



P1	TXD	RS-232C Connector TO PC
P2	GND	
P3	RXD	
P4	GND	
P5	ALARM-OUT	Open collector output
P6	GND	Max sink DC50V/30mA
P7	FREEZE Trigger-IN	Current Loop
P8	GND	DC12V/10mA

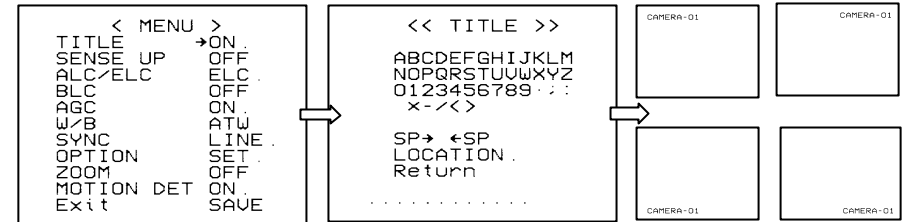


## MTV-63V5 OSD MANUAL

There are 5 push buttons on rear panel, after push the center bottom for 2 second, a pretty menu will be pop-up on your screen.

You may now push "up" or "down" bottom to browse around menu.

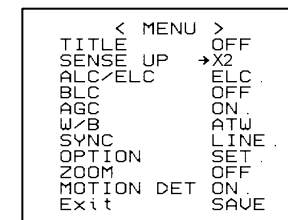
### 1. TITLE



You can choose a name for this camera and display it on the monitor

Move cursor to TITLE row, push right bottom to change from OFF mode to ON mode. Push center bottom one more time, you will see the TITLE menu. Decide the name of this camera. Move cursor around alphabetical, push center bottom to enter the character you choose, after finished editing, move cursor to LOCATION row then push center bottom once. The name you choose is now on the screen. You may push , up, down, left, right, bottom to move the Title name at the screen four corners. Push center bottom once to go back to TITEL menu. Move cursor again to "Return" in the menu, push center bottom once more to return to main Menu.

### 2. SENSE UP



You can increase sensitivity of this camera by turning frame integration mode on.

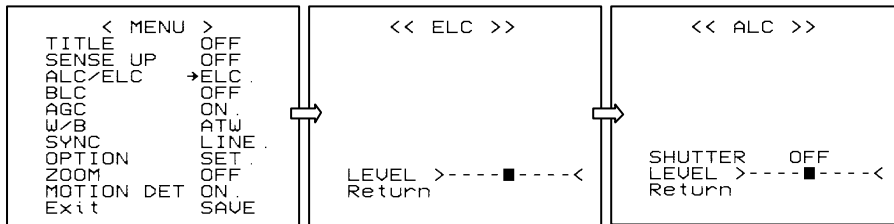
Move cursor to "SENSE UP" row. Push "right" or "left" bottom to choose how many time of frame integration you want, from X2,X4,X6,X8,X12,X16,X24,X32,X48,X96,X128, times.

The Minimum illumination of the camera will be increased respectively.

let you see through star light night.

Due to the nature of frame integration as sensitivity is increased the frame refresh rate will be decreased respectively

### 3. ALC / ELC



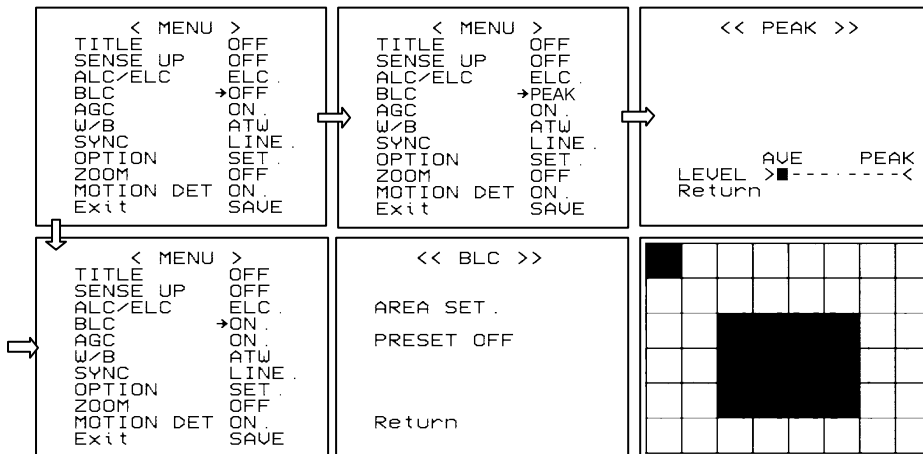
To choose variety of exposure mode, there are two exposure control mode available on this camera. **ELC mode:**

Move cursor to ALC/ELC row, push right bottom to select ELC mode. Push center bottom to enter ELC menu. In the ELC menu you may move "LEVEL" bar around to choose different style of exposure.

**ALC mode:**

Move cursor to ALC/ELC row, push right bottom to select ALC mode. Push center bottom to enter ALC menu. In the ALC menu you can adjustable DC-IRIS Lens "LEVEL" and select fix shutter speed from, OFF, 1/100, 1/120, 1/180, 1/250, 1/350, 1/500, 1/750, 1/1000, 1/1500, 1/2000, 1/3000, 1/4000, 1/6000, 1/8000, 1/12000, sec.

### 4. BLC



Move cursor to BLC row push right bottom can be select PEAK mode and ON mode.

**PEAK mode:** (Push center bottom to enter PEAK menu)

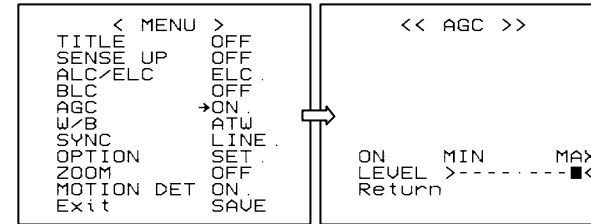
In the PEAK menu you may move "LEVEL" bar to choose different strength of BLC

**ON mode:** (Push center bottom to enter BLC menu)

In the BLC sub-menu, move cursor to PERSET row, push right bottom to choose OFF mode, move cursor to AREA SET row push center bottom once to enter 48 zone programming screen.

Now you will see a 8 by 6 = 48 zone lattice, move cursor around to any block push center bottom once to turn the block gray (gray= chosen block), move to another location and repeated above step till all block is programmed properly. The effect is affected immediately, push center bottom for 2 sec. to escape from 48zone screen, move cursor to "Return" row push center bottom return to main menu.

### 5. AGC

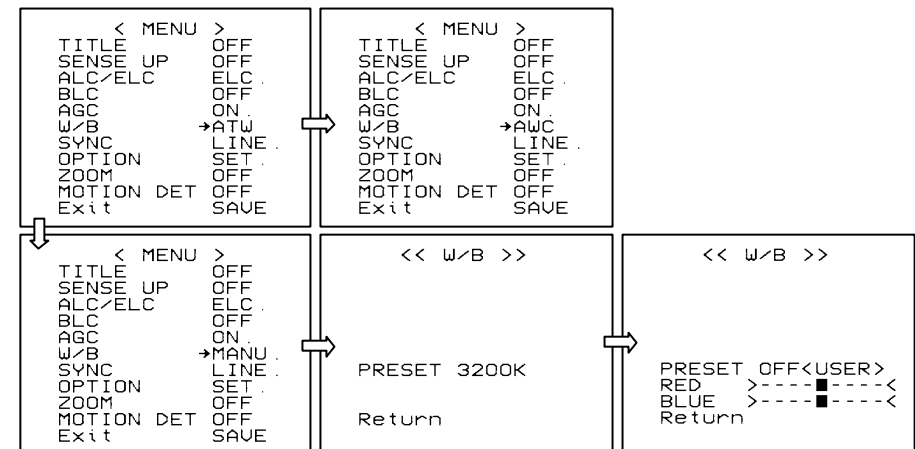


Move cursor to AGC row push right bottom can be select OFF mode and ON mode.

**ON mode:** (Push center bottom to enter AGC menu)

In the AGC menu you may move "LEVEL" bar to choose different AGC gain.

### 6. W / B



Move cursor to W / B row push right bottom can be select ATW mode, AWC mode, MANU mode.

**ATW mode:** (Auto Trace White Balance)

According to the current environmental color b automatically adjustment of "White Balance"

**AWC mode:** (One Push Auto White Balance)

To fix the current environmental (Subject) color as a standard "White Balance"

(Push center bottom again to execute another color setting)

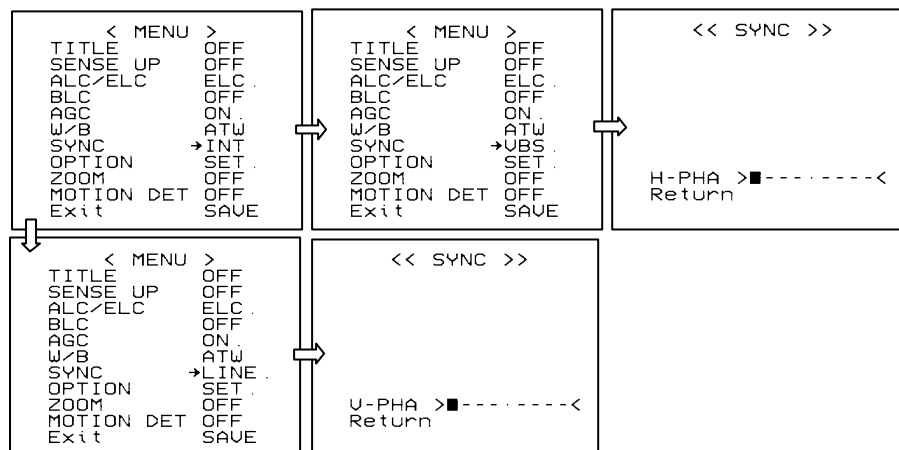
**MANU mode:** (White Balance Manually)

Push center bottom to enter W / B menu, Push "right" or "left" bottom to select / PRESET 5600°K / PRESET 3200°K / PRESET OFF<USER>.

In the PRESET OFF<USER> state can be adjustment RED color and BLUE color by manual.

Move cursor to "Return" row and push the center bottom to get back to the MAIN MENU.

## 7. SYNC



Move cursor to SYNC row push right bottom can be select INT mode, VBS mode, LINE mode.

### INT mode:

Camera is synchronization by internal sync-signal.

### VBS mode:

Camera is synchronization by external input video signal.

Push center bottom to enter SYNC mamu, in the SYNC menu you can adjustable phase for horizontal.

Move cursor to "Return" row and push the center bottom to get back to the MAIN MENU.

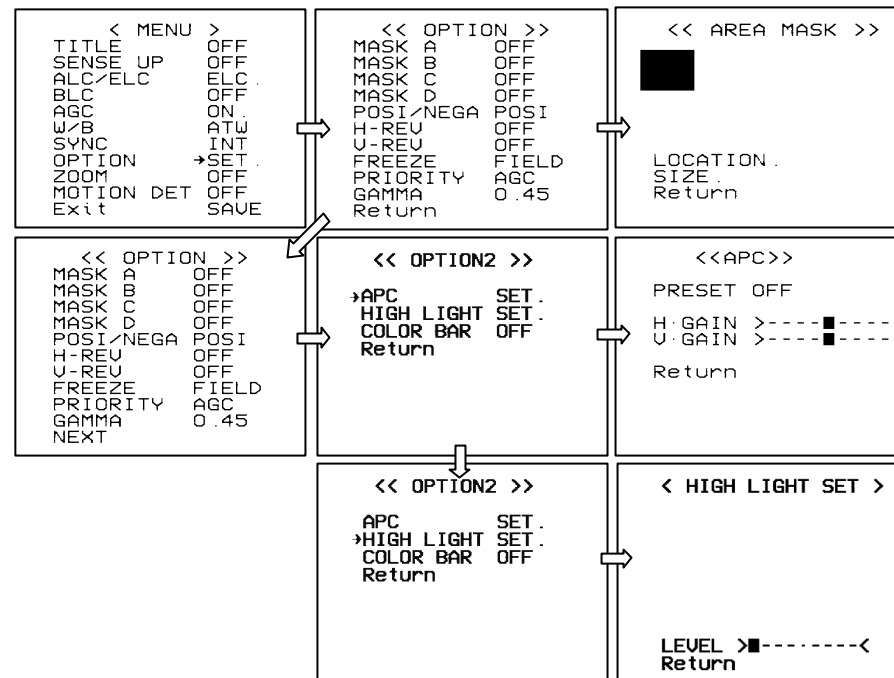
### LINE mode:

Camera is synchronization by AC-LINEI sync-signal.

Push center bottom to enter SYNC mamu, in the SYNC menu you can adjustable phase for vertical.

Move cursor to "Return" row and push the center bottom to get back to the MAIN MENU.

## 8. OPTION



Move cursor to OPTION row push center bottom to enter OPTION menu.

There are 4 mask areas (MASK A,B,C,D),POSI/NEGA, H-REV, V-REV, FREEZE, PRIORITY, GAMMA, APC SET, HIGH LIGHT SET, COLOR BAR function can be selected.

### MASK function: (Preset is at OFF condition)

Push up / down bottom to select mask area, then push right / left bottom to select mask area ON/OFF. Select MASK A ( MASK B, MASK C , MASK D) / ON, it will show a square zone on the picture.

Push center bottom to enter the next setting page AREA MASK, on AREA MASK page, by up / down

Bottom to select LOCATION and SIZE mode then push center bottom to enter the adjustment mode.

Push up / down bottom and right / left bottom select the location and size for the masking zone.

Push center bottom to get back to the previous page.

### POSI/NEGA function: (Preset is at POSI condition)

Move cursor to POSI/NEGA row. Then push right or left bottom to select Positive / Negative effects.

### H-REV function: (Preset is at OFF condition)

Move cursor to H-REV row. Then push right or left bottom to select ON (Mirror effects) / OFF (Normal).

### V-REV function: (Preset is at OFF condition)

Move cursor to VREV row. Then push right or left bottom to select ON(Vertical Reverse)/OFF(Normal).

### FREEZE function: (Preset is at FIELD condition)

Move cursor to FREEZE row. Then push right or left bottom to selectFIELD(image freeze in field mode) / FRAME(image freeze in frame mode).

### PRIORITY function: (Preset is at AGC condition)

Move cursor to PRIORITY row. Then push right or left bottom to selectAGC / SENSE

### GAMMA function: (Preset is at 0.45 condition)

Move cursor to GAMMA row. Then push right or left bottom to select gamma 0.45 / gamma 1

## OPTION2

Move cursor to "Return" row. Then push right or left bottom to select NEXT, then push center bottom enter to OPTION 2 menu page.

### APC SET function:

Move cursor to APC SET row, push center bottom to enter APC menu page, in the page can be adjust picture enhance level.

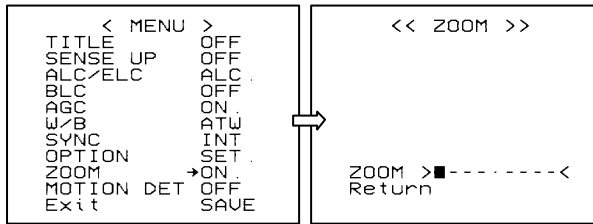
### HIGH LIGHT SET function:

Move cursor to HIGH LIGHT SET row, push center bottom to enter HIGH LIGHT SET menu page, in the page can be adjust picture high light part depressing level.

### COLOR BAR function: (Preset is at OFF condition)

Move cursor to COLOR BAR row. Then push right or left bottom to select ON (Display color bar) / OFF (Display normal image).

## 9. ZOOM

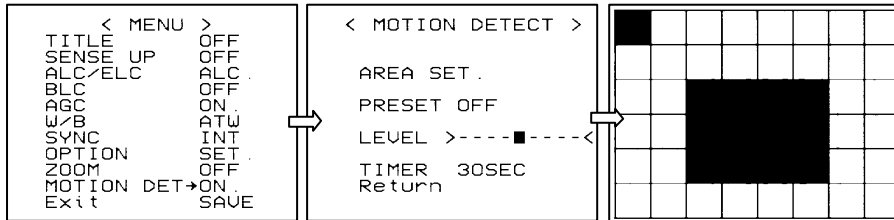


Move cursor to ZOOM row push right bottom can be select OFF mode and ON mode.

### ON mode: (Push center bottom to enter ZOOM menu)

In the ZOOM menu you may move "ZOOM" bar to choose different ZOOM effects (Maximum: 2X).

## 10. MOTION DET



Move cursor to "MOTION DET" row push right bottom can be select OFF mode and ON mode.

### ON mode: (Push center bottom to enter MONTION DETECT menu)

In the MONTION DETECT menu page, move cursor to PERSET row, push right bottom to choose OFF mode, move cursor to AREA SET row push center bottom once to enter 48 zone programming screen. Now you will see a 8 by 6 = 48 zone lattice, move cursor around to any block push center bottom once to turn the block gray (gray= chosen block), move to another location and repeated above step till all block is programmed properly. The effect is affected immediately, push center bottom for 2 sec. to escape from 48zone screen.

Move cursor to "LEVEL" row push "right" / "left" bottom select motion detect sensitive.

Move cursor to "TIMER" row push "right" / "left" bottom select alarm output time,10sec.,30sec.,60sec.

Move cursor to "Return" row and push the center bottom to get back to the MAIN MENU.

## MTV-63V5 serial communication command

### 63V5 Camera serial communication I/F specification

#### 1.Outline

This I/F specification is for transferring the data, while using RS-232 to control 63V5.By this communication I/F, Iris, slow scan, BLC, white balance...etc functions can be adjusted.

About the I/F description as below:

#### 2.Serial communication I/F

The connection between the controller and camera is as indicated on "Fig-1". Based on the serial communication parameter of RS-232C

to execute the control.

Communicating speed 9600kbps

Data length 8bit

Non-Parity

Stop bit 1

Non-flow control

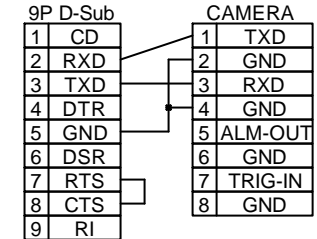


Fig-1 Computer & Camera connector

The communication is by internal synchronization way, the communication flow chart as indicated on "Fig-2".

The connecting confirmation of the communication is by control port to send out of "ENQ", after received the "ACK" signal it will start to communicate. (The connecting confirmation of the communication can be omitted.) Then from the control port to send out the command "COMMAND" signal, and after received it the camera will return "ACK" signal back, after that the camera will proceed the "command" then send response "RESPONSE" signal back to control port; and after the control port received the signal then it will sends "ACK" signal to the camera. This kind of communication "COMMAND" & "RESPONSE" will be executed repeatedly.

"COMMAND" & "RESPONSE" signal are 19Byte fixed length. (Fig-3) "COMMAND" included "WRITE" command and "READ" command that through controller to set up. Besides "RESPONSE" has individual response signal to each command signal.

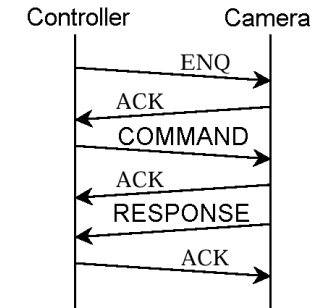


Fig-2 Communcation Flow

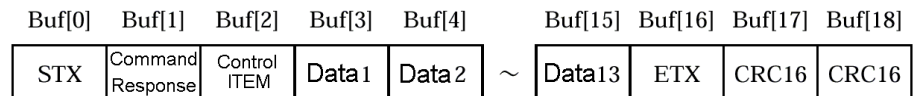


Fig-3 Command & Response

Below is the description for 1 byte & 19 byte related communication data, format of command and response.

### 3. Communication data format

Based on the communication data length can be divided into 2 formats

#### 3.1 1 byte communication

To make sure the connection of "COMMAND" & "RESPONSE" communication; as well as the confirmation for "COMMAND" & "RESPONSE" of 19 by te.

Command condition

Buf[0]=0x05 (ENQ: Make sure the connection)

Response and acknowledge condition

Buf[0]=0x06(ACK ? OK), 0x15(NAK? error), 0x04 (EOT ? Transmission end)

#### 3.2 19byte communication data

19byte Command , Response (as indicated on Fig-3 )?

Buf[0]=0x02(STX ? Start Code)

Command condition

Buf[1]=0x21(Write command)? 0x31(Read command)

Response condition

Buf[1]=0xA0(OK response)? 0xA2(Buf[1] non-effective response)? 0xA3(Buf[2]-Buf[15]non-effective response)?

0xA4 (storage setting failure response) ,0xA5 (other response)

Buf[2]=0x00-0xFF (control items)

Buf[3]-Buf[15]=0x00-0xFF(according to Buf[2] the items come to different)  
(Buf[2]-Buf[15] effective content will be mentioned later)

Buf[16]=0x03(ETX ? Ending code)

Buf[17]=Buf[1]-Buf[16] CRC code (calculation?  $X^{16} + X^{15} + X^2 + 1$ ) HIGH BYTE

Buf[18]=Buf[1]-Buf[16] CRC code (calculation?  $X^{16} + X^{15} + X^2 + 1$ ) LOW BYTE

### 4. COMMAND Type:

Regarding 19byte command of Buf[2]-Buf[15] Write, Read will be mentioned aside?

#### 4.1 Write command

Regarding the write command (Buf[1]=0x21) setting as below ?

(1)TITLE item, TITLE Display ON/OFF setting

Buf[2]=0x10

Buf[3]=0x00(ON/OFF setting)

Buf[4]=0x00(OFF),0x01(ON)

Buf[5]-Buf[15]= non-use

(2)TITLE item, CHARACTER setting

Buf[2]=0x10

Buf[3]=0x01(character setting)

Buf[4]=0x00-0xFF(1 character TEXT CODE)

Buf[5]=0x00-0xFF(2 character TEXT CODE)

Buf[6]=0x00-0xFF(3 character TEXT CODE)

Buf[7]=0x00-0xFF(4 character TEXT CODE)

Buf[8]=0x00-0xFF(5 character TEXT CODE)

Buf[9]=0x00-0xFF(6 character TEXT CODE)

Buf[10]=0x00-0xFF(7 character TEXT CODE)

Buf[11]=0x00-0xFF(8 character TEXT CODE)

Buf[12]=0x00-0xFF(9 character TEXT CODE)

Buf[13]=0x00-0xFF(10 character TEXT CODE)

Buf[14]=0x00-0xFF(11 character TEXT CODE)

Buf[15]=0x00-0xFF(12 character TEXT CODE)

(3)TITLE item, TITLE DISPLAY POSITION setting

Buf[2]=0x10

Buf[3]=0x03(display position setting)

Buf[4]=0x00(LEFT-UP),0x01(LEFT-DOWN)

0x02(RIGHT-UP),0x03(RIGHT-DOWN)

Buf[5]-Buf[15]= non-use

(4)SENSE UP item

Buf[2]=0x11(sense up setting)

Buf[3]=0x00(OFF), 0x01(X2), 0x02(X4), 0x03(X6), 0x04(X8), 0x05(X12), 0x06(X16), 0x07(X24), 0x08(X32), 0x09(X48)  
0x0A(X64), 0x0B(X96), 0x0C(X128).

Buf[4]-Buf[15]= non-use

(5)ALC/ELC item

Buf[2]= 0x12(ALC/ELC setting)

Buf[3]=0x00(ALC), 0x01(ELC)

Buf[4]-Buf[15]= non-use

(6)ALC item, SHUTTER setting (settable at ALC mode)  
 Buf[2]=0x15(SHUTTER setting)  
 Buf[3]=0x00(OFF), 0x01(1/100), 0x02(1/120), 0x03(1/180), 0x04(1/250), 0x05(1/350), 0x06(1/500), 0x07(1/750),  
 0x08(1/1000), 0x09(1/15000), 0x0A(1/2000), 0x0B(1/3000), 0x0C(1/4000), 0x0D(1/6000), 0x0E(1/8000),  
 0x0F(1/12000).  
 Buf[4]-Buf[15]= non-use

(7)ALC item, LEVEL setting  
 (ELC item LEVEL setting is the same)  
 Buf[2]=0x16(IRIS LEVEL setting)  
 Buf[3]=0x00-0x08(level), (0x00 min --- 0x08 max)  
 Buf[4]-Buf[15]= non-use

(8)BLC item, ON/OFF/PEAK setting  
 Buf[2]=0x18(BLC setting)  
 Buf[3]=0x00(BLC ON/OFF/PEAK setting)  
 Buf[4]=0x00(OFF), 0x01(ON), 0x02(PEAK)  
 Buf[5]-Buf[15]= non-use

(9)BLC item, PRESET setting (settable at BLC -ON mode)  
 Buf[2]=0x18(BLC setting)  
 Buf[3]=0x01(PRESET ON/OFF setting)  
 Buf[4]=0x00(OFF), 0x01(ON)  
 Buf[5]-Buf[15]= non-use

(10)BLC item, Area Selection setting (Settable at BLC -ON mode)  
 Buf[2]=0x19(BLC area setting)  
 Buf[3]=0x00-0xFF(Area 1<sup>st</sup> line? left LSB, right MSB)  
 Buf[4]=0x00-0xFF(Area 2<sup>nd</sup> line: left LSB, right MSB)  
 Buf[5]=0x00-0xFF(Area 3<sup>rd</sup> line? left LSB, right MSB)  
 Buf[6]=0x00-0xFF(Area 4<sup>th</sup> line? left LSB, right MSB)  
 Buf[7]=0x00-0xFF(Area 5<sup>h</sup> line : left LSB, right MSB)  
 Buf[8]=0x00-0xFF(Area 6<sup>h</sup> line? left LSB, right MSB)  
 (Buf[3]-Buf[8] Area , selected bit=1)  
 Buf[9]-Buf[15]= non-use

	MSB				LSB			
Buf[3]	0	0	0	0	0	0	0	0
Buf[4]	0	0	0	0	0	0	0	0
Buf[5]	0	0	1	1	1	1	0	0
Buf[6]	0	0	1	1	1	1	0	0
Buf[7]	0	0	1	1	1	1	0	0
Buf[8]	0	0	0	0	0	0	0	0

(11)BLC item, PEAK LEVEL setting (Settable at PEAK mode)  
 Buf[2]=0x22(PEAK LEVEL setting)  
 Buf[3]=0x 00-0x08(level), (0x00 min --- 0x08 max)  
 Buf[4]-Buf[15]= non-use

(12)AGC item, ON/OFF/MANU setting  
 Buf[2]=0x1A(AGC setting)  
 Buf[3]=0x00(ON/OFF/MANU setting)  
 Buf[4]=0x00(OFF), 0x01(ON), 0x02(MANUAL)  
 Buf[5]-Buf[15]= non-use

(13)AGC item, ON LEVEL setting  
 Buf[2]=0x1A(AGC setting)

Buf[3]=0x01(ON LEVEL setting)  
 Buf[4]=0x00-0x08(level)? (0x00 min? 0x08 max)  
 Buf[5]-Buf[15]= non-use

(14)AGC item, MANUAL LEVEL setting  
 Buf[2]=0x1A(AGC setting)  
 Buf[3]=0x02(MANUAL LEVEL setting)  
 Buf[4]=0x00-0x08(level)? (0x00 min? 0x08 max)  
 Buf[5]-Buf[15]= non-use

(15)W/B item, ATW/MANU/AWC setting  
 Buf[2]=0x1B(W/B setting)  
 Buf[3]=0x00(ATW/MANU/AWC setting)  
 Buf[4]=0x00(ATW), 0x01(AWC), 0x02(MANU)  
 Buf[5]-Buf[15]= non-use

(16)W/B item, MANUAL setting (settable at W/B-MANU mode)  
 Buf[2]=0x1B(W/B setting)  
 Buf[3]=0x01(MANUAL setting)  
 Buf[4]=0x00(3200°K), 0x01(5600°K), 0x02(OFF<USER->)  
 Buf[5]-Buf[15]= non-use

(17)W/B item, USER R GAIN setting (settable at W/B-MANU item OFF<USER-> mode)  
 Buf[2]=0x1B(W/B setting)  
 Buf[3]=0x02(USER R GAIN setting)  
 Buf[4]=0x00-0x08(level)? (0x00 min? 0x08 max)  
 Buf[5]-Buf[15]= non-use

(18)W/B item, USER B GAIN setting (settable at W/B-MANU item OFF<USER-> mode)  
 Buf[2]=0x1B(W/B setting)  
 Buf[3]=0x03(USER B GAIN setting)  
 Buf[4]=0x00-0x08(level)? (0x00 min? 0x08 max)  
 Buf[5]-Buf[15]= non-use

(19)W/B item, AWC operation (settable at W/B AWC mode)  
 Buf[2]=0x1B(W/B setting)  
 Buf[3]=0x00(ATW/MANU/AWC setting)  
 Buf[4]=0x00(ATW), 0x01(AWC), 0x02(MANU)  
 Buf[5]-Buf[15]= non-use

(20)SYNC item, INT/LINE/VBS setting  
 Buf[2]=0x1C(SYNC setting)  
 Buf[3]=0x00(INT/LINE/VBS setting)  
 Buf[4]=0x00(INT), 0x01(LINE), 0x02(VBS)  
 Buf[5]-Buf[15]= non-use

**If sync-signal not input, the setting of LINE/VBS setting is inhibit.**

(21)SYNC item, V PHASE value setting (While on LINE mode, V PHASE can be adjusted within the available range)  
 Buf[2]=0x1C(SYNC setting)  
 Buf[3]=0x01(V PHASE setting)  
 Buf[4]=0x00- 0xFF(V PHASE value HIGH BYTE)

Buf[5]=0x00- 0xFF(V PHASE value LOW BYTE)  
Buf[6]-Buf[15]= non-use

(22)SYNC item, H PHAE value setting (settable at VBS mode)

Buf[2]=0x1C(SYNC setting)  
Buf[3]=0x02(H PHASE setting)  
Buf[4]=0x00-0xFF(H PHASE value)  
Buf[5]-Buf[15]= non-use

(23)OPTION item, MASK A ON/OFF setting

Buf[2]=0x1D(OPTION setting)  
Buf[3]=0x00(MASK A setting)  
Buf[4]=0x00(OFF), 0x01(ON)  
Buf[5]-Buf[15]= non-use

(24)OPTION item, MASK B ON/OFF setting

Buf[2]=0x1D(OPTION setting)  
Buf[3]=0x01(MASK B setting)  
Buf[4]=0x00(OFF), 0x01(ON)  
Buf[5]-Buf[15]= non-use

(25)OPTION item, MASK C ON/OFF setting

Buf[2]=0x1D(OPTION setting)  
Buf[3]=0x02(MASK C setting)  
Buf[4]=0x00(OFF), 0x01(ON)  
Buf[5]-Buf[15]= non-use

(26)OPTION item, MASK D ON/OFF setting

Buf[2]=0x1D(OPTION setting)  
Buf[3]=0x03(MASK D setting)  
Buf[4]=0x00(OFF), 0x01(ON)  
Buf[5]-Buf[15]= non-use

(27)OPTION item, MASK A area setting

Buf[2]=0x1D(OPTION setting)  
Buf[3]=0x10(MASK A area setting)  
Buf[4]=start position X value  
Buf[5]=start position Y value  
Buf[6]=end position X value  
Buf[7]=end position Y value  
Buf[8]-Buf[15]= non-use

(28)OPTION item, MASK B area setting

Buf[2]=0x1D(OPTION setting)  
Buf[3]=0x11(MASK B area setting)  
Buf[4]=start position X value  
Buf[5]=start position Y value  
Buf[6]=end position X value  
Buf[7]=end position Y value  
Buf[8]-Buf[15]= non-use

(29)OPTION item, MASK C area setting

Buf[2]=0x1D(OPTION setting)  
Buf[3]=0x11(MASK C area setting)  
Buf[4]=start position X value  
Buf[5]=start position Y value  
Buf[6]=end position X value  
Buf[7]=end position Y value  
Buf[8]-Buf[15]= non-use

(30)OPTION item, MASK D area setting

Buf[2]=0x1D(OPTION setting)  
Buf[3]=0x12(MASK D area setting)  
Buf[4]=start position X value  
Buf[5]=start position Y value  
Buf[6]=end position X value  
Buf[7]=end position Y value  
Buf[8]-Buf[15]= non-use

(31)OPTION item, POSI/NEGA setting

Buf[2]=0x1D(OPTION setting)  
Buf[3]=0x04(POSI/NEGA setting)  
Buf[4]=0x00(POSI), 0x01(NEGA)  
Buf[5]-Buf[15]= non-use

(32)OPTION item, HREV ON/OFF setting (settable at FREEZE OFF mode)

Buf[2]=0x1D(OPTION setting)  
Buf[3]=0x05(HREV setting)  
Buf[4]=0x00(OFF), 0x01(ON)  
Buf[5]-Buf[15]= non-use

(33)OPTION item, VREV ON/OFF setting (settable at FREEZE OFF mode)

Buf[2]=0x1D(OPTION setting)  
Buf[3]=0x07(V-REV setting)  
Buf[4]=0x00(OFF), 0x01(ON)  
Buf[5]-Buf[15]= non-use

(34)OPTION item, FREEZE FIELD/FRAME setting

Buf[2]=0x1D(OPTION setting)  
Buf[3]=0x09(FREEZE FIELD/FRAME setting)  
Buf[4]=0x00(FIELD), 0x01(FRAME)  
Buf[5]-Buf[15]= non-use

(35)OPTION item, FREEZE ON/OFF setting

Buf[2]=0x1D(OPTION setting)  
Buf[3]=0x08(FREEZE ON/OFF setting)  
Buf[4]=0x00(OFF), 0x01(ON)  
Buf[5]-Buf[15]= non-use

(36)OPTION item, PRIORITY AGC/SENSE setting

Buf[2]=0x1D(OPTION setting)  
Buf[3]=0x06(PRIORITY setting)  
Buf[4]=0x00(AGC PRIORITY), 0x01(SENSE UP PRIORITY)  
Buf[5]-Buf[15]= non-use

(37)OPTION item, GAMMA0.45/1.0 setting

Buf[2]=0x1D(OPTION setting)  
 Buf[3]=0x 14(GAMMA setting)  
 Buf[4]=0x00(0.45 gamma), 0x01(1.0 gamma)  
 Buf[5]-Buf[15]= non-use

(38)OPTION item, APC PRESET setting

Buf[2]=0x1D(OPTION setting)  
 Buf[3]=0x 15(APC setting)  
 Buf[4]=0x00(APC PRESET setting)  
 Buf[5]=0x01(ON)  
 Buf[6]-Buf[15]= non-use

(39)OPTION item, APC H-GAIN LEVEL setting

Buf[2]=0x1D(OPTION setting)  
 Buf[3]=0x 15(APC setting)  
 Buf[4]=0x01(H-GAIN setting)  
 Buf[5]=0x01-0x12 (level)  
 Buf[6]-Buf[15]= non-use

(40)OPTION item, APC V-GAIN LEVEL setting

Buf[2]=0x1D(OPTION setting)  
 Buf[3]=0x 15(APC setting)  
 Buf[4]=0x02(V-GAIN setting)  
 Buf[5]=0x01-0x12 (level)  
 Buf[6]-Buf[15]= non-use

(41)OPTION item, High light LEVEL setting

Buf[2]=0x1D(OPTION setting)  
 Buf[3]=0x 16(High light setting)  
 Buf[4]=0x01-0x12 (level)  
 Buf[5]-Buf[15]= non-use

(42)OPTION item, COLOR BAR setting

Buf[2]=0x1D(OPTION setting)  
 Buf[3]=0x 17(COLOR BAR setting)  
 Buf[4]=0x00(OFF), 0x01(ON)  
 Buf[5]-Buf[15]= non-use

(43)Motion Detect item, ON/OFF setting

Buf[2]=0x 47(Motion Detect setting)  
 Buf[3]=0x 00(Motion Detect ON/OFF setting)  
 Buf[4]=0x00(OFF), 0x01(ON)  
 Buf[5]-Buf[15]= non-use

(44)Motion Detect item, PRESET setting (settable at Motion Detect ON mode)

Buf[2]=0x 47(Motion Detect setting)  
 Buf[3]=0x 01(PRESET ON/OFF setting)  
 Buf[4]=0x00(OFF), 0x01(ON)  
 Buf[5]-Buf[15]= non-use

(45)Motion Detect item, LEVEL setting (settable at Motion Detect ON mode)

Buf[2]=0x 47(Motion Detect setting)  
 Buf[3]=0x 02(LEVEL setting)  
 Buf[4]=0x00-0x08(level)  
 Buf[5]-Buf[15]= non-use

(46)Motion Detect item, TIMER setting (settable at Motion Detect ON mode)

Buf[2]=0x 47(Motion Detect setting)  
 Buf[3]=0x 03(TIMER setting)  
 Buf[4]=0x00(10secl), 0x01(30secl), 0x02(60secl)  
 Buf[5]-Buf[15]= non-use

(47)Motion Detect item, Area selection setting (settable at Motion Detect ON mode)

Buf[2]=0x 48(Motion Detect Area setting)  
 Buf[3]=0x00-0xFF(Area 1<sup>st</sup> line? left LSB, right MSB)  
 Buf[4]=0x00-0xFF(Area 2<sup>nd</sup> line: left LSB, right MSB)  
 Buf[5]=0x00-0xFF(Area 3<sup>rd</sup> line? left LSB, right MSB)  
 Buf[6]=0x00-0xFF(Area 4<sup>th</sup> line? left LSB, right MSB)  
 Buf[7]=0x00-0xFF(Area 5<sup>th</sup> line : left LSB, right MSB)  
 Buf[8]=0x00-0xFF(Area 6<sup>th</sup> line? left LSB, right MSB)  
 (Buf[3]-Buf[8] Area , selected bit=1)  
 Buf[9]-Buf[15]= non-use

	MSB						LSB	
Buf[3]	0	0	0	0	0	0	0	0
Buf[4]	0	0	0	0	0	0	0	0
Buf[5]	0	0	1	1	1	1	0	0
Buf[6]	0	0	1	1	1	1	0	0
Buf[7]	0	0	1	1	1	1	0	0
Buf[8]	0	0	0	0	0	0	0	0

(48)ZOOM item, ON/OFF setting (settable at FREEZE OFF mode)

Buf[2]=0x1F(ZOOM setting)  
 Buf[3]=0x00(ON/OFF setting)  
 Buf[4]=0x00(OFF), 0x01(ON)  
 Buf[5]-Buf[15]= non-use

(49)ZOOM item, LEVEL setting

Buf[2]=0x1F(ZOOM setting)  
 Buf[3]=0x01(LEVEL setting)  
 Buf[4]= non-use  
 Buf[5]=0x00-0x08(LEVEL)  
 Buf[6]-Buf[15]= non-use

(50)EXIT item, SAVE setting  
Buf[2]=0x1E(SAVE setting)  
Buf[3]-Buf[15]= non-use

(51)EXIT item, PRESET setting  
Buf[2]=0x20(PRESET setting)  
Buf[3]=0x00(PRESET operating)  
Buf[4]-Buf[15]=non-use

## 4.2 Read Command

Regarding Read Command (Buf[1]=0x31) setting as below ?

(1)TITLE item, TITLE Display ON/OFF reading  
Buf[4] by non-setting condition to get the data from camera  
Buf[2]=0x10  
Buf[3]=0x00(ON/OFF reading)  
Buf[4]=0x00(OFF),0x01(ON)  
Buf[5]-Buf[15]= non-use

(2)TITLE item, CHARACTER reading  
Buf[4]-Buf[15] by non-setting condition to get the data from camera  
Buf[2]=0x10  
Buf[3]=0x01(character reading)  
Buf[4]=0x00-0xFF(1 character TEXT CODE)  
Buf[5]=0x00-0xFF(2 character TEXT CODE)  
Buf[6]=0x00-0xFF(3 character TEXT CODE)  
Buf[7]=0x00-0xFF(4 character TEXT CODE)  
Buf[8]=0x00-0xFF(5 character TEXT CODE)  
Buf[9]=0x00-0xFF(6 character TEXT CODE)  
Buf[10]=0x00-0xFF(7 character TEXT CODE)  
Buf[11]=0x00-0xFF(8 character TEXT CODE)  
Buf[12]=0x00-0xFF(9 character TEXT CODE)  
Buf[13]=0x00-0xFF(10 character TEXT CODE)  
Buf[14]=0x00-0xFF(11 character TEXT CODE)  
Buf[15]=0x00-0xFF(12 character TEXT CODE)

(3)TITLE item, TITLE DISPLAY POSITION reading  
Buf[4] by non-setting condition to get the data from camera  
Buf[2]=0x10  
Buf[3]=0x03(display position reading)  
Buf[4]=0x00(LEFT-UP), 0x01(LEFT-DOWN)  
0x00(RIGHT-UP), 0x01(RIGHT-DOWN)  
Buf[5]-Buf[15]= non-use

(4)SENSE UP item  
Buf[3] by non-setting condition to get the data from camera  
Buf[2]=0x11(sense up reading)  
Buf[3]=0x00(OFF), 0x01(X2), 0x02(X4), 0x03(X6), 0x04(X8), 0x05(X12), 0x06(X16), 0x07(X24), 0x08(X32), 0x09(X48)  
0x0A(X64), 0x0B(X96), 0x0C(X128).  
Buf[4]-Buf[15]= non-use

(5)ALC/ELC item  
Buf[3] by non-setting condition to get the data from camera  
Buf[2]= 0x12(ALC/ELC reading)  
Buf[3]=0x00(ALC), 0x01(ELC)  
Buf[4]-Buf[15]= non-use

(6)ALC item, SHUTTER reading

Buf[3] by non-setting condition to get the data from camera

Buf[2]=0x15(SHUTTER reading)

Buf[3]=0x00(OFF), 0x01(1/100), 0x02(1/120), 0x03(1/180), 0x04(1/250), 0x05(1/350), 0x06(1/500), 0x07(1/750), 0x08(1/1000), 0x09(1/15000), 0x0A(1/2000), 0x0B(1/3000), 0x0C(1/4000), 0x0D(1/6000), 0x0E(1/8000), 0x0F(1/12000).

Buf[4]-Buf[15]= non-use

(7)ALC item, LEVEL reading

(ELC item LEVEL reading is the same)

Buf[3] by non-setting condition to get the data from camera

Buf[2]=0x16(IRIS LEVEL reading)

Buf[3]=0x00-0x08(level), (0x00 min --- 0x08 max)

Buf[4]-Buf[15]= non-use

(8)BLC item, ON/OFF/PEAK reading

Buf[4] by non-setting condition to get the data from camera

Buf[2]=0x18(BLC reading)

Buf[3]=0x00(BLC ON/OFF/PEAK reading)

Buf[4]=0x00(OFF), 0x01(ON), 0x02(PEAK)

Buf[5]-Buf[15]= non-use

(9)BLC item, PRESET reading

Buf[4] by non-setting condition to get the data from camera

Buf[2]=0x18(BLC reading)

Buf[3]=0x01(PRESET ON/OFF reading)

Buf[4]=0x00(OFF), 0x01(ON)

Buf[5]-Buf[15]= non-use

(10)BLC item, Area Selection reading

Buf[3]-Buf[8] by non-setting condition to get the data from camera

Buf[2]=0x19(BLC area reading)

Buf[3]=0x00-0xFF(Area 1<sup>st</sup> line? left LSB, right MSB)

Buf[4]=0x00-0xFF(Area 2<sup>nd</sup> line: left LSB, right MSB)

Buf[5]=0x00-0xFF(Area 3<sup>rd</sup> line? left LSB, right MSB)

Buf[6]=0x00-0xFF(Area 4<sup>th</sup> line? left LSB, right MSB)

Buf[7]=0x00-0xFF(Area 5<sup>th</sup> line : left LSB, right MSB)

Buf[8]=0x00-0xFF(Area 6<sup>th</sup> line? left LSB, right MSB)

(Buf[3]-Buf[8] Area , selected bit=1)

Buf[9]-Buf[15]= non-use

(11)BLC item, PEAK LEVEL reading

Buf[3] by non-setting condition to get the data from camera

Buf[2]=0x22(PEAK LEVEL reading)

Buf[3]=0x00-0x08(level), (0x00 min --- 0x08 max )

Buf[4]-Buf[15]= non-use

(12)AGC item, ON/OFF/MANU reading

Buf[4] by non-setting condition to get the data from camera

Buf[2]=0x1A(AGC reading)

Buf[3]=0x00(ON/OFF/MANU reading)

Buf[4]=0x00(OFF), 0x01(ON), 0x02(MANUAL)

Buf[5]-Buf[15]= non-use

(13)AGC item, ON LEVEL reading

Buf[4] by non-setting condition to get the data from camera

Buf[2]=0x1A(AGC reading)

Buf[3]=0x01(ON LEVEL reading)

Buf[4]=0x00-0x08(level)? (0x00 min? 0x08 max)

Buf[5]-Buf[15]= non-use

(14)AGC item, MANUAL LEVEL reading

Buf[4] by non-setting condition to get the data from camera

Buf[2]=0x1A(AGC reading)

Buf[3]=0x02(MANUAL LEVEL reading)

Buf[4]=0x00-0x08(level)? (0x00 min? 0x08 max)

Buf[5]-Buf[15]= non-use

(15)W/B item, ATW/MANU/AWC reading

Buf[4] by non-setting condition to get the data from camera

Buf[2]=0x1B(W/B reading)

Buf[3]=0x00(ATW/MANU/AWC reading)

Buf[4]=0x00(ATW), 0x01(AWC), 0x02(MANU)

Buf[5]-Buf[15]= non-use

(16)W/B item, MANUAL reading

Buf[4] by non-setting condition to get the data from camera

Buf[2]=0x1B(W/B reading)

Buf[3]=0x01(MANUAL reading)

Buf[4]=0x00(3200°K), 0x01(5600°K), 0x02(OFF<USER>)

Buf[5]-Buf[15]= non-use

(17)W/B item, USER R GAIN reading

Buf[4] by non-setting condition to get the data from camera

Buf[2]=0x1B(W/B reading)

Buf[3]=0x02(USER R GAIN reading)

Buf[4]=0x00-0x08(level)? (0x00 min? 0x08 max)

Buf[5]-Buf[15]= non-use

(18)W/B item, USER B GAIN reading

Buf[4] by non-setting condition to get the data from camera

Buf[2]=0x1B(W/B reading)

Buf[3]=0x03(USER B GAIN reading)

Buf[4]=0x00-0x08(level)? (0x00 min? 0x08 max)

Buf[5]-Buf[15]= non-use

(19)W/B item, AWC operation reading

Buf[4] by non-setting condition to get the data from camera

Buf[2]=0x1B(W/B reading)

Buf[3]=0x04(AWC operation)

	MSB				LSB			
Buf[3]	0	0	0	0	0	0	0	0
Buf[4]	0	0	0	0	0	0	0	0
Buf[5]	0	0	1	1	1	1	1	0
Buf[6]	0	0	1	1	1	1	1	0
Buf[7]	0	0	1	1	1	1	1	0
Buf[8]	0	0	0	0	0	0	0	0

Buf[4]=0x00(ATW operation ending), 0x01(AWC operation active)  
Buf[5]-Buf[15]= non-use

(20)SYNC item, INT/LINE/VBS reading

Buf[4] by non-setting condition to get the data from camera  
Buf[2]=0x1C(SYNC reading)  
Buf[3]=0x00(INT/LINE/VBS reading)  
Buf[4]=0x00(INT), 0x01(LINE), 0x02(VBS)  
Buf[5]-Buf[15]= non-use

(21)SYNC item, V PHASE value reading

Buf[4]-Buf[5] by non-setting condition to get the data from camera  
Buf[2]=0x1C(SYNC reading)  
Buf[3]=0x01(V PHASE reading)  
Buf[4]=0x00- 0xFF(V PHASE value HIGH BYTE)  
Buf[5]=0x00- 0xFF(V PHASE value LOW BYTE)  
Buf[6]-Buf[15]= non-use

(22)SYNC item, H PHASE value reading

Buf[4] by non-setting condition to get the data from camera  
Buf[2]=0x1C(SYNC reading)  
Buf[3]=0x02(H PHASE reading)  
Buf[4]=0x00-0xFF(H PHASE value)  
Buf[5]-Buf[15]= non-use

(23)OPTION item, MASK A ON/OFF reading

Buf[4] by non-setting condition to get the data from camera  
Buf[2]=0x1D(OPTION reading)  
Buf[3]=0x00(MASK A reading)  
Buf[4]=0x00(OFF), 0x01(ON)  
Buf[5]-Buf[15]= non-use

(24)OPTION item, MASK B ON/OFF reading

Buf[4] by non-setting condition to get the data from camera  
Buf[2]=0x1D(OPTION reading)  
Buf[3]=0x01(MASK B reading)  
Buf[4]=0x00(OFF), 0x01(ON)  
Buf[5]-Buf[15]= non-use

(25)OPTION item, MASK C ON/OFF reading

Buf[4] by non-setting condition to get the data from camera  
Buf[2]=0x1D(OPTION reading)  
Buf[3]=0x02(MASK C reading)  
Buf[4]=0x00(OFF), 0x01(ON)  
Buf[5]-Buf[15]= non-use

(26)OPTION item, MASK D ON/OFF reading

Buf[4] by non-setting condition to get the data from camera  
Buf[2]=0x1D(OPTION reading)  
Buf[3]=0x03(MASK D reading)  
Buf[4]=0x00(OFF), 0x01(ON)  
Buf[5]-Buf[15]= non-use

(27)OPTION item, MASK A area reading

Buf[4]-Buf[7] by non-setting condition to get the data from camera  
Buf[2]=0x1D(OPTION reading)  
Buf[3]=0x10(MASK A area reading)  
Buf[4]=start position X value  
Buf[5]=start position Y value  
Buf[6]=end position X value  
Buf[7]=end position Y value  
Buf[8]-Buf[15]= non-use

(28)OPTION item, MASK B area reading

Buf[4]-Buf[7] by non-setting condition to get the data from camera  
Buf[2]=0x1D(OPTION reading)  
Buf[3]=0x11(MASK B area reading)  
Buf[4]=start position X value  
Buf[5]=start position Y value  
Buf[6]=end position X value  
Buf[7]=end position Y value  
Buf[8]-Buf[15]= non-use

(29)OPTION item, MASK C area reading

Buf[4]-Buf[7] by non-setting condition to get the data from camera  
Buf[2]=0x1D(OPTION reading)  
Buf[3]=0x11(MASK C area reading)  
Buf[4]=start position X value  
Buf[5]=start position Y value  
Buf[6]=end position X value  
Buf[7]=end position Y value  
Buf[8]-Buf[15]= non-use

(30)OPTION item, MASK D area reading

Buf[4]-Buf[7] by non-setting condition to get the data from camera  
Buf[2]=0x1D(OPTION reading)  
Buf[3]=0x12(MASK D area reading)  
Buf[4]=start position X value  
Buf[5]=start position Y value  
Buf[6]=end position X value  
Buf[7]=end position Y value  
Buf[8]-Buf[15]= non-use

(31)OPTION item, POSI/NEGA reading  
Buf[4] by non-setting condition to get the data from camera  
Buf[2]=0x1D(OPTION reading)  
Buf[3]=0x04(POSI/NEGA reading)  
Buf[4]=0x00(POSI), 0x01(NEGA)  
Buf[5]-Buf[15]= non-use

(32)OPTION item, HREV ON/OFF reading  
Buf[4] by non-setting condition to get the data from camera  
Buf[2]=0x1D(OPTION reading)  
Buf[3]=0x05(H-REV reading)  
Buf[4]=0x00(OFF), 0x01(ON)  
Buf[5]-Buf[15]= non-use

(33)OPTION item, VREV ON/OFF reading  
Buf[4] by non-setting condition to get the data from camera  
Buf[2]=0x1D(OPTION reading)  
Buf[3]=0x07(V-REV reading)  
Buf[4]=0x00(OFF), 0x01(ON)  
Buf[5]-Buf[15]= non-use

(34)OPTION item, FREEZE FIELD/FRAME reading  
Buf[4] by non-setting condition to get the data from camera  
Buf[2]=0x1D(OPTION reading)  
Buf[3]=0x09(FREEZE FIELD/FRAME reading)  
Buf[4]=0x00(FIELD), 0x01(FRAME)  
Buf[5]-Buf[15]= non-use

(35)OPTION item, FREEZE ON/OFF reading  
Buf[4] by non-setting condition to get the data from camera  
Buf[2]=0x1D(OPTION reading)  
Buf[3]=0x08(FREEZE ON/OFF reading)  
Buf[4]=0x00(OFF), 0x01(ON)  
Buf[5]-Buf[15]= non-use

(36)OPTION item, PRIORITY AGC/SENSE reading  
Buf[4] by non-setting condition to get the data from camera  
Buf[2]=0x1D(OPTION reading)  
Buf[3]=0x06(PRIORITY reading)  
Buf[4]=0x00(AGC PRIORITY), 0x01(SENSE UP PRIORITY)  
Buf[5]-Buf[15]= non-use

(37)OPTION item, GAMMA reading  
Buf[4] by non-setting condition to get the data from camera  
Buf[2]=0x1D(OPTION reading)  
Buf[3]=0x14(GAMMA reading)  
Buf[4]=0x00(0.45 GAMMA), 0x01(1.0 GAMMA)  
Buf[5]-Buf[15]= non-use

(38)OPTION item, APC PRESET reading  
This item no reading command.

(39)OPTION item, APC H-GAIN LEVEL reading  
Buf[5] by non-setting condition to get the data from camera  
Buf[2]=0x1D(OPTION reading)

Buf[3]=0x15(APC reading)  
Buf[4]=0x01(H-GAIN reading)  
Buf[5]=0x00-0x12(level)  
Buf[6]-Buf[15]= non-use

(40)OPTION item, APC V-GAIN LEVEL reading  
Buf[5] by non-setting condition to get the data from camera  
Buf[2]=0x1D(OPTION reading)  
Buf[3]=0x15(APC reading)  
Buf[4]=0x02(V-GAIN reading)  
Buf[5]=0x00-0x12(level)  
Buf[6]-Buf[15]= non-use

(41)OPTION item, High light LEVEL reading  
Buf[4] by non-setting condition to get the data from camera  
Buf[2]=0x1D(OPTION reading)  
Buf[3]=0x16(High light reading)  
Buf[4]=0x00-0x12(level)  
Buf[5]-Buf[15]= non-use

(42)OPTION item, COLOR BAR reading  
Buf[4] by non-setting condition to get the data from camera  
Buf[2]=0x1D(OPTION reading)  
Buf[3]=0x17(COLOR BAR reading)  
Buf[4]=0x00(OFF), 0x01(ON)  
Buf[5]-Buf[15]= non-use

(43)Motion Detect item, ON/OFF reading  
Buf[4] by non-setting condition to get the data from camera  
Buf[2]=0x47(Motion Detect reading)  
Buf[3]=0x00(Motion Detect ON/OFF reading)  
Buf[4]=0x00(OFF), 0x01(ON)  
Buf[5]-Buf[15]= non-use

(44)Motion Detect item, PRESET reading  
Buf[4] by non-setting condition to get the data from camera  
Buf[2]=0x47(Motion Detect reading)  
Buf[3]=0x01(PRESET ON/OFF reading)  
Buf[4]=0x00(OFF), 0x01(ON)  
Buf[5]-Buf[15]= non-use

(45)Motion Detect item, LEVEL reading  
Buf[4] by non-setting condition to get the data from camera  
Buf[2]=0x47(Motion Detect reading)  
Buf[3]=0x02(LEVEL reading)  
Buf[4]=0x00-0x08(level)  
Buf[5]-Buf[15]= non-use

(46)Motion Detect item, TIMER reading  
Buf[4] by non-setting condition to get the data from camera  
Buf[2]=0x47(Motion Detect reading)  
Buf[3]=0x03(TIMER reading)  
Buf[4]=0x00(10sec), 0x01(30sec), 0x02(60sec)  
Buf[5]-Buf[15]= non-use

(47) Motion Detect item, Area selection reading

Buf[3]-Buf[8] by non-setting condition to get the data from camera

Buf[3]=0x00-0xFF (Area 1<sup>st</sup> line? left LSB, right MSB)

Buf[4]=0x00-0xFF (Area 2<sup>nd</sup> line? left LSB, right MSB)

Buf[5]=0x00-0xFF (Area 3<sup>rd</sup> line? left LSB, right MSB)

Buf[6]=0x00-0xFF (Area 4<sup>th</sup> line? left LSB, right MSB)

Buf[7]=0x00-0xFF (Area 5<sup>th</sup> line? left LSB, right MSB)

Buf[8]=0x00-0xFF (Area 6<sup>th</sup> line? left LSB, right MSB)

(Buf[3]-Buf[8] Area, selected bit=1)

Buf[9]-Buf[15]= non-use

	MSB				LSB			
Buf[3]	0	0	0	0	0	0	0	0
Buf[4]	0	0	0	0	0	0	0	0
Buf[5]	0	0	1	1	1	1	0	0
Buf[6]	0	0	1	1	1	1	0	0
Buf[7]	0	0	1	1	1	1	0	0
Buf[8]	0	0	0	0	0	0	0	0

(48) ZOOM item, ON/OFF and LEVER reading

Buf[4]-Buf[5] by non-setting condition to get the data from camera

Buf[2]=0x1F (ZOOM reading)

Buf[3]=0x00 (ON/OFF and LEVEL reading)

Buf[4]=0x00 (OFF), 0x01 (ON)

Buf[5]=0x00, 0x10, 0x20, 0x30, 0x40, 0x50, 0x60, 0x70, 0x80 (level)

Buf[6]-Buf[15]= non-use

## 63V5 Camera Summary reading of shortened command

### 1. Purpose:

The shortened command is for that while capturing the setting data from 63V5 camera, the shortened command could simplify the process of multiple commands, and to read out the data summarily. While to start the camera-adjusting tool, by this shortened summary reading command could relieve the setting data process, but also would not disturb user's operation.

### 2. Command detail:

The format of this command is the same as 63V5/19byte serial command format", please refer to the **Fig-3 Command & Response**. (Regarding command protocol, please refer to serial command communication I/F.)

(1) Summary reading of shortened command 1

Buf[4]-Buf[15] by non-setting condition to get the data from camera

Buf[2]=0x45 (summary reading)

Buf[3]=0x00 (shortened command 1)

Buf[4]=0x00-0xFF (TITLE item ID character -1 TEXT CODE)

Buf[5]=0x00-0xFF (TITLE item ID character -2 TEXT CODE)

Buf[6]=0x00-0xFF (TITLE item ID character -3 TEXT CODE)

Buf[7]=0x00-0xFF (TITLE item ID character -4 TEXT CODE)

Buf[8]=0x00-0xFF (TITLE item ID character -5 TEXT CODE)

Buf[9]=0x00-0xFF (TITLE item ID character -6 TEXT CODE)

Buf[10]=0x00-0xFF (TITLE item ID character -7 TEXT CODE)

Buf[11]=0x00-0xFF (TITLE item ID character -8 TEXT CODE)

Buf[12]=0x00-0xFF (TITLE item ID character -9 TEXT CODE)

Buf[13]=0x00-0xFF (TITLE item ID character -10 TEXT CODE)

Buf[14]=0x00-0xFF (TITLE item ID character -11 TEXT CODE)

Buf[15]=0x00-0xFF (TITLE item ID character -12 TEXT CODE)

(2) Summary reading of shortened command 2

Buf[4]-Buf[15] by non-setting condition to get the data from camera

Buf[2]=0x45 (summary reading)

Buf[3]=0x01 (shortened command 2)

Buf[4]=0x00-0x08 (BLC item PEAK LEVEL)

Buf[5]=0x00 (LEFT-UP), 0x01 (LEFT-DOWN), 0x02 (RIGHT-UP), 0x03 (RIGHT-DOWN) (TITLE item TITLE display position)

Buf[6]=0x00 (ATW), 0x01 (AWC), 0x02 (MANU) (W/B item ATW/MANU/AWC)

Buf[7]=0x00-0x0C (SENSE UP item SENSE UP OFF ~ X128)

Buf[8]=0x00-0x08 (ZOOM item ZOOM LEVEL)

Buf[9]=0x00-0x0F (ALC item SHUTTER OFF ~ 12000)

Buf[10]=0x00-0x08 (AGC item MANUAL LEVEL)

Buf[11]=0x00-0x08 (AGC item ON LEVEL)

Buf[12]=0x00-0xFF (SYNC item V PHASE available max. Value HIGH BYTE)

Buf[13]=0x00-0xFF (SYNC item V PHASE available max. Value LOW BYTE)

Buf[14]=0x00-0xFF (SYNC item V PHASE current value HIGH BYTE)

Buf[15]=0x00-0xFF (SYNC item V PHASE current value LOW BYTE)

(3) Summary reading of shortened command 3

(3) Summary reading of shortened command 3

Buf[4]-Buf[15] by non-setting condition to get the data from camera

Buf[2]=0x45(summary reading)  
 Buf[3]=0x02(shortened command 3)

Buf[4]=0x00-0xFF(BLC item area select 1<sup>st</sup> line? left LSB, right MSB)  
 Buf[5]=0x00-0xFF(BLC item area select 2<sup>nd</sup> line : left LSB, right MSB)  
 Buf[6]=0x00-0xFF(BLC item area select 3<sup>rd</sup> line? left LSB, right MSB)  
 Buf[7]=0x00-0xFF(BLC item area select 4<sup>th</sup> line? left LSB, right MSB)  
 Buf[8]=0x00-0xFF(BLC item area select 5<sup>th</sup> line : left LSB, right MSB)  
 Buf[9]=0x00-0xFF(BLC item area select 6<sup>th</sup> line? left LSB, right MSB)

	MSB				LSB			
Buf[3]	0	0	0	0	0	0	0	0
Buf[4]	0	0	0	0	0	0	0	0
Buf[5]	0	0	1	1	1	1	0	0
Buf[6]	0	0	1	1	1	1	0	0
Buf[7]	0	0	1	1	1	1	0	0
Buf[8]	0	0	0	0	0	0	0	0

(Buf[4]-Buf[9] Area , selected bit=1)  
 Buf[10]= non-use  
 Buf[11]=0x00(3200K),0x01(5600K) ,0x02(OFF<USER>)(W/B item MANUAL)  
 Buf[12]=0x00-0x08 (W/B item USER B GAIN)  
 Buf[13]=0x00-0x08 (W/B item USER R GAIN)  
 Buf[14]=0x00(OFF),0x01(ON) (ZOOM item ZOOM ON/OFF)  
 Buf[15]=0x00(OFF),0x01(ON) (TITLE item TITLE display ON/OFF)

(4)Summary reading of shortened command 4

Buf[4]-Buf[15] by non-setting condition to get the data from camera

Buf[2]=0x45(summary reading)  
 Buf[3]=0x03(shortened command 4)  
 Buf[4]=0x00(ALC),0x01(ELC) (ALC/ELC item ALC/ELC)  
 Buf[5]=0x00(OFF),0x01(ON), 0x02(PEAK) (BLC item BLC ON/OFF/PEAK)  
 Buf[6]=0x00(OFF),0x01(ON) (BLC item BLC PRESET)  
 Buf[7]=0x00(OFF),0x01(ON), 0x02(MANUAL) (AGC item AGC ON/OFF/MANU)  
 Buf[8]=0x00(INT),0x01(LINE), 0x02(VBS) (SYNC item INT/LINE/VBS)  
 Buf[9]=0x00(POS),0x01(NEGA) (OPTION item POSI/NEGA)  
 Buf[10]=0x00(OFF),0x01(ON) (OPTION item HREV ON/OFF)  
 Buf[11]=0x00(AGC priority),0x01(SENSE UP priority) (OPTION item PRIORITY AGC/SENS)  
 Buf[12]=0x00(OFF),0x01(ON) (OPTION item MASK A ON/OFF)  
 Buf[13]=0x00(OFF),0x01(ON) (OPTION item MASK B ON/OFF)  
 Buf[14]=0x00(OFF),0x01(ON) (OPTION item MASK C ON/OFF)  
 Buf[15]=0x00(OFF),0x01(ON) (OPTION item MASK D ON/OFF)

(5)Summary reading of shortened command 5

Buf[4]-Buf[15] by non-setting condition to get the data from camera

Buf[2]=0x45(summary reading)  
 Buf[3]=0x04(shortened command 5)  
 Buf[4]=0x00-0x08 (ALC item LEVEL)  
 Buf[5]=0x00(OFF),0x01(ON) (OPTION item V-REV ON/OFF)  
 Buf[6]=0x00(FIELD),0x01(FRAME) (OPTION item FREEZE FIELD/FRAME)  
 Buf[7]=0x00(OFF),0x01(ON) (OPTION item FREEZE ON/OFF)  
 Buf[8]=0x00-0xFF (SYNC item H PHASE available max. Value)  
 Buf[9]=0x00-0xFF (SYNC item H PHASE current value)  
 Buf[10]-Buf[15]= non-use

(6)Summary reading of shortened command 6

Buf[4]-Buf[15] by non-setting condition to get the data from camera

Buf[2]=0x45(summary reading)  
 Buf[3]=0x05(shortened command 6)  
 Buf[4]=0x00(OFF),0x01(ON) (Motion Detect item ON/OFF)  
 Buf[5]=0x00(OFF),0x01(ON) (Motion Detect item PRESET)  
 Buf[6]=0x00-0x08(level) (Motion Detect item LEVEL)

Buf[7]=0x00-0xFF(Area 1<sup>st</sup> line? left LSB, right MSB)

	MSB				LSB			
Buf[3]	0	0	0	0	0	0	0	0
Buf[4]	0	0	0	0	0	0	0	0
Buf[5]	0	0	1	1	1	1	0	0
Buf[6]	0	0	1	1	1	1	0	0
Buf[7]	0	0	1	1	1	1	0	0
Buf[8]	0	0	0	0	0	0	0	0

Buf[8]=0x00-0xFF(Area 2<sup>nd</sup> line? left LSB, right MSB)

Buf[9]=0x00-0xFF(Area 3<sup>rd</sup> line? left LSB, right MSB)

Buf[10]=0x00-0xFF(Area 4<sup>th</sup> line? left LSB, right MSB)

Buf[11]=0x00-0xFF(Area 5<sup>th</sup> line? left LSB, right MSB)

Buf[12]=0x00-0xFF(Area 6<sup>th</sup> line? left LSB, right MSB)

Buf[13]=0x00(10sec),0x01(30sec), 0x02(60sec) (Motion Detect item TIMER)

Buf[14]=0x00(0.45 GAMMA),0x01(1.0 GAMMA) (OPTION item GAMMA)

Buf[15]= non-use

(7)Summary reading of shortened command 7

Buf[4]-Buf[15] by non-setting condition to get the data from camera

Buf[2]=0x45(summary reading)  
 Buf[3]=0x06(shortened command 7)  
 Buf[4]=0x00-0x12(level) (OPTION item APC H-GAIN LEVEL)  
 Buf[5]=0x00-0x12(level) (OPTION item APC V-GAIN LEVEL)  
 Buf[6]=0x00-0x12(level) (OPTION item APC High light LEVEL)  
 Buf[7]=0x00(OFF),0x01(ON) (OPTION item COLOR BAR)  
 Buf[8]-Buf[15]= non-use

**TEXT CODE & PATTERNS 1/3**

00H	01H	02H	03H	04H	05H	06H	07H
08H	09H	0AH	0BH	0CH	0DH	0EH	0FH
10H <sup>Note 1</sup>	11H	12H	13H	14H	15H	16H	17H
18H	19H	1AH	1BH	1CH	1DH	1EH	1FH
20H	21H	22H	23H	24H	25H	26H	27H
28H	29H	2AH	2BH	2CH	2DH	2EH	2FH

**TEXT CODE & PATTERNS 2/3**

30H	31H	32H	33H	34H	35H	36H	37H
38H	39H	3AH	3BH	3CH	3DH	3EH	3FH
40H	41H	42H	43H	44H	45H	46H	47H
48H	49H	4AH	4BH	4CH	4DH	4EH	4FH
50H	51H	52H	53H	54H	55H	56H	57H
58H	59H	5AH	5BH	5CH	5DH	5EH	5FH

### TEXT CODE & PATTERNS 3/3

60H	61H	62H	63H	64H	65H	66H	67H
68H	69H	6AH	6BH	6CH	6DH	6EH	6FH
70H	71H	72H	73H	74H	75H	76H	77H
78H	79H	7AH	7BH	7CH	7DH	7EH <sup>Note 2</sup>	7FH <sup>Note 3</sup>

- Notes**
1. Blank data
  2. Display-off data (fixed at this address)
  3. End code for second-byte continuous input (fixed at this address)