SONY

EVI-D30/D31

Command List

(Ver. 1.1) —— **English** ——

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━ VISCA™/RS-232C CONTROL PROTOCOL ━

■ Scope

This control specification is applied to EVI series camera manufactured by Sony Corp.

(NOTE) **: The interface board IF-51 is different in details.**

The following specification covers overall control protocol for camera category. For detailed supported commands for each camera, refer to the command list of the each model.

■ Connection

Camera may be controlled by PCs (personal computers) or workstations by connecting as shown in **Fig. 1** or **Fig. 2**. **Fig. 1** shows one by one control using serial interface port of the PCs or workstations. By this connection, the address of the camera can be identified by the port number or the address assignable to the each camera.
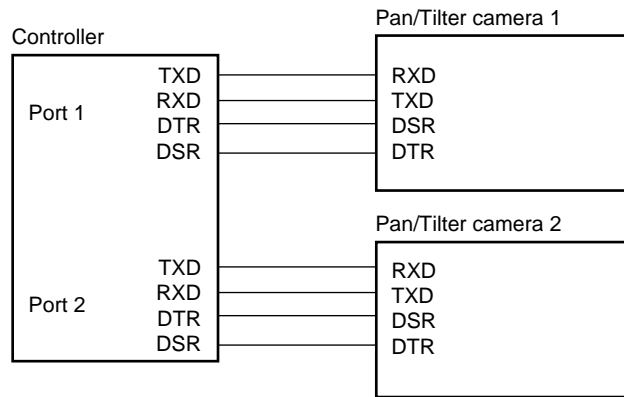

Fig. 1

Fig. 2 shows schematically connections of camera when daisy chained. For actual connection, refer to information supplied by each model. In this instance, the maximum sets on one network is seven and the address can be assigned automatically by the controller. The address of the controller is set to 0 and the camera address will be assigned from 1 to 7 (nearer, the younger address).

The interface to the controller is RS-232C, 9600 bps, 8 bits data, 1 start bit, 1 stop bit and non parity.
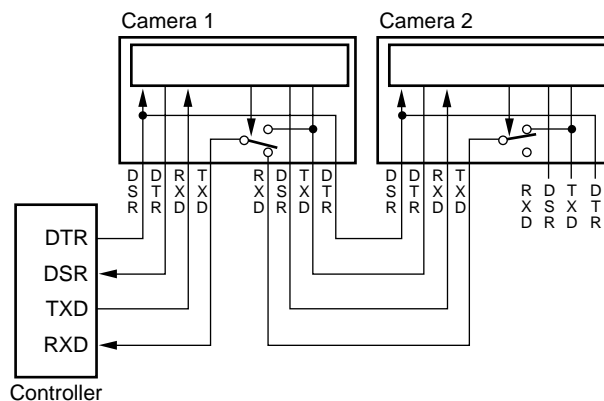

Fig. 2 Daisy chain connection

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■ Definition of Terms

● ACK message

Signal from camera to the controller which returns acknowledge command execution, information for inquiry or error message etc..

● Address

Address assigned automatically by address set command. Camera will be assigned from 1 to 7. The address of the controller is fixed to 0.

● Packet

Fundamental Unit of the communication between controller and cameras. Comprised by Header (1 byte), Message (max. 14 bytes) and Terminator (1 byte; fixed FFH).

● Socket

Command buffer memories prepared by camera to accept more than one commands. The number of the sockets are two.

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■ Communication Specifications

◇ Communication specification (RS-232C)

- Communication speed : 9600 bps
- Start bit   : 1
- Stop bit   : 1
- Data bits   : 8
- Parity   : None
- MSB first

◇ Communication protocol

● Communication from the controller

Communication is started by header which comprises sender's address and receiver's address followed by message and ended by terminator. The message part comprises communication mode (2 bytes), category code (2 bytes) and parameters. The maximum length of the message is 14 bytes. The terminator is fixed to FFH and the controller should check the value to terminate communication. The bit 15 should be 0 in the message part.
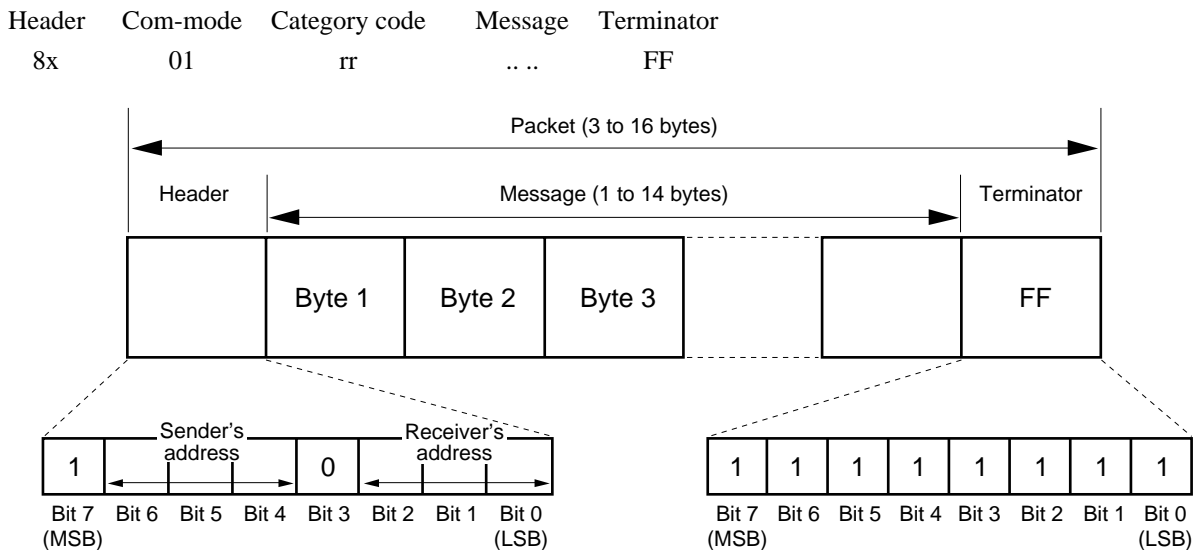
Header	Com-mode	Category code	Message	Terminator
8x	01	rr	.. ..	FF

Fig. 3

Header	: Signifies the start of the communication and comprises the sender's address and receiver's address.
	Since the address of the controller is fixed to 0, header is 8x in which x is the receiver's address. (The value of x should be from 1 to 7) In case of broad cast, the header should be 88H.
Com-mode	: Code which specifies the category of command.
Control command	: 01H
Information request command	: 09H
Net-keeping command	: 00H
Category	: Code which roughly specifies the category the command is applicable.
Main message	: Part between header and terminator. 14 bytes maximum.
	Comprises command and parameter if any.
Terminator	: Code which signifies the end of communication. Fixed to FFH.

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● Commands

A command which is sent from the controller to the camera is comprised in the message part of the send data. The commands are roughly classified into several functions such as to control camera, to inquire the information of the camera and the ones for various purposes. The controller commands may comprise some parameters as needed.

● ACK message

The ACK message is returned to the controller from the camera to acknowledge the command. ACK message comprises the address of the camera (expressed by z and z = address + 8), socket number (y) and terminator. Socket is the memory buffer reserved in the camera and used to store commands. Having this feature enables the camera to execute new commands during former commands being under execution.

In case of inquiry commands, the information is returned between the third byte and the terminator.

If the commands are inquiry, the camera returns information message immediately, but for the commands, the camera returns ACK message immediately and returns the command completion message when the command is actually executed.

ACK	z0 4y FF
Command completion	z0 5y FF
Information return	z0 50 .... FF

Following message is sent from the camera to the host when power ON.

Address set	z0 38 FF

● Error messages

If the command is not executable or failed to execute, the camera returns error message instead of the acknowledge message. The error message is expressed by the following codes.

syntax error	z0 60 02 FF
command buffer full	z0 60 03 FF
command cancel	z0 60 04 FF
No sockets	z0 60 05 FF
Command not executable	z0 60 41 FF

● Broadcast

Used to command all the set regardless the individual address.

In this mode of transmission, the header code is set to 88H.

● Auto address assignment

This command is only valid when the camera is connected as shown in **Fig. 2**. When the camera receives the address assignment command (88 30 01 FF), the first camera sets parameter 01 as the self address and hands over to the next camera by incrementing this parameter.

The controller can recognize how many camera cameras are connected on the network by the returned parameter.

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◇ Flow of information transmission

The flow of information transmission between the controller and the camera should be one of the following examples.

● Inquiry is executed immediately

Other commands forbidden

Controller

Inquiry command   Reply information

Camera
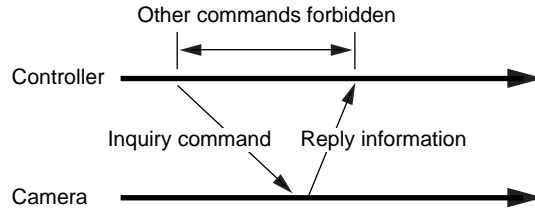
Fig. 4

● Command is stored in a socket and executed later

Other commands forbidden   Other commands executable

Controller

Command   ACK   Command complete

Camera

Time

Command execution

Fig. 5

● Return of error message (1)

Other commands forbidden

Controller

Command   Error message

Camera

Time
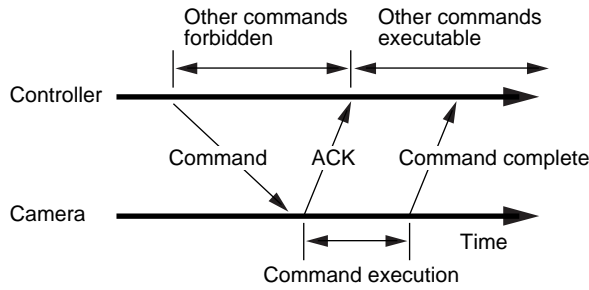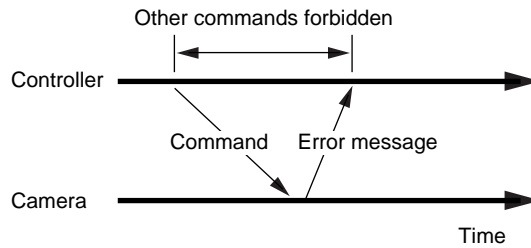
Fig. 6

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● Return of error message (2)

Other commands forbidden | Other commands executable

Controller

Command | ACK | Error message

Camera

Time
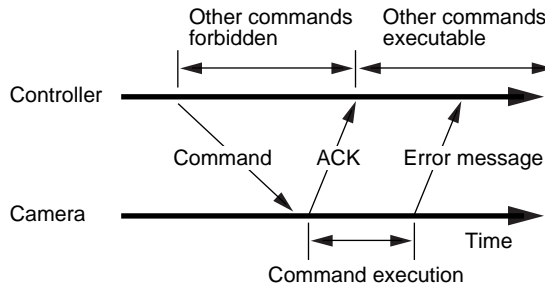
Command execution

Fig. 7

● Execution of more than one commands
    Fig. 8 shows the case when two commands are executed.

Controller

Command 1 | Command 2 | Command 1 execution

ACK (Socket 1) | ACK (Socket 2) | Command 2 execution

Camera

Time

Fig. 8

● Cancel of commands (1)

Other commands forbidden | Other commands executable

Controller

Command | ACK | Cancel | Command cancel error message

Camera

Time

Execution of command

Interruption of command execution

Fig. 9

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● Cancel of commands (2)

Cancel is sent before command completion message is received, but the command is already executed. In this case, no socket error message is returned since the socket of the camera is cleared.

Fig. 10

● Continuous information transmission, Cancel of continuous information transmission.

Fig. 11

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■ EVI-D30/D31 Command List (1/3)

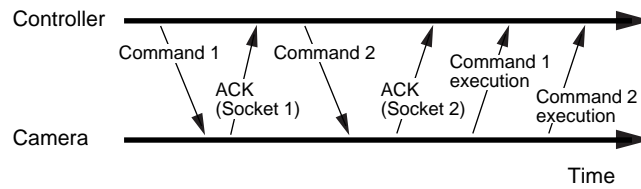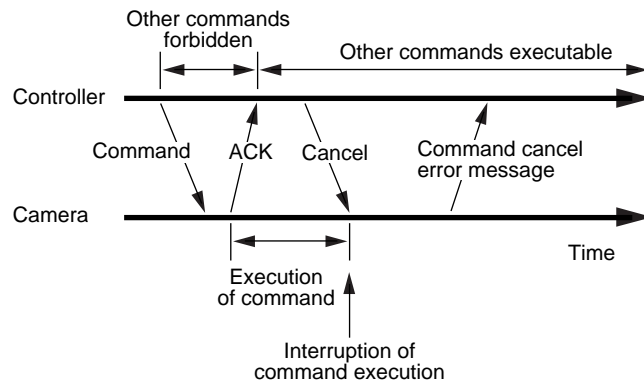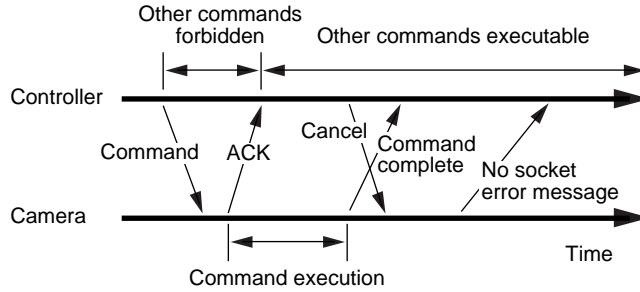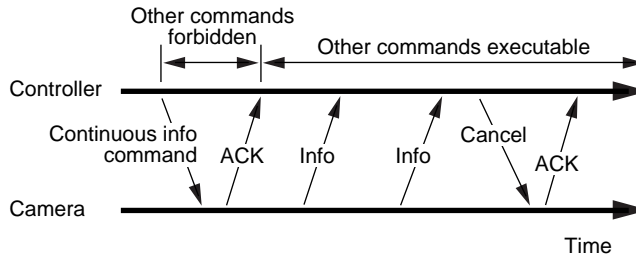| Command Set	Command	VISCA™ Packet	Comments
AddressSet	broadcast	88 30 01 FF	Send Address_set command and IF_clear command before starting communication.
IF_Clear	broadcast	88 01 00 01 FF	Broadcast.
CommandCancel		8x 2Z FF	Z is a socket number. 0 or 1
CAM_Power	On	8x 01 04 00 02 FF	When Camera main power is on, camera can be changed to Power Save Mode.
	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 2Z FF	Z: Speed Parameter, 2 (Low) to 7 (High)
	Wide (Variable)	8x 01 04 07 3Z FF	
	Direct	8x 01 04 47 0Z 0Z 0Z 0Z FF	ZZZZ: Zoom Data, 0000 (Wide) to 03FF (Tele)
CAM_Focus	Stop	8x 01 04 08 00 FF	Focus control.
	Far	8x 01 04 08 02 FF	When adjust the focus, change the mode to Manual the send Far/Near or Direct command.
	Near	8x 01 04 08 03 FF	
	Auto focus on	8x 01 04 38 02 FF	
	Manual focus on	8x 01 04 38 03 FF	
	Auto/Manual	8x 01 04 38 10 FF	
	Direct	8x 01 04 48 0Z 0Z 0Z 0Z FF	ZZZZ: Focus Data. Infinity = 1000, close = 9FFF
CAM_WB	Auto	8x 01 04 35 00 FF	White Balance Setting.
	Indoor mode	8x 01 04 35 01 FF	Auto: Trace the light source automatically.
	Outdoor mode	8x 01 04 35 02 FF	Indoor/Outdoor: Fixed at Factory.
	OnePush mode	8x 01 04 35 03 FF	Pull-in to White with a Trigger then hold the data until next
	OnePush trigger	8x 01 04 10 05 FF	Trigger coming
CAM_AE	Full Auto	8x 01 04 39 00 FF	Auto Exposure Mode
	Manual	8x 01 04 39 03 FF	Iris, Shutter and Gain can be set individually.
	Shutter priority	8x 01 04 39 0A FF	Shutter fixed Auto Exposure Mode. Shutter speed can be selected.
	Iris priority	8x 01 04 39 0B FF	Iris fixed Auto Exposure Mode. Iris can be selected.
	Bright mode	8x 01 04 39 0D FF	Fixed Exposure Mode. When turning on to Bright Mode, Iris,
CAM_Bright	Reset	8x 01 04 0D 00 FF	Gain and Shutter at the time then increase or decrease 3 dB/
	Up	8x 01 04 0D 02 FF	step using UP/DOWN command.
	Down	8x 01 04 0D 03 FF	
CAM_Shutter	Reset	8x 01 04 0A 00 FF	Electronic Shutter Setting.
	Up	8x 01 04 0A 02 FF	Enable on AE_Manual, Shutter_Priority
	Down	8x 01 04 0A 03 FF	
	Direct	8x 01 04 4A 0Z 0Z 0Z 0Z FF	ZZZZ = 0000: 1/60, 001B: 1/10000 second
CAM_Iris	Reset	8x 01 04 0B 00 FF	Iris Setting. Enable on AE_Manual or Iris_Priority
	Up	8x 01 04 0B 02 FF	
	Down	8x 01 04 0B 03 FF	
	Direct	8x 01 04 4B 0Z 0Z 0Z 0Z FF	ZZZZ = 0000: close to 0011: F1.8
CAM_Gain	Reset	8x 01 04 0C 00 FF	Gain Setting. Enable on AE_Manual only
	Up	8x 01 04 0C 02 FF	
	Down	8x 01 04 0C 03 FF	
	Direct	8x 01 04 4C 0Z 0Z 0Z 0Z FF	ZZZZ = 0001: 0 dB to 0007: +18 dB
CAM_Backlight	On	8x 01 04 33 02 FF	Back light compensation
	Off	8x 01 04 33 03 FF	Gain-up to 6 dB max.

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■ EVI-D30/D31 Command List (2/3)

Command Set	Command	VISCA™ Packet	Comments
CAM_Memory	Reset	8x 01 04 3F 00 0Z FF	Preset memory for memorize camera condition.
	Set	8x 01 04 3F 01 0Z FF	Z = 0 to 5, 6 positions
	Recall	8x 01 04 3F 02 0Z FF	
CAM_KeyLock	Off	8x 01 04 17 00 FF	Enable/Disable for RS-232C and key control.
	On	8x 01 04 17 02 FF	
IR_Receive	On	8x 01 06 08 02 FF	Enable/Disable for IR remote commander.
	Off	8x 01 06 08 03 FF	
	On/Off	8x 01 06 08 10 FF	
IR_ReceiveReturn	On	8x 01 7D 01 03 00 00 FF	Send replies what command received from IR Commander.
	Off	8x 01 7D 01 13 00 00 FF	
Wide_conLensSet		8x 01 07 26 00 0Z FF	Automatic Target Trace ability Compensation when a wide conversion lens installed. Z = 0: No Conversion to 7: X0.6 Conversion
Pan-tiltDrive	Up	8x 01 06 01 VV WW 03 01 FF	VV: pan speed 01 to 18,
	Down	8x 01 06 01 VV WW 03 02 FF	WW: tilt speed 01 to 14
	Left	8x 01 06 01 VV WW 01 03 FF	YYYY: pan position: approx. FC90 to 0370
	Right	8x 01 06 01 VV WW 02 03 FF	(center 0000)
	UpLeft	8x 01 06 01 VV WW 01 01 FF	ZZZZ: tilt position: approx. FED4 to 012C
	UpRight	8x 01 06 01 VV WW 02 01 FF	(center 0000)
	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	
	Absolute position	8x 01 06 02 VV WW 0Y 0Y 0Y 0Y 0Z 0Z 0Z 0Z FF	Absolute Position Drive
	Relative position	8x 01 06 03 VV WW 0Y 0Y 0Y 0Y 0Z 0Z 0Z 0Z FF	Relative Position Drive. Set the relative coordinates between current position to the the target position.
	Home	8x 01 06 04 FF	
	Reset	8x 01 06 05 FF	Pan/Tilt Initialize command
Pan-tiltLimitSet	Limit set	8x 01 06 07 00 0W 0Y 0Y 0Y 0Y 0Z 0Z 0Z 0Z FF	Pan/Tilt limit set YYYY: pan position FC90 to 0370 (center 0000)
	Limit clear	8x 01 06 07 01 0W 07 0F 0F 0F 07 0F 0F 0F FF	ZZZZ: tilt position FED4 to 012C (center 0000) W: 1 UpRight, 0 DownLeft
Datascreen	On	8x 01 06 06 02 FF	On screen Data Display ON/OFF
	Off	8x 01 06 06 03 FF	
	On/Off	8x 01 06 06 10 FF	
AT_Mode	On	8x 01 07 01 02 FF	Target Tracking Mode ON/OFF
	Off	8x 01 07 01 03 FF	
	On/Off	8x 01 07 01 10 FF	
AT_AE	On	8x 01 07 02 02 FF	Auto Exposure for the target
	Off	8x 01 07 02 03 FF	
	On/Off	8x 01 07 02 10 FF	
AT_AutoZoom	On	8x 01 07 03 02 FF	Automatic Zooming for the target
	Off	8x 01 07 03 03 FF	
	On/Off	8x 01 07 03 10 FF	
AT/MD_Frame _Display	On	8x 01 07 04 02 FF	Sensing Frame Display ON/OFF
	Off	8x 01 07 04 03 FF	
	On/Off	8x 01 07 04 10 FF	

▬ COMMAND LIST ▬

■ EVI-D30/D31 Command List (3/3)

Command Set	Command	VISCA™ Packet	Comments
AT_Offset	On	8x 01 07 05 02 FF	Shifting the Sensing Frame for AT
	Off	8x 01 07 05 03 FF	For Shifting use Pan/Tilt Drive Command
	On/Off	8x 01 07 05 10 FF	
AT/MD_Start/Stop	Start/Stop	8x 01 07 06 10 FF	Tracking or Detecting Start/Stop
AT_Chase	Chase1	8x 01 07 07 00 FF	Select a Tracking Mode
	Chase2	8x 01 07 07 01 FF	
	Chase3	8x 01 07 07 02 FF	
	Chase1/2/3	8x 01 07 07 10 FF	
AT_Entry	Entry1	8x 01 07 15 00 FF	Select target study mode for AT
	Entry2	8x 01 07 15 01 FF	
	Entry3	8x 01 07 15 02 FF	
	Entry4	8x 01 07 15 03 FF	
MD_Mode	On	8x 01 07 08 02 FF	Motion Detector Mode ON/OFF
	Off	8x 01 07 08 03 FF	
	On/Off	8x 01 07 08 10 FF	
MD_Frame	Setting	8x 01 07 09 FF	Detecting Area Set (Size or Position)
MD_Detect	Frame1/2/1 or 2	8x 01 07 0A 10 FF	Select Detecting Frame (1 or 2 or 1 + 2)
AT_LostInfo		8x 01 06 20 07 20 FF	Reply a completion when the camera lost the target in AT mode.
MD_LostInfo		8x 01 06 20 07 21 FF	Reply a completion when the camera detected a motion of image in MD mode.
MD_Adjust	Y Level	8x 01 07 0B 00 0Z FF	Set Detecting Condition Z = 0 to F
	Hue Level	8x 01 07 0C 00 0Z FF	
	Size	8x 01 07 0D 00 0Z FF	
	Display time	8x 01 07 0F 00 0Z FF	
	Refresh mode1	8x 01 07 10 00 FF	
	Refresh mode2	8x 01 07 10 01 FF	
	Refresh mode3	8x 01 07 10 02 FF	
	Refresh time	8x 01 07 0B 00 0Z FF	Z = 0 to F
Measure_Mode1	On	8x 01 07 27 02 FF	Target Condition Measure Mode for More Accurate Setting for Motion Detector.
	Off	8x 01 07 27 03 FF	
	On/Off	8x 01 07 27 10 FF	
Measure_Mode2	On	8x 01 07 28 02 FF	
	Off	8x 01 07 28 03 FF	
	On/Off	8x 01 07 28 10 FF	

■ COMMAND LIST

■ Inquiry Command (1/2)

Inquiry	Packet Inq	Packet Reply	Description
CAM_PowerInq	8x 09 04 00 FF	Y0 50 02 FF	On
		Y0 50 03 FF	Off
CAM_ZoomPosInq	8x 09 04 47 FF	Y0 50 0Z 0Z 0Z 0Z FF	ZZZZ: position
CAM_FocusAFModeInq	8x 09 04 38 FF	Y0 50 02 FF	Auto
		Y0 50 03 FF	Manual
CAM_FocusPosInq	8x 09 04 48 FF	Y0 50 0Z 0Z 0Z 0Z FF	ZZZZ: position
CAM_WBModeInq	8x 09 04 35 FF	Y0 50 00 FF	Auto
		Y0 50 01 FF	Indoor mode
		Y0 50 02 FF	Outdoor mode
		Y0 50 03 FF	OnePush mode
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 0D FF	Bright mode
CAM_ShutterPosInq	8x 09 04 4A FF	Y0 50 0Z 0Z 0Z 0Z FF	ZZZZ: position
CAM_IrisPosInq	8x 09 04 4B FF	Y0 50 0Z 0Z 0Z 0Z FF	ZZZZ: position
CAM_GainPosInq	8x 09 04 4C FF	Y0 50 0Z 0Z 0Z 0Z FF	ZZZZ: position
CAM_Backlight Mode Inq	8x 09 04 33 FF	Y0 50 02 FF	On
		Y0 50 03 FF	Off
CAM_MemoryInq	8x 09 04 3F FF	Y0 50 0Z FF	Z: 0 to 5
CAM_KeyLockInq	8x 09 04 17 FF	Y0 50 00 FF	Off
		Y0 50 02 FF	On
CAM_IDInq	8x 09 04 22 FF	Y0 50 0Z 0Z FF	ZZ: ID
VideoSystemInq	8x 09 06 23 FF	Y0 50 00 FF	NTSC
		Y0 50 01 FF	PAL
Wide_conLensInq	8x 09 07 26 FF	Y0 50 00 0Z FF	Z: lens No.
Pan-tiltModeInq	8x 09 06 10 FF	Y0 50 ZZ ZZ FF	ZZZZ: status
Pan-tiltMaxSpeedInq	8x 09 06 11 FF	Y0 50 WW ZZ FF	WW: pan, ZZ: tilt
Pan-tiltPosInq	8x 09 06 12 FF	Y0 50 0W 0W 0W 0W	WWWW: pan
		0Z 0Z 0Z 0Z FF	ZZZZ: tilt
DatascreenInq	8x 09 06 06 FF	Y0 50 02 FF	On
		Y0 50 03 FF	Off
AT/MD_ModeInq	8x 09 07 22 FF	Y0 50 00 FF	Normal mode
		Y0 50 01 FF	AT mode
		Y0 50 02 FF	MD mode
AT_ModeInq	8x 09 07 23 FF	Y0 50 ZZ ZZ FF	ZZ: status
AT_EntryInq	8x 09 07 15 FF	Y0 50 00 FF	entry mode 1
		Y0 50 01 FF	entry mode 2
		Y0 50 02 FF	entry mode 3
		Y0 50 03 FF	entry mode 4
MD_ModeInq	8x 09 07 24 FF	Y0 50 ZZ ZZ FF	ZZ: status
AT_ObjectPosInq	8x 09 07 20 FF	Y0 50 VV WW 0Z FF	Dividing a screen by 48 × 30 pixels, Return the center position of the detecting Frame.
MD_ObjectPosInq	8x 09 07 21 FF	Y0 50 VV WW 0Z FF	VV: X, WW: Y X 04-2A, Y 03-1B Z: status
MD_Y LevelInq	8x 09 07 0B FF	Y0 50 00 0Z FF	Z: 0 to F

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▬ COMMAND LIST ▬

◼ Inquiry Command (2/2)

Inquiry	Packet Inq	Packet Reply	Description
MD_Hue LevelInq	8x 09 07 0C FF	Y0 50 00 0Z FF	Z: 0 to F
MD_SizeInq	8x 09 07 0D FF	Y0 50 00 0Z FF	Z: 0 to F
MD_Disp.TimeInq	8x 09 07 0F FF	Y0 50 00 0Z FF	Z: 0 to F
MD_Ref.ModeInq	8x 09 07 10 FF	Y0 50 00 FF	Refresh mode 1
		Y0 50 01 FF	Refresh mode 2
		Y0 50 02 FF	Refresh mode 3
MD_Ref.TimeInq	8x 09 07 11 FF	Y0 50 00 0Z FF	Z: 0 to F
IR_ReceiveReturn		Y0 07 7D 01 04 00 FF	Power ON/OFF
		Y0 07 7D 01 04 07 FF	Zoom tele/Wide
		Y0 07 7D 01 04 38 FF	AF ON/OFF
		Y0 07 7D 01 04 33 FF	CAM_Backlight
		Y0 07 7D 01 04 3F FF	CAM_Memory
		Y0 07 7D 01 06 01 FF	Pan-tiltDrive
		Y0 07 7D 01 07 23 FF	AT_Mode ON/OFF
		Y0 07 7D 01 07 24 FF	MD_Mode ON/OFF

— **COMMAND LIST** —

■ Code List for Shutter, Iris, Gain, Wide Conversion Lens Setting

Code	Shutter (1/X sec.)	Iris	Gain (dB)
0	60 (D31:50)	CLOSE	−3
1	60	F28	0
2	75	F22	3
3	90	F19	6
4	100	F16	9
5	125 (D31:120)	F14	12
6	150	F11	15
7	180	F9.6	18
8	215	F8	
9	250	F6.8	
A	300	F5.6	
B	350	F4.8	
C	425	F4	
D	500	F3.4	
E	600	F2.8	
F	725	F2.4	
10	850	F2	
11	1000	F1.8	
12	1250		
13	1500		
14	1750		
15	2000		
16	2500		
17	3000		
18	3500		
19	4000		
1A	6000		
1B	10000		

Code	Wide conversion lens ratio
0	1.0
1	0.9
2	0.85
3	0.8
4	0.75
5	0.7
6	0.65
7	0.6

■ Status AT/MD Position Inq

Z	AT	MD
0	Setting	
1	Tracking	UnDetect
2	Lost	Detected
3		

COMMAND LIST

■ Status Code List for Pan/Tilter, AT, MD

Z	Z	Z	Z	
0 - - -	- - - -	0 - - -	- - - 1	Pan Left End
0 - - -	- - - -	0 - - -	- - 1 -	Pan Right End
0 - - -	- - - -	0 - - -	- 1 - -	Tilt Upper End
0 - - -	- - - -	0 - - -	1- - -	Tilt Down End
0 - - -	- - - -	- - 0 0	- - - -	Pan Normal
0 - - -	- - - -	- - 0 1	- - - -	Pan Miss Position
0 - - -	- - - -	- - 1 0	- - - -	Pan Mechanical Disorder
0 - - -	- - 0 0	0 - - -	- - - -	Tilt Normal
0 - - -	- - 0 1	0 - - -	- - - -	Tilt Miss Position
0 - - -	- - 1 0	0 - - -	- - - -	Tilt Mechanical Disorder
0 - - -	0 0 - -	0 - - -	- - - -	No Drive Command
0 - - -	0 1 - -	0 - - -	- - - -	Pan,Tilt In-Move
0 - - -	1 0 - -	0 - - -	- - - -	Pan,Tilt Drive Completion
0 - - -	1 1 - -	0 - - -	- - - -	Pan,Tilt Drive failure
0 - 0 0	- - - -	0 - - -	- - - -	Before Initialize
0 - 0 1	- - - -	0 - - -	- - - -	In-Initialize
0 - 1 0	- - - -	0 - - -	- - - -	Initialize complete
0 - 1 1	- - - -	0 - - -	- - - -	Initialize failure
0 - - -	- - - -	0 - - -	- - 0 0	AT frame chase
0 - - -	- - - -	0 - - -	- - 0 1	AT pan chase
0 - - -	- - - -	0 - - -	- - 1 0	AT frame/pan chase
0 - - -	- - - -	0 - - -	- 1 - -	AT offset
0 - - -	- - - -	0 - - -	1 - - -	AT AE on/off
0 - - -	- - - -	0 - - 1	- - - -	AT zoom on/off
0 - - -	- - - -	0 - 1 -	- - - -	At frame display on/off
0 - - -	- - 0 0	0 - - -	- - - -	AT setting
0 - - -	- - 0 1	0 - - -	- - - -	AT working
0 - - -	- - 1 0	0 - - -	- - - -	AT lost
0 - - -	- - 1 1	0 - - -	- - - -	AT memorizing
0 - - -	- - - -	0 - - -	- 0 0 0	MD detection method
0 - - -	- - - -	0 - - -	- 0 0 1	MD setting
0 - - -	- - - -	0 - - -	- 0 1 x	MD undetect
0 - - -	- - - -	0 - - -	- 1 0 x	MD detecting
0 - - -	- - - -	0 - - -	- 1 1 x	MD memorizing
0 - - -	- - - -	0 - - 0	1 - - -	MD frame 1
0 - - -	- - - -	0 - - 1	0 - - -	MD frame 2
0 - - -	- - - -	0 - - 1	1 - - -	MD frame 1 or 2
0 - - -	- - - -	0 - 1 -	0 - 1 -	MD frame display

COMMAND LIST

■ Connection
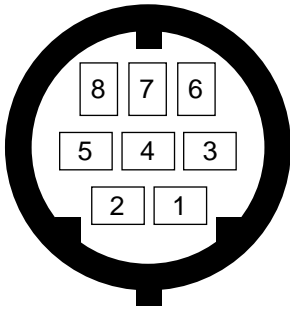
VISCA™ connector back view

No	Signal	Description
1	DTR	Data Transmission Ready (OUTPUT)
2	DSR	Data Set Ready (INPUT)
3	TXD	Transmit Data (OUTPUT)
4	GND	Ground
5	RXD	Receive Data (INPUT)
6	GND	Ground
7	IR OUT	IR Commander Signal (OUTPUT)
8	MD Caution	Motion Detector Sensing Signal (OUTPUT)

IR OUT outputs IR commander signal as 5 Vdc when IR OUT switch is ON at the bottom of the base.

In case of OFF, both of IR OUT pin of VISCA™ IN and VISCA™ OUT connector shorted directly.

MD Caution outputs 5 Vdc when the camera detected a target.

● EVI-D30/D31   Windows D-Sub 9 pin

1. DTR	1. CD
2. DSR	2. RXD
3. TXD	3. TXD
4. GND	4. DTR
5. RXD	5. GND
6. GND	6. DSR
7. IR OUT	7. RTS
8. MD Caution	8. CTS
	9. RI

● EVI-D30/D31   Windows D-Sub 25 pin

1. DTR	1. FG
2. DSR	2. TXD
3. TXD	3. RXD
4. GND	4. RTS
5. RXD	5. CTS
6. GND	6. DSR
7. IR OUT	7. GND
8. MD Caution	20. DTR

● EVI-D30/D31   EVI or Macintosh

1. DTR	1. DTR
2. DSR	2. DSR
3. TXD	3. TXD
4. GND	4. GND
5. RXD	5. RXD
6. GND	6. GND
7. IR OUT	7. OPEN
8. MD Caution	8. OPEN
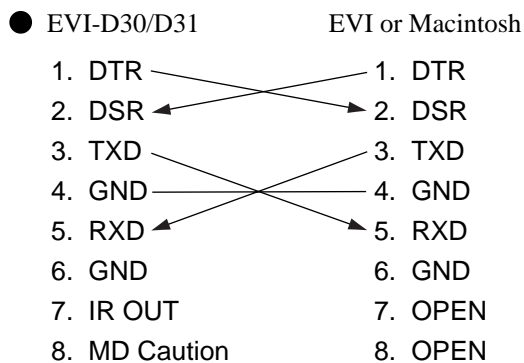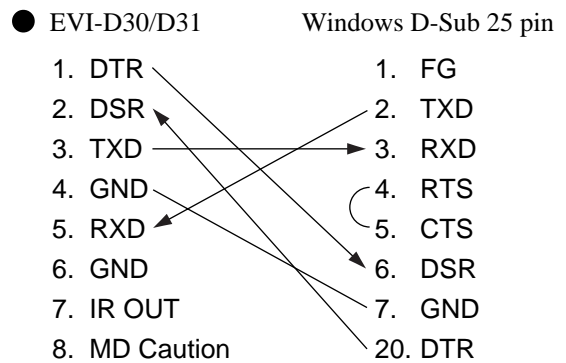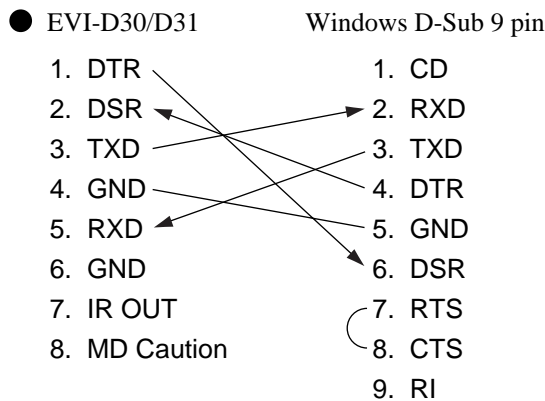
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