

# **LX750/LW650/LS+700/LW720**

**User Manual - Technical Guide**

020-000161-02

**CHRISTIE®**

# LW650/LS+700/LX750/LW720

## User's Manual – Operating Guide

### Technical

#### Example of computer signal

Resolution (H x V)	H. frequency (kHz)	V. frequency (Hz)	Rating	Signal mode
720 x 400	37.9	85.0	VESA	TEXT
640 x 480	31.5	59.9	VESA	VGA (60Hz)
640 x 480	37.9	72.8	VESA	VGA (72Hz)
640 x 480	37.5	75.0	VESA	VGA (75Hz)
640 x 480	43.3	85.0	VESA	VGA (85Hz)
800 x 600	35.2	56.3	VESA	SVGA (56Hz)
800 x 600	37.9	60.3	VESA	SVGA (60Hz)
800 x 600	48.1	72.2	VESA	SVGA (72Hz)
800 x 600	46.9	75.0	VESA	SVGA (75Hz)
800 x 600	53.7	85.1	VESA	SVGA (85Hz)
832 x 624	49.7	74.5		Mac 16" mode
1024 x 768	48.4	60.0	VESA	XGA (60Hz)
1024 x 768	56.5	70.1	VESA	XGA (70Hz)
1024 x 768	60.0	75.0	VESA	XGA (75Hz)
1024 x 768	68.7	85.0	VESA	XGA (85Hz)
1152 x 864	67.5	75.0	VESA	1152 x 864 (75Hz)
1280 x 960	60.0	60.0	VESA	1280 x 960 (60Hz)
1280 x 1024	64.0	60.0	VESA	SXGA (60Hz)
1280 x 1024	80.0	75.0	VESA	SXGA (75Hz)
*1280 x 1024	91.2	85.0	VESA	SXGA (85Hz)
*1600 x 1200	75.0	60.0	VESA	UXGA (60Hz)
1280 x 768	47.7	60.0	VESA	W-XGA (60Hz)
1400 x 1050	65.3	60.0	VESA	SXGA+ (60Hz)
1280 x 800	49.7	60.0	VESA	1280 x 800 (60Hz)

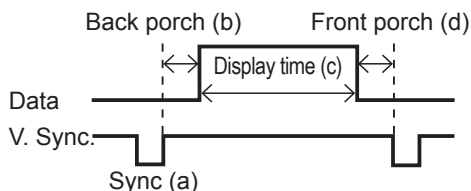
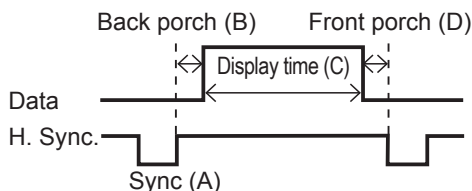
**NOTE** • Be sure to check jack type, signal level, timing and resolution before connecting this projector to a computer.

- Some computers may have multiple display screen modes. Use of some of these modes will not be possible with this projector.
- Depending on the input signal, full-size display may not be possible in some cases. Refer to the number of display pixels above.
- Although the projector can display signals with resolution up to UXGA (1600x1200), the signal will be converted to the projector's panel resolution before being displayed. The best display performance will be achieved if the resolutions of the input signal and projector panel are identical.
- Automatic adjustment may not function correctly with some input signals.
- The image may not be displayed correctly when the input sync signal is a composite sync or a sync on G.
- The HDMI input does not support the signals marked with \*.

## Initial set signals

### Initial set signals

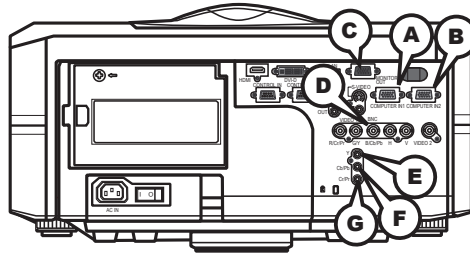
The following signals are used for the initial settings. The signal timing of some computer models may be different. In such case, adjust the items V POSITION and H POSITION in the IMAGE menu.



Computer/ Signal	Horizontal signal timing ( $\mu$ s)			
	(A)	(B)	(C)	(D)
TEXT	2.0	3.0	20.3	1.0
VGA (60Hz)	3.8	1.9	25.4	0.6
VGA (72Hz)	1.3	4.1	20.3	0.8
VGA (75Hz)	2.0	3.8	20.3	0.5
VGA (85Hz)	1.6	2.2	17.8	1.6
SVGA (56Hz)	2.0	3.6	22.2	0.7
SVGA (60Hz)	3.2	2.2	20.0	1.0
SVGA (72Hz)	2.4	1.3	16.0	1.1
SVGA (75Hz)	1.6	3.2	16.2	0.3
SVGA (85Hz)	1.1	2.7	14.2	0.6
Mac 16" mode	1.1	3.9	14.5	0.6
XGA (60Hz)	2.1	2.5	15.8	0.4
XGA (70Hz)	1.8	1.9	13.7	0.3
XGA (75Hz)	1.2	2.2	13.0	0.2
XGA (85Hz)	1.0	2.2	10.8	0.5
1152 x 864 (75Hz)	1.2	2.4	10.7	0.6
1280 x 960 (60Hz)	1.0	2.9	11.9	0.9
SXGA (60Hz)	1.0	2.3	11.9	0.4
SXGA (75Hz)	1.1	1.8	9.5	0.1
SXGA (85Hz)	1.0	1.4	8.1	0.4
UXGA (60Hz)	1.2	1.9	9.9	0.4
W-XGA (60Hz)	1.7	2.5	16.0	0.8
SXGA+ (60Hz)	1.2	1.9	11.5	0.7
1280 x 800(60Hz)	1.6	2.4	15.3	0.8

Computer/ Signal	Vertical signal timing (lines)			
	(a)	(b)	(c)	(d)
TEXT	3	42	400	1
VGA (60Hz)	2	33	480	10
VGA (72Hz)	3	28	480	9
VGA (75Hz)	3	16	480	1
VGA (85Hz)	3	25	480	1
SVGA (56Hz)	2	22	600	1
SVGA (60Hz)	4	23	600	1
SVGA (72Hz)	6	23	600	37
SVGA (75Hz)	3	21	600	1
SVGA (85Hz)	3	27	600	1
Mac 16" mode	3	39	624	1
XGA (60Hz)	6	29	768	3
XGA (70Hz)	6	29	768	3
XGA (75Hz)	3	28	768	1
XGA (85Hz)	3	36	768	1
1152 x 864 (75Hz)	3	32	864	1
1280 x 960 (60Hz)	3	36	960	1
SXGA(60Hz)	3	38	1024	1
SXGA (75Hz)	3	38	1024	1
SXGA (85Hz)	3	44	1024	1
UXGA (60Hz)	3	46	1200	1
W-XGA (60Hz)	3	23	768	1
SXGA+ (60Hz)	4	32	1050	3
1280 x 800(60Hz)	3	24	800	1

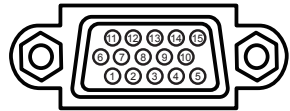
Connection to the ports



**ⒶCOMPUTER IN1, ⒷCOMPUTER IN2, ⒸMONITOR OUT**

D-sub 15pin mini shrink jack

- Video signal: RGB separate, Analog, 0.7Vp-p, 75Ω terminated (positive)
- H/V. sync. signal: TTL level (positive/negative)
- Composite sync. signal: TTL level



At RGB signal

Pin	Signal	Pin	Signal
1	Video Red	9	(No connection)
2	Video Green	10	Ground
3	Video Blue	11	(No connection)
4	(No connection)	12	Ⓐ,Ⓑ: SDA (DDC data), Ⓒ : (No connection)
5	Ground	13	H. sync / Composite sync.
6	Ground Red	14	V. sync.
7	Ground Green	15	Ⓐ,Ⓑ: SCL (DDC clock), Ⓒ : (No connection)
8	Ground Blue		

**ⒹBNC (G/Y, B/Cb/Pb, R/Cr/Pr, H, V)**

- BNC jack x 5
- Video : Analog 0.7Vp-p, 75Ω terminator
- H/V, sync. : TTL level (positive/negative)
- Composite sync. : TTL level

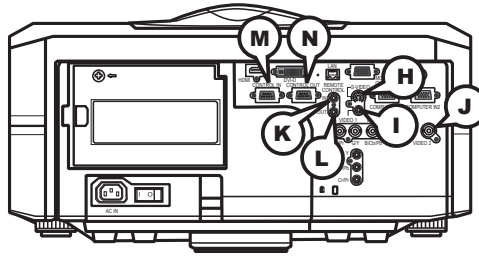
**COMPONENT VIDEO ⒺY, ⒻCb/Pb, ⒼCr/Pr**

RCA jack x3

- System: 480i@60, 480p@60, 576i@50, 576p@50, 720p@50/60, 1080i@50/60, 1080p@50/60

Port	Signal
Y	Component video Y, 1.0±0.1Vp-p, 75Ω terminator with composite sync
Cb/Pb	Component video Cb/Pb, 0.7±0.1Vp-p, 75Ω terminator
Cr/Pr	Component video Cr/Pr, 0.7±0.1Vp-p, 75Ω terminator

**Connection to the ports (continued)**



**H S-VIDEO**

Mini DIN 4pin jack



Pin	Signal
1	Color signal 0.286Vp-p (NTSC, burst), 75Ω terminator Color signal 0.300Vp-p (PAL/SECAM, burst) 75Ω terminator
2	Brightness signal, 1.0Vp-p, 75Ω terminator
3	Ground
4	Ground

**I VIDEO 1**

RCA jack

- System: NTSC, PAL, SECAM, PAL-M, PAL-N, NTSC4.43
- 1.0±0.1Vp-p, 75Ω terminator

**J VIDEO 2**

BNC jack

- System: NTSC, PAL, SECAM, PAL-M, PAL-N, NTSC4.43
- 1.0±0.1Vp-p, 75Ω terminator

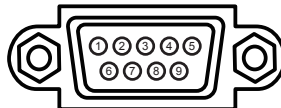
**REMOTE CONTROL (K IN L OUT)**

Ø3.5 stereo mini jack

- To be connected with the remote control that came with the projector.

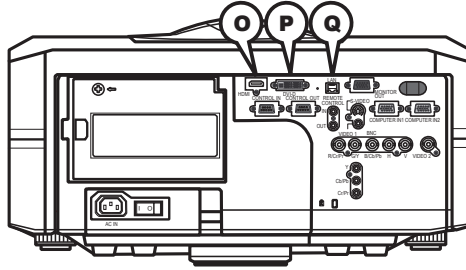
**CONTROL (M IN N OUT)**

D-sub 9pin plug



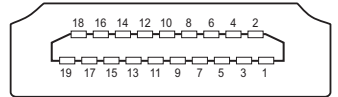
- About the details of RS-232C communication, please refer to the following RS-232C Communication in this manual.

Pin	Signal	Pin	Signal	Pin	Signal
1	(No connection)	4	(No connection)	7	RTS
2	RD	5	Ground	8	CTS
3	TD	6	(No connection)	9	(No connection)



**ⓐ HDMI**

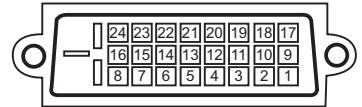
• Type : Digital video connector



Pin	Signal	Pin	Signal	Pin	Signal
1	T.M.D.S. Data2 +	8	T.M.D.S. Data0 Shield	15	SCL
2	T.M.D.S. Data2 Shield	9	T.M.D.S. Data0 -	16	SDA
3	T.M.D.S. Data2 -	10	T.M.D.S. Clock +	17	DDC/CEC Ground
4	T.M.D.S. Data1 +	11	T.M.D.S. Clock Shield	18	+5V Power
5	T.M.D.S. Data1 Shield	12	T.M.D.S. Clock -	19	Hot Plug Detect
6	T.M.D.S. Data1 -	13	CEC		
7	T.M.D.S. Data0 +	14	Reserved(N.C. on device)		

**ⓑ DVI-D**

DVI-D jack (digital to digital)

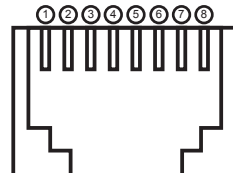


Pin	Signal	Pin	Signal	Pin	Signal
1	T.M.D.S. Data2 -	9	T.M.D.S. Data1 -	17	T.M.D.S. Data0 -
2	T.M.D.S. Data2 +	10	T.M.D.S. Data1 +	18	T.M.D.S. Data0 +
3	T.M.D.S. Data2/4 Shield	11	T.M.D.S. Data1/3 Shield	19	T.M.D.S. Data0/5 Shield
4	-	12	-	20	-
5	-	13	-	21	-
6	DDC Clock	14	+5V Power	22	T.M.D.S. Clock Shield
7	DDC Data	15	Ground (for +5V)	23	T.M.D.S. Clock +
8	-	16	Hot Plug Detect	24	T.M.D.S. Clock -

**ⓒ LAN**

RJ-45 jack

Pin	Signal	Pin	Signal	Pin	Signal
1	TX+	4	-	7	-
2	TX-	5	-	8	-
3	RX+	6	RX-		



## PJLink command

### PJLink command

This projector is equipped with the PJLink™ Class 1.

See the following table for the commands for controlling the projector using the PJLink™ protocol are as given in the table below.

Commands	Control Description	Parameter or Response
POWR	Power Control	0 = Standby 1 = Power On
POWR ?	Power Status inquiry	0 = Standby 1 = Power On 2 = Cool Down
INPT	Input Source selection	11 = COMPUTER IN 1 12 = COMPUTER IN 2 13 = BNC 21 = COMPONENT 22 = S-VIDEO 23 = VIDEO 1 24 = VIDEO 2 31 = HDMI 32 = DVI-D
INPT ?	Input Source inquiry	11 = COMPUTER IN 1 12 = COMPUTER IN 2 13 = BNC 21 = COMPONENT 22 = S-VIDEO 23 = VIDEO 1 24 = VIDEO 2 31 = HDMI 32 = DVI-D
AVMT	AV Mute	30 = BLANK off 31 = BLANK on
AVMT ?	AV Mute inquiry	30 = BLANK off 31 = BLANK on
ERST ?	Error Status inquiry	1st byte: Refers to Fan error; one of 0 to 2 2nd byte: Refers to Lamp error; one of 0 to 2 3rd byte: Refers to Temperature error; one of 0 to 2 4th byte: Refers to Cover error; one of 0 to 2 5th byte: Refers to Filter error; one of 0 to 2 6th byte: Refers to Other error; one of 0 to 2  The meaning of 0 to 2 is as given below 0 = Error is not detected; 1 = Warning; 2 = Error

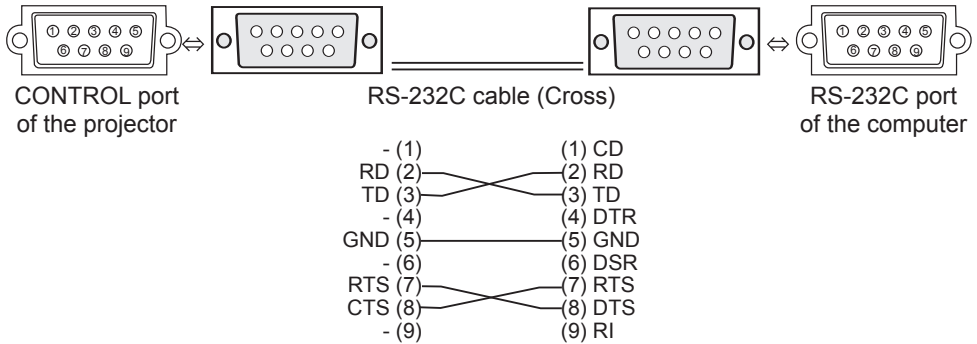
Commands	Control Description	Parameter or Response
LAMP ?	Lamp Status inquiry	1st number (digits 1 to 5): Lamp Time 2nd number : 0 = Lamp off, 1 = Lamp on
INST ?	Input Source List inquiry	11 12 13 21 22 23 24 31 32
NAME ?	Projector Name inquiry	Responds with the name set in "PROJECTOR NAME" of "NETWORK"
INF1 ?	Manufacturer's Name inquiry	CHRISTIE
INF2 ?	Model Name inquiry	LX750 (XGA model) LW650/LW720 (WXGA model) LS+700 (SXGA+ model)
INFO ?	Other Information inquiry	Responds with the factory information and so on
CLSS ?	Class Information inquiry	1

**NOTE** • The password used in PJLink™ is the same as the password set in the Web Browser Control. To use PJLink™ without authentication, do not set any password in Web Browser Control.

- For specifications of PJLink™, see the web site of the Japan Business Machine and Information System Industries Association.  
URL: <http://pjlink.jbmia.or.jp/>



**RS-232C Communication**



**Connecting the cable**

1. Turn off the projector and the computer.
2. Connect the CONTROL port of the projector with a RS-232C port of the computer by a RS-232C cable (cross). Use the cable that fulfills the specification shown in the previous page.
3. Turn the computer on, and after the computer has started up turn the projector on.

**Communications setting**

19200bps, 8N1

**1. Protocol**

Consist of header (7 bytes) + command data (6 bytes).

**2. Header**

BE + EF + 03 + 06 + 00 + CRC\_low + CRC\_high

CRC\_low : Lower byte of CRC flag for command data

CRC\_high : Upper byte of CRC flag for command data

**3. Command data**

Command data chart

byte_0	byte_1	byte_2	byte_3	byte_4	byte_5
Action		Type		Setting code	
low	high	low	high	low	high

Action (byte\_0 - 1)

Action	Classification	Content
1	SET	Change setting to desired value.
2	GET	Read projector internal setup value.
4	INCREMENT	Increment setup value by 1.
5	DECREMENT	Decrement setup value by 1.
6	EXECUTE	Run a command.

**Requesting projector status (Get command)**

- (1) Send the request code Header + Command data ('02H'+ '00H'+ type (2 bytes)+'00H' + '00H') from the computer to the projector.
- (2) The projector returns the response code '1DH'+ data (2 bytes) to the computer.

**Changing the projector settings (Set command)**

- (1) Send the setting code Header + Command data ('01H'+ '00H'+ type (2 bytes) + setting code (2 bytes)) from the computer to the projector.
- (2) The projector changes the setting based on the above setting code.
- (3) The projector returns the response code '06H' to the computer.

**Using the projector default settings (Reset Command)**

- (1) The computer sends the default setting code Header + Command data ('06H'+ '00H' + type (2 bytes) + '00H'+ '00H') to the projector.
- (2) The projector changes the specified setting to the default value.
- (3) The projector returns the response code '06H' to the computer.

**Increasing the projector setting value (Increment command)**

- (1) The computer sends the increment code Header + Command data ('04H'+ '00H'+ type (2 bytes) + '00H'+ '00H') to the projector.
- (2) The projector increases the setting value on the above setting code.
- (3) The projector returns the response code '06H' to the computer.

**Decreasing the projector setting value (Decrement command)**

- (1) The computer sends the decrement code Header + Command data ('05H'+ '00H'+ type (2 bytes) + '00H' + '00H') to the projector.
- (2) The projector decreases the setting value on the above setting code.
- (3) The projector returns the response code '06H' to the computer.

**When the projector cannot understand the received command**

When the projector cannot understand the received command, the error code '15H' is sent back to the computer.

Sometimes the projector cannot properly receive the command. In such a case, the command is not executed and the error code '15H' is sent back to the computer. If this error code is returned, send the same command again.

**When the projector cannot execute the received command.**

When the projector cannot execute the received command, the error code '1CH' + 'xxxxH' is sent back to the computer. When the data length is greater than indicated by the data length code, the projector ignore the excess data code.

Conversely when the data length is shorter than indicated by the data length code, an error code will be returned to the computer.

**NOTE** • Operation cannot be guaranteed when the projector receives an undefined command or data.

- Provide an interval of at least 40ms between the response code and any other code.
- The projector outputs test data when the power supply is switched ON, and when the lamp is lit. Ignore this data.
- Commands are not accepted during warm-up.

## Command Control via the Network

### Communication Port

The following two ports are assigned for the command control.

TCP #23

TCP #9715

### Command Control Settings

Configure the following items from a web browser when command control is used.

Port Settings		
<b>Network Control Port1 (Port: 23)</b>	Port open	Click the <b>[Enable]</b> check box to open <b>[Network Control Port1 (Port: 23)]</b> to use TCP #23. Default setting is "Enable".
	Authentication	Click the <b>[Enable]</b> check box for the <b>[Authentication]</b> setting when authentication is required. Default setting is "Disable".
<b>Network Control Port2 (Port: 9715)</b>	Port open	Click the <b>[Enable]</b> check box to open <b>[Network Control Port2 (Port: 9715)]</b> to use TCP #9715. Default setting is "Enable".
	Authentication	Click the <b>[Enable]</b> check box for the <b>[Authentication]</b> setting when authentication is required. Default setting is "Enable".

When the authentication setting is enabled, the following settings are required.

Security Settings		
<b>Network Control</b>	Authentication Password	Enter the desired authentication password. This setting will be the same for <b>[Network Control Port1 (Port: 23)]</b> and <b>[Network Control Port2 (Port: 9715)]</b> . Default setting is blank.
	Re-enter Authentication Password	

## Command Format

### [TCP #23]

#### 1. Protocol

Consist of header (7 bytes) + command data (6 bytes)

#### 2. Header

BE + EF + 03 + 06 + 00 + CRC\_low + CRC\_high

CRC\_low: Lower byte of CRC flag for command data

CRC\_high: Upper byte of CRC flag for command data

#### 3. Command data

Command data chart

byte_0	byte_1	byte_2	byte_3	byte_4	byte_5
Action		Type		Setting code	
low	high	low	high	low	high

Action (byte\_0 - 1)

Action	Classification	Content
1	Set	Change setting to desired value.
2	Get	Read projector internal setup value.
4	Increment	Increment setup value by 1.
5	Decrement	Decrement setup value by 1.
6	Execute	Run a command.

#### Requesting projector status (Get command)

(1) Send the following request code from the PC to the projector.

*Header + Command data ('02H' + '00H' + type (2 bytes) + '00H' + '00H')*

(2) The projector returns the response code '1DH' + data (2 bytes) to the PC.

#### Changing the projector settings (Set command)

(1) Send the following setting code from the PC to the projector.

*Header + Command data ('01H' + '00H' + type (2 bytes) + setting code (2 bytes))*

(2) The projector changes the setting based on the above setting code.

(3) The projector returns the response code '06H' to the PC.

#### Using the projector default settings (Reset Command)

(1) The PC sends the following default setting code to the projector.

*Header + Command data ('06H' + '00H' + type (2 bytes) + '00H' + '00H')*

(2) The projector changes the specified setting to the default value.

(3) The projector returns the response code '06H' to the PC.

#### Increasing the projector setting value (Increment command)

(1) The PC sends the following increment code to the projector.

*Header + Command data ('04H' + '00H' + type (2 bytes) + '00H' + '00H')*

(2) The projector increases the setting value on the above setting code.

(3) The projector returns the response code '06H' to the PC.

**Decreasing the projector setting value (Decrement command)**

- (1) The PC sends the following decrement code to the projector.  
*Header + Command data ('05H' + '00H' + type (2 bytes) + '00H' + '00H')*
- (2) The projector decreases the setting value on the above setting code.
- (3) The projector returns the response code '06H' to the PC.

**When the projector cannot understand the received command**

When the projector cannot understand the received command, the error code '15H' is sent back to the PC.

Sometimes the projector cannot properly receive the command. In such a case, the command is not executed and the error code '15H' is sent back to the PC. If this error code is returned, send the same command again.

**When the projector cannot execute the received command.**

When the projector cannot execute the received command, the error code '1CH' + 'xxxxH' is sent back to the PC.

When the data length is greater than indicated by the data length code, the projector ignore the excess data code. Conversely when the data length is shorter than indicated by the data length code, an error code will be returned to the PC.

**When authentication error occurred.**

When authentication error occurred, the error code the '1FH' + '0400H' is sent back to the PC.

**NOTE** • Operation cannot be guaranteed when the projector receives an undefined command or data.

- Provide an interval of at least 40ms between the response code and any other code.
- Commands are not accepted during warm-up.

**[TCP #9715]**

**1. Protocol**

Consist of header (1 byte) + data length (1 byte) + command data (13 bytes) + check sum (1 bytes) + connection ID (1 byte).

**2. Header**

02, Fixed

**3. Data Length**

Network control commands byte length (0D, Fixed)

**4. Command data**

Network control commands that start with BE EF (13bytes).

**5. Check Sum**

This is the value to make zero on the addition of the lower 8 bits from the header to the checksum.

**6. Connection ID**

Random value from 0 to 255 (This value is attached to the reply data).

**7. Reply Data**

The connection ID (the data is same as the connection ID data on the sending data format) is attached to the Network control commands reply data.

ACK reply: '06H' + 'xxH'

NAK reply: '15H' + 'xxH'

Error reply: '1CH' + 'xxxxH' + 'xxH'

Data reply: '1DH' + 'xxxxH' + 'xxH'

Projector busy reply: '1FH' + 'xxxxH' + 'xxH'

Authentication error reply: '1FH' + '0400H' + 'xxH'

('xxH' : connection ID)

**Automatic Connection Break**

The TCP connection will be automatically disconnected after there is no communication for 30 seconds after being established.

**Authentication**

The projector does not accept commands without authentication success when authentication is enabled. The projector uses a challenge response type authentication with an MD5 (Message Digest 5) algorithm. When the projector is using a LAN, a random 8 bytes will be returned if authentication is enabled. Bind this received 8 bytes and the authentication password and digest this data with the MD5 algorithm and add this in front of the commands to send.

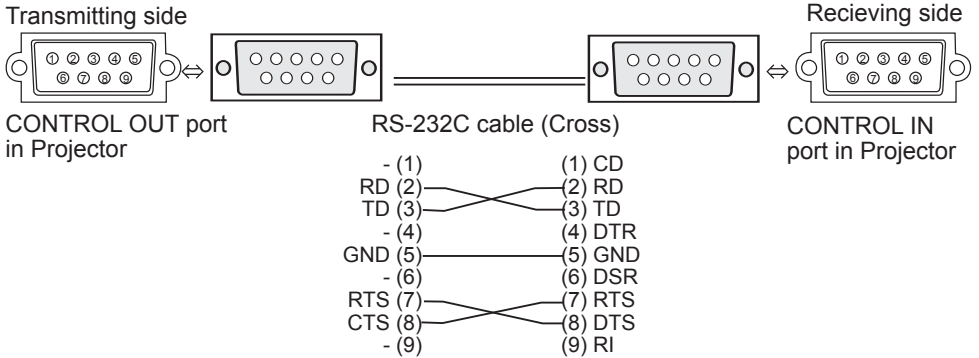
Following is a sample if the authentication password is set to "password" and the random 8 bytes are "a572f60c".

- 1) Select the projector.
- 2) Receive the random 8 bytes "a572f60c" from the projector.
- 3) Bind the random 8 bytes "a572f60c" and the authentication password "password" and it becomes "a572f60cpassword".
- 4) Digest this bind "a572f60cpassword" with MD5 algorithm.  
It will be "e3d97429adffa11bce1f7275813d4bde".
- 5) Add this "e3d97429adffa11bce1f7275813d4bde" in front of the commands and send the data.  
Send "e3d97429adffa11bce1f7275813d4bde"+command.
- 6) When the sending data is correct, the command will be performed and the reply data will be returned. Otherwise, an authentication error will be returned.

**NOTE** • As for the transmission of the second or subsequent commands, the authentication data can be omitted when the same connection.

**Daisy Chain Communication**

**Daisy Chain Communication**



**1.Communications setting**

Set the same communication settings (selecting from options below) on the CONTROL terminal for transmitting and receiving side connected with a RS-232C cable.

- Baud rate: 4800 / 9600 / 19200 / 38400 bps
- Parity NONE / ODD / EVEN
- Data bit: 8 bit (fixed)
- Start bit: 1 bit (fixed)
- Stop bit: 1 bit (fixed)

**2.Commans available only for daisy chain communication**

The projector supports the following commands only for daisy chain.

- (1) Control the projector (Set/Increment/Decrement/Execute)
- (2) Get the projector's status (Get)
- (3) Get the number of connected projectors
- (4) Set the communication Group identification and Communication ID.
- (5) Get the communication Group identification and Communication ID.

**3.Command format**

**Protocol**

Consist of header data (7 bytes) + command data (6 bytes)

**Header**

BE + EF + Packet\_Type + 06 + Group + ID + Checksum

Data chart

Support Command	Packet_Type	Group	ID
Control the projector	'83H'	0~16	0~64
Get the projector's status	'83H'	1~16	1~64
Get the number of connected projectors	'84H'	0	0
Set the communication Group identification and Communication ID	'85H'	1~16	1~64
Get the communication Group identification and Communication ID	'86H'	0	0

**Calculation of Checksum**

Sum up all of 12 bytes except the Checksum, then make the bit inversion of the lowest byte of the total, and add 1 to the inverted byte. The calculated result is the Checksum data.

Exp. Communication Group: A / Communication ID: 1

Header data (7 bytes)						Command data (6 bytes)		
Header	Packet Type	Data Size	Group	ID	Checksum	Action	Type	Setting Code
BE EF	83	06	01	01	66	01 00	00 60	01 00

$$BE + EF + 83 + 06 + 01 + 01 + 01 + 00 + 00 + 60 + 01 + 00 = '029AH'$$

The lowest byte of '029AH' is '9AH' (1001 1010). Making the bit inversion of the '9AH' gets '65H' (0110 0101), then, add 1. The calculated checksum is '66H'.

**Group and ID Settings**

This daisy chain command can adjust the control range by using the Group identification and ID.

Group	ID	Direction	note
1~16	1~64	Individual control	The command is available to the projectors having the same Group identification and ID numbers with command setting.
1~16	0	Designated control according to the Group identification	The command is available to the projectors having the same Group identification with command setting.
0	1~64	Designated control according to the ID	The command is available to the projectors having the same ID number with command setting.
0	0	Unlimited.	The command is available to the all projectors.



## Command data

### ① Control the projector

byte_0	byte_1	byte_2	byte_3	byte_4	byte_5
Action		Type		Setting Code	
low	high	low	high	low	high

#### Action (byte\_0-1)

Action	Classification	Content
1	Set	Change setting to desired value.
4	Increment	Increment setup value by 1.
5	Decrement	Decrement setup value by 1.
6	Execute	Run a command.

Note: For the Type and Setting Code, see the RS-232C communication/Network command table (📖 20).

### ② Get the projector's status

byte_0	byte_1	byte_2	byte_3	byte_4	byte_5
Action		Type		Connection ID	
low	high	low	high	low	high

#### Action (byte\_0-1)

Action	Classification	Content
2	Get	Read projector internal setup value.

#### Connection ID (byte\_4-5)

Connection ID	Content
0~255	This value is attached to the reply data.

### ③ Other commands

byte_0	byte_1	byte_2	byte_3	byte_4	byte_5
Action		Target Number		Connection ID	
low	high	low	high	low	high

Support Command	Action	Target Number	Connection ID
Get the number of connected projectors	2	0	0~255
Set the communication Group identification and Communication ID	1	1~65535	0~255
Get the communication Group identification and Communication ID	2	1~65535	0~255

**Command data**

Requesting projector status (Get command)

- (1) Send the following request code from the PC to the projector.  
Header + Command data ('02H' + '00H' + type (2 bytes) + connection ID (2 bytes))
- (2) The projector returns the response code to the PC.  
'9DH' + '02H' + connection ID (2 bytes) + data (2 bytes)  
When the projector cannot understand the received command, the error code is sent back to the PC.  
'95H' + '02H' + connection ID (2 bytes) + '00H' + '00H'  
When the projector cannot execute the received command, the error code is sent back to the PC.  
'9CH' + '02H' + connection ID (2 bytes) + error code (2 bytes)  
Action (byte\_0-1)

Error Code

Error Code	Content
0	The command was not accepted, since the projector connected to PC was busy.
1	Communication error is happened between projectors.
2	The command was not accepted, since the designated projector was not found.

Changing the projector settings (Set command)

- (1) Send the following request code from the PC to the projector.  
Header + Command data ('01H' + '00H' + type (2 bytes) + setting code (2 bytes))
- (2) The projector changes the setting based on the above setting code.
- (3) Projector does not send out the response data.

Using the projector default settings (Reset Command)

- (1) The PC sends the following default setting code to the projector.  
Header + Command data ('06H' + '00H' + type (2 bytes) + '00H' + '00H')
- (2) The projector changes the specified setting to the default value.
- (3) Projector does not send out the response data.

Increasing the projector setting value (Increment command)

- (1) The PC sends the following increment code to the projector.  
Header + Command data ('04H' + '00H' + type (2 bytes) + '00H' + '00H')
- (2) The projector increases the setting value on the above setting code.
- (3) Projector does not send out the response data.

Decreasing the projector setting value (Decrement command)

- (1) The PC sends the following decrement code to the projector.  
Header + Command data ('05H' + '00H' + type (2 bytes) + '00H' + '00H')
- (2) The projector decreases the setting value on the above setting code.
- (3) Projector does not send out the response data.

**Daisy Chain Communication**

**Get the number of connected projectors**

(1) Send the following request code from the PC to the projector.

Header + Command data ('02H' + '00H' + '00H' + '00H' + connection ID (2 bytes))

(2) The projector returns the response code to the PC.

'9EH' + '04H' + connection ID (2 bytes) + number of projectors (2 bytes) + group (1 byte) + ID (1 byte)

When the projector cannot understand the received command, the error code is sent back to the PC.

'96H' + '04H' + connection ID (2 bytes) + '00H' + '00H' + '00H' + '00H'

When the projector cannot execute the received command, the error code is sent back to the PC.

'9FH' + '06H' + connection ID (2 bytes) + position number of projector having an error\* (2 bytes) + group (1 byte) + ID (1 byte) + error code (2 bytes)

\*The position number is counted from the projector connected to PC directly, which has No.1 as position number. Then, the next one is No.2 and so on.

Error Code

Error Code	Content
0	The command was not accepted, since the projector connected to PC was busy.
1	Communication error is happened between projectors.

**Set the communication Group identification and Communication ID**

(1) Send the following setting code from the PC to the projector.

Header + Command data ('01H' + '00H' + target number (2 bytes) + connection ID (2 bytes))

(2) The projector changes the group and ID setting based on the above setting code.

(3) Projector does not send out the response data.

## Get the communication Group identification and Communication ID

(1) Send the following request code from the PC to the projector.

Header + Command data ('02H' + '00H' + target number (2 bytes) + connection ID (2 bytes))

(2) The projector returns the response code to the PC.

'90H' + '04H' + connection ID (2 bytes) + target number (2 bytes) + group (1 byte) + ID (1 byte)

When the projector cannot understand the received command, the error code is sent back to the PC.

'97H' + '04H' + connection ID (2 bytes) + '00H' + '00H' + '00H' + '00H'

When the projector cannot execute the received command, the error code is sent back to the PC.

'91H' + '06H' + connection ID (2 bytes) + position number of projector having an error\* (2 bytes) + group (1 byte) + ID (1 byte) + error code (2 bytes)

\* The position number is counted from the projector connected to PC directly, which has No.1 as position number. Then, the next one is No.2 and so on.

Error Code

Error Code	Content
0	The command was not accepted, since the projector connected to PC was busy.
1	Communication error is happened between projectors.
2	The command was not accepted, since the designated projector was not found.

**NOTE** • As for the transmission of the second or subsequent commands, the authentication data can be omitted when the same connection.

- Commands are not accepted during warm-up.

- To use the daisy chain communication, set the DAISY CHAIN of the COMMUNICATIONTYPE item in the OPTION menu on the OSD (On Screen Display)

( **User's Manual (detailed) - Operating Guide**)

**RS-232C Communication / Network command table**
**RS-232C Communication / Network command table**

Names	Operation Type	Header				Command Data			
						CRC	Action	Type	Setting Code
Power	Set	OFF	BE EF	03	06 00	2A D3	01 00	00 60	00 00
		ON	BE EF	03	06 00	BA D2	01 00	00 60	01 00
	Get		BE EF	03	06 00	19 D3	02 00	00 60	00 00
		(Example Return)	00 00	01 00	02 00				
	(Off)	(On)			(Cool Down)				
Input Source	Set	COMPUTER IN 1	BE EF	03	06 00	FE D2	01 00	00 20	00 00
		COMPUTER IN 2	BE EF	03	06 00	3E D0	01 00	00 20	04 00
		HDMI	BE EF	03	06 00	0E D2	01 00	00 20	03 00
		VIDEO 1	BE EF	03	06 00	6E D3	01 00	00 20	01 00
		S-VIDEO	BE EF	03	06 00	9E D3	01 00	00 20	02 00
		COMPONENT	BE EF	03	06 00	AE D1	01 00	00 20	05 00
		BNC	BE EF	03	06 00	CE D0	01 00	00 20	07 00
		DVI-D	BE EF	03	06 00	AE D4	01 00	00 20	09 00
		VIDEO 2	BE EF	03	06 00	5E D4	01 00	00 20	0A 00
	Get		BE EF	03	06 00	CD D2	02 00	00 20	00 00
Error Status	Get		BE EF	03	06 00	D9 D8	02 00	20 60	00 00
		(Example Return)	00 00	01 00	02 00	03 00			
		(Normal)	(Cover error)	(Fan error)	(Lamp error)				
		04 00	05 00						
	(Temp error)	(Air flow error)							
	07 00	08 00	0F 00	10 00					
	(Cold error)	(Filter error)	(Shutter error)	(Lens Shift error)					
BRIGHTNESS	Get	BE EF	03	06 00	89 D2	02 00	03 20	00 00	
	Increment	BE EF	03	06 00	EF D2	04 00	03 20	00 00	
	Decrement	BE EF	03	06 00	3E D3	05 00	03 20	00 00	
CONTRAST	Get	BE EF	03	06 00	FD D3	02 00	04 20	00 00	
	Increment	BE EF	03	06 00	9B D3	04 00	04 20	00 00	
	Decrement	BE EF	03	06 00	4A D2	05 00	04 20	00 00	
PICTURE MODE	Set	NORMAL	BE EF	03	06 00	23 F6	01 00	BA 30	00 00
		CINEMA	BE EF	03	06 00	B3 F7	01 00	BA 30	01 00
		DYNAMIC	BE EF	03	06 00	E3 F4	01 00	BA 30	04 00
		BOARD (BLACK)	BE EF	03	06 00	E3 EF	01 00	BA 30	20 00
		BOARD (GREEN)	BE EF	03	06 00	73 EE	01 00	BA 30	21 00
		WHITE BOARD	BE EF	03	06 00	83 EE	01 00	BA 30	22 00
		DAY TIME	BE EF	03	06 00	E3 C7	01 00	BA 30	40 00
	CUSTOM	BE EF	03	06 00	E3 FB	01 00	BA 30	10 00	
Get		BE EF	03	06 00	10 F6	02 00	BA 30	00 00	
GAMMA	Set	1 DEFAULT	BE EF	03	06 00	07 E9	01 00	A1 30	20 00
		2 DEFAULT	BE EF	03	06 00	97 E8	01 00	A1 30	21 00
		3 DEFAULT	BE EF	03	06 00	67 E8	01 00	A1 30	22 00
		4 DEFAULT	BE EF	03	06 00	F7 E9	01 00	A1 30	23 00
		5 DEFAULT	BE EF	03	06 00	C7 EB	01 00	A1 30	24 00
		6 DEFAULT	BE EF	03	06 00	57 EA	01 00	A1 30	25 00
		1 CUSTOM	BE EF	03	06 00	07 FD	01 00	A1 30	10 00
		2 CUSTOM	BE EF	03	06 00	97 FC	01 00	A1 30	11 00
		3 CUSTOM	BE EF	03	06 00	67 FC	01 00	A1 30	12 00
		4 CUSTOM	BE EF	03	06 00	F7 FD	01 00	A1 30	13 00

Names	Operation Type	Header				Command Data			
						CRC	Action	Type	Setting Code
GAMMA	Set	5 CUSTOM	BE EF	03	06 00	C7 FF	01 00	A1 30	14 00
		6 CUSTOM	BE EF	03	06 00	57 FE	01 00	A1 30	15 00
	Get	BE EF	03	06 00	F4 F0	02 00	A1 30	00 00	
User Gamma Pattern	Set	Off	BE EF	03	06 00	FB FA	01 00	80 30	00 00
		9step Gray Scale	BE EF	03	06 00	6B FB	01 00	80 30	01 00
		15step Gray Scale	BE EF	03	06 00	9B FB	01 00	80 30	02 00
		Ramp	BE EF	03	06 00	0B FA	01 00	80 30	03 00
Get	BE EF	03	06 00	C8 FA	02 00	80 30	00 00		
User Gamma Point 1	Get	BE EF	03	06 00	08 FE	02 00	90 30	00 00	
	Increment	BE EF	03	06 00	6E FE	04 00	90 30	00 00	
	Decrement	BE EF	03	06 00	BF FF	05 00	90 30	00 00	
User Gamma Point 2	Get	BE EF	03	06 00	F4 FF	02 00	91 30	00 00	
	Increment	BE EF	03	06 00	92 FF	04 00	91 30	00 00	
	Decrement	BE EF	03	06 00	43 FE	05 00	91 30	00 00	
User Gamma Point 3	Get	BE EF	03	06 00	B0 FF	02 00	92 30	00 00	
	Increment	BE EF	03	06 00	D6 FF	04 00	92 30	00 00	
	Decrement	BE EF	03	06 00	07 FE	05 00	92 30	00 00	
User Gamma Point 4	Get	BE EF	03	06 00	4C FE	02 00	93 30	00 00	
	Increment	BE EF	03	06 00	2A FE	04 00	93 30	00 00	
	Decrement	BE EF	03	06 00	FB FF	05 00	93 30	00 00	
User Gamma Point 5	Get	BE EF	03	06 00	38 FF	02 00	94 30	00 00	
	Increment	BE EF	03	06 00	5E FF	04 00	94 30	00 00	
	Decrement	BE EF	03	06 00	8F FE	05 00	94 30	00 00	
User Gamma Point 6	Get	BE EF	03	06 00	C4 FE	02 00	95 30	00 00	
	Increment	BE EF	03	06 00	A2 FE	04 00	95 30	00 00	
	Decrement	BE EF	03	06 00	73 FF	05 00	95 30	00 00	
User Gamma Point 7	Get	BE EF	03	06 00	80 FE	02 00	96 30	00 00	
	Increment	BE EF	03	06 00	E6 FE	04 00	96 30	00 00	
	Decrement	BE EF	03	06 00	37 FF	05 00	96 30	00 00	
User Gamma Point 8	Get	BE EF	03	06 00	7C FF	02 00	97 30	00 00	
	Increment	BE EF	03	06 00	1A FF	04 00	97 30	00 00	
	Decrement	BE EF	03	06 00	CB FE	05 00	97 30	00 00	
COLOR TEMP	Set	1 HIGH	BE EF	03	06 00	0B F5	01 00	B0 30	03 00
		2 MID	BE EF	03	06 00	9B F4	01 00	B0 30	02 00
		3 LOW	BE EF	03	06 00	6B F4	01 00	B0 30	01 00
		4 Hi-BRIGHT-1	BE EF	03	06 00	3B F2	01 00	B0 30	08 00
		5 Hi-BRIGHT-2	BE EF	03	06 00	AB F3	01 00	B0 30	09 00
		6 Hi-BRIGHT-3	BE EF	03	06 00	5B F3	01 00	B0 30	0A 00
		1 CUSTOM (HIGH)	BE EF	03	06 00	CB F8	01 00	B0 30	13 00
		2 CUSTOM (MID)	BE EF	03	06 00	5B F9	01 00	B0 30	12 00
		3 CUSTOM (LOW)	BE EF	03	06 00	AB F9	01 00	B0 30	11 00
		4 CUSTOM (Hi-BRIGHT-1)	BE EF	03	06 00	FB FF	01 00	B0 30	18 00
		5 CUSTOM (Hi-BRIGHT-2)	BE EF	03	06 00	6B FE	01 00	B0 30	19 00
		6 CUSTOM (Hi-BRIGHT-3)	BE EF	03	06 00	9B FE	01 00	B0 30	1A 00
		Get	BE EF	03	06 00	C8 F5	02 00	B0 30	00 00

**RS-232C Communication / Network command table**

Names	Operation Type	Header				Command Data			
						CRC	Action	Type	Setting Code
COLOR TEMP GAIN R	Get	BE EF	03	06 00	34 F4	02 00	B1 30	00 00	
	Increment	BE EF	03	06 00	52 F4	04 00	B1 30	00 00	
	Decrement	BE EF	03	06 00	83 F5	05 00	B1 30	00 00	
COLOR TEMP GAIN G	Get	BE EF	03	06 00	70 F4	02 00	B2 30	00 00	
	Increment	BE EF	03	06 00	16 F4	04 00	B2 30	00 00	
	Decrement	BE EF	03	06 00	C7 F5	05 00	B2 30	00 00	
COLOR TEMP GAIN B	Get	BE EF	03	06 00	8C F5	02 00	B3 30	00 00	
	Increment	BE EF	03	06 00	EA F5	04 00	B3 30	00 00	
	Decrement	BE EF	03	06 00	3B F4	05 00	B3 30	00 00	
COLOR TEMP OFFSET R	Get	BE EF	03	06 00	04 F5	02 00	B5 30	00 00	
	Increment	BE EF	03	06 00	62 F5	04 00	B5 30	00 00	
	Decrement	BE EF	03	06 00	B3 F4	05 00	B5 30	00 00	
COLOR TEMP OFFSET G	Get	BE EF	03	06 00	40 F5	02 00	B6 30	00 00	
	Increment	BE EF	03	06 00	26 F5	04 00	B6 30	00 00	
	Decrement	BE EF	03	06 00	F7 F4	05 00	B6 30	00 00	
COLOR TEMP OFFSET B	Get	BE EF	03	06 00	BC F4	02 00	B7 30	00 00	
	Increment	BE EF	03	06 00	DA F4	04 00	B7 30	00 00	
	Decrement	BE EF	03	06 00	0B F5	05 00	B7 30	00 00	
COLOR	Get	BE EF	03	06 00	B5 72	02 00	02 22	00 00	
	Increment	BE EF	03	06 00	D3 72	04 00	02 22	00 00	
	Decrement	BE EF	03	06 00	02 73	05 00	02 22	00 00	
COLOR Reset	Execute	BE EF	03	06 00	80 D0	06 00	0A 70	00 00	
TINT	Get	BE EF	03	06 00	49 73	02 00	03 22	00 00	
	Increment	BE EF	03	06 00	2F 73	04 00	03 22	00 00	
	Decrement	BE EF	03	06 00	FE 72	05 00	03 22	00 00	
TINT Reset	Execute	BE EF	03	06 00	7C D1	06 00	0B 70	00 00	
SHARPNESS	Get	BE EF	03	06 00	F1 72	02 00	01 22	00 00	
	Increment	BE EF	03	06 00	97 72	04 00	01 22	00 00	
	Decrement	BE EF	03	06 00	46 73	05 00	01 22	00 00	
SHARPNESS Reset	Execute	BE EF	03	06 00	C4 D0	06 00	09 70	00 00	
ACTIVE IRIS	Set	PRESENTATION	BE EF	03	06 00	5B 2E	01 00	04 33	11 00
		THEATER	BE EF	03	06 00	CB 2F	01 00	04 33	10 00
		MANUAL	BE EF	03	06 00	CB 3B	01 00	04 33	20 00
MANUAL IRIS	Get	BE EF	03	06 00	38 22	02 00	04 33	00 00	
		BE EF	03	06 00	B0 22	02 00	02 33	00 00	
		BE EF	03	06 00	D6 22	04 00	02 33	00 00	
MY MEMORY Load	Set	1	BE EF	03	06 00	0E D7	01 00	14 20	00 00
		2	BE EF	03	06 00	9E D6	01 00	14 20	01 00
		3	BE EF	03	06 00	6E D6	01 00	14 20	02 00
MY MEMORY Save	Set	4	BE EF	03	06 00	FE D7	01 00	14 20	03 00
		1	BE EF	03	06 00	F2 D6	01 00	15 20	00 00
		2	BE EF	03	06 00	62 D7	01 00	15 20	01 00
		3	BE EF	03	06 00	92 D7	01 00	15 20	02 00
PROGRESSIVE	Set	4	BE EF	03	06 00	02 D6	01 00	15 20	03 00
		OFF	BE EF	03	06 00	4A 72	01 00	07 22	00 00
		TV	BE EF	03	06 00	DA 73	01 00	07 22	01 00
		FILM	BE EF	03	06 00	2A 73	01 00	07 22	02 00
	Get	BE EF	03	06 00	79 72	02 00	07 22	00 00	

Names	Operation Type	Header				Command Data			
						CRC	Action	Type	Setting Code
3D-YCS	Set	OFF	BE EF	03 06 00	E6 70	01 00	0A 22	00 00	
		MOVIE	BE EF	03 06 00	76 71	01 00	0A 22	01 00	
		STILL IMAGE	BE EF	03 06 00	86 71	01 00	0A 22	02 00	
	Get	BE EF	03 06 00	D5 70	02 00	0A 22	00 00		
VIDEO NR	Set	LOW	BE EF	03 06 00	26 72	01 00	06 22	01 00	
		MID	BE EF	03 06 00	D6 72	01 00	06 22	02 00	
		HIGH	BE EF	03 06 00	46 73	01 00	06 22	03 00	
	Get	BE EF	03 06 00	85 73	02 00	06 22	00 00		
ASPECT	Set	NORMAL	BE EF	03 06 00	5E DD	01 00	08 20	10 00	
		4:3	BE EF	03 06 00	9E D0	01 00	08 20	00 00	
		16:9	BE EF	03 06 00	0E D1	01 00	08 20	01 00	
		16:10 *3	BE EF	03 06 00	3E D6	01 00	08 20	0A 00	
		14:9	BE EF	03 06 00	CE D6	01 00	08 20	09 00	
		SMALL *1	BE EF	03 06 00	FE D1	01 00	08 20	02 00	
		NATIVE *2	BE EF	03 06 00	5E D7	01 00	08 20	08 00	
		FULL *3	BE EF	03 06 00	5E C9	01 00	08 20	20 00	
	Get	BE EF	03 06 00	AD D0	02 00	08 20	00 00		
OVER SCAN	Get	BE EF	03 06 00	91 70	02 00	09 22	00 00		
	Increment	BE EF	03 06 00	F7 70	04 00	09 22	00 00		
	Decrement	BE EF	03 06 00	26 71	05 00	09 22	00 00		
OVER SCAN Reset	Execute	BE EF	03 06 00	EC D9	06 00	27 70	00 00		
V POSITION	Get	BE EF	03 06 00	0D 83	02 00	00 21	00 00		
	Increment	BE EF	03 06 00	6B 83	04 00	00 21	00 00		
	Decrement	BE EF	03 06 00	BA 82	05 00	00 21	00 00		
V POSITION Reset	Execute	BE EF	03 06 00	E0 D2	06 00	02 70	00 00		
H POSITION	Get	BE EF	03 06 00	F1 82	02 00	01 21	00 00		
	Increment	BE EF	03 06 00	97 82	04 00	01 21	00 00		
	Decrement	BE EF	03 06 00	46 83	05 00	01 21	00 00		
H POSITION Reset	Execute	BE EF	03 06 00	1C D3	06 00	03 70	00 00		
H PHASE	Get	BE EF	03 06 00	49 83	02 00	03 21	00 00		
	Increment	BE EF	03 06 00	2F 83	04 00	03 21	00 00		
	Decrement	BE EF	03 06 00	FE 82	05 00	03 21	00 00		
H SIZE	Get	BE EF	03 06 00	B5 82	02 00	02 21	00 00		
	Increment	BE EF	03 06 00	D3 82	04 00	02 21	00 00		
	Decrement	BE EF	03 06 00	02 83	05 00	02 21	00 00		
H SIZE Reset	Execute	BE EF	03 06 00	68 D2	06 00	04 70	00 00		
AUTO ADJUST	Execute	BE EF	03 06 00	91 D0	06 00	0A 20	00 00		
COLOR SPACE	Set	AUTO	BE EF	03 06 00	0E 72	01 00	04 22	00 00	
		RGB	BE EF	03 06 00	9E 73	01 00	04 22	01 00	
		SMPTE240	BE EF	03 06 00	6E 73	01 00	04 22	02 00	
		REC709	BE EF	03 06 00	FE 72	01 00	04 22	03 00	
		REC601	BE EF	03 06 00	CE 70	01 00	04 22	04 00	
	Get	BE EF	03 06 00	3D 72	02 00	04 22	00 00		
COMPONENT	Set	COMPONENT	BE EF	03 06 00	4A D7	01 00	17 20	00 00	
		SCART RGB	BE EF	03 06 00	DA D6	01 00	17 20	01 00	
	Get	BE EF	03 06 00	79 D7	02 00	17 20	00 00		

\*1 LX750, LS+700 only. \*2 LW650/LW720, LS+700 only.

\*3 LW650/LW720 only.



### RS-232C Communication / Network command table

Names	Operation Type	Header				Command Data			
						CRC	Action	Type	Setting Code
S-VIDEO FORMAT	Set	AUTO	BE EF	03	06 00	E6 70	01 00	12 22	0A 00
		NTSC	BE EF	03	06 00	86 74	01 00	12 22	04 00
		PAL	BE EF	03	06 00	16 75	01 00	12 22	05 00
		SECAM	BE EF	03	06 00	16 70	01 00	12 22	09 00
		NTSC4.43	BE EF	03	06 00	26 77	01 00	12 22	02 00
		M-PAL	BE EF	03	06 00	86 71	01 00	12 22	08 00
	N-PAL	BE EF	03	06 00	76 74	01 00	12 22	07 00	
	Get	BE EF	03	06 00	75 76	02 00	12 22	00 00	
VIDEO 1 FORMAT	Set	AUTO	BE EF	03	06 00	A2 70	01 00	11 22	0A 00
		NTSC	BE EF	03	06 00	C2 74	01 00	11 22	04 00
		PAL	BE EF	03	06 00	52 75	01 00	11 22	05 00
		SECAM	BE EF	03	06 00	52 70	01 00	11 22	09 00
		NTSC4.43	BE EF	03	06 00	62 77	01 00	11 22	02 00
		M-PAL	BE EF	03	06 00	C2 71	01 00	11 22	08 00
	N-PAL	BE EF	03	06 00	32 74	01 00	11 22	07 00	
	Get	BE EF	03	06 00	31 76	02 00	11 22	00 00	
VIDEO 2 FORMAT	Set	AUTO	BE EF	03	06 00	86 72	01 00	1A 22	0A 00
		NTSC	BE EF	03	06 00	E6 76	01 00	1A 22	04 00
		PAL	BE EF	03	06 00	76 77	01 00	1A 22	05 00
		SECAM	BE EF	03	06 00	76 72	01 00	1A 22	09 00
		NTSC4.43	BE EF	03	06 00	46 75	01 00	1A 22	02 00
		M-PAL	BE EF	03	06 00	E6 73	01 00	1A 22	08 00
	N-PAL	BE EF	03	06 00	16 76	01 00	1A 22	07 00	
	Get	BE EF	03	06 00	15 74	02 00	1A 22	00 00	
HDMI FORMAT	Set	AUTO	BE EF	03	06 00	BA 77	01 00	13 22	00 00
		VIDEO	BE EF	03	06 00	2A 76	01 00	13 22	01 00
		COMPUTER	BE EF	03	06 00	DA 76	01 00	13 22	02 00
		Get	BE EF	03	06 00	89 77	02 00	13 22	00 00
DVI-D FORMAT	Set	AUTO	BE EF	03	06 00	62 74	01 00	19 22	00 00
		VIDEO	BE EF	03	06 00	F2 75	01 00	19 22	01 00
		COMPUTER	BE EF	03	06 00	02 75	01 00	19 22	02 00
		Get	BE EF	03	06 00	51 74	02 00	19 22	00 00
HDMI RANGE	Set	AUTO	BE EF	03	06 00	86 D8	01 00	22 20	00 00
		NORMAL	BE EF	03	06 00	16 D9	01 00	22 20	01 00
		ENHANCED	BE EF	03	06 00	E6 D9	01 00	22 20	02 00
		Get	BE EF	03	06 00	B5 D8	02 00	22 20	00 00
DVI-D RANGE	Set	AUTO	BE EF	03	06 00	FE D4	01 00	20 20	10 00
		NORMAL	BE EF	03	06 00	3E D9	01 00	20 20	00 00
		ENHANCED	BE EF	03	06 00	AE D8	01 00	20 20	01 00
		Get	BE EF	03	06 00	0D D9	02 00	20 20	00 00
COMPUTER IN 1	Set	SYNC ON G OFF	BE EF	03	06 00	5E D7	01 00	10 20	02 00
		AUTO	BE EF	03	06 00	CE D6	01 00	10 20	03 00
		Get	BE EF	03	06 00	0D D6	02 00	10 20	00 00
COMPUTER IN 2	Set	SYNC ON G OFF	BE EF	03	06 00	A2 D6	01 00	11 20	02 00
		AUTO	BE EF	03	06 00	32 D7	01 00	11 20	03 00
		Get	BE EF	03	06 00	F1 D7	02 00	11 20	00 00
BNC	Set	SYNC ON G OFF	BE EF	03	06 00	86 D4	01 00	1A 20	02 00
		AUTO	BE EF	03	06 00	16 D5	01 00	1A 20	03 00
		Get	BE EF	03	06 00	D5 D5	02 00	1A 20	00 00

## RS-232C Communication / Network command table

Names	Operation Type	Header				Command Data		
						Action	Type	Setting Code
FRAME LOCK - COMPUTER IN 1	Set	OFF	BE EF	03 06 00	3B C2	01 00	50 30	00 00
		ON	BE EF	03 06 00	AB C3	01 00	50 30	01 00
	Get	BE EF	03 06 00	08 C2	02 00	50 30	00 00	
FRAME LOCK - COMPUTER IN 2	Set	OFF	BE EF	03 06 00	0B C3	01 00	54 30	00 00
		ON	BE EF	03 06 00	9B C2	01 00	54 30	00 00
	Get	BE EF	03 06 00	38 C3	02 00	54 30	00 00	
FRAME LOCK - BNC	Set	OFF	BE EF	03 06 00	4F C3	01 00	57 30	00 00
		ON	BE EF	03 06 00	DF C2	01 00	57 30	01 00
	Get	BE EF	03 06 00	7C C3	02 00	57 30	00 00	
FRAME LOCK - HDMI	Set	OFF	BE EF	03 06 00	7F C2	01 00	53 30	00 00
		ON	BE EF	03 06 00	EF C3	01 00	53 30	01 00
	Get	BE EF	03 06 00	4C C2	02 00	53 30	00 00	
FRAME LOCK - DVI-D	Set	OFF	BE EF	03 06 00	A7 C1	01 00	59 30	00 00
		ON	BE EF	03 06 00	37 C0	01 00	59 30	01 00
	Get	BE EF	03 06 00	94 C1	02 00	59 30	00 00	
KEYSTONE V	Get	BE EF	03 06 00	B9 D3	02 00	07 20	00 00	
	Increment	BE EF	03 06 00	DF D3	04 00	07 20	00 00	
	Decrement	BE EF	03 06 00	0E D2	05 00	07 20	00 00	
KEYSTONE V Reset	Execute	BE EF	03 06 00	08 D0	06 00	0C 70	00 00	
AUTO KEYSTONE V EXECUTE	Execute	BE EF	03 06 00	E5 D1	06 00	0D 20	00 00	
AUTO KEYSTONE V	Set	OFF	BE EF	03 06 00	EA D1	01 00	0F 20	00 00
		ON	BE EF	03 06 00	7A D0	01 00	0F 20	01 00
	Get	BE EF	03 06 00	D9 D1	02 00	0F 20	00 00	
KEYSTONE H	Get	BE EF	03 06 00	E9 D0	02 00	0B 20	00 00	
	Increment	BE EF	03 06 00	8F D0	04 00	0B 20	00 00	
	Decrement	BE EF	03 06 00	5E D1	05 00	0B 20	00 00	
KEYSTONE H Reset	Execute	BE EF	03 06 00	98 D8	06 00	20 70	00 00	
ECO MODE	Set	NORMAL	BE EF	03 06 00	3B 23	01 00	00 33	00 00
		ECO	BE EF	03 06 00	AB 22	01 00	00 33	01 00
	Get	BE EF	03 06 00	08 23	02 00	00 33	00 00	
MIRROR	Set	NORMAL	BE EF	03 06 00	C7 D2	01 00	01 30	00 00
		H:INVERT	BE EF	03 06 00	57 D3	01 00	01 30	01 00
		V:INVERT	BE EF	03 06 00	A7 D3	01 00	01 30	02 00
		H&V:INVERT	BE EF	03 06 00	37 D2	01 00	01 30	03 00
	Get	BE EF	03 06 00	F4 D2	02 00	01 30	00 00	
MONITOR OUT - COMPUTER IN 1	Set	COMPUTER IN 1	BE EF	03 06 00	3E F4	01 00	B0 20	00 00
		COMPUTER IN 2	BE EF	03 06 00	FE F6	01 00	B0 20	04 00
		BNC	BE EF	03 06 00	0E F6	01 00	B0 20	07 00
		OFF	BE EF	03 06 00	CE B5	01 00	B0 20	FF 00
	Get	BE EF	03 06 00	0D F4	02 00	B0 20	00 00	
MONITOR OUT - COMPUTER IN 2	Set	COMPUTER IN 1	BE EF	03 06 00	0E F5	01 00	B4 20	00 00
		COMPUTER IN 2	BE EF	03 06 00	CE F7	01 00	B4 20	04 00
		BNC	BE EF	03 06 00	3E F7	01 00	B4 20	07 00
		OFF	BE EF	03 06 00	FE B4	01 00	B4 20	FF 00
	Get	BE EF	03 06 00	3D F5	02 00	B4 20	00 00	
MONITOR OUT - BNC	Set	COMPUTER IN 1	BE EF	03 06 00	4A F5	01 00	B7 20	00 00
		COMPUTER IN 2	BE EF	03 06 00	8A F7	01 00	B7 20	04 00
		BNC	BE EF	03 06 00	7A F7	01 00	B7 20	07 00
		OFF	BE EF	03 06 00	BA B4	01 00	B7 20	FF 00
	Get	BE EF	03 06 00	79 F5	02 00	B7 20	00 00	

## RS-232C Communication / Network command table

Names	Operation Type	Header					Command Data		
						CRC	Action	Type	Setting Code
MONITOR OUT - HDMI	Set	COMPUTER IN 1	BE EF	03	06 00	7A F4	01 00	B3 20	00 00
		COMPUTER IN 2	BE EF	03	06 00	BA F6	01 00	B3 20	04 00
		BNC	BE EF	03	06 00	4A F6	01 00	B3 20	07 00
		OFF	BE EF	03	06 00	8A B5	01 00	B3 20	FF 00
	Get	BE EF	03	06 00	49 F4	02 00	B3 20	00 00	
MONITOR OUT - DVI-D	Set	COMPUTER IN 1	BE EF	03	06 00	A2 F7	01 00	B9 20	00 00
		COMPUTER IN 2	BE EF	03	06 00	62 F5	01 00	B9 20	04 00
		BNC	BE EF	03	06 00	92 F5	01 00	B9 20	07 00
		OFF	BE EF	03	06 00	52 B6	01 00	B9 20	FF 00
	Get	BE EF	03	06 00	91 F7	02 00	B9 20	00 00	
MONITOR OUT - COMPONENT	Set	COMPUTER IN 1	BE EF	03	06 00	F2 F4	01 00	B5 20	00 00
		COMPUTER IN 2	BE EF	03	06 00	32 F6	01 00	B5 20	04 00
		BNC	BE EF	03	06 00	C2 F6	01 00	B5 20	07 00
		OFF	BE EF	03	06 00	02 B5	01 00	B5 20	FF 00
	Get	BE EF	03	06 00	C1 F4	02 00	B5 20	00 00	
MONITOR OUT - S-VIDEO	Set	COMPUTER IN 1	BE EF	03	06 00	86 F5	01 00	B2 20	00 00
		COMPUTER IN 2	BE EF	03	06 00	46 F7	01 00	B2 20	04 00
		BNC	BE EF	03	06 00	B6 F7	01 00	B2 20	07 00
		OFF	BE EF	03	06 00	76 B4	01 00	B2 20	FF 00
	Get	BE EF	03	06 00	B5 F5	02 00	B2 20	00 00	
MONITOR OUT - VIDEO 1	Set	COMPUTER IN 1	BE EF	03	06 00	C2 F5	01 00	B1 20	00 00
		COMPUTER IN 2	BE EF	03	06 00	02 F7	01 00	B1 20	04 00
		BNC	BE EF	03	06 00	F2 F7	01 00	B1 20	07 00
		OFF	BE EF	03	06 00	32 B4	01 00	B1 20	FF 00
	Get	BE EF	03	06 00	F1 F5	02 00	B1 20	00 00	
MONITOR OUT - VIDEO 2	Set	COMPUTER IN 1	BE EF	03	06 00	E6 F7	01 00	BA 20	00 00
		COMPUTER IN 2	BE EF	03	06 00	26 F5	01 00	BA 20	04 00
		BNC	BE EF	03	06 00	D6 F5	01 00	BA 20	07 00
		OFF	BE EF	03	06 00	16 B6	01 00	BA 20	FF 00
	Get	BE EF	03	06 00	D5 F7	02 00	BA 20	00 00	
MONITOR OUT - STANDBY	Set	COMPUTER IN 1	BE EF	03	06 00	2A F7	01 00	BF 20	00 00
		COMPUTER IN 2	BE EF	03	06 00	EA F5	01 00	BF 20	04 00
		BNC	BE EF	03	06 00	1A F5	01 00	BF 20	07 00
		OFF	BE EF	03	06 00	DA B6	01 00	BF 20	FF 00
	Get	BE EF	03	06 00	19 F7	02 00	BF 20	00 00	
LANGUAGE	Set	ENGLISH	BE EF	03	06 00	F7 D3	01 00	05 30	00 00
		FRANÇAIS	BE EF	03	06 00	67 D2	01 00	05 30	01 00
		DEUTSCH	BE EF	03	06 00	97 D2	01 00	05 30	02 00
		ESPAÑOL	BE EF	03	06 00	07 D3	01 00	05 30	03 00
		ITALIANO	BE EF	03	06 00	37 D1	01 00	05 30	04 00
		NORSK	BE EF	03	06 00	A7 D0	01 00	05 30	05 00
		NEDERLANDS	BE EF	03	06 00	57 D0	01 00	05 30	06 00
		PORTUGUÉS	BE EF	03	06 00	C7 D1	01 00	05 30	07 00
		日本語	BE EF	03	06 00	37 D4	01 00	05 30	08 00
		简体中文	BE EF	03	06 00	A7 D5	01 00	05 30	09 00
		繁體中文	BE EF	03	06 00	37 DE	01 00	05 30	10 00
		한글	BE EF	03	06 00	57 D5	01 00	05 30	0A 00
		SVENSKA	BE EF	03	06 00	C7 D4	01 00	05 30	0B 00
		PYCKNN	BE EF	03	06 00	F7 D6	01 00	05 30	0C 00
SUOMI	BE EF	03	06 00	67 D7	01 00	05 30	0D 00		

Names	Operation Type	Header					Command Data		
						CRC	Action	Type	Setting Code
LANGUAGE	Set	POLSKI	BE EF	03	06 00	97 D7	01 00	05 30	0E 00
		TÜRKÇE	BE EF	03	06 00	07 D6	01 00	05 30	0F 00
		DANSK	BE EF	03	06 00	A7 DF	01 00	05 30	11 00
		ČEŠTINA	BE EF	03	06 00	57 DF	01 00	05 30	12 00
		اللغة العربية	BE EF	03	06 00	37 DB	01 00	05 30	1C 00
	فارسی	BE EF	03	06 00	A7 DA	01 00	05 30	1D 00	
	Get		BE EF	03	06 00	C4 D3	02 00	05 30	00 00
MENU POSITION V	Get		BE EF	03	06 00	40 D7	02 00	16 30	00 00
	Increment		BE EF	03	06 00	26 D7	04 00	16 30	00 00
	Decrement		BE EF	03	06 00	F7 D6	05 00	16 30	00 00
MENU POSITION V Reset	Execute		BE EF	03	06 00	A8 C7	06 00	44 70	00 00
MENU POSITION H	Get		BE EF	03	06 00	04 D7	02 00	15 30	00 00
	Increment		BE EF	03	06 00	62 D7	04 00	15 30	00 00
	Decrement		BE EF	03	06 00	B3 D6	05 00	15 30	00 00
MENU POSITION H Reset	Execute		BE EF	03	06 00	DC C6	06 00	43 70	00 00
BLANK	Set	MyScreen	BE EF	03	06 00	FB CA	01 00	00 30	20 00
		ORIGINAL	BE EF	03	06 00	FB E2	01 00	00 30	40 00
		BLUE	BE EF	03	06 00	CB D3	01 00	00 30	03 00
		WHITE	BE EF	03	06 00	6B D0	01 00	00 30	05 00
		BLACK	BE EF	03	06 00	9B D0	01 00	00 30	06 00
	Get		BE EF	03	06 00	08 D3	02 00	00 30	00 00
BLANK On/Off	Set	OFF	BE EF	03	06 00	FB D8	01 00	20 30	00 00
		ON	BE EF	03	06 00	6B D9	01 00	20 30	01 00
	Get		BE EF	03	06 00	C8 D8	02 00	20 30	00 00
START UP	Set	MyScreen	BE EF	03	06 00	CB CB	01 00	04 30	20 00
		ORIGINAL	BE EF	03	06 00	0B D2	01 00	04 30	00 00
		OFF	BE EF	03	06 00	9B D3	01 00	04 30	01 00
	Get		BE EF	03	06 00	38 D2	02 00	04 30	00 00
MyScreen LOCK	Set	OFF	BE EF	03	06 00	3B EF	01 00	C0 30	00 00
		ON	BE EF	03	06 00	AB EE	01 00	C0 30	01 00
	Get		BE EF	03	06 00	08 EF	02 00	C0 30	00 00
MESSAGE	Set	OFF	BE EF	03	06 00	8F D6	01 00	17 30	00 00
		ON	BE EF	03	06 00	1F D7	01 00	17 30	01 00
	Get		BE EF	03	06 00	BC D6	02 00	17 30	00 00
TEMPLATE	Set	TEST PATTERN	BE EF	03	06 00	43 D9	01 00	22 30	00 00
		DOT-LINE 1	BE EF	03	06 00	D3 D8	01 00	22 30	01 00
		DOT-LINE 2	BE EF	03	06 00	23 D8	01 00	22 30	02 00
		DOT-LINE 3	BE EF	03	06 00	B3 D9	01 00	22 30	03 00
		DOT-LINE 4	BE EF	03	06 00	83 DB	01 00	22 30	04 00
	Get		BE EF	03	06 00	70 D9	02 00	22 30	00 00
TEMPLATE On/Off	Set	OFF	BE EF	03	06 00	BF D8	01 00	23 30	00 00
		ON	BE EF	03	06 00	2F D9	01 00	23 30	01 00
	Get		BE EF	03	06 00	8C D8	02 00	23 30	00 00
CLOSED CAPTION DISPLAY	Set	OFF	BE EF	03	06 00	FA 62	01 00	00 37	00 00
		ON	BE EF	03	06 00	6A 63	01 00	00 37	01 00
	Get		BE EF	03	06 00	C9 62	02 00	00 37	00 00
CLOSED CAPTION MODE	Set	CAPTIONS	BE EF	03	06 00	06 63	01 00	01 37	00 00
		TEXT	BE EF	03	06 00	96 62	01 00	01 37	01 00
	Get		BE EF	03	06 00	35 63	02 00	01 37	00 00

### RS-232C Communication / Network command table

Names	Operation Type	Header				Command Data			
						CRC	Action	Type	Setting Code
CLOSED CAPTION CHANNEL	Set	1	BE EF	03 06 00	D2 62	01 00	02 37	01 00	
		2	BE EF	03 06 00	22 62	01 00	02 37	02 00	
		3	BE EF	03 06 00	B2 63	01 00	02 37	03 00	
		4	BE EF	03 06 00	82 61	01 00	02 37	04 00	
	Get	BE EF	03 06 00	71 63	02 00	02 37	00 00		
SOURCE SKIP COMPUTER IN 1	Set	NORMAL	BE EF	03 06 00	FE 78	01 00	20 22	00 00	
		SKIP	BE EF	03 06 00	6E 79	01 00	20 22	01 00	
	Get	BE EF	03 06 00	CD 78	02 00	20 22	00 00		
SOURCE SKIP COMPUTER IN 2	Set	NORMAL	BE EF	03 06 00	CE 79	01 00	24 22	00 00	
		SKIP	BE EF	03 06 00	5E 78	01 00	24 22	01 00	
	Get	BE EF	03 06 00	FD 79	02 00	24 22	00 00		
SOURCE SKIP BNC	Set	NORMAL	BE EF	03 06 00	8A 79	01 00	27 22	00 00	
		SKIP	BE EF	03 06 00	1A 78	01 00	27 22	01 00	
	Get	BE EF	03 06 00	B9 79	02 00	27 22	00 00		
SOURCE SKIP HDMI	Set	NORMAL	BE EF	03 06 00	BA 78	01 00	23 22	00 00	
		SKIP	BE EF	03 06 00	2A 79	01 00	23 22	01 00	
	Get	BE EF	03 06 00	89 78	02 00	23 22	00 00		
SOURCE SKIP DVI-D	Set	NORMAL	BE EF	03 06 00	62 7B	01 00	29 22	00 00	
		SKIP	BE EF	03 06 00	F2 7A	01 00	29 22	01 00	
	Get	BE EF	03 06 00	51 7B	02 00	29 22	00 00		
SOURCE SKIP COMPONENT	Set	NORMAL	BE EF	03 06 00	32 78	01 00	25 22	00 00	
		SKIP	BE EF	03 06 00	A2 79	01 00	25 22	01 00	
	Get	BE EF	03 06 00	01 78	02 00	25 22	00 00		
SOURCE SKIP S-VIDEO	Set	NORMAL	BE EF	03 06 00	46 79	01 00	22 22	00 00	
		SKIP	BE EF	03 06 00	D6 78	01 00	22 22	01 00	
	Get	BE EF	03 06 00	75 79	02 00	22 22	00 00		
SOURCE SKIP VIDEO 1	Set	NORMAL	BE EF	03 06 00	02 79	01 00	21 22	00 00	
		SKIP	BE EF	03 06 00	92 78	01 00	21 22	01 00	
	Get	BE EF	03 06 00	31 79	02 00	21 22	00 00		
SOURCE SKIP VIDEO 2	Set	NORMAL	BE EF	03 06 00	26 7B	01 00	2A 22	00 00	
		SKIP	BE EF	03 06 00	B6 7A	01 00	2A 22	01 00	
	Get	BE EF	03 06 00	15 7B	02 00	2A 22	00 00		
AUTO SEARCH	Set	OFF	BE EF	03 06 00	B6 D6	01 00	16 20	00 00	
		ON	BE EF	03 06 00	26 D7	01 00	16 20	01 00	
	Get	BE EF	03 06 00	85 D6	02 00	16 20	00 00		
DIRECT ON	Set	OFF	BE EF	03 06 00	3B 89	01 00	20 31	00 00	
		ON	BE EF	03 06 00	AB 88	01 00	20 31	01 00	
	Get	BE EF	03 06 00	08 89	02 00	20 31	00 00		
AUTO OFF	Get	BE EF	03 06 00	08 86	02 00	10 31	00 00		
	Increment	BE EF	03 06 00	6E 86	04 00	10 31	00 00		
	Decrement	BE EF	03 06 00	BF 87	05 00	10 31	00 00		
SHUTTER TIMER	Set	1h	BE EF	03 06 00	27 92	01 00	06 24	01 00	
		3h	BE EF	03 06 00	47 93	01 00	06 24	03 00	
		6h	BE EF	03 06 00	17 90	01 00	06 24	06 00	
	Get	BE EF	03 06 00	84 93	02 00	06 24	00 00		
LAMP TIME LOW	Get	BE EF	03 06 00	C2 FF	02 00	90 10	00 00		
LAMP TIME HIGH	Get	BE EF	03 06 00	2A FD	02 00	9E 10	00 00		
LAMP TIME Reset	Execute	BE EF	03 06 00	58 DC	06 00	30 70	00 00		
FILTER TIME LOW	Get	BE EF	03 06 00	C2 F0	02 00	A0 10	00 00		
FILTER TIME HIGH	Get	BE EF	03 06 00	D6 FC	02 00	9F 10	00 00		
FILTER TIME Reset	Execute	BE EF	03 06 00	98 C6	06 00	40 70	00 00		

**RS-232C Communication / Network command table**

Names	Operation Type	Header				Command Data			
						CRC	Action	Type	Setting Code
MY BUTTON-1	Set	COMPUTER IN 1	BE EF	03	06 00	3A 33	01 00	00 36	00 00
		COMPUTER IN 2	BE EF	03	06 00	FA 31	01 00	00 36	04 00
		BNC	BE EF	03	06 00	0A 31	01 00	00 36	07 00
		HDMI	BE EF	03	06 00	CA 33	01 00	00 36	03 00
		DVI-D	BE EF	03	06 00	6A 35	01 00	00 36	09 00
		COMPONENT	BE EF	03	06 00	6A 30	01 00	00 36	05 00
		S-VIDEO	BE EF	03	06 00	5A 32	01 00	00 36	02 00
		VIDEO 1	BE EF	03	06 00	AA 32	01 00	00 36	01 00
		VIDEO 2	BE EF	03	06 00	9A 35	01 00	00 36	0A 00
		INFORMATION	BE EF	03	06 00	FA 3E	01 00	00 36	10 00
		AUTO KEYSTONE EXECUTE	BE EF	03	06 00	6A 3F	01 00	00 36	11 00
		MY MEMORY	BE EF	03	06 00	9A 3F	01 00	00 36	12 00
		ACTIVE IRIS	BE EF	03	06 00	AA 3D	01 00	00 36	15 00
		PICTURE MODE	BE EF	03	06 00	0A 3E	01 00	00 36	13 00
		FILTER RESET	BE EF	03	06 00	3A 3C	01 00	00 36	14 00
		TEMPLATE	BE EF	03	06 00	CA 39	01 00	00 36	1B 00
		PbyP SWAP	BE EF	03	06 00	5A 38	01 00	00 36	1A 00
		LENS MEMORY-1	BE EF	03	06 00	CA 27	01 00	00 36	33 00
		LENS MEMORY-2	BE EF	03	06 00	FA 25	01 00	00 36	34 00
	LENS MEMORY-3	BE EF	03	06 00	6A 24	01 00	00 36	35 00	
MY IMAGE	BE EF	03	06 00	5A 3D	01 00	00 36	16 00		
	Get	BE EF	03	06 00	09 33	02 00	00 36	00 00	
MY BUTTON-2	Set	COMPUTER IN 1	BE EF	03	06 00	C6 32	01 00	01 36	00 00
		COMPUTER IN 2	BE EF	03	06 00	06 30	01 00	01 36	04 00
		BNC	BE EF	03	06 00	F6 30	01 00	01 36	07 00
		HDMI	BE EF	03	06 00	36 32	01 00	01 36	03 00
		DVI-D	BE EF	03	06 00	96 34	01 00	01 36	09 00
		COMPONENT	BE EF	03	06 00	96 31	01 00	01 36	05 00
		S-VIDEO	BE EF	03	06 00	A6 33	01 00	01 36	02 00
		VIDEO 1	BE EF	03	06 00	56 33	01 00	01 36	01 00
		VIDEO 2	BE EF	03	06 00	66 34	01 00	01 36	0A 00
		INFORMATION	BE EF	03	06 00	06 3F	01 00	01 36	10 00
		AUTO KEYSTONE EXECUTE	BE EF	03	06 00	96 3E	01 00	01 36	11 00
		MY MEMORY	BE EF	03	06 00	66 3E	01 00	01 36	12 00
		ACTIVE IRIS	BE EF	03	06 00	56 3C	01 00	01 36	15 00
		PICTURE MODE	BE EF	03	06 00	F6 3F	01 00	01 36	13 00
		FILTER RESET	BE EF	03	06 00	C6 3D	01 00	01 36	14 00
		TEMPLATE	BE EF	03	06 00	36 38	01 00	01 36	1B 00
		PbyP SWAP	BE EF	03	06 00	A6 39	01 00	01 36	1A 00
		LENS MEMORY-1	BE EF	03	06 00	36 26	01 00	01 36	33 00
		LENS MEMORY-2	BE EF	03	06 00	06 24	01 00	01 36	34 00
	LENS MEMORY-3	BE EF	03	06 00	96 25	01 00	01 36	35 00	
MY IMAGE	BE EF	03	06 00	A6 3C	01 00	01 36	16 00		
	Get	BE EF	03	06 00	F5 32	02 00	01 36	00 00	
MY BUTTON-3	Set	COMPUTER IN 1	BE EF	03	06 00	82 32	01 00	02 36	00 00
		COMPUTER IN 2	BE EF	03	06 00	42 30	01 00	02 36	04 00
		BNC	BE EF	03	06 00	B2 30	01 00	02 36	07 00
		HDMI	BE EF	03	06 00	72 32	01 00	02 36	03 00

### RS-232C Communication / Network command table

Names	Operation Type	Header				Command Data			
						CRC	Action	Type	Setting Code
MY BUTTON-3	Set	DVI-D	BE EF	03	06 00	D2 34	01 00	02 36	09 00
		COMPONENT	BE EF	03	06 00	D2 31	01 00	02 36	05 00
		S-VIDEO	BE EF	03	06 00	E2 33	01 00	02 36	02 00
		VIDEO 1	BE EF	03	06 00	12 33	01 00	02 36	01 00
		VIDEO 2	BE EF	03	06 00	22 34	01 00	02 36	0A 00
		INFORMATION	BE EF	03	06 00	42 3F	01 00	02 36	10 00
		AUTO KEYSTONE EXECUTE	BE EF	03	06 00	D2 3E	01 00	02 36	11 00
		MY MEMORY	BE EF	03	06 00	22 3E	01 00	02 36	12 00
		ACTIVE IRIS	BE EF	03	06 00	12 3C	01 00	02 36	15 00
		PICTURE MODE	BE EF	03	06 00	B2 3F	01 00	02 36	13 00
		FILTER RESET	BE EF	03	06 00	82 3D	01 00	02 36	14 00
		TEMPLATE	BE EF	03	06 00	72 38	01 00	02 36	1B 00
		PbyP SWAP	BE EF	03	06 00	E2 39	01 00	02 36	1A 00
		LENS MEMORY-1	BE EF	03	06 00	72 26	01 00	02 36	33 00
		LENS MEMORY-2	BE EF	03	06 00	42 24	01 00	02 36	34 00
LENS MEMORY-3	BE EF	03	06 00	D2 25	01 00	02 36	35 00		
MY IMAGE	BE EF	03	06 00	E2 3C	01 00	02 36	16 00		
	Get	BE EF	03	06 00	B1 32	02 00	02 36	00 00	
MY BUTTON-4	Set	COMPUTER IN 1	BE EF	03	06 00	7E 33	01 00	03 36	00 00
		COMPUTER IN 2	BE EF	03	06 00	BE 31	01 00	03 36	04 00
		BNC	BE EF	03	06 00	4E 31	01 00	03 36	07 00
		HDMI	BE EF	03	06 00	8E 33	01 00	03 36	03 00
		DVI-D	BE EF	03	06 00	2E 35	01 00	03 36	09 00
		COMPONENT	BE EF	03	06 00	2E 30	01 00	03 36	05 00
		S-VIDEO	BE EF	03	06 00	1E 32	01 00	03 36	02 00
		VIDEO 1	BE EF	03	06 00	EE 32	01 00	03 36	01 00
		VIDEO 2	BE EF	03	06 00	DE 35	01 00	03 36	0A 00
		INFORMATION	BE EF	03	06 00	BE 3E	01 00	03 36	10 00
		AUTO KEYSTONE EXECUTE	BE EF	03	06 00	2E 3F	01 00	03 36	11 00
		MY MEMORY	BE EF	03	06 00	DE 3F	01 00	03 36	12 00
		ACTIVE IRIS	BE EF	03	06 00	EE 3D	01 00	03 36	15 00
		PICTURE MODE	BE EF	03	06 00	4E 3E	01 00	03 36	13 00
		FILTER RESET	BE EF	03	06 00	7E 3C	01 00	03 36	14 00
TEMPLATE	BE EF	03	06 00	8E 39	01 00	03 36	1B 00		
PbyP SWAP	BE EF	03	06 00	1E 38	01 00	03 36	1A 00		
LENS MEMORY-1	BE EF	03	06 00	8E 27	01 00	03 36	33 00		
LENS MEMORY-2	BE EF	03	06 00	BE 25	01 00	03 36	34 00		
LENS MEMORY-3	BE EF	03	06 00	2E 24	01 00	03 36	35 00		
MY IMAGE	BE EF	03	06 00	1E 3D	01 00	03 36	16 00		
	Get	BE EF	03	06 00	4D 33	02 00	03 36	00 00	
MY SOURCE	Set	COMPUTER IN 1	BE EF	03	06 00	FA 38	01 00	20 36	00 00
		COMPUTER IN 2	BE EF	03	06 00	3A 3A	01 00	20 36	04 00
		BNC	BE EF	03	06 00	CA 3A	01 00	20 36	07 00
		HDMI	BE EF	03	06 00	0A 38	01 00	20 36	03 00
		DVI-D	BE EF	03	06 00	AA 3E	01 00	20 36	09 00
		COMPONENT	BE EF	03	06 00	AA 3B	01 00	20 36	05 00
		S-VIDEO	BE EF	03	06 00	9A 39	01 00	20 36	02 00
		VIDEO 1	BE EF	03	06 00	6A 39	01 00	20 36	01 00
		VIDEO 2	BE EF	03	06 00	5A 3E	01 00	20 36	0A 00

Names	Operation Type	Header				Command Data			
						CRC	Action	Type	Setting Code
MY SOURCE	Get	BE EF	03	06 00	C9 38	02 00	20 36	00 00	
MY IMAGE	Set	OFF	BE EF	03	06 00	3A C3	01 00	00 35	00 00
		IMAGE-1	BE EF	03	06 00	AA C2	01 00	00 35	01 00
		IMAGE-2	BE EF	03	06 00	5A C2	01 00	00 35	02 00
		IMAGE-3	BE EF	03	06 00	CA C3	01 00	00 35	03 00
		IMAGE-4	BE EF	03	06 00	FA C1	01 00	00 35	04 00
	Get	BE EF	03	06 00	09 C3	02 00	00 35	00 00	
MY IMAGE IMAGE-1 Delete	Execute	BE EF	03	06 00	71 C3	06 00	01 35	00 00	
MY IMAGE IMAGE-2 Delete	Execute	BE EF	03	06 00	35 C3	06 00	02 35	00 00	
MY IMAGE IMAGE-3 Delete	Execute	BE EF	03	06 00	C9 C2	06 00	03 35	00 00	
MY IMAGE IMAGE-4 Delete	Execute	BE EF	03	06 00	BD C3	06 00	04 35	00 00	
REMOTE FRONT	Set	Off	BE EF	03	06 00	FF 32	01 00	00 26	00 00
		On	BE EF	03	06 00	6F 33	01 00	00 26	01 00
	Get	BE EF	03	06 00	CC 32	02 00	00 26	00 00	
REMOTE REAR	Set	Off	BE EF	03	06 00	03 33	01 00	01 26	00 00
		On	BE EF	03	06 00	93 32	01 00	01 26	01 00
	Get	BE EF	03	06 00	30 33	02 00	01 26	00 00	
REMOTE TOP	Set	Off	BE EF	03	06 00	47 33	01 00	02 26	00 00
		On	BE EF	03	06 00	D7 32	01 00	02 26	01 00
	Get	BE EF	03	06 00	74 33	02 00	02 26	00 00	
REMOTE ID	Set	ALL	BE EF	03	06 00	9F 30	01 00	08 26	00 00
		1	BE EF	03	06 00	0F 31	01 00	08 26	01 00
		2	BE EF	03	06 00	FF 31	01 00	08 26	02 00
		3	BE EF	03	06 00	6F 30	01 00	08 26	03 00
		4	BE EF	03	06 00	5F 32	01 00	08 26	04 00
	Get	BE EF	03	06 00	AC 30	02 00	08 26	00 00	
REMOTE FREQUENCY NORMAL	Set	Disable	BE EF	03	06 00	FF 3D	01 00	30 26	00 00
		Enable	BE EF	03	06 00	6F 3C	01 00	30 26	01 00
	Get	BE EF	03	06 00	CC 3D	02 00	30 26	00 00	
REMOTE FREQUENCY HIGH	Set	Disable	BE EF	03	06 00	03 3C	01 00	31 26	00 00
		Enable	BE EF	03	06 00	93 3D	01 00	31 26	01 00
	Get	BE EF	03	06 00	30 3C	02 00	31 26	00 00	
FOCUS	Increment	BE EF	03	06 00	6A 93	04 00	00 24	00 00	
	Decrement	BE EF	03	06 00	BB 92	05 00	00 24	00 00	
ZOOM	Increment	BE EF	03	06 00	96 92	04 00	01 24	00 00	
	Decrement	BE EF	03	06 00	47 93	05 00	01 24	00 00	
LENS SHIFT -V	Increment	BE EF	03	06 00	D2 92	04 00	02 24	00 00	
	Decrement	BE EF	03	06 00	03 93	05 00	02 24	00 00	
LENS SHIFT -H	Increment	BE EF	03	06 00	2E 93	04 00	03 24	00 00	
	Decrement	BE EF	03	06 00	FF 92	05 00	03 24	00 00	
LENS SHIFT CENTERING	Execute	BE EF	03	06 00	B8 93	06 00	04 24	00 00	



## RS-232C Communication / Network command table

Names	Operation Type	Header				Command Data			
						CRC	Action	Type	Setting Code
LENS MEMORY INDEX	Set	1	BE EF	03 06 00	4B 92	01 00	07 24	00 00	
		2	BE EF	03 06 00	DB 93	01 00	07 24	01 00	
		3	BE EF	03 06 00	2B 93	01 00	07 24	02 00	
		Get	BE EF	03 06 00	78 92	02 00	07 24	00 00	
LENS MEMORY LOAD	Execute	BE EF	03 06 00	E8 90	06 00	08 24	00 00		
LENS MEMORY SAVE	Execute	BE EF	03 06 00	14 91	06 00	09 24	00 00		
LENS MEMORY CLEAR	Execute	BE EF	03 06 00	50 91	06 00	0A 24	00 00		
LENS MEMORY FOCUS	Get	BE EF	03 06 00	28 91	02 00	0B 24	00 00		
LENS MEMORY ZOOM	Get	BE EF	03 06 00	5C 90	02 00	0C 24	00 00		
LENS MEMORY LENS SHIFT -V	Get	BE EF	03 06 00	A0 91	02 00	0D 24	00 00		
LENS MEMORY LENS SHIFT -H	Get	BE EF	03 06 00	E4 91	02 00	0E 24	00 00		
LENS MEMORY LENS TYPE	Get	BE EF	03 06 00	18 90	02 00	0F 24	00 00		
MAGNIFY	Get	BE EF	03 06 00	7C D2	02 00	07 30	00 00		
	Increment	BE EF	03 06 00	1A D2	04 00	07 30	00 00		
	Decrement	BE EF	03 06 00	CB D3	05 00	07 30	00 00		
FREEZE	Set	NORMAL	BE EF	03 06 00	83 D2	01 00	02 30	00 00	
		FREEZE	BE EF	03 06 00	13 D3	01 00	02 30	01 00	
	Get	BE EF	03 06 00	B0 D2	02 00	02 30	00 00		
SHUTTER	Set	OFF	BE EF	03 06 00	F3 93	01 00	05 24	00 00	
		ON	BE EF	03 06 00	63 92	01 00	05 24	01 00	
	Get	BE EF	03 06 00	C0 93	02 00	05 24	00 00		
PbyP	Set	OFF	BE EF	03 06 00	3E 26	01 00	10 23	00 00	
		ON	BE EF	03 06 00	AE 27	01 00	10 23	01 00	
	Get	BE EF	03 06 00	0D 26	02 00	10 23	00 00		
PbyP RIGHT SOURCE	Set	COMPUTER IN 1	BE EF	03 06 00	86 27	01 00	12 23	00 00	
		COMPUTER IN 2	BE EF	03 06 00	46 25	01 00	12 23	04 00	
		BNC	BE EF	03 06 00	B6 25	01 00	12 23	07 00	
		HDMI	BE EF	03 06 00	76 27	01 00	12 23	03 00	
		DVI-D	BE EF	03 06 00	D6 21	01 00	12 23	09 00	
		COMPONENT	BE EF	03 06 00	D6 24	01 00	12 23	05 00	
		S-VIDEO	BE EF	03 06 00	E6 26	01 00	12 23	02 00	
		VIDEO 1	BE EF	03 06 00	16 26	01 00	12 23	01 00	
	VIDEO 2	BE EF	03 06 00	26 21	01 00	12 23	0A 00		
Get	BE EF	03 06 00	B5 27	02 00	12 23	00 00			
PbyP MAIN AREA	Set	LEFT	BE EF	03 06 00	7A 26	01 00	13 23	00 00	
		RIGHT	BE EF	03 06 00	EA 27	01 00	13 23	01 00	
	Get	BE EF	03 06 00	49 26	02 00	13 23	00 00		
PbyP LEFT SOURCE	Set	COMPUTER IN 1	BE EF	03 06 00	F2 26	01 00	15 23	00 00	
		COMPUTER IN 2	BE EF	03 06 00	32 24	01 00	15 23	04 00	
		BNC	BE EF	03 06 00	C2 24	01 00	15 23	07 00	
		HDMI	BE EF	03 06 00	02 26	01 00	15 23	03 00	
		DVI-D	BE EF	03 06 00	A2 20	01 00	15 23	09 00	
		COMPONENT	BE EF	03 06 00	A2 25	01 00	15 23	05 00	
		S-VIDEO	BE EF	03 06 00	92 27	01 00	15 23	02 00	
		VIDEO 1	BE EF	03 06 00	62 27	01 00	15 23	01 00	
	VIDEO 2	BE EF	03 06 00	52 20	01 00	15 23	0A 00		
Get	BE EF	03 06 00	C1 26	02 00	15 23	00 00			
PbyP SWAP	Execute	BE EF	03 06 00	01 27	06 00	16 23	00 00		

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