SONY

A-CY3-100-**11** (1)

HD 3CMOS Color Video Camera

Command List

Version 1.00

BRC-Z700

© 2008 Sony Corporation

Table of Contents

VISCA[1] RS-232C/RS-422 Commands

Use of RS-232C/RS-422 control software based upon this command list may cause malfunction or damage to hardware and software. Sony Corporation is not liable for any such damage.

Overview of VISCA

In VISCA, the side outputting commands, for example, a computer, is called the controller, while the side receiving the commands, such as a BRC-Z700, is called the peripheral device. The BRC-Z700 serves as a peripheral device in VISCA. In VISCA, up to seven peripheral devices like the BRC-Z700 can be connected to one controller using communication conforming to the RS-232C/RS-422 standard. The parameters of RS-232C/RS-422 are as follows.

- Communication speed: 9600 bps/38400 bps
- Data bits : 8
- Start bit : 1
- Stop bit : 1
- Non parity

Flow control using XON/XOFF and RTS/CTS, etc., is not supported.

Peripheral devices are connected in a daisy chain. As shown in Fig. 1, the actual internal connection is a one-direction ring, so that messages return to the controller via the peripheral devices. The devices on the network are assigned addresses.
The address of the controller is fixed at 0.
The addresses of peripheral devices are as follows.

When the camera address selector is set to 0 (automatic setting mode)

The peripheral devices are assigned to the addresses, 1, 2, 3… in the connected order, starting from the one connected nearest to the controller. These addresses are set when the controller sends address commands during initialization of the network.

When the camera address selector is set to 1 through 7 (manual setting mode)

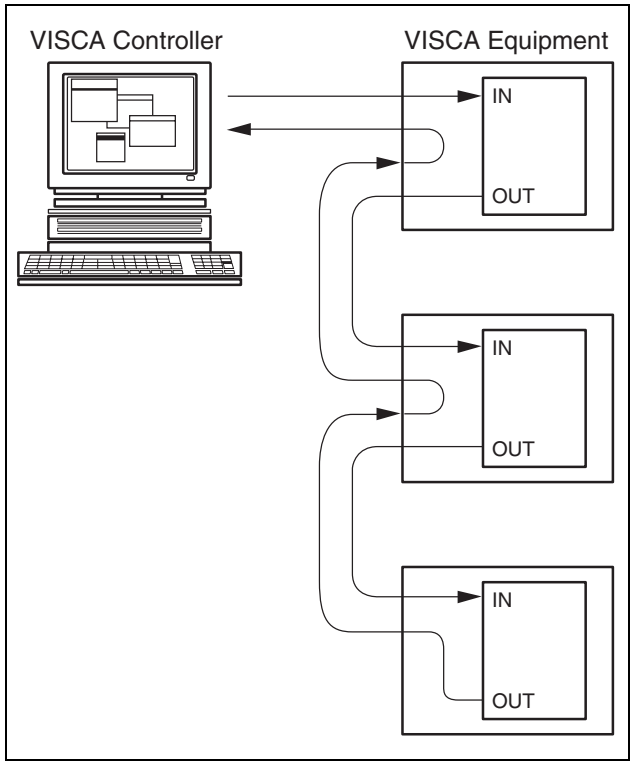
The addresses of the peripheral devices will be set to the pre-selected numbers. Within a single system, the same number can be used only once. If an address selector number other than 0 is used, set the camera address selectors on the connected BRC-Z700 cameras to different numbers.

Note

In the same network, all the camera address selectors should be set to “0” (automatic setting) or all the selectors should be manually set to “1” to “7”. Do not mix the automatic and manual settings.

Each VISCA equipment has VISCA IN and VISCA OUT connectors.
Set the DTR input (the S output of the controller) of VISCA IN to H when controlling VISCA equipment from the controller.

Fig. 1 VISCA network configuration



1) VISCA is a protocol developed by Sony for controlling a consumer’s camcorder. “VISCA” is a trademark of Sony Corporation.

VISCA Communication Specifications

VISCA packet structure

The basic unit of VISCA communication is called a packet (Fig. 2). The first byte of the packet is called the header and comprises the sender's and receiver's addresses. For example, the header of the packet sent to the BRC-Z700 assigned address 1 from the controller (address 0) is 81H in hexadecimal. The packet sent to the BRC-Z700 assigned address 2 is 82H. In the command list, as the header is 8X, input the address of the BRC-Z700 to X. The header of the reply packet from the BRC-Z700 assigned address 1 is 90H. The packet from the BRC-Z700 assigned address 2 is A0H.
Some of the setting commands for BRC-Z700 can be sent to all devices at one time (broadcast). In the case of broadcast, the header should be 88H in hexadecimal.
When the terminator is FFH, it signifies the end of the packet.

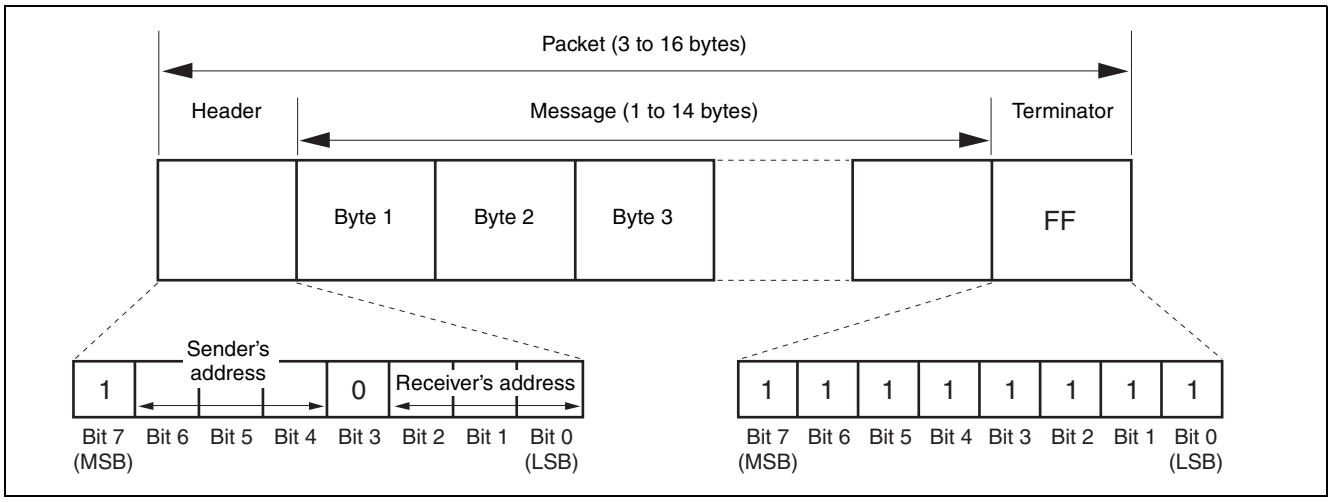


Fig. 2 Packet structure

Note

Fig. 2 shows the packet structure, while Fig. 3 shows the actual waveform. Data flow will take place with the LSB first.

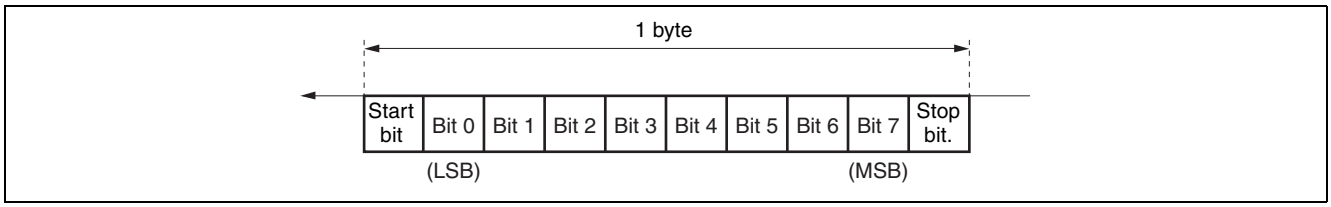
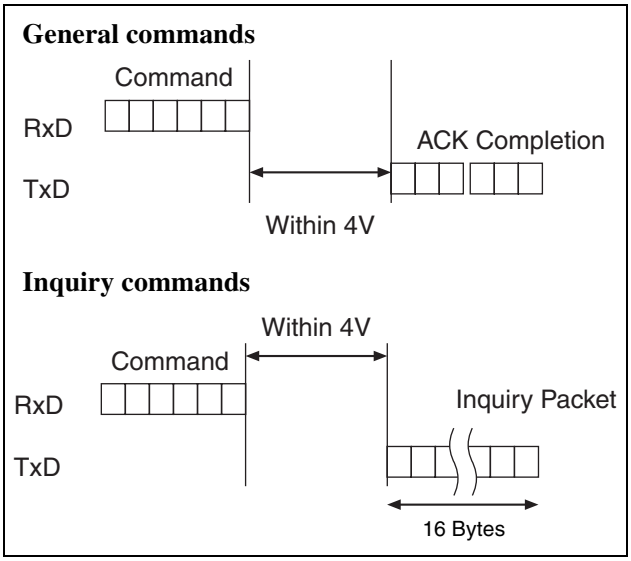


Fig. 3 Actual waveform for 1 byte.

Timing Chart

As VISCA command processing can only be carried out a maximum of one time in a Vertical (V*) cycle, it takes maximum 4V-cycle time for an ACK/Completion to be returned.
If the Command and ACK/Completion communication time is shorter than 1V-cycle time, a command can be received at every 1V cycle. From this point, if two or more commands are to be sent successively, wait for a reply command (an ACK or error message for a general command, and an inquiry packet for an inquiry command) of the previous command to be received before sending the next command.

*1V=16.7 msec (NTSC/59.94i), 20 msec (PAL/50i)



Command and inquiry

- **Command**
  Sends operational commands to the BRC-Z700.

- **Inquiry**
  Used for inquiring about the current state of the BRC-Z700.

	Command Packet	Note
Inquiry	8X QQ RR ... FF	QQ[1] = Command/Inquiry, RR[2] = category code

[1] QQ = 01 (Command), 09 (Inquiry)
[2] RR = 00 (Interface), 04 (camera 1), 06 (Pan/Tilter)

X = 1 to 7: BRC-Z700 address

For actual values to be sent, see Command Lists or Inquiry Command Lists.

Responses for commands and inquiries

- **ACK message**
  Returned by the BRC-Z700 when it receives a command. No ACK message is returned for an inquiry.

- **Completion message**
  Returned by the BRC-Z700 when execution of commands or inquiries is completed. In the case of inquiry commands, reply data for the inquiry is contained after the 3rd byte of the packet. If the ACK message is omitted, the socket number will contain 0.

	Reply Packet	Note
Ack	X0 4Y FF	Y = socket number
Completion (Commands)	X0 5Y FF	Y = socket number
Completion (Inquiries)	X0 5Y ... FF	Y = socket number

X = 9 to F: BRC-Z700 address + 8

- **Error message**
  When a command or inquiry command could not be executed or failed, an error message is returned instead of a completion message.

Error Packet	Description
X0 6Y 01 FF	Message length error
X0 6Y 02 FF	Syntax Error
X0 6Y 03 FF	Command buffer full
X0 6Y 04 FF	Command canceled
X0 6Y 05 FF	No socket (to be canceled)
X0 6Y 41 FF	Command not executable

X = 9 to F: BRC-Z700 address + 8, Y = socket number

Socket number

When command messages are sent to the BRC-Z700, it is normal to send the next command message after receiving the completion message or error message. However, to deal with advanced uses, the BRC-Z700 has two buffers (memories) for commands, so that up to two commands including the commands currently being executed can be received. When the BRC-Z700 receives commands, it notifies the sender which command buffer was used, using the socket number of the ACK message. As the completion message or error message also has a socket number, it indicates which command has ended. Even when two command buffers are being used, a BRC-Z700 management command and some inquiry messages can be executed.
The ACK message is not returned for these commands and inquiries, and only the completion message of socket number 0 is returned.

Command execution cancel

To cancel a command which has already been sent, send a Cancel command as the next command. To cancel one of two commands which have been sent, use the cancel message.

	Cancel Packet	Note
Cancel	8X 2Y FF	Y = socket number

X = 1 to 7: BRC-Z700 address, Y = socket number

Error message “Command canceled” will be returned for this command, but this is not a fault. It indicates that the command has been canceled.

VISCA Device Setting Command

Before starting control of the BRC-Z700, be sure to send the Address command and the IF_Clear command using the broadcast function.

For VISCA network administration

- **Address**
  Sets an address of a peripheral device. Use when initializing the network, and receiving the following network change message.

- **Network Change**
  Sent from the peripheral device to the controller when a device is removed from or added to the network. The address must be re-set when this message is received.

	Packet	Note
Address	88 30 01 FF	Always broadcasted.
Network Change	X0 38 FF	

X = 9 to F: BRC-Z700 address + 8

VISCA interface command

- **IF_Clear**
  Clears the command buffers in the BRC-Z700.
  When cleared, the operation currently being executed is not guaranteed.

	Command Packet	Reply Packet	Note
IF_Clear	8X 01 00 01 FF	X0 50 FF	
IF_Clear (broadcast)	88 01 00 01 FF	88 01 00 01 FF	

X = 1 to 7: BRC-Z700 address (For inquiry packet)
X = 9 to F: BRC-Z700 address +8 (For reply packet)

VISCA interface and inquiry

- **CAM_VersionInq**
  Returns information on the VISCA interface.

Inquiry	Inquiry Packet	Reply Packet	Description
CAM_VersionInq	8X 09 00 02 FF	Y0 50 GG GG HH HH JJ JJ KK FF	GGGG = Vender ID (0001: Sony) HHHH = Model ID 0501: BRC-H700 0502: BRU-H700 0505: BRC-Z700 JJJJ = ROM revision KK = Maximum socket # (02)

X = 1 to 7: BRC-Z700 address (For inquiry packet)
X = 9 to F: BRC-Z700 address +8 (For reply packet)

VISCA Command/ACK Protocol

Command	Command Message	Reply Message	Comments
General Command	81 01 04 38 02 FF (Example)	90 41 FF (ACK)+90 51 FF (Completion) 90 42 FF 90 52 FF	Returns ACK when a command has been accepted, or Completion when a command has been executed.
	81 01 04 38 FF (Example)	90 60 02 FF (Syntax Error)	Accepted a command which is not supported or a command lacking parameters.
	81 01 04 38 02 FF (Example)	90 60 03 FF (Command Buffer Full)	Could not accept the command as there are two commands currently being executed.
	81 01 04 08 02 FF (Example)	90 61 41 FF (Command Not Executable) 90 62 41 FF	Could not execute the command in the current mode.
Inquiry Command	81 09 04 38 FF (Example)	90 50 02 FF (Completion)	Does not return ACK.
	81 09 05 38 FF (Example)	90 60 02 FF (Syntax Error)	Accepted an incompatible command.
Address Set	88 30 01 FF	88 30 02 FF	The device address number plus 1 is returned.*
IF_Clear (Broadcast)	88 01 00 01 FF	88 01 00 01 FF	The same command is returned.
IF_Clear (For x)	8x 01 00 01 FF	z0 50 FF (Completion)	ACK is not returned for this command.
Command Cancel	8x 2y FF	z0 6y 04 FF (Command Canceled)	Returned when the command of the socket specified is canceled. Completion for the command canceled is not returned.
		z0 6y 05 FF (No Socket)	Returned when the command of the specified socket has already been completed or when the socket number specified is wrong.

* When the camera address selector is set to an address other than 0, the value x in 88 30 0x FF will be variable.

Do not transmit the command (except Address Set, IF_Clear, Command Cancel, CAM_Power) when any menu is displayed on the screen. If displayed, clear the menu first using CAM_Menu Command, and then proceed.

VISCA Camera-Issued Messages

ACK/Completion Messages

Command	Command Message	Comments
ACK	z0 4y FF (y: Socket No.)	Returned when the command is accepted.
Completion	z0 5y FF (y: Socket No.)	Returned when the command has been executed.

z = Device address + 8

Error Messages

Command	Command Message	Comments
Syntax Error	z0 60 02 FF	Returned when the command format is different or when a command with illegal command parameters is accepted.
Command Buffer Full	z0 60 03 FF	Could not accept a command that is received while two commands are currently being executed (two sockets have been used).
Command Canceled	z0 6y 04 FF (y: Socket No.)	Returned when a command which is being executed in a socket specified by the cancel command is canceled. The completion message for the command is not returned.
No Socket	z0 6y 05 FF (y: Socket No.)	Returned when no command is executed in a socket specified by the cancel command, or when an invalid socket number is specified.
Command Not Executable	z0 6y 41 FF (y: Socket No.)	Returned when a command cannot be executed due to current conditions. For example, when a command for controlling the manual focus is received during the auto focus mode.

Network Change Message

Command	Command Message	Comments
Network Change	z0 38 FF	Issued when power is supplied to the camera.

BRC-Z700 Commands

BRC-Z700 Command List (1/5)

Command Set	Command	Command Packet	Comments
AddressSet	Broadcast	88 30 01 FF	Address Set
IF_Clear	Broadcast	88 01 00 01 FF	I/F Clear
CommandCancel		8x 2p FF	p: Socket No (1 to 2)
CAM_Power	On	8x 01 04 00 02 FF	Power On/Off
	Off	8x 01 04 00 03 FF	
CAM_Zoom	Stop	8x 01 04 07 00 FF	
	Tele(Standard)	8x 01 04 07 02 FF	
	Wide(Standard)	8x 01 04 07 03 FF	
	Tele(Variable)	8x 01 04 07 2p FF	p: 0 (Slow) to 7 (Fast)
	Wide(Variable)	8x 01 04 07 3p FF	p: 0 (Slow) to 7 (Fast)
	Direct	8x 01 04 47 0p 0q 0r 0s FF	pqrs: Zoom Position*
	Direct(VariableSpeed)	8x 01 7E 01 4A 0V 0p 0q 0r 0s FF	V: 0 - 7 (Speed), pqrs: Zoom Position*
CAM_Focus	Stop	8x 01 04 08 00 FF	
	Far(Standard)	8x 01 04 08 02 FF	
	Near(Standard)	8x 01 04 08 03 FF	
	Far(Variable)	8x 01 04 08 2p FF	p: 0 (Slow) to 7 (Fast)
	Near(Variable)	8x 01 04 08 3p FF	p: 0 (Slow) to 7 (Fast)
	Direct	8x 01 04 48 0p 0q 0r 0s FF	pqrs: Focus Position*
	Direct(VariableSpeed)	8x 01 7E 01 4B 0V 0p 0q 0r 0s FF	V: 0 - 7 (Speed), pqrs: Focus Position*
	AutoFocus	8x 01 04 38 02 FF	AF ON/OFF
	ManualFocus	8x 01 04 38 03 FF	
	Auto/Manual	8x 01 04 38 10 FF	
	One Push Trigger	8x 01 04 18 01 FF	
	Infinity	8x 01 04 18 02 FF	
CAM_AF_ASSIST**	ON	8x 01 7E 01 44 02 FF	
	OFF	8x 01 7E 01 44 03 FF	
CAM_F_NearLimit	ON	8x 01 7E 01 41 02 FF	
	OFF	8x 01 7E 01 41 03 FF	
CAM_WB	Auto1	8x 01 04 35 00 FF	
	Auto2	8x 01 04 35 04 FF	
	Indoor	8x 01 04 35 01 FF	
	Outdoor	8x 01 04 35 02 FF	
	One Push	8x 01 04 35 03 FF	
	Manual	8x 01 04 35 05 FF	
	One Push Trigger	8x 01 04 10 05 FF	
CAM_WB_RShift	Direct	8x 01 7E 01 45 00 0q FF	q: 0 - E
	Up	8x 01 7E 01 45 01 02 FF	
	Down	8x 01 7E 01 45 01 03 FF	
CAM_WB_BShift	Direct	8x 01 7E 01 46 00 0q FF	q: 0 - E
	Up	8x 01 7E 01 46 01 02 FF	
	Down	8x 01 7E 01 46 01 03 FF	

* See the section under VISCA Command Setting Values.
** Available only when focus mode is set to AUTO.

BRC-Z700 Command List (2/5)

Command Set	Command	Command Packet	Comments
CAM_RGain	Reset	8x 01 04 03 00 FF	
	Up	8x 01 04 03 02 FF	
	Down	8x 01 04 03 03 FF	
	Direct	8x 01 04 43 00 00 0p 0q FF	pq: R Gain (00 - FF)
CAM_BGain	Reset	8x 01 04 04 00 FF	
	Up	8x 01 04 04 02 FF	
	Down	8x 01 04 04 03 FF	
	Direct	8x 01 04 44 00 00 0p 0q FF	pq: B Gain (00 - FF)
CAM_COLOR_GAIN	Up	8x 01 04 09 02 FF	
	Down	8x 01 04 09 03 FF	
	Reset	8x 01 04 09 00 FF	
	Direct	8x 01 04 49 00 00 00 0p FF	p: 0 - E
CAM_WB_Sens	Low	8x 01 04 56 01 FF	
	Middle	8x 01 04 56 02 FF	
	High	8x 01 04 56 03 FF	
CAN_ColorMatrix	On	8x 01 7E 01 3D 02 FF	
	Off	8x 01 7E 01 3D 03 FF	
	R.ENHANCE	8x 01 7E 01 47 0p 0q FF	pq: 00 - 14
	G.ENHANCE	8x 01 7E 01 48 0p 0q FF	pq: 00 - 14
	B.ENHANCE	8x 01 7E 01 49 0p 0q FF	pq: 00 - 14
	YL.ENHANCE	8x 01 7E 01 50 0p 0q FF	pq: 00 - 14
	CY.ENHANCE	8x 01 7E 01 51 0p 0q FF	pq: 00 - 14
	MG.ENHANCE	8x 01 7E 01 52 0p 0q FF	pq: 00 - 14
CAM_AE	Full Auto	8x 01 04 39 00 FF	
	Manual	8x 01 04 39 03 FF	
	Shutter Priority	8x 01 04 39 0A FF	
	Iris Priority	8x 01 04 39 0B FF	
	Gain Priority	8x 01 04 39 0E FF	
CAM_AE_Speed	Low	8x 01 04 5D 01 FF	
	Middle	8x 01 04 5D 02 FF	
	High	8x 01 04 5D 03 FF	
CAM_AGC_LIMIT	Direct	8x 01 04 2C 0p FF	p: Gain Limit*
CAM_IRIS_LIMIT	Direct	8x 01 04 2B 0p FF	p: Iris Limit*
CAM_Shutter	Reset	8x 01 04 0A 00 FF	
	Up	8x 01 04 0A 02 FF	Shutter setting (1/60sec - 1/10000sec [59.94i]) (1/50sec - 1/10000sec [50i])
	Down	8x 01 04 0A 03 FF	
	Direct	8x 01 04 4A 00 00 0p 0q FF	pq: Shutter Speed Setting*
CAM_Iris	Reset	8x 01 04 0B 00 FF	
	Up	8x 01 04 0B 02 FF	
	Down	8x 01 04 0B 03 FF	
	Direct	8x 01 04 4B 00 00 0p 0q FF	pq: Iris Value Setting*
CAM_Gain	Reset	8x 01 04 0C 00 FF	
	Up	8x 01 04 0C 02 FF	
	Down	8x 01 04 0C 03 FF	
	Direct	8x 01 04 4C 00 00 0p 0q FF	pq: Gain Level Setting*
CAM_ExpComp	On	8x 01 04 3E 02 FF	
	Off	8x 01 04 3E 03 FF	
	Reset	8x 01 04 0E 00 FF	
	Up	8x 01 04 0E 02 FF	
	Down	8x 01 04 0E 03 FF	
	Direct	8x 01 04 4E 00 00 00 0p FF	p: ExpComp Level Setting*

* See the section under VISCA Command Setting Values.

BRC-Z700 Command List (3/5)

Command Set	Command	Command Packet	Comments
CAM_BackLight	On	8x 01 04 33 02 FF	
	Off	8x 01 04 33 03 FF	
CAM_SpotLight	On	8x 01 04 3A 02 FF	
	Off	8x 01 04 3A 03 FF	
Flicker Reduction	On	8x 01 04 32 02 FF	
	Off	8x 01 04 32 03 FF	
CAM_Aperture	Reset	8x 01 04 02 00 FF	
	Up	8x 01 04 02 02 FF	
	Down	8x 01 04 02 03 FF	
	Direct	8x 01 04 42 00 00 00 0p FF	p: 0 - F (h)
CAM_ColorDetail	COLOR DETAIL	8x 01 7E 01 4C 0p FF	p: 0 = NARROW, 1 = STD, 2 = WIDE, 3 = OFF, 4 = CHECK
	COLOR DETAIL PHASE	8x 01 7E 01 4D 0p 0q FF	pq: 00 - 47
CAM_Gamma	Normal	8x 01 04 5B 00 FF	
	Cinema	8x 01 04 5B 01 FF	
CAM_PictureEffect	Off	8x 01 04 63 00 FF	
	B&W	8x 01 04 63 04 FF	
CAM_Steady_Shot	On	8x 01 04 34 02 FF	
	Off	8x 01 04 34 03 FF	
	SOFT	8x 01 04 54 01 FF	
	STANDARD	8x 01 04 54 02 FF	
	HARD	8x 01 04 54 03 FF	
CAM_H_Phase	Up	8x 01 7E 01 3E 00 02 FF	
	Down	8x 01 7E 01 3E 00 03 FF	
CAM_Memory	Reset	8x 01 04 3F 00 0p FF	p: Memory number (0 - F)
	Set	8x 01 04 3F 01 0p FF	p: Memory number (0 - F)
	Recall	8x 01 04 3F 02 0p FF	p: Memory number (0 - F)
CAM_Menu	Off	8x 01 06 06 03 FF	
CAM_Title	Title Set 1	8x 01 7E 01 10 uu vv ww 00 00 00 00 00 00 00 FF	(uu: Hposition [00 - 18 (h)], vv: Vposition [00 - 0A (h)], ww: Blink)
	Title Set 2	8x 01 7E 01 11 aa bb cc dd ee ff gg hh ii jj FF	aa - jj: First 10 Words (ASCII CODE 20h to 7Eh)
	Title Set 3	8x 01 7E 01 12 kk ll mm nn oo pp qq rr ss tt FF	kk - tt: Last 10 Words (ASCII CODE 20h to 7Eh)
	Title Clear	8x 01 7E 01 13 00 FF	
	Title On	8x 01 7E 01 13 02 FF	
	Title Off	8x 01 7E 01 13 03 FF	
CAM_Preset_title	Title Set 1	8x 01 7E 01 14 uu vv ww 0! 00 00 00 00 00 00 00 FF	(uu: Hposition, vv: Vposition, ww: Blink, !: preset No 0 - F)
	Title Set 2	8x 01 7E 01 15 0! aa bb cc dd ee ff gg hh ii jj FF	aa - jj: First 10 Words (ASCII CODE 20h to 7Eh), !: Position No. (0 - F)
	Title Set 3	8x 01 7E 01 16 0! kk ll mm nn oo pp qq rr ss tt FF	kk - tt: Last 10 Words (ASCII CODE 20h to 7Eh), !: Position No. (0 - F)
	Title Clear	8x 01 7E 01 17 0! 00 FF	(!: position No (0 - F))
	Title On	8x 01 7E 01 17 00 02 FF	
	Title Off	8x 01 7E 01 17 00 03 FF	
CAM_IDWrite		8x 01 04 22 0p 0q 0r 0s FF	pqrs: CameraID (0000 - FFFF)
IR_Receive	On	8x 01 06 08 02 FF	
	Off	8x 01 06 08 03 FF	
	On/Off	8x 01 06 08 10 FF	

BRC-Z700 Command List (4/5)

Command Set	Command	Command Packet	Comments
Pan-tiltDrive	Up	8x 01 06 01 VV WW 03 01 FF	Pan Speed VV (01: Slow to 18h: Fast) Tilt Speed WW (01: Slow to 18h: Fast)
	Down	8x 01 06 01 VV WW 03 02 FF	
	Left	8x 01 06 01 VV WW 01 03 FF	
	Right	8x 01 06 01 VV WW 02 03 FF	
	UpLeft	8x 01 06 01 VV WW 01 01 FF	
	UpRight	8x 01 06 01 VV WW 02 01 FF	
	DownLeft	8x 01 06 01 VV WW 01 02 FF	
	DownRight	8x 01 06 01 VV WW 02 02 FF	
	Stop	8x 01 06 01 VV WW 03 03 FF	
	AbsolutePosition	8x 01 06 02 VV 00 0Y 0Y 0Y 0Y 0Y 0Z 0Z 0Z 0Z FF	Speed VV (01: Slow to 18h: Fast) YYYYY: Pan Position* ZZZZ: Tilt Position*
	RelativePosition	8x 01 06 03 VV 00 0Y 0Y 0Y 0Y 0Y 0Z 0Z 0Z 0Z FF	Speed VV (01: Slow to 18h: Fast) YYYYY: Pan Position* ZZZZ: Tilt Position*
	Home	8x 01 06 04 FF	
	Reset	8x 01 06 05 FF	
Pan-tiltLimitSet	LimitSet	8x 01 06 07 00 0W 0Y 0Y 0Y 0Y 0Y 0Z 0Z 0Z 0Z FF	W: 1=UpRight 0=DownLeft YYYYY: PanLimit Position* ZZZZ: TiltLimit Position*
	LimitClear	8x 01 06 07 01 0W 07 0F 0F 0F 0F 07 0F 0F 0F FF	W: 1=UpRight 0=DownLeft
RAMP_CURVE	MODE1	8x 01 06 31 01 FF	
	MODE2	8x 01 06 31 02 FF	
	MODE3	8x 01 06 31 03 FF	
D-SUB 15Pin OUTPUT	Output 1 RGB	8x 01 7E 01 03 00 00 FF	
	Output 1 YPbPr	8x 01 7E 01 03 00 01 FF	
	RGB SYNC OFF	8x 01 7E 01 07 00 00 FF	
	RGB SYNC RGB	8x 01 7E 01 07 00 02 FF	
D-SUB 15Pin SYNC	3-STATE	8x 01 7E 01 1A 00 00 FF	
	VD	8x 01 7E 01 1A 00 01 FF	
EXT_SYNC Synchronous mode	STD (HD)	8x 01 7E 01 2C 00 FF	
	STD (SD)	8x 01 7E 01 2C 03 FF	
	HD1	8x 01 7E 01 2C 01 FF	
	SD1	8x 01 7E 01 2C 02 FF	
CAM_ImgFlip	On	8x 01 04 66 02 FF	
	Off	8x 01 04 66 03 FF	
CAM_PanReverse	On	8x 01 7E 01 06 00 01 FF	
	Off	8x 01 7E 01 06 00 00 FF	
CAM_TiltReverse	On	8x 01 7E 01 09 00 01 FF	
	Off	8x 01 7E 01 09 00 00 FF	
Cmd_Tally	On	8x 01 7E 01 0A 00 02 FF	When Power is on, return to off.
	Off	8x 01 7E 01 0A 00 03 FF	
Cmd_PT_M_Speed	Preset PT Speed	8x 01 7E 01 0B 0p qq FF	p: Memory number (0 - F), qq: Speed (1 - 18 h (fast))
Cmd_Disp_Info	On	8x 01 7E 01 18 02 FF	
	Off	8x 01 7E 01 18 03 FF	
Cmd_dzm_chg	E-Zoom Limit	81 01 7E 01 19 0p FF	p: 0= ×1.0, 1= ×1.5, 2= ×2.0, 3= ×4.0
Cmd_Color_Bar	On	81 01 04 7D 02 FF	When Power is on, return to off.
	Off	81 01 04 7D 03 FF	
CAM_SD_VideoOutput_ PictureSize	4:3 [Squeeze]	8x 01 7E 01 3C 00 FF	
	16:9 [Letter]	8x 01 7E 01 3C 01 FF	
	4:3 [Crop]	8x 01 7E 01 3C 02 FF	

* See the section under VISCA Command Setting Values.

BRC-Z700 Command List (5/5)

Command Set	Command	Command Packet	Comments
CAM_SD_VideoOutput_Setup*	ON (7.5IRE)	8x 01 7E 01 3F 00 FF	
	OFF (0IRE)	8x 01 7E 01 3F 01 FF	

* Available only for 59.94i output signal.

Command Set	Command	Command Packet	Comments
CARD_SD-SDI_PictureSize	4:3 [Squeeze]	8x 01 7E 01 43 00 00 FF	
	16:9 [Letter]	8x 01 7E 01 43 00 01 FF	
	4:3 [Crop]	8x 01 7E 01 43 00 02 FF	

	Command Set	Command	Command Packet	Comments
FOR HFBK-XG1 Only	CARD_Picture_size	VGA [Crop]	8x 01 7E 01 1B 0p 00 FF	
		WXGA	8x 01 7E 01 1B 0p 01 FF	
		XGA [Crop]	8x 01 7E 01 1B 0p 02 FF	
		VGA [Letter]	8x 01 7E 01 1B 0p 04 FF	
		XGA [Letter]	8x 01 7E 01 1B 0p 06 FF	
	CARD_Sync_G	Off	8x 01 7E 01 1C 0p 00 FF	
		On	8x 01 7E 01 1C 0p 01 FF	
	CARD_VD_Logic (only when WXGA is selected)	NEG	8x 01 7E 01 1D 0p 01 FF	
		POS	8x 01 7E 01 1D 0p 00 FF	
FOR HFBK-SD1 Only	CARD_DOWN_OUTSEL1	RGB	8x 01 7E 01 24 0p 00 FF	
		YPbPr	8x 01 7E 01 24 0p 01 FF	
	CARD_DOWN_OUTSEL2	Y/C	8x 01 7E 01 25 0p 00 FF	
		Composite	8x 01 7E 01 25 0p 01 FF	
	CARD_DOWN_OUTSEL2	SYNC G	8x 01 7E 01 26 0p 01 FF	p: 1 =BRU-H700 CARD SLOT No.1 2 =BRU-H700 CARD SLOT No.2
		SYNC OFF	8x 01 7E 01 26 0p 02 FF	
		SYNC RGB	8x 01 7E 01 26 0p 03 FF	
	CARD_Picture_size	4:3 [Squeeze]	8x 01 7E 01 27 0p 00 FF	
		16:9 [Letter]	8x 01 7E 01 27 0p 01 FF	
		4:3 [Crop]	8x 01 7E 01 27 0p 02 FF	
	CARD_7.5IRE_Setup*	ON (7.5IRE)	8x 01 7E 01 3B 0p 00 FF	
		OFF (0IRE)	8x 01 7E 01 3B 0p 01 FF	
FOR HFBK-HD1 Only	CARD_Analog_outsel	RGB	8x 01 7E 01 28 0p 00 FF	
		YPbPr	8x 01 7E 01 28 0p 01 FF	
	CARD_Analog_RGB_SYNC	RGB SYNC OFF	8x 01 7E 01 29 0p 00 FF	
		RGB SYNC ON (RGB)	8x 01 7E 01 29 0p 01 FF	
	CARD_SYNC_SEL	VD	8x 01 7E 01 2A 0p 00 FF	
		3-STATE	8x 01 7E 01 2A 0p 01 FF	
FOR HFBK-TS1 Only	Audio Delay setting	q: 0 - A (step)	8x 01 7E 01 2B 0p 0q FF	

* Available only for 59.94i output signal.

BRC-Z700 Inquiry Command List (1/4)

Inquiry Command	Command Packet	Inquiry Packet	Comments
CAM_PowerInq	8x 09 04 00 FF	y0 50 02 FF	On
		y0 50 03 FF	Off (Standby)
CAM_ZoomPosInq	8x 09 04 47 FF	y0 50 0p 0q 0r 0s FF	pqrs: Zoom Position
CAM_FocusModeInq	8x 09 04 38 FF	y0 50 02 FF	Auto Focus
		y0 50 03 FF	Manual Focus
CAM_FocusNearLimitInq	8x 09 7E 01 41 FF	y0 50 02 FF	On
		y0 50 03 FF	Off
CAM_FocusPosInq	8x 09 04 48 FF	y0 50 0p 0q 0r 0s FF	pqrs: Focus Position
CAM_WBModeInq	8x 09 04 35 FF	y0 50 00 FF	Auto1
		y0 50 01 FF	Indoor
		y0 50 02 FF	Outdoor
		y0 50 03 FF	One Push WB
		y0 50 04 FF	Auto2
		y0 50 05 FF	Manual
CAM_RGainInq	8x 09 04 43 FF	y0 50 00 00 0p 0q FF	pq: R Gain
CAM_BGainInq	8x 09 04 44 FF	y0 50 00 00 0p 0q FF	pq: B Gain
CAM_ColorGainInq	8x 09 04 49 FF	y0 50 00 00 00 0p FF	p: ColorGain (0 - E)
CAM_WBSensInq	8x 09 04 56 FF	y0 50 01 FF	Low
		y0 50 02 FF	Middle
		y0 50 03 FF	High
CAM_ColorMatrixInq	8x 09 7E 01 3D FF	y0 50 02 FF	On
		y0 50 03 FF	Off
WB R.SHIFT	8x 09 7E 01 45 FF	y0 50 00 00 0p 0q FF	
WB B.SHIFT	8x 09 7E 01 46 FF	y0 50 00 00 0p 0q FF	
R.ENHANCE	8x 09 7E 01 47 FF	y0 50 00 00 0p 0q FF	
G.ENHANCE	8x 09 7E 01 48 FF	y0 50 00 00 0p 0q FF	
B.ENHANCE	8x 09 7E 01 49 FF	y0 50 00 00 0p 0q FF	
YL.ENHANCE	8x 09 7E 01 50 FF	y0 50 00 00 0p 0q FF	
CY.ENHANCE	8x 09 7E 01 51 FF	y0 50 00 00 0p 0q FF	
MG.ENHANCE	8x 09 7E 01 52 FF	y0 50 00 00 0p 0q FF	
CAM_AEModeInq	8x 09 04 39 FF	y0 50 00 FF	Full Auto
		y0 50 03 FF	Manual
		y0 50 0A FF	Shutter Priority
		y0 50 0B FF	Iris Priority
		y0 50 0E FF	Gain Priority
CAM_AE Speed Inq	8x 09 04 5D FF	y0 50 01 FF	Low
		y0 50 02 FF	Middle
		y0 50 03 FF	High
CAM_AGC Limit Inq	8x 09 04 2C FF	y0 50 00 FF	0dB
		y0 50 01 FF	6dB
		y0 50 02 FF	12dB
		y0 50 03 FF	18dB
		y0 50 04 FF	Off
CAM_IrisLimitInq	8x 09 04 2B FF	y0 50 00 FF	F11
		y0 50 01 FF	F6.8
		y0 50 02 FF	F4.0
		y0 50 03 FF	F3.4
CAM_ShutterPosInq	8x 09 04 4A FF	y0 50 00 00 0p 0q FF	pq: Shutter Position*
CAM_IrisPosInq	8x 09 04 4B FF	y0 50 00 00 0p 0q FF	pq: Iris Position*
CAM_GainPosInq	8x 09 04 4C FF	y0 50 00 00 0p 0q FF	pq: Gain Position*

* See the section under VISCA Command Setting Values.

BRC-Z700 Inquiry Command List (2/4)

Inquiry Command	Command Packet	Inquiry Packet	Comments
CAM_ExpCompModeInq	8x 09 04 3E FF	y0 50 02 FF	On
		y0 50 03 FF	Off
CAM_ExpCompPosInq	8x 09 04 4E FF	y0 50 00 00 0p 0q FF	pq: ExpComp Position*
CAM_BackLightModeInq	8x 09 04 33 FF	y0 50 02 FF	On
		y0 50 03 FF	Off
CAM_SpotLightModeInq	8x 09 04 3A FF	y0 50 02 FF	On
		y0 50 03 FF	Off
CAM_ApertureInq	8x 09 04 42 FF	y0 50 00 00 0p 0q FF	pq: Aperture Gain (0 - F)
CAM_ColorDetail ModeInq	8x 09 7E 01 4C FF	y0 50 0p FF	p: 0 - 3
CAM_ColorDetail PhaseInq	8x 09 7E 01 4D FF	y0 50 00 00 0p 0q FF	
CAM_PictureEffectModeInq	8x 09 04 63 FF	y0 50 00 FF	Off
		y0 50 04 FF	B & W
CAM_GammaTypeInq	8x 09 04 5B FF	y0 50 00 FF	Normal
		y0 50 01 FF	Cinema
Flicker_ReductionInq	8x 09 04 32 FF	y0 50 02 FF	On
		y0 50 03 FF	Off
CAM_SteadyModeInq	8x 09 04 34 FF	y0 50 02 FF	On
		y0 50 03 FF	Off
CAM_SteadyTypeInq	8x 09 04 54 FF	y0 50 01 FF	SOFT
		y0 50 02 FF	STANDARD
		y0 50 03 FF	HARD
CAM_EXTSYNC_HPhaseInq	8x 09 7E 01 3E FF	y0 50 0p 0q FF	
CAM_MemoryInq	8x 09 04 3F FF	y0 50 pp FF	pp: Memory number last operated*
CAM_MENUInq	8x 09 06 06 FF	y0 50 02 FF	On
		y0 50 03 FF	Off
CAM_IDInq	8x 09 04 22 FF	y0 50 0p 0q 0r 0s FF	pqrs: Camera ID (000 - FFFF)
CAM_VersionInq	8x 09 00 02 FF	y0 50 00 01 mn pq rs tu vw FF	mnpq: Model Code (05xx) rstu: ROM version vw: Socket Number (02)
CAM_TitleModeInq	8x 09 7E 01 13 FF	y0 50 02 FF	On
		y0 50 03 FF	Off
CAM_PresetTitleModeInq	8x 09 7E 01 17 FF	y0 50 02 FF	On
		y0 50 03 FF	Off
CAM_ReceiveInq	8x 09 06 08 FF	y0 50 02 FF	On
		y0 50 03 FF	Off
D-SUB 15Pin OutputInq	8x 09 7E 01 03 FF	y0 50 0p FF	p: 0=RGB, 1=YPbPr
D-SUB 15Pin RGB_SYNCInq	8x 09 7E 01 07 FF	y0 50 0p FF	p: 0=OFF, 2=RGB
D-SUB 15Pin SYNC OUTInq	8x 09 7E 01 1A FF	y0 50 00 FF	3-STATE
		y0 50 01 FF	VD
CAM_ImgFlipInq	8x 09 04 66 FF	y0 50 02 FF	On
		y0 50 03 FF	Off
CAM_DataMixInq	8x 09 7E 01 05 FF	y0 50 02 FF	On
		y0 50 03 FF	Off
CAM_PanReverseInq	8x 09 7E 01 06 FF	y0 50 01 FF	On
		y0 50 00 FF	Off
CAM_TiltReverseInq	8x 09 7E 01 09 FF	y0 50 01 FF	On
		y0 50 00 FF	Off
PanTilt_Status	8x 09 06 10 FF	y0 50 pq rs FF	pqrs: PanTilt Status*

* See the section under VISCA Command Setting Values.

BRC-Z700 Inquiry Command List (3/4)

Inquiry Command	Command Packet	Inquiry Packet	Comments
PanTilt_Max_Speed	8x 09 06 11 FF	y0 50 pq rs FF	pq: Pan Max Speed, rs: Tilt Max Speed
PanTilt_Position	8x 09 06 12 FF	y0 50 0p 0q 0r 0s 0t 0u 0v 0w 0x FF	pqrst: Pan Position* uvwx: Tilt Position*
Tally	8x 09 7E 01 0A FF	y0 50 02 FF	On
		y0 50 03 FF	Off
PanTilt_Memory_Speed	8x 09 7E 01 0B 0p FF	y0 50 qq FF	p: Preset No. 0 - F, qq: Speed 1 - 18 (h)
Pantilt_RampCurveInq	8x 09 06 31 FF	y0 50 01 FF	MODE1
		y0 50 02 FF	MODE2
		y0 50 03 FF	MODE3
CAM_Dzoom_LimitInq	8x 09 7E 01 1E FF	y0 50 00 FF	Limit ×1.0 (D-Zoom off)
		y0 50 01 FF	Limit ×1.5
		y0 50 02 FF	Limit ×2.0
		y0 50 03 FF	Limit ×4.0
Block_inq			Refer to Block Inquiry Command List.
CAM_50i60i_inq	8x 09 7E 01 31 FF	y0 50 00 FF	50i
		y0 50 01 FF	59.94i
Cam_Card_StatusInq	8x 09 7E 01 0E FF	y0 50 0p FF	p: Information on the optional card inserted in the interface card slot of the BRC-Z700 1=BRBK-MF1 8=BRBK-HSD1 (HD) 9= BRBK-HSD1 (SD) F=No card
CAM_EXTSYNC_SynchronousModeInq	8x 09 7E 01 2C FF	y0 50 00 FF	STD (HD)
		y0 50 01 FF	HD1
		y0 50 02 FF	SDI
		y0 50 03 FF	STD (SD)
CAM_Color_barInq	8x 09 04 7D FF	y0 50 02 FF	ON
		y0 50 03 FF	OFF
CAM_SD_VideoOutput_PicSizeInq	8x 09 7E 01 3C FF	y0 50 00 FF	4:3 [Squeeze]
		y0 50 01 FF	16:9 [Letter]
		y0 50 02 FF	4:3 [Crop]
CAM_SD_VideoOutput_SetupInq**	8x 09 7E 01 3F FF	y0 50 00 FF	ON (7.5IRE)
		y0 50 01 FF	OFF (0IRE)

* See the section under VISCA Command Setting Values.
** Available only for 59.94 output signal.

Inquiry Command	Command Packet	Inquiry Packet	Comments
CARD_SD-SDI_PictureSizeInq	8x 09 7E 01 43 00 FF	y0 50 00 FF	4:3 [Squeeze]
		y0 50 01 FF	16:9 [Letter]
		y0 50 02 FF	4:3 [Crop]

	Inquiry Command	Command Packet	Inquiry Packet	Comments	
FOR HFBK-XG1 Only	CARD_Picture_SizeInq	8x 09 7E 01 1B 0p FF	y0 50 00 FF	VGA [Crop]	p: 1= BRU-H700 CARD SLOT No.1 2= BRU-H700 CARD SLOT No.2
			y0 50 01 FF	WXGA	
			y0 50 02 FF	XGA [Crop]	
			y0 50 04 FF	VGA [Letter]	
			y0 50 06 FF	XGA [Letter]	
	CARD_Sync_GInq	8x 09 7E 01 1C 0p FF	y0 50 00 FF	SYNC OFF	
			y0 50 01 FF	SYNC ON (G)	
	CARD_VD_LogicInq	8x 09 7E 01 1D 0p FF	y0 50 01 FF	NEG	
			y0 50 00 FF	POS	

BRC-Z700 Inquiry Command List (4/4)

	Inquiry Command	Command Packet	Inquiry Packet	Comments	
FOR HFBK-SD1 Only	CARD_D-SUB_OUT1Inq	8x 09 7E 01 24 0p FF	y0 50 00 FF	RGB	p: 1= BRU-H700 CARD SLOT No.1 2= BRU-H700 CARD SLOT No.2
			y0 50 01 FF	YCbCr	
	CARD_D-SUB_OUT2Inq	8x 09 7E 01 25 0p FF	y0 50 00 FF	Y/C	
			y0 50 01 FF	VBS	
	CARD_RGBSYNC Inq	8x 09 7E 01 26 0p FF	y0 50 01 FF	SYNC ON (G)	
			y0 50 02 FF	SYNC OFF	
			y0 50 03 FF	SYNC RGB	
	CARD_Picture_SizeInq	8x 09 7E 01 27 0p FF	y0 50 00 FF	4:3 [Squeeze]	
			y0 50 01 FF	16:9 [Letter]	
			y0 50 02 FF	4:3 [Crop]	
	CARD_7.5IRE_SetupInq*	8x 09 7E 01 3B 0p FF	y0 50 00 FF	ON (7.5IRE)	
			y0 50 01 FF	OFF (0IRE)	
FOR HFBK-HD1 Only	CARD_Analog_OUTSEL_Inq	8x 09 7E 01 28 0p FF	y0 50 00 FF	RGB	
			y0 50 01 FF	YPbPr	
	CARD_Analog_RGB_SYNC Inq	8x 09 7E 01 29 0p FF	y0 50 00 FF	RGB SYNC OFF	
			y0 50 01 FF	RGB SYNC ON	
	CARD_SYNC_SEL Inq	8x 09 7E 01 2A 0p FF	y0 50 00 FF	VD	
			y0 50 01 FF	3-STATE	
FOR HFBK-TS1 Only	Audio Delay	8x 09 7E 01 2B 0p FF	y0 50 0q FF	q: 0 (off) - A (10 step)	

* Available only for 59.94 output signal.

BRC-Z700 Block Inquiry Command List

Lens control system inquiry commands…..Command Packet 8x 09 7E 7E 00 FF

Byte	Bit	Comments
0	7	Destination Address
	6	
	5	
	4	
	3	Source Address
	2	
	1	
	0	
1	7	0 Completion Message(50h)
	6	1
	5	0
	4	1
	3	0
	2	0
	1	0
	0	0
2	7	0
	6	0
	5	0
	4	0
	3	Zoom Position (HH)
	2	
	1	
	0	
3	7	0
	6	0
	5	0
	4	0
	3	Zoom Position (HL)
	2	
	1	
	0	
4	7	0
	6	0
	5	0
	4	0
	3	Zoom Position (LH)
	2	
	1	
	0	
5	7	0
	6	0
	5	0
	4	0
	3	Zoom Position (LL)
	2	
	1	
	0	

Byte	Bit	Comments
6	7	0
	6	0
	5	0
	4	0
	3	0
	2	0
	1	0
	0	0
7	7	0
	6	0
	5	0
	4	0
	3	0
	2	0
	1	0
	0	0
8	7	0
	6	0
	5	0
	4	0
	3	Focus Position (HH)
	2	
	1	
	0	
9	7	0
	6	0
	5	0
	4	0
	3	Focus Position (HL)
	2	
	1	
	0	
10	7	0
	6	0
	5	0
	4	0
	3	Focus Position (LH)
	2	
	1	
	0	
11	7	0
	6	0
	5	0
	4	0
	3	Focus Position (LL)
	2	
	1	
	0	

Byte	Bit	Comments
12	7	0
	6	0
	5	0
	4	0
	3	0
	2	0
	1	0
	0	0
13	7	0
	6	0
	5	D-Zoom Mode (1: Separate, 0: Combine)
	4	0
	3	Focus Near Limit (1: On, 0: Off)
	2	AF Assist (1: On, 0: Off)
	1	D-Zoom (1: On, 0: Off)
	0	Focus (1: Auto, 0: Manual)
14	7	0
	6	0
	5	0
	4	0
	3	0
	2	Camera Memory Recall (1: Executing, 0: Stop)
	1	Focus Command (1: Executing, 0: Stop)
	0	Zoom Command (1: Executing, 0: Stop)
15	7	1 Terminator (FFh)
	6	1
	5	1
	4	1
	3	1
	2	1
	1	1
	0	1

Camera control system inquiry commands (1/2).....Command Packet 8x 09 7E 7E 01 FF

Byte	Bit	Comments
0	7	Destination Address
	6	
	5	
	4	
	3	Source Address
	2	
	1	
	0	
1	7	0 Completion Message(50h)
	6	1
	5	0
	4	1
	3	0
	2	0
	1	0
	0	0
2	7	0
	6	0
	5	0
	4	0
	3	WB R-Gain (H)
	2	
	1	
	0	
3	7	0
	6	0
	5	0
	4	0
	3	WB R-Gain (L)
	2	
	1	
	0	
4	7	0
	6	0
	5	0
	4	0
	3	WB B-Gain (H)
	2	
	1	
	0	
5	7	0
	6	0
	5	0
	4	0
	3	WB B-Gain (L)
	2	
	1	
	0	

Byte	Bit	Comments
6	7	0
	6	0
	5	AWB Sens (1: Low, 2: Mid, 3: High)
	4	
	3	0
	2	WB Mode (0: Auto1, 1: Indoor, 2: Outdoor, 3: OnePush, 4: Auto2, 5: Manual)
	1	
	0	
7	7	0
	6	0
	5	0
	4	0
	3	Detail
	2	
	1	
	0	
8	7	0
	6	0
	5	0
	4	Exposure Mode (0: Auto, 1: Manual, A: Shutter Pri, B: Iris, 0E: Gain Pri)
	3	
	2	
	1	
	0	
9	7	0
	6	0
	5	0
	4	0
	3	Spot Light (1: On, 0: Off)
	2	Back Light (1: On, 0: Off)
	1	Exposure Comp. (1: On, 0: Off)
	0	Hyper Gain (1: On, 0: Off)
10	7	0
	6	0
	5	0
	4	Manual Shutter Position
	3	
	2	
	1	
	0	
11	7	0
	6	0
	5	0
	4	Manual Iris Position
	3	
	2	
	1	
	0	

Byte	Bit	Comments
12	7	0
	6	Manual Gain Position
	5	
	4	
	3	
	2	
	1	
	0	
13	7	0
	6	0
	5	0
	4	0
	3	0
	2	0
	1	0
	0	IMG-FLIP
14	7	0
	6	0
	5	0
	4	0
	3	Exposure Comp. Position
	2	
	1	
	0	
15	7	1 Terminator (FFh)
	6	1
	5	1
	4	1
	3	1
	2	1
	1	1
	0	1

Camera control system inquiry commands (2/2).....Command Packet 8x 09 7E 7E 02 FF

Byte	Bit	Comments
0	7	Destination Address
	6	
	5	
	4	
	3	Source Address
	2	
	1	
	0	
1	7	0 Completion Message(50h)
	6	1
	5	0
	4	1
	3	0
	2	0
	1	0
	0	0
2	7	0
	6	0
	5	0
	4	0
	3	0
	2	0
	1	(1: 59.94i, 0: 50i)
	0	Power On (1: On, 0: Off)
3	7	YL.ENHANCE
	6	
	5	
	4	
	3	
	2	
	1	
	0	
4	7	0
	6	0
	5	0
	4	0
	3	Color Gain
	2	
	1	
	0	
5	7	0
	6	0
	5	0
	4	Steady Shot (1: On, 0: Off)
	3	indefinite
	2	0
	1	Flicker Cancel (1: On, 0: Off)
	0	0B & W (1: On, 0: Off)

Byte	Bit	Comments
6	7	0
	6	0
	5	0
	4	0
	3	Steady Shot Type (1: Soft, 2: Std, 3: Hard)
	2	1ND Select
	1	(0: Off, 1: Filter1,
	0	2: Filter2)
7	7	0
	6	0
	5	0
	4	Gamma Mode (0: Normal, 1: Cinema)
	3	
	2	
	1	0
	0	0
8	7	CY.ENHANCE
	6	
	5	
	4	
	3	
	2	
	1	
	0	
9	7	MG.ENHANCE
	6	
	5	
	4	
	3	
	2	
	1	
	0	
10	7	0
	6	0
	5	0
	4	COLOR MATRIX MODE
	3	0
	2	AE Speed
	1	(1: Low, 2: Middle,
	0	3: High)
11	7	0
	6	0
	5	0
	4	0
	3	0
	2	AGC Limit
	1	(0: 0 dB, 1: 6 dB,
	0	02: 12 dB, 3: 18 dB)

Byte	Bit	Comments
12	7	0
	6	0
	5	0
	4	0
	3	0
	2	0
	1	Iris Limit
	0	(0: F11, 1: F6.8,
		2: F4.0, 3: F3.4)
13	7	0
	6	0
	5	0
	4	0
	3	0
	2	0
	1	D-Zoom Limit
	0	(0: ×1.0, 1: ×1.5,
		2: ×2.0, 3: ×4.0)
14	7	0
	6	0
	5	0
	4	0
	3	0
	2	0
	1	0
	0	0
15	7	1 Terminator (FFh)
	6	1
	5	1
	4	1
	3	1
	2	1
	1	1
	0	1

Other enlargement inquiry commands (1/2) ..... Command Packet 8x 09 7E 7E 03 FF

Byte	Bit	Comments
0	7	Destination Address
	6	
	5	
	4	
	3	Source Address
	2	
	1	
	0	
1	7	0 Completion Message(50h)
	6	1
	5	0
	4	1
	3	0
	2	0
	1	0
	0	0
2	7	0
	6	0
	5	0
	4	0
	3	D-Zoom Position (H)
	2	
	1	
	0	
3	7	0
	6	0
	5	0
	4	0
	3	D-Zoom Position (L)
	2	
	1	
	0	
4	7	WB R.SHIFT
	6	
	5	
	4	
	3	
	2	
	1	
	0	
5	7	WB B.SHIFT
	6	
	5	
	4	
	3	
	2	
	1	
	0	

Byte	Bit	Comments
6	7	R.ENHANCE
	6	
	5	
	4	
	3	
	2	
	1	
	0	
7	7	G.ENHANCE
	6	
	5	
	4	
	3	
	2	
	1	
	0	
8	7	B.ENHANCE
	6	
	5	
	4	
	3	
	2	
	1	
	0	
9	7	COLOR DETAIL MODE
	6	
	5	
	4	
	3	
	2	
	1	
	0	
10	7	0
	6	0
	5	0
	4	Shutter Pri Position
	3	
	2	
	1	
	0	
11	7	0
	6	0
	5	0
	4	Iris Pri Position
	3	
	2	
	1	
	0	

Byte	Bit	Comments
12	7	0
	6	0
	5	0
	4	0
	3	Gain Pri Position
	2	
	1	
	0	
13	7	0
	6	0
	5	0
	4	0
	3	0
	2	0
	1	0
	0	0
14	7	COLOR DETAIL PHASE
	6	
	5	
	4	
	3	
	2	
	1	
	0	
15	7	1 Terminator (FFh)
	6	1
	5	1
	4	1
	3	1
	2	1
	1	1
	0	1

Other enlargement inquiry commands (2/2) ..... Command Packet 8x 09 7E 7E 04 FF

Byte	Bit	Comments
0	7	Destination Address
	6	
	5	
	4	
	3	Source Address
	2	
	1	
	0	
1	7	0 Completion Message(50h)
	6	1
	5	0
	4	1
	3	0
	2	0
	1	0
	0	0
2	7	0
	6	0
	5	0
	4	0
	3	Current WB R-GAIN (H)
	2	
	1	
	0	
3	7	0
	6	0
	5	0
	4	0
	3	Current WB R-GAIN (L)
	2	
	1	
	0	
4	7	0
	6	0
	5	0
	4	0
	3	Current WB B-GAIN (H)
	2	
	1	
	0	
5	7	0
	6	0
	5	0
	4	0
	3	Current WB B-GAIN (L)
	2	
	1	
	0	

Byte	Bit	Comments
6	7	0
	6	0
	5	0
	4	0
	3	prism temp (H)
	2	
	1	
	0	
7	7	0
	6	0
	5	0
	4	0
	3	prism temp (L)
	2	
	1	
	0	
8	7	0
	6	0
	5	0
	4	IRIS Position Open F-number limit
	3	
	2	
	1	
	0	
9	7	0
	6	0
	5	0
	4	0
	3	0
	2	0
	1	IRIS Pri Open F-number limit
	0	MANUAL IRIS Open F-number limit
10	7	0
	6	0
	5	0
	4	Shutter Current Position
	3	
	2	
	1	
	0	
11	7	0
	6	0
	5	0
	4	Iris Current Position
	3	
	2	
	1	
	0	

Byte	Bit	Comments
12	7	0
	6	0
	5	0
	4	0
	3	Gain Current Position
	2	
	1	
	0	
13	7	0
	6	0
	5	0
	4	0
	3	Lens Fan rpm (H)
	2	
	1	
	0	
14	7	0
	6	0
	5	0
	4	0
	3	Lens Fan rpm (L)
	2	
	1	
	0	
15	7	1 Terminator (FFh)
	6	1
	5	1
	4	1
	3	1
	2	1
	1	1
	0	1

VISCA Command Setting Values

Exposure control

Iris

Parameter	IRIS (F1.6)
	F No.
1C	F1.6
1B	F1.7
1A	F1.8
19	F2.0
18	F2.2
17	F2.4
16	F2.6
15	F2.8
14	F3.1
13	F3.4
12	F3.7
11	F4.0
10	F4.4
0F	F4.8
0E	F5.2
0D	F5.6
0C	F6.2
0B	F6.8
0A	F7.3
09	F8.0
08	F8.7
07	F9.6
06	F10
05	F11
04	F12
03	F14
02	F15
01	F16
00	CLOSE

Gain

Parameter	GAIN (dB)
1A	HYPER
19	24
18	23
17	22
16	21
15	20
14	19
13	18
12	17
11	16
10	15
0F	14
0E	13
0D	12
0C	11
0B	10
0A	9
09	8
08	7
07	6
06	5
05	4
04	3
03	2
02	1
01	0

Iris Limit

Parameter	F No.
3	F3.4
2	F4.0
1	F6.8
0	F11

Shutter Speed

SHUTTER	59.94i (sec)	50i (sec)
15	1/10000	1/10000
14	1/6000	1/6000
13	1/4000	1/3500
12	1/3000	1/2500
11	1/2000	1/1750
10	1/1500	1/1250
0F	1/1000	1/1000
0E	1/725	1/600
0D	1/500	1/425
0C	1/350	1/300
0B	1/250	1/215
0A	1/180	1/150
09	1/125	1/120
08	1/100	1/100
07	1/90	1/75
06	1/60	1/50

Exposure Compensation

EXPOSURE COMP.	Comp Value (dB)	Display
0E	+10.5	+7
0D	+9	+6
0C	+7.5	+5
0B	+6	+4
0A	+4.5	+3
09	+3	+2
08	+1.5	+1
07	0	0
06	–1.5	–1
05	–3	–2
04	–4.5	–3
03	–6	–4
02	–7.5	–5
01	–9	–6
00	–10.5	–7

Gain Limit

Parameter	GAIN (dB)
4	OFF
3	18
2	12
1	6
0	0

Zoom Ratio and Zoom Position (for reference)

Optical Zoom

Position DATA	Zoom Ratio ×20 Lens
0000	×1
1982	×2
24E2	×3
2BC9	×4
3099	×5
343D	×6
3724	×7
3988	×8
3B8B	×9
3D43	×10
3EBB	×11
4000	×12

Digital Zoom

Position DATA	Zoom Ratio ×20Lens
4000	×1
6A00	×2
7800	×3
7F00	×4

Focus Ratio and Focus Position (for reference)

Focus Ratio	Focus Distance
1000	Over Inf
2000	4 m
3000	1.8 m
4000	1.0 m
5000	65 cm
6000	30 cm
7000	20 cm
8000	13 cm
9000	7 cm
A000	4 cm
B000	2 cm
C000	1 cm

Pan/Tilt Position (for reference)

Pan

Angle (degrees)	Left	Right
	YYYYY	YYYYY
0	00000	00000
10	00938	FF6C8
20	01270	FED90
30	01BA8	FE458
40	024E0	FDB20
50	02E18	FD1E8
60	03750	FC8B0
70	04088	FBF78
80	049C0	FB640
90	052F8	FAD08
100	05C30	FA3D0
110	06568	F9A98
120	06EA0	F9160
130	077D8	F8828
140	08110	F7EF0
150	08A48	F75B8
160	09380	F6C80
169	09BDE	F6422

Tilt

Angle (degrees)	Up	Down
	ZZZZ	ZZZZ
0	0000	0000
10	0938	F6C8
20	1270	ED90
30	1BA8	E458
40	24E0	–
50	2E18	–
60	3750	–
70	4088	–
80	49C0	–
90	52F8	–

Pan/Tilt Status Code List

P	Q	R	S	
0 – – –	– – – –	0 – – –	– – – 1	Panning reaches the end of the left.
0 – – –	– – – –	0 – – –	– – 1 –	Panning reaches the end of the right.
0 – – –	– – – –	0 – – –	– 1 – –	Tilting reaches the upper limit.
0 – – –	– – – –	0 – – –	1 – – –	Tilting reaches the lower limit.
0 – – –	– – – –	0 – – –	1 1 1 1	Pan/tilt position cannot be detected.
0 – – –	– – – –	– – 0 0	– – – –	Pan functions normally.
0 – – –	– – – –	– – 1 0	– – – –	Pan mechanism is defective.
0 – – –	– – 0 0	0 – – –	– – – –	Tilt functions normally.
0 – – –	– – 1 0	0 – – –	– – – –	Tilt mechanism is defective.
0 – – –	0 1 – –	0 – – –	– – – –	Pan/Tilt operating
0 – – –	1 0 – –	0 – – –	– – – –	Pan/Tilt operations complete.
0 – 0 0	– – – –	0 – – –	– – – –	Not initialized
0 – 0 1	– – – –	0 – – –	– – – –	Initializing
0 – 1 0	– – – –	0 – – –	– – – –	Initialization completes.
0 – 1 1	– – – –	0 – – –	– – – –	Initialization failed.

(– : optional)

Memory Function (Inquiry Commands)

Preset No. last operated	pp: Memory number last operated	Comments
–	00	While no Recall commands are used after the power has been tuned on
1	7F	00 (or =00 for Reset, Set and Recall commands)
2	01	
3	02	
4	03	
5	04	
6	05	
7	06	
8	07	
9	08	
10	09	
11	0A	
12	0B	
13	0C	
14	0D	
15	0E	
16	0F	

Revision History

Version	Item	Description
1.00		New edition