

Technical information: Command List for HV-HD33 Remote Control

1.Feb.2012

The Hitachi HV-HD33 series color cameras are provided with the functions which can be controlled from a PC. This information is prepared to explain the commands corresponding respective control items. For remote control procedure, see Technical Information entitled Protocol for remote control.

1. ON/OFF control commands (Setting commands, response request commands, response commands)

Note 1. Set character S listed in the (DT4) column to 0 to control a camera, and 1 not to control it.

2. Setting data can be backed up to the EEPROM by the command MEMORY BACK UP.

In the case of the last of the name of the column of (DT3) is described as ON or OFF, (DT3) becomes ON or OFF as the name in case of 1 and (DT3) becomes the opposite condition in case of 0.

(Example)

KNEE OFF : Bit 2 of (DT3)

OFF : (20,02,04,FB) / ON : (20,02,00,FB)

(DT1)	(DT2)	(DT3)		(DT4)	
CTL	MODE	Bit	Item	MASK	
20H 23H 22H	00H	0	PRESET 3200K/5600K	S	
		1		1	
		2		1	
		3		1	
		4		1	
		5		1	
		6		1	
		7	CAP ON	S	
	01H	0	GAIN +3dB	0	S
		1	+6dB	1	S
		2	+12dB	2	S
		3	(+24dB)	3	S
		4	+1dB	4	S
		5	+2dB	5	S
		6		1	
7		1			
02H	0		1		
	1	GAMMA OFF	S		
	2	KNEE OFF	S		
	3	WHITE CLIP OFF	S		
	4		1		
	5	M.SHAD OFF	S		
	6	MASKING ON	S		
	7		1		

PRESET 3200K/5600K

PRESET 3200K	PRESET5600K	(DT4)
0	1	FEH

If WHITE BAL MODE:PRESET(20,04,00,F3), this item is enable.

CAP ON(Set only,not memory)

IRIS closes when it is "CAP ON".

GAIN

if AGC MODE:PRESET(20,04,00,CF).

Refer to 3 pages for the details of the GAIN command. (MAX:+15dB)

(DT1)	(DT2)	(DT3)		(DT4)
CTL	MODE	Bit	Item	MASK
20H 23H 22H	04H	0	IRIS MODE	0 S
		1		1 S
		2	WHITE BAL MODE	0 S
		3		1 S
		4	AGC MODE	0 S
		5		1 S
		6		1
	7	AUTO KNEE OFF	S	
	05H	0	SHUTTER ON	0 S
		1	SHUTTER MODE	1 S
		2		2 S
		3	SHUTTER PRESET	3 S
		4	MODE	4 S
		5		5 S
		6		6 S
	7		7 S	
	06H	0	COLOR DTL ON	S
		1		1
		2	HI CHROMA ON	S
		3		1
		4		1
5			1	
6			1	
7	FLARE OFF	S		

IRIS MODE

	MANUAL	REMOTE	AUTO	-	(DT4)
0	0	1	0	1	FCH
1	0	0	1	1	

MANUAL : Manual iris of the camera is done effectively.

REMOTE : The iris is controlled by "IRIS (302EH)" command.

AUTO : AUTO IRIS. Iris level is adjusted by "OVER RIDE(3039H)" command.

WHITE BAL MODE

	PRESET	MEMORY	AUTO	-	(DT4)
0	0	1	0	1	F3H
1	0	0	1	1	

AGC MODE

	PRESET	-	AUTO	-	(DT4)
0	0	1	0	1	CFH
1	0	0	1	1	

PRESET : The setting of NORMAL/HIGH/MAX by "GAIN(2001H)" command is enable.

AUTO : AGC ON

SHUTTER

Refer to 3 pages for the details of the SHUTTER command.

GAIN command

(DT1)	(DT2)	(DT3)														(DT4)
		bit	0dB	1dB	2dB	3dB	4dB	5dB	6dB	7dB	8dB	9dB	10dB	11dB	12dB	
20H	01H	0	0	0	0	1	1	1	0	0	0	1	1	1	0	C0H
		1	0	0	0	0	0	0	1	1	1	1	1	1	0	
		2	0	0	0	0	0	0	0	0	0	0	0	0	1	
		3	0	0	0	0	0	0	0	0	0	0	0	0	0	
		4	0	1	0	0	1	0	0	1	0	0	1	0	0	
		5	0	0	1	0	0	1	0	0	1	0	0	1	0	

(DT1)	(DT2)	(DT3)			(DT4)	
		bit	13dB	14dB		15dB
20H	01H	0	0	0	1	C0H
		1	0	0	0	
		2	1	1	1	
		3	0	0	0	
		4	1	0	0	
		5	0	1	0	

SHUTTER command

(DT1)	(DT2)	(DT3)													VAR.	AES
		bit	OFF	SHUTTER PRESET												
				1/100 (1/60)	1/250	1/500	1/1000	1/2000	1/4000	1/1000	1/2000	1/4000	1/1000000			
20H	05H	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1
		1	-	0	0	0	0	0	0	0	0	0	0	0	1	0
		2	-	0	0	0	0	0	0	0	0	0	0	0	0	1
		3	-	1	0	1	0	1	0	1	0	1	0	1	-	-
		4	-	0	1	1	0	0	1	1	0	0	1	-	-	
		5	-	0	0	0	1	1	1	1	0	0	0	-	-	
		6	-	0	0	0	0	0	0	0	1	1	1	-	-	
		7	-	0	0	0	0	0	0	0	0	0	-	-		
(DT4)		FEH	00H	00H	00H	00H	00H	00H	00H	00H	00H	00H	00H	F8H	F8H	

1/100 become 1/60 in PAL.

VARIABLE : The setting of variable shutter by "SHUTTER VARIABLE(3038H)" command is enabled.

AES : AES ON

(DT1)	(DT2)	(DT3)		(DT4)	
CTL	MODE	Bit	Item	MASK	
20H 23H 22H	07H	0		1	
		1		1	
		2		1	
		3		1	
		4	ALC PEAK/AVE	0	S
		5		1	S
		6	16:9/4:3		S
	7			1	
	08H	0	BAR/CAM		S
		1			1
		2			1
		3			1
		4	NEGA ON		S
		5			1
		6			1
	7	MESSAGE RTN ON		S	
	0AH	0			1
		1			1
		2			1
		3			1
		4			1
		5			1
		6	COLOR DTL IND ON		S
	7			1	
	0BH	0			1
		1			1
		2			1
		3			1
4				1	
5				1	
6				1	
7	PAINT ENABLE ON		S		

ALC PEAK/AVE

	50/50	25/75	15/85	0/100	(DT4)
0	0	1	0	1	CFH
1	0	0	1	1	

BAR/CAM

CAM	BAR	(DT4)
0	1	FEH

16:9/4:3(TV System, SD Only)

16:9	4:3	(DT4)
0	1	FEH

MESSAGE RTN

ON :The executive message of AWB and ASC is indicated.

OFF:The executive message of AWB and ASC isn't indicated.

COLOR DTL IND(Set Only,No Memory)

When the following function is adjusted, the color of the establishment point disappears.

COLOR DTL PHASE(3059H,306BH),

COLOR DTL WIDTH(305AH,306CH)

PAINT ENABLE ON

if PAINT ENABLE ON(20,0B,80,7F),R/B Paint GAIN (3018H,301AH), R/B Paint BLACK(3021H,3023H) adjustment become effective.

(DT1)	(DT2)	(DT3)		(DT4)
CTL	MODE	Bit	Item	MASK
20H 23H 22H	10H	0		1
		1	MENU ON	S
		2		1
		3		1
		4	UP ON	S
		5	DOWN ON	S
		6	RIGHT ON	S
	7	LEFT ON	S	
	11H	0		1
		1	OUTPUT SEL	0 S
		2		1 S
		3		1
		4	OUTPUT SYNC	S
		5	SYNC ON G ON	S
		6	GL MODE SYNC/HD·	S
	7	GL IN 75Ω/HIGH	S	
	15H	0	D.N.R. ON	0 S
		1		1 S
		2		1
		3		1
		4		1
		5		1
		6		1
	7		1	
	16H	0	DYNA CHROMA ON	S
		1		1
		2		1
		3		1
4			1	
5			1	
6			1	
7		1		
17H	0		1	
	1		1	
	2	INDICATOR DISPLAY	0 S	
	3		1 S	
	4		1	
	5		1	
	6		1	
7		1		

MENU SET UP COMMAND

In the same way as sw of the rear control panel of the camera which a menu screen can operate.

(Note)Be sure to set it up again in Low when you set up each bit in Hi.

OUTPUT SEL

	RGB	Y/R-Y/B-Y	-	-	(DT4)
0	0	1	0	1	F9H
1	0	0	1	1	

OUTPUT SYNC

SYNC	HD	(DT4)
0	1	BFH

GL MODE SYNC/HD·VD

SYNC	HD·VD	(DT4)
0	1	BFH

GL IN 75Ω/HIGH

75Ω	HIGH	(DT4)
0	1	7FH

D.N.R. MODE

	OFF	MODE1	MODE2	-	(DT4)
0	0	1	1	0	FCH
1	0	0	1	1	

INDICATOR DISPLAY

The indication mode of each detection area is chosen.

	OFF	WHT	ALC	COLOR DTL	(DT4)
0	0	1	0	1	F3H
1	0	0	1	1	

WHT : The detection indicator of WHT is displayed normally.

(DT1)	(DT2)	(DT3)		(DT4)
CTL	MODE	Bit	Item	MASK
20H 23H 22H	18H	0	GAMMA TABLE	0 S
		1		1 S
		2		1
		3		1
		4		1
		5		1
		6		1
	7		1	
	20H	0	COLOR DTL	0 S
		1	PHASE ch1	1 S
		2		2 S
		3		1
		4		1
		5		1
		6		1
	7		1	
	21H	0	COLOR DTL	0 S
		1	PHASE ch2	1 S
		2		2 S
		3		1
		4		1
		5		1
		6		1
	7		1	
	24H	0	FIELD FREQ	S
		1		1
		2		1
		3		1
4			1	
5			1	
6			1	
7		1		
25H	0	SCAN MODE	S	
	1		1	
	2		1	
	3		1	
	4	HD/SD MODE	S	
	5		1	
	6		1	
7		1		

GAMMA TABLE

If GAMMA:ON(20,02,00,FD).

	LOW	STANDARD	HIGH	-	(DT4)
0	0	1	0	1	FCH
1	0	0	1	1	

COLOR DTL PHASE ch1

	R-Mg	Mg-B	B-Cy	Cy-G	G-Ye	Ye-R	-(R-Mg)	-(R-Mg)	(DT4)
0	0	1	0	1	0	1	0	1	F8H
1	0	0	1	1	0	0	1	1	
2	0	0	0	0	1	1	1	1	

This command is used with COLOR DTL PHASE (3059H).

COLOR DTL PHASE ch2

	R-Mg	Mg-B	B-Cy	Cy-G	G-Ye	Ye-R	-(R-Mg)	-(R-Mg)	(DT4)
0	0	1	0	1	0	1	0	1	F8H
1	0	0	1	1	0	0	1	1	
2	0	0	0	0	1	1	1	1	

This command is used with COLOR DTL PHASE (306BH).

FILED FREQ.

59.94Hz	50Hz	(DT4)
0	1	FEH

SCAN MODE

720p	1080i	(DT4)
0	1	FEH

HD/SD MODE(TV System)

HD	SD	(DT4)
0	1	EFH

(DT1)	(DT2)	(DT3)		(DT4)	
CTL	MODE	Bit	Item	MASK	
20H 23H 22H	29H	0	DTL BOOST FREQ	0	S
		1		1	S
		2			1
		3			1
		4			1
		5			1
		6			1
		7			1
	35H	0	COLOR DTL IND. SEL		S
		1			1
		2			1
		3			1
		4			1
		5			1
		6			1
		7			1
	3BH	0			1
		1			1
		2			1
		3			1
		4	AES (1/00) ON		S
		5			1
		6			1
		7			1
	43H	0			1
		1			1
		2			1
		3			1
4		H MIRROR ON		S	
5				1	
6				1	
7				1	

DTL BOOST FREQ

	LOW	MID	HIGH	---	(DT4)
0	0	1	0	1	3FH
1	0	0	1	1	

COLOR DTL IND. SEL

	ch1	ch2	(DT4)
0	0	1	FEH

(DT1)	(DT2)	(DT3)		(DT4)
CTL	MODE	Bit	Item	MASK
28H 2BH 2AH	00H	0	ID DISPLAY ON	S
		1		1
		2	TITLE DISPLAY ON	S
		3		1
		4	IRIS OPEN LIMIT ADJ	S
		5	IRIS CLOSE LIMIT ADJ	S
		6		1
		7	ALC GATE ON	S
	01H	0	LENS TYPE	S
		1		1
		2		1
		3		1
		4		1
		5		1
		6		1
		7	CAM MODE	S
	08H	0	AGC LIMIT	S
		1	06H(+6dB) ~	S
		2	0FH(+15dB)	S
		3		S
		4		S
		5		1
		6		1
		7		1

IRIS OPEN LIMIT ADJ

If IRIS OPEN LIMIT ADJ : ON(28,00,10,EF), the setting of iris open limit is adjusted by "AUTO IRIS OPEN LIMIT(303CH)" command.

IRIS CLOSE LIMIT ADJ

If IRIS CLOSE LIMIT ADJ : ON(28,00,20,DF), the setting of iris close limit is adjusted by "AUTO IRIS CLOSE LIMIT(303BH)" command.

LENS TYPE

VIDEO	DC	(DT4)
0	1	FEH

CAM MODE

MANUAL	AUTO	(DT4)
0	1	7FH

(DT1)	(DT2)	(DT3)		(DT4)	
CTL	MODE	Bit	Item	MASK	
28H 2BH 2AH	10H	0	WHITE GATE ON	S	
		1		1	
		2		1	
		3		1	
		4		1	
		5		1	
		6		1	
	7	ATW SPEED		S	
	11H	0	ALC SPEED	0	S
		1		1	S
		2			1
		3			1
		4			1
		5			1
		6			1
	7			1	
	28	0	ALC GATE SEL	0	S
		1		1	S
		2		2	S
		3			1
		4			1
		5			1
		6			1
	7			1	

ATW SPEED

Sets real-time auto white balance response speed.

SLOW	STANDARD	(DT4)
0	1	BFH

ALC SPEED

It sets up it with the action speed of AGC and AES.

	SLOW	STANDARD	FAST	-	(DT4)
0	0	1	0	1	FCH
1	0	0	1	1	

ALC GATE SEL



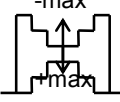
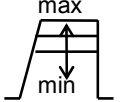

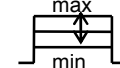


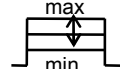
If ALC GATE:ON(28,00,80,7F).

	Pat.1	Pat.2	Pat.3	Pat.4	Pat.5	Pat.6	Manu	(DT4)
0	0	1	0	1	0	1	0	F8H
1	0	0	1	1	0	0	1	
2	0	0	0	0	1	1	1	

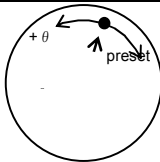
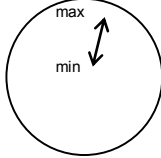
2. Analog control commands (Setting commands, response request commands, response commands)


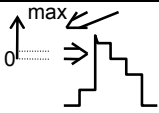
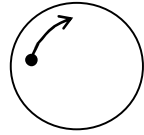
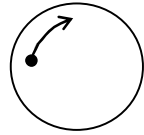
Note 1. X in the DATA column is undefined.

2. Setting data can be backed up to the EEPROM by the command MEMORY BACK UP.

Item	(DT1)	(DT2)	(DT3)u , (DT4)d	
	CTL	MODE	DATA	
R GAIN	30H	00H	min preset max	
B GAIN		02H	80XXH~00XXH~7FXXH (SINGED)	
R GAMMA	33H	03H	min preset max	
B GAMMA	32H	05H	80XXH~00XXH~7FXXH (SINGED)	
FLARE		07H	-max FLARE off +max 80XXH~00XXH~7FXXH (SINGED)	
W.CLIP		13H	min preset max 80XXH~00XXH~7FXXH (SINGED)	
R paint GAIN		18H	min preset max	
B paint GAIN		1AH	80XXH~00XXH~7FXXH (SINGED)	
R paint BLACK		21H	min preset max	
B paint BLACK		23H	80XXH~00XXH~7FXXH (SINGED)	
TOTAL GAMMA		27H	min preset max 80XXH~00XXH~7FXXH (SINGED)	
KNEE POINT		28H	min preset max 80XXH~00XXH~7FXXH (SINGED)	
MASTER BLACK		2BH	min preset max 80XXH~00XXH~7FXXH (SINGED)	
DETAIL		2CH	min preset max 80XXH~00XXH~7FXXH (SINGED)	
IRIS		2EH	CLOSE OPEN 80XXH~00XXH~7FXXH (SINGED)	

Item	(DT1)	(DT2)	(DT3)u , (DT4)d
	CTL	MODE	DATA
H.PHASE	30H 33H	34H	-128 0 +127 80XXH~00XXH~7FXXH (SINGED)
SHUTTER VARIABLE (要修正)		38H	(FIELED FRQ.:59.94Hz) Shutter speed = (744-(data x 4)) / 59.94 [sec] ----- 1/60.74s ~ 1/5619 s 0001H 00B8H (FIELED FRQ.:50 Hz) Shutter speed = (744-(data x 4)) / 50 [sec] ----- 1/50.67s ~ 1/4687 s 0001H 00B8H
OVER RIDE		39H	-128 0 +127 80XXH~00XXH~7FXXH (SINGED)
IRIS SPEED		3AH	1 +15 01XXH~0FXXH (SINGED)
AUTO IRIS CLOSE LIMIT		3BH	CLOSE OPEN 80XXH~FFXXH (SINGED)
AUTO IRIS OPEN LIMIT		3CH	CLOSE OPEN 00XXH~7FXXH (SINGED)
AUTO KNEE TRIM		3FH	LOW HIGH 80XXH~00XXH~7FXXH (SINGED) (KNEE LEVEL of the "AUTO KNEE" condition is adjusted.)

Item	(DT1)	(DT2)	(DT3) _U , (DT4) _D		
	CTL	MODE	DATA		
R HUE CROMA COMPEN	30H	40H	+ θ	preset - θ	
G HUE CROMA COMPEN		41H	E0XXH~00XXH~1FXXH (SINGED)		
B HUE CROMA COMPEN		33H	42H		
Y HUE CROMA COMPEN		32H	43H		
C HUE CROMA COMPEN		44H			
M HUE CROMA COMPEN		45H			
R SAT CROMA COMPEN	32H	46H	min	max	
G SAT CROMA COMPEN		47H	C0XXH~00XXH~3FXXH (SINGED)		
B SAT CROMA COMPEN		48H			
Y SAT CROMA COMPEN		49H			
C SAT CROMA COMPEN		4AH			
M SAT CROMA COMPEN		4BH			
RG LIN CROMA COMPEN		4CH	min	max	
GB LIN CROMA COMPEN		4DH	C0XXH~00XXH~3FXXH (SINGED)		
BR LIN CROMA COMPEN		4EH			
GR LIN CROMA COMPEN		4FH			
BG LIN CROMA COMPEN	50H				
RB SAT CROMA COMPEN	51H				
MASTER SAT CROMA	52H	min	max		
			C0XXH~00XXH~3FXXH (SINGED)		

Item	(DT1)	(DT2)	(DT3)u , (DT4)d
	CTL	MODE	DATA
DTL LEVEL DEPEND		53H	Dependent level setting Low High 80XXH~00XXH~7FXXH (SINGED) 
DTL CRISP		54H	Crispness level setting 0 max 80XXH~00XXH~7FXXH (SINGED) 
DTL HV BALANCE		55H	Balance setting for horizontal and vertical detail amount H<V H=V H>V 80XXH~00XXH~7FXXH (SINGED)
COLOR DTL ch1 LEVEL (FRESH GAIN)		58H	Sets color detail level 0 1 2(magnification) 80XXH~00XXH~7EXXH (SINGED: Upper 7 bits are effective. 128 steps.)
COLOR DTL ch1 PHASE (FRESH PHASE)		59H	Sets color detail phase -128 0 127 80XXH~00XXH~7CXXH (SINGED) 
COLOR DTL ch1 WIDTH (FRESH WIDTH)		5AH	Selects color phase range for setting -128(-120°) 0(0°) 127(+120°) 80XXH ~ 00XXH ~ 7FXXH (SINGED)
SOFT DTL WHITE		5B	-128 0 127 80XXH~00XXH~7CXXH (SINGED)
SOFT DTL BLACK		5C	-128 0 127 80XXH~00XXH~7CXXH (SINGED)
COLOR DTL ch2 LEVEL (FRESH GAIN)		6AH	Sets color detail level 0 1 2(magnification) 80XXH~00XXH~7EXXH (SINGED) (SINGED: Upper 7 bits are effective. 128 steps.)
COLOR DTL ch2 PHASE (FRESH PHASE)		6BH	Sets color detail phase -128 0 127 80XXH~00XXH~7CXXH (SINGED) 
COLOR DTL ch2 WIDTH (FRESH WIDTH)		6CH	Selects color phase range for setting -128(-120°) 0(0°) 127(+120°) 80XXH ~ 00XXH ~ 7FXXH (SINGED)

Item	(DT1)	(DT2)	(DT3) _U , (DT4) _D	
	CTL	MODE	DATA	
WHITE GATE H POSI	30H 33H	A2	LEFT 00XXH	RIGHT ~ 08XXH
WHITE GATE V POSI	32H	A3	UP 00XXH	DOWN ~ 04XXH
IRIS GAIN		A5	min -128	max 0 127 80XXH~00XXH~7FXXH (SINGED)
AES LIMIT (要修正)		B0	(FIELED FRQ.:59.94Hz) Shutter speed = (744-(data x 4)) / 59.94 [sec] 1/60.74s ~ 1/2247s 0001H 00B5H	
			(FIELED FRQ.:50 Hz) Shutter speed = (744-(data x 4)) / 50 [sec] 1/50.67s ~ 1/1875 s 0001H 00B5H	
ATW HIGH LIMIT		C8H	2,000K 94XXH	~ 15,000K ~ 1600H (SINGED)
ATW LOW LIMIT		C9H	2,000K 14XXH	~ 15,000K ~ 9600H (SINGED)

3. Auto function control commands (Setting commands, response commands)

(Note) As for the executive result, a memory is done.

Item	Setting commands		Response commands		
	(DT1)	(DT2)	(DT1)	(DT2)	(DT3)
	CTL	MODE	CTL	MODE	RESULT
AUTO WHITE	40H	10H	40H	00H	00H:"OK" 11H:"NG","CHANGE TO CAM" 12H:"NG","CHANGE TO MEMORY MODE" 13H:"NG","LOW LIGHT" 14H:"NG","HIGH LIGHT" 15H:"NG","C.TEMP.HIGH" 16H:"NG","C.TEMP.LOW" 18H:"NG","???" 23H:"CAM MODE:AUTO", "CHANGE TO MANUAL"
AUTO BLACK	40H	20H	40H	00H	00H:"OK" 11H:"NG","CHANGE TO CAM" 18H:"NG","???"
AUTO SHADING	40H	30H	40H	00H	00H:"OK" 11H:"NG","CHANGE TO CAM" 13H:"NG","LOW LIGHT" 14H:"NG","HIGH LIGHT"

4. SCENE file select

(NOote) Every time "SCENE FILE NO." is changed, "SCENE FILE NO." does a memory.

Item	(DT1)	(DT2)	(DT3)
	CTL	CTL	CTL
FILE-1	60H	01H	01H
FILE-2			02H
FILE-3			03H
FILE-4			04H
PRESET			FFH

5. Memory backup

The change setting data can be backed up to the EEPROM.

(1) In a bundle memory backup

Item	(DT1)	(DT2)
	CTL	CTL
MEMORY BACK UP1	61H	02H

A memory supports all the data of "ADJUST FILE", "COMMON FILE" and "SCENE FILE 1,2,3,4".

(2) One item memory backup

Item	(DT1)	(DT2)	(DT3)	Note
	CTL	CTL	CTL	
MEMORY BACK UP2	65H	20H	XXH	ON/OFF Command
		28H	XXH	ON/OFF Command
		30H	XXH	Analog Command

The same value as DT1 and DT2 of when that command to, DT2, DT3 setting are set up.

(3) Only an optional scene file, memory backup.

(Note)The item of the menu screen that "FILE SEL" is indicated is the item of the scene file.

Item	(DT1)	(DT2)	(DT3)
	CTL	CTL	CTL
FILE-1	61H	01H	01H
FILE-2			02H
FILE-3			03H
FILE-4			04H
PRESET			FFH

Note

The memory backup writes data to the address of memory IC which was assigned in the unit of a command. The rewriting guarantee number to the same address of memory IC that is using with the HV-HD33 camera is becoming 100,000 times. Therefore, please pay attention in the case that a memory backup command is used.

6.States read (Response request commands, response commands)

Item	(DT1)	(DT2)	(DT3),(DT4),(DT5)
	CTL	MODE	RESULT
CAMERA TYPE	13H	00H	(DT3) A1H: HV-HD33
CAMERA VERSION	12H	01H	Ver.(DT3).(DT4)...ASCII code
CAMERA ID		02H	(DT3),(DT4),(DT5)...ASCII code
FILE No.		04H	(DT3) 01H:FILE-1,02H:FILE-2,03H:FILE-3,04H:FILE-4,FFH:PRESET

7.TITLTE CHARACTER SET COMMANDS

Item	(DT1)	(DT2)	(DT3),(DT4),...,(DT14)
	CTL	MODE	RESULT
ID CHARA SET	10H	02	(DT3),(DT4),....(DT14) ASCII code(3 characters)
TITLE CHARA SET		06H	(DT3),(DT4),....(DT14) ASCII code(12 characters)

8. INITIALIZE COMMANDS

Item	(DT1)	(DT2)	(DT3)
	CTL	CTL	CTL
FACTORY INITIALIZE	90H	00H	FFH
ALL INITIALIZE(without SYSTEM data)			00H

9. ID code chart

CHR.	ASCII code	CHR.	ASCII code	CHR.	ASCII code
SPACE	20H	A	41H	N	4EH
0	30H	B	42H	O	4FH
1	31H	C	43H	P	50H
2	32H	D	44H	Q	51H
3	33H	E	45H	R	52H
4	34H	F	46H	S	53H
5	35H	G	47H	T	54H
6	36H	H	48H	U	55H
7	37H	I	49H	V	56H
8	38H	J	4AH	W	57H
9	39H	K	4BH	X	58H
		L	4CH	Y	59H
		M	4DH	Z	5AH

10. TITLE code chart

CHR.	ASCII code	CHR.	ASCII code	CHR.	ASCII code	CHR.	ASCII code
SPACE	20H	4	34H	A	41H	N	4EH
.	28H	5	35H	B	42H	O	4FH
.	29H	6	36H	C	43H	P	50H
.	2AH	7	37H	D	44H	Q	51H
.	2BH	8	38H	E	45H	R	52H
.	2CH	9	39H	F	46H	S	53H
.	2DH	□	3AH	G	47H	T	54H
.	2EH	□	3BH	H	48H	U	55H
.	2FH	□	3FH	I	49H	V	56H
0	30H			J	4AH	W	57H
1	31H			K	4BH	X	58H
2	32H			L	4CH	Y	59H
3	33H			M	4DH	Z	5AH