

## Projector

# CP-X608

## User's Manual – Operating Guide

### Technical

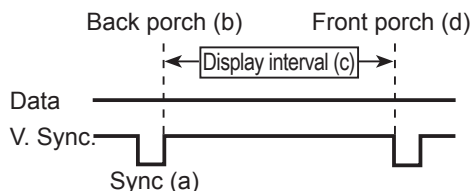
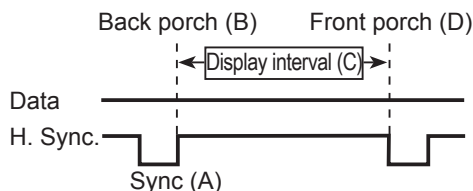
#### Example of computer signal

| 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        | 91.1               | 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        | 65.2               | 60.0              | VESA   | SXGA+ (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.
  - Automatically 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.

## Initial set signals

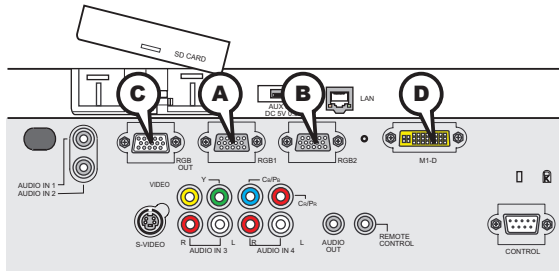
The following signals are used for the initial settings. The signal timing of some computer models may be different. In such case, adjust the items V POSITION and H POSITION in the IMAGE menu.



| Computer/<br>Signal  | Horizontal signal timing (μs) |     |      |     |
|----------------------|-------------------------------|-----|------|-----|
|                      | (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<br>(75Hz) | 1.2                           | 2.4 | 10.7 | 0.6 |
| 1280 x 960<br>(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                           | 2.0 | 11.4 | 0.7 |

| Computer/<br>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<br>(75Hz) | 3                              | 32  | 864  | 1   |
| 1280 x 960<br>(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)         | 3                              | 33  | 1050 | 1   |

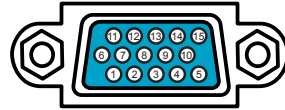
## Connection to the ports



### ⒶRGB IN1, ⒷRGB IN2, ⒸRGB 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

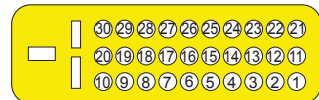


At RGB signal

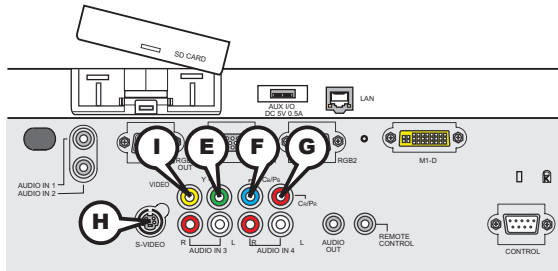
| Pin | Signal          | Pin | Signal                                    |
|-----|-----------------|-----|-------------------------------------------|
| 1   | Video Red       | 9   | (No connection)                           |
| 2   | Video Green     | 10  | Ground                                    |
| 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     |     |                                           |

### ⒹM1-D

- Type: T.M.D.S
- Amplitude differential: DC 150-1200mV/AC 1.56 Vp-p
- Amplitude: TTL level (positive/negative)



| Pin | Signal                          | Pin | Signal                | Pin | Signal                |
|-----|---------------------------------|-----|-----------------------|-----|-----------------------|
| 1   | T.M.D.S. Data2 +                | 11  | T.M.D.S. Data1 +      | 21  | T.M.D.S. Data0 +      |
| 2   | T.M.D.S. Data2 -                | 12  | T.M.D.S. Data1 -      | 22  | T.M.D.S. Data0 -      |
| 3   | T.M.D.S. Data2 Return           | 13  | T.M.D.S. Data1 Return | 23  | T.M.D.S. Data0 Return |
| 4   | T.M.D.S. Clock Return           | 14  | T.M.D.S. Clock +      | 24  | USB +5V DC Input      |
| 5   | (No connection)                 | 15  | T.M.D.S. Clock -      | 25  | DDC & USB Return      |
| 6   | V.Sync.                         | 16  | USB Data +            | 26  | DDC Data (SDA)        |
| 7   | (No connection)                 | 17  | USB Data -            | 27  | DDC Clock (SCL)       |
| 8   | Hot Plug Detect (+5V DC Output) | 18  | (No connection)       | 28  | DDC +5V DC Input      |
| 9   | (No connection)                 | 19  | (No connection)       | 29  | (No connection)       |
| 10  | (No connection)                 | 20  | (No connection)       | 30  | (No connection)       |



**COMPONENT VIDEO ⑤Y, ⑥CB/PB, ⑦CR/PR**

RCA jack x3

- System: 525i(480i), 525p(480p), 625i(576i), 750p(720p), 1125i(1080i)

| Port  | Signal                                                                             |
|-------|------------------------------------------------------------------------------------|
| Y     | Component video Y, $1.0 \pm 0.1\text{Vp-p}$ , $75\Omega$ terminator with composite |
| CB/PB | Component video CB/PB, $0.7 \pm 0.1\text{Vp-p}$ , $75\Omega$ terminator            |
| CR/PR | Component video CR/PR, $0.7 \pm 0.1\text{Vp-p}$ , $75\Omega$ terminator            |

**⑧S-VIDEO**

Mini DIN 4pin jack

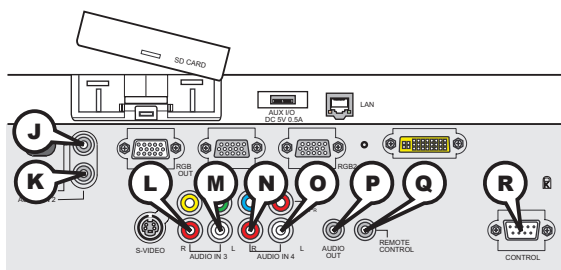


| Pin | Signal                                                                                                                                           |
|-----|--------------------------------------------------------------------------------------------------------------------------------------------------|
| 1   | Color signal $0.286\text{Vp-p}$ (NTSC, burst), $75\Omega$ terminator<br>Color signal $0.300\text{Vp-p}$ (PAL/SECAM, burst) $75\Omega$ terminator |
| 2   | Brightness signal, $1.0\text{Vp-p}$ , $75\Omega$ terminator                                                                                      |
| 3   | Ground                                                                                                                                           |
| 4   | Ground                                                                                                                                           |

**⑨VIDEO**

RCA jack

- System: NTSC, PAL, SECAM, PAL-M, PAL-N, NTSC4.43
- $1.0 \pm 0.1\text{Vp-p}$ ,  $75\Omega$  terminator



### ⓐAUDIO IN 1, ⓑAUDIO IN 2

Ø3.5 stereo mini jack

- 500 mVrms 47kΩ terminator

### AUDIO IN 3 ⓓR, ⓓL, AUDIO IN 4 ⓓR, ⓓL

RCA jack x2

- 500 mVrms 47kΩ terminator

### ⓑAUDIO OUT

Ø3.5 stereo mini jack

- 500 mVrms 1kΩ output impedance

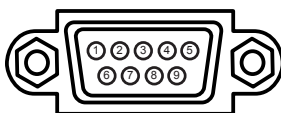
### ⓓREMOTE CONTROL

Ø3.5 stereo mini jack

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

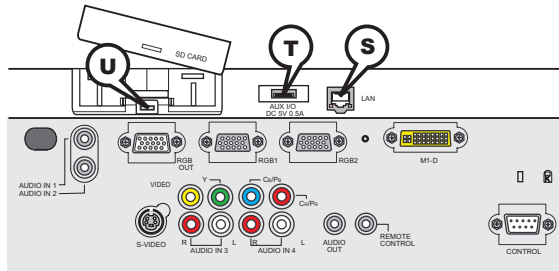
### ⓓCONTROL

D-sub 9pin plug



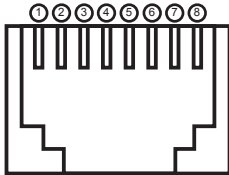
- About the details of RS-232C communication, please refer to the following page.

| 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) |



### LAN

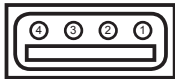
RJ-45 jack



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

### AUX I/O

USB A type jack



| Pin | Signal |
|-----|--------|
| 1   | +5V    |
| 2   | - Data |
| 3   | + Data |
| 4   | Gtound |

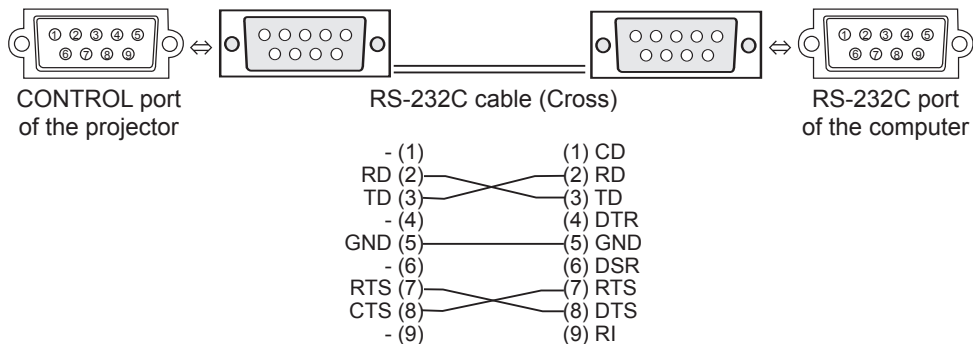
### SD card slot

SD card slot



| Pin | Signal   | Pin | Signal | Pin | Signal |
|-----|----------|-----|--------|-----|--------|
| 1   | CD/DAT 3 | 4   | VDD    | 7   | DAT 0  |
| 2   | CMD      | 5   | CLK    | 8   | DAT 1  |
| 3   | VSS      | 6   | VSS    | 9   | DAT 2  |

## 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.



| Names            |                                                                                                                                                                                                                                                           | Operation Type                                                                                                                                                                                                                                                                                                                            | Header |       |       |       | Command Data |        |       |
|------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|-------|-------|-------|--------------|--------|-------|
|                  |                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                           |        |       |       |       | CRC          | Action | Type  |
| Power            | Set                                                                                                                                                                                                                                                       | Turn off                                                                                                                                                                                                                                                                                                                                  | BE EF  | 03    | 06 00 | 2A D3 | 01 00        | 00 60  | 00 00 |
|                  |                                                                                                                                                                                                                                                           | Turn 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]<br>00 00 [Off]                      01 00 [On]                      02 00 [Cool down]                                                                                                                                                                                                                                    |        |       |       |       |              |        |       |
| Input Source     | Set                                                                                                                                                                                                                                                       | RGB1                                                                                                                                                                                                                                                                                                                                      | BE EF  | 03    | 06 00 | FE D2 | 01 00        | 00 20  | 00 00 |
|                  |                                                                                                                                                                                                                                                           | RGB2                                                                                                                                                                                                                                                                                                                                      | BE EF  | 03    | 06 00 | 3E D0 | 01 00        | 00 20  | 04 00 |
|                  |                                                                                                                                                                                                                                                           | M1-D                                                                                                                                                                                                                                                                                                                                      | BE EF  | 03    | 06 00 | 0E D2 | 01 00        | 00 20  | 03 00 |
|                  |                                                                                                                                                                                                                                                           | VIDEO                                                                                                                                                                                                                                                                                                                                     | 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 |
|                  |                                                                                                                                                                                                                                                           | MIU                                                                                                                                                                                                                                                                                                                                       | BE EF  | 03    | 06 00 | 5E D1 | 01 00        | 00 20  | 06 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]<br>00 00 [Normal]                      01 00 [Cover error]                      02 00 [Fan error]                      03 00 [Lamp error]<br>04 00 [Temp error]                      05 00 [Air flow error]                      06 00 [Lamp time error]                      07 00 [Cool error]<br>08 00 [Filter 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  |       |
| BRIGHTNESS Reset | Execute                                                                                                                                                                                                                                                   | BE EF                                                                                                                                                                                                                                                                                                                                     | 03     | 06 00 | 58 D3 | 06 00 | 00 70        | 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  |       |
| CONTRAST Reset   | Execute                                                                                                                                                                                                                                                   | BE EF                                                                                                                                                                                                                                                                                                                                     | 03     | 06 00 | A4 D2 | 06 00 | 01 70        | 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 |
|                  |                                                                                                                                                                                                                                                           | WHITEBOARD                                                                                                                                                                                                                                                                                                                                | BE EF  | 03    | 06 00 | 83 EE | 01 00        | BA 30  | 22 00 |
|                  | Get                                                                                                                                                                                                                                                       | BE EF                                                                                                                                                                                                                                                                                                                                     | 03     | 06 00 | 10 F6 | 02 00 | BA 30        | 00 00  |       |
|                  | [Example return]<br>00 00 [Normal]                      01 00 [Cinema]                      04 00 [Dynamic]                      10 00 [Custom]<br>20 00 [BOARD(BLACK)]                      21 00 [BOARD(GREEN)]                      22 00 [WHITEBOARD] |                                                                                                                                                                                                                                                                                                                                           |        |       |       |       |              |        |       |
| GAMMA            | Set                                                                                                                                                                                                                                                       | #1 DEFAULT                                                                                                                                                                                                                                                                                                                                | BE EF  | 03    | 06 00 | 07 E9 | 01 00        | A1 30  | 20 00 |
|                  |                                                                                                                                                                                                                                                           | #1 CUSTOM                                                                                                                                                                                                                                                                                                                                 | BE EF  | 03    | 06 00 | 07 FD | 01 00        | A1 30  | 10 00 |
|                  |                                                                                                                                                                                                                                                           | #2 DEFAULT                                                                                                                                                                                                                                                                                                                                | BE EF  | 03    | 06 00 | 97 E8 | 01 00        | A1 30  | 21 00 |
|                  |                                                                                                                                                                                                                                                           | #2 CUSTOM                                                                                                                                                                                                                                                                                                                                 | BE EF  | 03    | 06 00 | 97 FC | 01 00        | A1 30  | 11 00 |
|                  |                                                                                                                                                                                                                                                           | #3 DEFAULT                                                                                                                                                                                                                                                                                                                                | BE EF  | 03    | 06 00 | 67 E8 | 01 00        | A1 30  | 22 00 |
|                  |                                                                                                                                                                                                                                                           | #3 CUSTOM                                                                                                                                                                                                                                                                                                                                 | BE EF  | 03    | 06 00 | 67 FC | 01 00        | A1 30  | 12 00 |
|                  |                                                                                                                                                                                                                                                           | #4 DEFAULT                                                                                                                                                                                                                                                                                                                                | BE EF  | 03    | 06 00 | F7 E9 | 01 00        | A1 30  | 23 00 |
|                  |                                                                                                                                                                                                                                                           | #4 CUSTOM                                                                                                                                                                                                                                                                                                                                 | BE EF  | 03    | 06 00 | F7 FD | 01 00        | A1 30  | 13 00 |
|                  |                                                                                                                                                                                                                                                           | #5 DEFAULT                                                                                                                                                                                                                                                                                                                                | BE EF  | 03    | 06 00 | C7 EB | 01 00        | A1 30  | 24 00 |
|                  | #5 CUSTOM                                                                                                                                                                                                                                                 | BE EF                                                                                                                                                                                                                                                                                                                                     | 03     | 06 00 | C7 FF | 01 00 | A1 30        | 14 00  |       |
| Get              | BE EF                                                                                                                                                                                                                                                     | 03                                                                                                                                                                                                                                                                                                                                        | 06 00  | F4 F0 | 02 00 | A1 30 | 00 00        |        |       |

## RS-232C Communication (continued)

| Names              | Operation Type |                     | Header |       |       |       | Command Data |        |       |
|--------------------|----------------|---------------------|--------|-------|-------|-------|--------------|--------|-------|
|                    |                |                     |        |       |       |       | CRC          | Action | Type  |
| User Gamma Pattern | Set            | Off                 | BE EF  | 03    | 06 00 | FB FA | 01 00        | 80 30  | 00 00 |
|                    |                | 9 step gray scale   | BE EF  | 03    | 06 00 | 6B FB | 01 00        | 80 30  | 01 00 |
|                    |                | 15 steps 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            | LOW                 | BE EF  | 03    | 06 00 | 6B F4 | 01 00        | B0 30  | 01 00 |
|                    |                | MID                 | BE EF  | 03    | 06 00 | 9B F4 | 01 00        | B0 30  | 02 00 |
|                    |                | HIGH                | BE EF  | 03    | 06 00 | 0B F5 | 01 00        | B0 30  | 03 00 |
|                    |                | Hi-BRIGHT-1         | BE EF  | 03    | 06 00 | 3B F2 | 01 00        | B0 30  | 08 00 |
|                    |                | Hi-BRIGHT-2         | BE EF  | 03    | 06 00 | AB F3 | 01 00        | B0 30  | 09 00 |
|                    |                | CUSTOM-LOW          | BE EF  | 03    | 06 00 | AB F9 | 01 00        | B0 30  | 11 00 |
|                    |                | CUSTOM-MID          | BE EF  | 03    | 06 00 | 5B F9 | 01 00        | B0 30  | 12 00 |
|                    |                | CUSTOM-HIGH         | BE EF  | 03    | 06 00 | CB F8 | 01 00        | B0 30  | 13 00 |
|                    |                | CUSTOM-Hi-BRIGHT-1  | BE EF  | 03    | 06 00 | FB FF | 01 00        | B0 30  | 18 00 |
|                    |                | CUSTOM-Hi-BRIGHT-2  | BE EF  | 03    | 06 00 | 6B FE | 01 00        | B0 30  | 19 00 |
|                    | Get            | BE EF               | 03     | 06 00 | C8 F5 | 02 00 | B0 30        | 00 00  |       |
| 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  |       |

# RS-232C Communication (continued)

| Names               | Operation Type | Header   |       |       |       | Command Data |       |              |
|---------------------|----------------|----------|-------|-------|-------|--------------|-------|--------------|
|                     |                |          |       | CRC   |       | Action       | Type  | Setting Code |
| 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        |
| MY MEMORY Load      | Set            | 1        | BE EF | 03    | 06 00 | 0E D7        | 01 00 | 14 20        |
|                     |                | 2        | BE EF | 03    | 06 00 | 9E D6        | 01 00 | 14 20        |
|                     |                | 3        | BE EF | 03    | 06 00 | 6E D6        | 01 00 | 14 20        |
|                     |                | 4        | BE EF | 03    | 06 00 | FE D7        | 01 00 | 14 20        |
| MY MEMORY Save      | Set            | 1        | BE EF | 03    | 06 00 | F2 D6        | 01 00 | 15 20        |
|                     |                | 2        | BE EF | 03    | 06 00 | 62 D7        | 01 00 | 15 20        |
|                     |                | 3        | BE EF | 03    | 06 00 | 92 D7        | 01 00 | 15 20        |
|                     |                | 4        | BE EF | 03    | 06 00 | 02 D6        | 01 00 | 15 20        |
| PROGRESSIVE         | Set            | TURN OFF | BE EF | 03    | 06 00 | 4A 72        | 01 00 | 07 22        |
|                     |                | TV       | BE EF | 03    | 06 00 | DA 73        | 01 00 | 07 22        |
|                     |                | FILM     | BE EF | 03    | 06 00 | 2A 73        | 01 00 | 07 22        |
|                     | Get            |          | BE EF | 03    | 06 00 | 79 72        | 02 00 | 07 22        |
| 3D-YCS              | Set            | TURN OFF | BE EF | 03    | 06 00 | E6 70        | 01 00 | 0A 22        |
|                     |                | MOVIE    | BE EF | 03    | 06 00 | 76 71        | 01 00 | 0A 22        |
|                     |                | STILL    | BE EF | 03    | 06 00 | 86 71        | 01 00 | 0A 22        |
|                     | Get            |          | BE EF | 03    | 06 00 | D5 70        | 02 00 | 0A 22        |
| VIDEO NR            | Set            | LOW      | BE EF | 03    | 06 00 | 26 72        | 01 00 | 06 22        |
|                     |                | MID      | BE EF | 03    | 06 00 | D6 72        | 01 00 | 06 22        |
|                     |                | HIGH     | BE EF | 03    | 06 00 | 46 73        | 01 00 | 06 22        |
|                     | Get            |          | BE EF | 03    | 06 00 | 85 73        | 02 00 | 06 22        |

## RS-232C Communication (continued)

| Names            | Operation Type |           | Header |    |       |       | Command Data |       |              |
|------------------|----------------|-----------|--------|----|-------|-------|--------------|-------|--------------|
|                  |                |           |        |    |       | CRC   | Action       | Type  | Setting Code |
| ASPECT           | Set            | 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        |
|                  |                | 14:9      | BE EF  | 03 | 06 00 | CE D6 | 01 00        | 08 20 | 09 00        |
|                  |                | SMALL     | BE EF  | 03 | 06 00 | FE D1 | 01 00        | 08 20 | 02 00        |
|                  |                | NORMAL    | BE EF  | 03 | 06 00 | 5E DD | 01 00        | 08 20 | 10 00        |
| OVER SCAN        | Get            |           | BE EF  | 03 | 06 00 | AD D0 | 02 00        | 08 20 | 00 00        |
|                  | Increment      |           | BE EF  | 03 | 06 00 | 91 70 | 02 00        | 09 22 | 00 00        |
|                  | Decrement      |           | BE EF  | 03 | 06 00 | F7 70 | 04 00        | 09 22 | 00 00        |
|                  | Execute        |           | 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 | F8 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        |
| COMPONENT        | Get            |           | BE EF  | 03 | 06 00 | 3D 72 | 02 00        | 04 22 | 00 00        |
|                  | 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        |
| C-VIDEO 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        |
| S-VIDEO FORMAT   | Get            |           | BE EF  | 03 | 06 00 | 31 76 | 02 00        | 11 22 | 00 00        |
|                  | 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        |

# RS-232C Communication (continued)

| Names            | Operation Type |               | Header |    |       |       | Command Data |       |              |
|------------------|----------------|---------------|--------|----|-------|-------|--------------|-------|--------------|
|                  |                |               |        |    |       | CRC   | Action       | Type  | Setting Code |
| M1-D             | Set            | 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        |
| RGB 1            | Set            | SYNC ON G OFF | BE EF  | 03 | 06 00 | 5E D7 | 01 00        | 10 20 | 02 00        |
|                  |                | SYNC ON G ON  | 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        |
| RGB 2            | Set            | SYNC ON G OFF | BE EF  | 03 | 06 00 | A2 D6 | 01 00        | 11 20 | 02 00        |
|                  |                | SYNC ON G ON  | 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        |
| FRAME LOCK       | Set            | TURN OFF      | BE EF  | 03 | 06 00 | CB D6 | 01 00        | 14 30 | 00 00        |
|                  |                | TURN ON       | BE EF  | 03 | 06 00 | 5B D7 | 01 00        | 14 30 | 01 00        |
|                  | Get            |               | BE EF  | 03 | 06 00 | F8 D6 | 02 00        | 14 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        |
| 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        |
| ACTIVE IRIS      | Set            | TURN OFF      | BE EF  | 03 | 06 00 | 0B 22 | 01 00        | 04 33 | 00 00        |
|                  |                | THEATER       | BE EF  | 03 | 06 00 | CB SF | 01 00        | 04 33 | 10 00        |
|                  |                | PRESENTATION  | BE EF  | 03 | 06 00 | 5B 2E | 01 00        | 04 33 | 11 00        |
|                  | Get            |               | BE EF  | 03 | 06 00 | 38 22 | 02 00        | 04 33 | 00 00        |
| WHISPER          | Set            | NORMAL        | BE EF  | 03 | 06 00 | 3B 23 | 01 00        | 00 33 | 00 00        |
|                  |                | WHISPER       | 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        |
| VOLUME-RGB1      | Get            |               | BE EF  | 03 | 06 00 | CD CC | 02 00        | 60 20 | 00 00        |
|                  | Increment      |               | BE EF  | 03 | 06 00 | AB CC | 04 00        | 60 20 | 00 00        |
|                  | Decrement      |               | BE EF  | 03 | 06 00 | 7A CD | 05 00        | 60 20 | 00 00        |
| VOLUME-RGB2      | Get            |               | BE EF  | 03 | 06 00 | FD CD | 02 00        | 64 20 | 00 00        |
|                  | Increment      |               | BE EF  | 03 | 06 00 | 9B CD | 04 00        | 64 20 | 00 00        |
|                  | Decrement      |               | BE EF  | 03 | 06 00 | 4A CC | 05 00        | 64 20 | 00 00        |
| VOLUME-M1-D      | Get            |               | BE EF  | 03 | 06 00 | 89 CC | 02 00        | 63 20 | 00 00        |
|                  | Increment      |               | BE EF  | 03 | 06 00 | EF CC | 04 00        | 63 20 | 00 00        |
|                  | Decrement      |               | BE EF  | 03 | 06 00 | 3E CD | 05 00        | 63 20 | 00 00        |
| VOLUME-Video     | Get            |               | BE EF  | 03 | 06 00 | 31 CD | 02 00        | 61 20 | 00 00        |
|                  | Increment      |               | BE EF  | 03 | 06 00 | 57 CD | 04 00        | 61 20 | 00 00        |
|                  | Decrement      |               | BE EF  | 03 | 06 00 | 86 CC | 05 00        | 61 20 | 00 00        |
| VOLUME-S-Video   | Get            |               | BE EF  | 03 | 06 00 | 75 CD | 02 00        | 62 20 | 00 00        |
|                  | Increment      |               | BE EF  | 03 | 06 00 | 13 CD | 04 00        | 62 20 | 00 00        |
|                  | Decrement      |               | BE EF  | 03 | 06 00 | C2 CC | 05 00        | 62 20 | 00 00        |

## RS-232C Communication (continued)

| Names            | Operation Type | Header |    |       |       | Command Data |        |       |
|------------------|----------------|--------|----|-------|-------|--------------|--------|-------|
|                  |                |        |    |       |       | CRC          | Action | Type  |
| VOLUME-Component | Get            | BE EF  | 03 | 06 00 | 01 CC | 02 00        | 65 20  | 00 00 |
|                  | Increment      | BE EF  | 03 | 06 00 | 67 CC | 04 00        | 65 20  | 00 00 |
|                  | Decrement      | BE EF  | 03 | 06 00 | B6 CD | 05 00        | 65 20  | 00 00 |
| VOLUME – MIU     | Get            | BE EF  | 03 | 06 00 | 45 CC | 02 00        | 66 20  | 00 00 |
|                  | Increment      | BE EF  | 03 | 06 00 | 23 CC | 04 00        | 66 20  | 00 00 |
|                  | Decrement      | BE EF  | 03 | 06 00 | F2 CD | 05 00        | 66 20  | 00 00 |
| TREBLE-RGB1      | Get            | BE EF  | 03 | 06 00 | 0D C8 | 02 00        | 70 20  | 00 00 |
|                  | Increment      | BE EF  | 03 | 06 00 | 6B C8 | 04 00        | 70 20  | 00 00 |
|                  | Decrement      | BE EF  | 03 | 06 00 | BA C9 | 05 00        | 70 20  | 00 00 |
| TREBLE-RGB2      | Get            | BE EF  | 03 | 06 00 | 3D C9 | 02 00        | 74 20  | 00 00 |
|                  | Increment      | BE EF  | 03 | 06 00 | 5B C9 | 04 00        | 74 20  | 00 00 |
|                  | Decrement      | BE EF  | 03 | 06 00 | 8A C8 | 05 00        | 74 20  | 00 00 |
| TREBLE-M1-D      | Get            | BE EF  | 03 | 06 00 | 49 C8 | 02 00        | 73 20  | 00 00 |
|                  | Increment      | BE EF  | 03 | 06 00 | 2F C8 | 04 00        | 73 20  | 00 00 |
|                  | Decrement      | BE EF  | 03 | 06 00 | FE C9 | 05 00        | 73 20  | 00 00 |
| TREBLE-Video     | Get            | BE EF  | 03 | 06 00 | F1 C9 | 02 00        | 71 20  | 00 00 |
|                  | Increment      | BE EF  | 03 | 06 00 | 97 C9 | 04 00        | 71 20  | 00 00 |
|                  | Decrement      | BE EF  | 03 | 06 00 | 46 C8 | 05 00        | 71 20  | 00 00 |
| TREBLE-S-Video   | Get            | BE EF  | 03 | 06 00 | B5 C9 | 02 00        | 72 20  | 00 00 |
|                  | Increment      | BE EF  | 03 | 06 00 | D3 C9 | 04 00        | 72 20  | 00 00 |
|                  | Decrement      | BE EF  | 03 | 06 00 | 02 C8 | 05 00        | 72 20  | 00 00 |
| TREBLE-Component | Get            | BE EF  | 03 | 06 00 | C1 C8 | 02 00        | 75 20  | 00 00 |
|                  | Increment      | BE EF  | 03 | 06 00 | A7 C8 | 04 00        | 75 20  | 00 00 |
|                  | Decrement      | BE EF  | 03 | 06 00 | 76 C9 | 05 00        | 75 20  | 00 00 |
| TREBLE – MIU     | Get            | BE EF  | 03 | 06 00 | 85 C8 | 02 00        | 76 20  | 00 00 |
|                  | Increment      | BE EF  | 03 | 06 00 | E3 C8 | 04 00        | 76 20  | 00 00 |
|                  | Decrement      | BE EF  | 03 | 06 00 | 32 C9 | 05 00        | 76 20  | 00 00 |
| BASS-RGB1        | Get            | BE EF  | 03 | 06 00 | 0D FB | 02 00        | 80 20  | 00 00 |
|                  | Increment      | BE EF  | 03 | 06 00 | 6B FB | 04 00        | 80 20  | 00 00 |
|                  | Decrement      | BE EF  | 03 | 06 00 | BA FA | 05 00        | 80 20  | 00 00 |
| BASS-RGB2        | Get            | BE EF  | 03 | 06 00 | 3D FA | 02 00        | 84 20  | 00 00 |
|                  | Increment      | BE EF  | 03 | 06 00 | 5B FA | 04 00        | 84 20  | 00 00 |
|                  | Decrement      | BE EF  | 03 | 06 00 | 8A FB | 05 00        | 84 20  | 00 00 |
| BASS-M1-D        | Get            | BE EF  | 03 | 06 00 | 49 FB | 02 00        | 83 20  | 00 00 |
|                  | Increment      | BE EF  | 03 | 06 00 | 2F FB | 04 00        | 83 20  | 00 00 |
|                  | Decrement      | BE EF  | 03 | 06 00 | FE FA | 05 00        | 83 20  | 00 00 |
| BASS-Video       | Get            | BE EF  | 03 | 06 00 | F1 FA | 02 00        | 81 20  | 00 00 |
|                  | Increment      | BE EF  | 03 | 06 00 | 97 FA | 04 00        | 81 20  | 00 00 |
|                  | Decrement      | BE EF  | 03 | 06 00 | 46 FB | 05 00        | 81 20  | 00 00 |
| BASS-S-Video     | Get            | BE EF  | 03 | 06 00 | B5 FA | 02 00        | 82 20  | 00 00 |
|                  | Increment      | BE EF  | 03 | 06 00 | D3 FA | 04 00        | 82 20  | 00 00 |
|                  | Decrement      | BE EF  | 03 | 06 00 | 02 FB | 05 00        | 82 20  | 00 00 |
| BASS-Component   | Get            | BE EF  | 03 | 06 00 | C1 FB | 02 00        | 85 20  | 00 00 |
|                  | Increment      | BE EF  | 03 | 06 00 | A7 FB | 04 00        | 85 20  | 00 00 |
|                  | Decrement      | BE EF  | 03 | 06 00 | 76 FA | 05 00        | 85 20  | 00 00 |

## RS-232C Communication (continued)

| Names               |     | Operation Type | Header |    |       |       | Command Data |       |              |
|---------------------|-----|----------------|--------|----|-------|-------|--------------|-------|--------------|
|                     |     |                |        |    |       | CRC   | Action       | Type  | Setting Code |
| BASS – MIU          |     | Get            | BE EF  | 03 | 06 00 | 85 FB | 02 00        | 86 20 | 00 00        |
|                     |     | Increment      | BE EF  | 03 | 06 00 | E3 FB | 04 00        | 86 20 | 00 00        |
|                     |     | Decrement      | BE EF  | 03 | 06 00 | 32 FA | 05 00        | 86 20 | 00 00        |
| SRS WOW – RGB1      | Set | TURN OFF       | BE EF  | 03 | 06 00 | FE FF | 01 00        | 90 20 | 00 00        |
|                     |     | MID            | BE EF  | 03 | 06 00 | 9E FE | 01 00        | 90 20 | 02 00        |
|                     |     | HIGH           | BE EF  | 03 | 06 00 | 0E FF | 01 00        | 90 20 | 03 00        |
|                     |     | Get            | BE EF  | 03 | 06 00 | CD FF | 02 00        | 90 20 | 00 00        |
| SRS WOW – RGB2      | Set | TURN OFF       | BE EF  | 03 | 06 00 | CE FE | 01 00        | 94 20 | 00 00        |
|                     |     | MID            | BE EF  | 03 | 06 00 | AE FF | 01 00        | 94 20 | 02 00        |
|                     |     | HIGH           | BE EF  | 03 | 06 00 | 3E FF | 01 00        | 94 20 | 03 00        |
|                     |     | Get            | BE EF  | 03 | 06 00 | FD FE | 02 00        | 94 20 | 00 00        |
| SRS WOW – M1-D      | Set | TURN OFF       | BE EF  | 03 | 06 00 | BA FF | 01 00        | 93 20 | 00 00        |
|                     |     | MID            | BE EF  | 03 | 06 00 | DA FE | 01 00        | 93 20 | 02 00        |
|                     |     | HIGH           | BE EF  | 03 | 06 00 | 4A FF | 01 00        | 93 20 | 03 00        |
|                     |     | Get            | BE EF  | 03 | 06 00 | 89 FF | 02 00        | 93 20 | 00 00        |
| SRS WOW – Video     | Set | TURN OFF       | BE EF  | 03 | 06 00 | 02 FE | 01 00        | 91 20 | 00 00        |
|                     |     | MID            | BE EF  | 03 | 06 00 | 62 FF | 01 00        | 91 20 | 02 00        |
|                     |     | HIGH           | BE EF  | 03 | 06 00 | F2 FE | 01 00        | 91 20 | 03 00        |
|                     |     | Get            | BE EF  | 03 | 06 00 | 31 FE | 02 00        | 91 20 | 00 00        |
| SRS WOW – S-Video   | Set | TURN OFF       | BE EF  | 03 | 06 00 | 46 FE | 01 00        | 92 20 | 00 00        |
|                     |     | MID            | BE EF  | 03 | 06 00 | 26 FF | 01 00        | 92 20 | 02 00        |
|                     |     | HIGH           | BE EF  | 03 | 06 00 | B6 FE | 01 00        | 92 20 | 03 00        |
|                     |     | Get            | BE EF  | 03 | 06 00 | 75 FE | 02 00        | 92 20 | 00 00        |
| SRS WOW – Component | Set | TURN OFF       | BE EF  | 03 | 06 00 | 32 FF | 01 00        | 95 20 | 00 00        |
|                     |     | MID            | BE EF  | 03 | 06 00 | 52 FE | 01 00        | 95 20 | 02 00        |
|                     |     | HIGH           | BE EF  | 03 | 06 00 | C2 FF | 01 00        | 95 20 | 03 00        |
|                     |     | Get            | BE EF  | 03 | 06 00 | 01 FF | 02 00        | 95 20 | 00 00        |
| SRS WOW – MIU       | Set | TURN OFF       | BE EF  | 03 | 06 00 | 76 FF | 01 00        | 96 20 | 00 00        |
|                     |     | MID            | BE EF  | 03 | 06 00 | 16 FE | 01 00        | 96 20 | 02 00        |
|                     |     | HIGH           | BE EF  | 03 | 06 00 | 86 FF | 01 00        | 96 20 | 03 00        |
|                     |     | Get            | BE EF  | 03 | 06 00 | 45 FF | 02 00        | 96 20 | 00 00        |
| MUTE                | Set | TURN OFF       | BE EF  | 03 | 06 00 | 46 D3 | 01 00        | 02 20 | 00 00        |
|                     |     | TURN ON        | BE EF  | 03 | 06 00 | D6 D2 | 01 00        | 02 20 | 01 00        |
|                     |     | Get            | BE EF  | 03 | 06 00 | 75 D3 | 02 00        | 02 20 | 00 00        |
| SPEAKER             | Set | TURN OFF       | BE EF  | 03 | 06 00 | 6E D5 | 01 00        | 1C 20 | 00 00        |
|                     |     | TURN ON        | BE EF  | 03 | 06 00 | FE D4 | 01 00        | 1C 20 | 01 00        |
|                     |     | Get            | BE EF  | 03 | 06 00 | 5D D5 | 02 00        | 1C 20 | 00 00        |
| AUDIO - RGB1        | Set | TURN OFF       | BE EF  | 03 | 06 00 | FE DD | 01 00        | 30 20 | 00 00        |
|                     |     | Audio1         | BE EF  | 03 | 06 00 | 6E DC | 01 00        | 30 20 | 01 00        |
|                     |     | Audio2         | BE EF  | 03 | 06 00 | 9E DC | 01 00        | 30 20 | 02 00        |
|                     |     | Audio3         | BE EF  | 03 | 06 00 | 0E DD | 01 00        | 30 20 | 03 00        |
|                     |     | Audio4         | BE EF  | 03 | 06 00 | 3E DF | 01 00        | 30 20 | 04 00        |
|                     |     | Get            | BE EF  | 03 | 06 00 | CD DD | 02 00        | 30 20 | 00 00        |

## RS-232C Communication (continued)

| Names                     | Operation Type |          | Header |    |       | Command Data |        |       |              |
|---------------------------|----------------|----------|--------|----|-------|--------------|--------|-------|--------------|
|                           |                |          |        |    |       | CRC          | Action | Type  | Setting Code |
| AUDIO - RGB2              | Set            | TURN OFF | BE EF  | 03 | 06 00 | CE DC        | 01 00  | 34 20 | 00 00        |
|                           |                | Audio1   | BE EF  | 03 | 06 00 | 5E DD        | 01 00  | 34 20 | 01 00        |
|                           |                | Audio2   | BE EF  | 03 | 06 00 | AE DD        | 01 00  | 34 20 | 02 00        |
|                           |                | Audio3   | BE EF  | 03 | 06 00 | 3E DC        | 01 00  | 34 20 | 03 00        |
|                           |                | Audio4   | BE EF  | 03 | 06 00 | 0E DE        | 01 00  | 34 20 | 04 00        |
|                           | Get            |          | BE EF  | 03 | 06 00 | FD DC        | 02 00  | 34 20 | 00 00        |
| AUDIO - M1-D              | Set            | TURN OFF | BE EF  | 03 | 06 00 | BA DD        | 01 00  | 33 20 | 00 00        |
|                           |                | Audio1   | BE EF  | 03 | 06 00 | 2A DC        | 01 00  | 33 20 | 01 00        |
|                           |                | Audio2   | BE EF  | 03 | 06 00 | DA DC        | 01 00  | 33 20 | 02 00        |
|                           |                | Audio3   | BE EF  | 03 | 06 00 | 4A DD        | 01 00  | 33 20 | 03 00        |
|                           |                | Audio4   | BE EF  | 03 | 06 00 | 7A DF        | 01 00  | 33 20 | 04 00        |
|                           | Get            |          | BE EF  | 03 | 06 00 | 89 DD        | 02 00  | 33 20 | 00 00        |
| AUDIO - Video             | Set            | TURN OFF | BE EF  | 03 | 06 00 | 02 DC        | 01 00  | 31 20 | 00 00        |
|                           |                | Audio1   | BE EF  | 03 | 06 00 | 92 DD        | 01 00  | 31 20 | 01 00        |
|                           |                | Audio2   | BE EF  | 03 | 06 00 | 62 DD        | 01 00  | 31 20 | 02 00        |
|                           |                | Audio3   | BE EF  | 03 | 06 00 | F2 DC        | 01 00  | 31 20 | 03 00        |
|                           |                | Audio4   | BE EF  | 03 | 06 00 | C2 DE        | 01 00  | 31 20 | 04 00        |
|                           | Get            |          | BE EF  | 03 | 06 00 | 31 DC        | 02 00  | 31 20 | 00 00        |
| AUDIO - S-Video           | Set            | TURN OFF | BE EF  | 03 | 06 00 | 46 DC        | 01 00  | 32 20 | 00 00        |
|                           |                | Audio1   | BE EF  | 03 | 06 00 | D6 DD        | 01 00  | 32 20 | 01 00        |
|                           |                | Audio2   | BE EF  | 03 | 06 00 | 26 DD        | 01 00  | 32 20 | 02 00        |
|                           |                | Audio3   | BE EF  | 03 | 06 00 | B6 DC        | 01 00  | 32 20 | 03 00        |
|                           |                | Audio4   | BE EF  | 03 | 06 00 | 86 DE        | 01 00  | 32 20 | 04 00        |
|                           | Get            |          | BE EF  | 03 | 06 00 | 75 DC        | 02 00  | 32 20 | 00 00        |
| AUDIO - Component         | Set            | TURN OFF | BE EF  | 03 | 06 00 | 32 DD        | 01 00  | 35 20 | 00 00        |
|                           |                | Audio1   | BE EF  | 03 | 06 00 | A2 DC        | 01 00  | 35 20 | 01 00        |
|                           |                | Audio2   | BE EF  | 03 | 06 00 | 52 DC        | 01 00  | 35 20 | 02 00        |
|                           |                | Audio3   | BE EF  | 03 | 06 00 | C2 DD        | 01 00  | 35 20 | 03 00        |
|                           |                | Audio4   | BE EF  | 03 | 06 00 | F2 DF        | 01 00  | 35 20 | 04 00        |
|                           | Get            |          | BE EF  | 03 | 06 00 | 01 DD        | 02 00  | 35 20 | 00 00        |
| AUDIO - MIU               | Set            | TURN OFF | BE EF  | 03 | 06 00 | 76 DD        | 01 00  | 36 20 | 00 00        |
|                           |                | Audio1   | BE EF  | 03 | 06 00 | E6 DC        | 01 00  | 36 20 | 01 00        |
|                           |                | Audio2   | BE EF  | 03 | 06 00 | 16 DC        | 01 00  | 36 20 | 02 00        |
|                           |                | Audio3   | BE EF  | 03 | 06 00 | 86 DD        | 01 00  | 36 20 | 03 00        |
|                           |                | Audio4   | BE EF  | 03 | 06 00 | B6 DF        | 01 00  | 36 20 | 04 00        |
|                           | MIU            |          | BE EF  | 03 | 06 00 | B6 D0        | 01 00  | 36 20 | 10 00        |
| IR REMOTE Front           | Set            | Off      | BE EF  | 03 | 06 00 | 45 DD        | 02 00  | 36 20 | 00 00        |
|                           |                | On       | BE EF  | 03 | 06 00 | FF 32        | 01 00  | 00 26 | 00 00        |
|                           | Get            |          | BE EF  | 03 | 06 00 | 6F 33        | 01 00  | 00 26 | 01 00        |
| IR REMOTE Rear            | Set            | Off      | BE EF  | 03 | 06 00 | CC 32        | 02 00  | 00 26 | 00 00        |
|                           |                | On       | BE EF  | 03 | 06 00 | 03 33        | 01 00  | 01 26 | 00 00        |
|                           | Get            |          | BE EF  | 03 | 06 00 | 93 32        | 01 00  | 01 26 | 01 00        |
| IR REMOTE Top             | Set            | Off      | BE EF  | 03 | 06 00 | 30 33        | 02 00  | 01 26 | 00 00        |
|                           |                | On       | BE EF  | 03 | 06 00 | 47 33        | 01 00  | 02 26 | 00 00        |
|                           | Get            |          | BE EF  | 03 | 06 00 | D7 32        | 01 00  | 02 26 | 01 00        |
| IR REMOTE FREQ.<br>NORMAL | Set            | Off      | BE EF  | 03 | 06 00 | 74 33        | 02 00  | 02 26 | 00 00        |
|                           |                | On       | BE EF  | 03 | 06 00 | FF 3D        | 01 00  | 30 26 | 00 00        |
|                           | Get            |          | BE EF  | 03 | 06 00 | 6F 3C        | 01 00  | 30 26 | 01 00        |
|                           |                |          | BE EF  | 03 | 06 00 | CC 3D        | 02 00  | 30 26 | 00 00        |



# RS-232C Communication (continued)

| Names                 | Operation Type | Header     |       |     |       |       | Command Data |       |              |
|-----------------------|----------------|------------|-------|-----|-------|-------|--------------|-------|--------------|
|                       |                |            |       | CRC |       |       | Action       | Type  | Setting Code |
| IR REMOTE FREQ. HIGH  | Set            | Off        | BE EF | 03  | 06 00 | 03 3C | 01 00        | 31 26 | 00 00        |
|                       |                | On         | 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        |
| 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        |
|                       |                | PORTUGUÊS  | 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        |
|                       |                | РУССКИЙ    | 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        |
|                       |                | 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        |
| 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        |
| 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        |
| BLANK                 | Set            | My Screen  | 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            | TURN OFF   | BE EF | 03  | 06 00 | FB D8 | 01 00        | 20 30 | 00 00        |
|                       |                | TURN 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            | My Screen  | 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        |
|                       |                | TURN 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        |
| My Screen LOCK        | Set            | TURN OFF   | BE EF | 03  | 06 00 | 3B EF | 01 00        | C0 30 | 00 00        |
|                       |                | TURN 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        |

## RS-232C Communication (continued)

| Names                 | Operation Type | Header                | Command Data |    |        |       |              |       |       |
|-----------------------|----------------|-----------------------|--------------|----|--------|-------|--------------|-------|-------|
|                       |                |                       | CRC          |    | Action | Type  | Setting Code |       |       |
| MESSAGE               | Set            | TURN OFF              | BE EF        | 03 | 06 00  | 8F D6 | 01 00        | 17 30 | 00 00 |
|                       |                | TURN 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 |
| AUTO SEARCH           | Set            | TURN OFF              | BE EF        | 03 | 06 00  | B6 D6 | 01 00        | 16 20 | 00 00 |
|                       |                | TURN 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 |
| 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 |
| AUTO ON               | Set            | TURN OFF              | BE EF        | 03 | 06 00  | 3B 89 | 01 00        | 20 31 | 00 00 |
|                       |                | TURN 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 |
| LAMP TIME             | Get            |                       | BE EF        | 03 | 06 00  | C2 FF | 02 00        | 90 10 | 00 00 |
| LAMP TIME Reset       | Execute        |                       | BE EF        | 03 | 06 00  | 58 DC | 06 00        | 30 70 | 00 00 |
| FILTER TIME           | Get            |                       | BE EF        | 03 | 06 00  | C2 F0 | 02 00        | A0 10 | 00 00 |
| FILER TIME Reset      | Execute        |                       | BE EF        | 03 | 06 00  | 98 C6 | 06 00        | 40 70 | 00 00 |
| AUTO KEYSTONE EXECUTE | Execute        |                       | BE EF        | 03 | 06 00  | E5 D1 | 06 00        | 0D 20 | 00 00 |
| AUTO KEYSTONE         | Set            | TURN OFF              | BE EF        | 03 | 06 00  | EA D1 | 01 00        | 0F 20 | 00 00 |
|                       |                | TURN 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 |
| MY BUTTON-1           | Set            | RGB1                  | BE EF        | 03 | 06 00  | 3A 33 | 01 00        | 00 36 | 00 00 |
|                       |                | RGB2                  | BE EF        | 03 | 06 00  | FA 31 | 01 00        | 00 36 | 04 00 |
|                       |                | M1-D                  | BE EF        | 03 | 06 00  | CA 33 | 01 00        | 00 36 | 03 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                 | BE EF        | 03 | 06 00  | AA 32 | 01 00        | 00 36 | 01 00 |
|                       |                | MIU                   | BE EF        | 03 | 06 00  | 9A 30 | 01 00        | 00 36 | 06 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 |
|                       |                | 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 |
|                       |                | ACTIVE IRIS           | BE EF        | 03 | 06 00  | AA 3D | 01 00        | 00 36 | 15 00 |
|                       |                | e-SHOT                | BE EF        | 03 | 06 00  | 5A 3D | 01 00        | 00 36 | 16 00 |
|                       |                | VOLUME +              | BE EF        | 03 | 06 00  | CA 3C | 01 00        | 00 36 | 17 00 |
|                       |                | VOLUME -              | BE EF        | 03 | 06 00  | 3A 39 | 01 00        | 00 36 | 18 00 |
|                       | Get            |                       | BE EF        | 03 | 06 00  | 09 33 | 02 00        | 00 36 | 00 00 |

# RS-232C Communication (continued)

| Names       | Operation Type | Header                |       |       |       | Command Data |        |       |              |
|-------------|----------------|-----------------------|-------|-------|-------|--------------|--------|-------|--------------|
|             |                |                       |       |       |       | CRC          | Action | Type  | Setting Code |
| MY BUTTON-2 | Set            | RGB1                  | BE EF | 03    | 06 00 | C6 32        | 01 00  | 01 36 | 00 00        |
|             |                | RGB2                  | BE EF | 03    | 06 00 | 06 30        | 01 00  | 01 36 | 04 00        |
|             |                | M1-D                  | BE EF | 03    | 06 00 | 36 32        | 01 00  | 01 36 | 03 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                 | BE EF | 03    | 06 00 | 56 33        | 01 00  | 01 36 | 01 00        |
|             |                | MIU                   | BE EF | 03    | 06 00 | 66 31        | 01 00  | 01 36 | 06 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        |
|             |                | 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        |
|             |                | ACTIVE IRIS           | BE EF | 03    | 06 00 | 56 3C        | 01 00  | 01 36 | 15 00        |
|             |                | e-SHOT                | BE EF | 03    | 06 00 | A6 3C        | 01 00  | 01 36 | 16 00        |
|             |                | VOLUME +              | BE EF | 03    | 06 00 | 36 3D        | 01 00  | 01 36 | 17 00        |
|             | VOLUME -       | BE EF                 | 03    | 06 00 | C6 38 | 01 00        | 01 36  | 18 00 |              |
|             | MAGNIFY        | Get                   | BE EF | 03    | 06 00 | F5 32        | 02 00  | 01 36 | 00 00        |
|             |                | 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 |              |