DIGITAL PROJECTION

HIGHlite 660 Series
Quad Titan Series
Titan 800 Series
Titan Pro Series 3
Lightning Series

External Control Protocol

		AUTHOR	DATE	TITLE
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Revision History			
Date	**Comments**	**Revision**	**Author**
30-Aug-2011	Create Document	A	Paul Shires
25-Oct-2011	Add RS232	B	Paul Shires
21-Dec-2011	Corrected some errors & expanded lamp control & input selection sections	C	Paul Shires
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HIGHlite 660 SERIES / QUAD TITAN SERIES
TITAN PRO SERIES 3 / LIGHTNING SERIES
EXTERNAL CONTROL PROTOCOL

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Introduction

This protocol document provides instructions for external protocol control of all projector models in the HIGHlite 660, Quad Titan, Titan Pro Series III and Lightning Pro series.

The examples in this document can be cut and pasted, then formatted for use in your control system.

If you need to control a feature not covered in this document please contact Digital Projection directly for assistance.

1.0 Connection

This document describes control protocol over the wired LAN (RJ45) control socket and RS232 control socket.

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1.1 LAN Connection

Wired 10/100 BaseT auto negotiating

TCP port number: 30000

The projectors are supplied from the factory with the following default settings:

```
IP Address: 192.168.0.100
Subnet:     255.255.255.0
DHCP:       Off
```

To change these settings please refer to the projectors *Operating Guide*.

10BaseT Unshielded Twisted Pair cable

The standard wire colours are as follows:
1. White / Orange stripe
2. Orange
3. White / Green stripe
4. Blue
5. White / Blue stripe
6. Green
7. White / Brown stripe
8. Brown
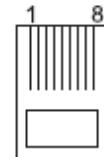
top view of cable connector.

Crossed cable: used to connect directly to a computer with no hub or network.
(Note that only the green and orange pairs are crossed)

1	White / Orange stripe	White / Green stripe	1
2	Orange	Green	2
3	White / Green stripe	White / Orange stripe	3
4	Blue	Blue	4
5	White / Blue stripe	White / Blue stripe	5
6	Green	Orange	6
7	White / Brown stripe	White / Brown stripe	7
8	Brown	Brown	8

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1.2 RS232 Connection

```
Baud rate: (Scaler Version BL07FW240A0013DP) 115200
           (All other Scaler Versions)       9600
Parity:       None
Stop Bits:    1
Flow Control: None
```

Use a 'null modem' (crossover) serial cable to connect your computer to the projector.

Early model HL660 projectors (shipped prior to December 2011) need to be connected via a straight-through serial cable. Contact Digital Projection for more information.

Note:

To determine the Scaler Version using the projector menus, navigate to:

Information > Configuration

or

Information > Configuration > Projector

depending on the software version installed in the projector.

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2.0 Protocol Notes

Following the transmission of a command, the control system must wait to receive the complete reply before sending a new command.

The data type for all data is raw hexadecimal.

Spaces shown in protocol messages are for visual clarity only and should not be sent as part of the message.

In the examples given, TX indicates data transmitted from the controller to the projector. RX indicates data received by the controller from the projector.

Delays of more than 2 seconds between bytes will result in the protocol command parser resetting and waiting for a new command (the old command will be lost). This feature can be used to recover from partial or malformed commands by delaying for more than 2 seconds before sending the next command.

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3.0 Commands

3.1 Power Status Set

Description:

Control projector power.

3.1.1 LAN Control

Examples:

To turn the projector on:

```
TX:   54 50 01 00 00 00 00 00 00 00 00 3D 00 00 00 00
      50 46 27 07 00 00 00 00 00 00 00 31 00 00 00 2D
      23 70 6F 77 72 2C 30 2C 30 2C 30 2C 30 2C 30 2C
      30 2C 73 79 73 74 65 6D 2C 70 72 6F 6A 65 63 74
      6F 72 2C 77 72 69 74 65 2C 6F 6E 0D 00

RX:   74 50 01 00 00 00 00 00 00 00 00 1A 00 00 00 00
      70 46 27 07 00 00 00 00 00 00 00 0E 00 00 00 00
      09 70 6F 77 72 2C 41 43 4B 00
```

To turn the projector into standby:

```
TX:   54 50 01 00 00 00 00 00 00 00 00 42 00 00 00 00
      50 46 27 07 00 00 00 00 00 00 00 36 00 00 00 32
      23 70 6F 77 72 2C 30 2C 30 2C 30 2C 30 2C 30 2C
      30 2C 73 79 73 74 65 6D 2C 70 72 6F 6A 65 63 74
      6F 72 2C 77 72 69 74 65 2C 73 74 61 6E 64 62 79
      0D 00

RX:   74 50 01 00 00 00 00 00 00 00 00 1A 00 00 00 00
      70 46 27 07 00 00 00 00 00 00 00 0E 00 00 00 00
      09 70 6F 77 72 2C 41 43 4B 00
```

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3.1.2 RS232 Control

Examples:

To turn the projector on:

```
TX:   53 41 50 01 FF FF FF FF 00 00 00 4D 00 00 00 00
      54 50 01 00 00 00 00 00 00 00 00 3D 00 00 00 00
      50 46 27 07 00 00 00 00 00 00 00 31 00 00 00 2D
      23 70 6F 77 72 2C 30 2C 30 2C 30 2C 30 2C 30 2C
      30 2C 73 79 73 74 65 6D 2C 70 72 6F 6A 65 63 74
      6F 72 2C 77 72 69 74 65 2C 6F 6E 0D 00

RX:   73 61 50 01 FF FF FF FF 00 00 00 00 00 00 00 00
      53 41 50 01 FF FF FF FF 00 00 00 2A 00 00 00 00
      74 50 01 00 00 00 00 00 00 00 00 1A 00 00 00 00
      70 46 27 07 00 00 00 00 00 00 00 0E 00 00 00 00
      09 70 6F 77 72 2C 41 43 4B 00

TX:   73 61 50 01 FF FF FF FF 00 00 00 00 00 00 00 00
```

To turn the projector into standby:

```
TX:  53 41 50 01 FF FF FF FF 00 00 00 52 00 00 00 00
     54 50 01 00 00 00 00 00 00 00 00 42 00 00 00 00
     50 46 27 07 00 00 00 00 00 00 00 36 00 00 00 32
     23 70 6F 77 72 2C 30 2C 30 2C 30 2C 30 2C 30 2C
     30 2C 73 79 73 74 65 6D 2C 70 72 6F 6A 65 63 74
     6F 72 2C 77 72 69 74 65 2C 73 74 61 6E 64 62 79
     0D 00

RX:  73 61 50 01 FF FF FF FF 00 00 00 00 00 00 00 00
     53 41 50 01 FF FF FF FF 00 00 00 2A 00 00 00 00
     74 50 01 00 00 00 00 00 00 00 00 1A 00 00 00 00
     70 46 27 07 00 00 00 00 00 00 00 0E 00 00 00 00
     09 70 6F 77 72 2C 41 43 4B 00

TX:  73 61 50 01 FF FF FF FF 00 00 00 00 00 00 00 00
```

3.2 Power Status Get

Description:

Request current power status of projector.

3.2.1 LAN Control

Examples:

Request power status:

```
TX:   54 50 01 00 00 00 00 00 00 00 00 3B 00 00 00 00
      50 46 27 07 00 00 00 00 00 00 00 2F 00 00 00 2B
      23 70 6F 77 72 2C 30 2C 30 2C 30 2C 30 2C 30 2C
      30 2C 73 79 73 74 65 6D 2C 70 72 6F 6A 65 63 74
      6F 72 2C 72 65 61 64 2C 31 0D 00

RX:   74 50 01 00 00 00 00 00 00 00 00 1D 00 00 00 00
      70 46 27 07 00 00 00 00 00 00 00 11 00 00 00 00
      0C 70 6F 77 72 2C 41 43 4B 2C 6F 6E 00
```

Indicates projector is on.

Request power status:

```
TX:   54 50 01 00 00 00 00 00 00 00 00 3B 00 00 00 00
      50 46 27 07 00 00 00 00 00 00 00 2F 00 00 00 2B
      23 70 6F 77 72 2C 30 2C 30 2C 30 2C 30 2C 30 2C
      30 2C 73 79 73 74 65 6D 2C 70 72 6F 6A 65 63 74
      6F 72 2C 72 65 61 64 2C 31 0D 00

RX:   74 50 01 00 00 00 00 00 00 00 00 22 00 00 00 00
      70 46 27 07 00 00 00 00 00 00 00 16 00 00 00 00
      11 70 6F 77 72 2C 41 43 4B 2C 73 74 61 6E 64 62
      79 00
```

Indicates projector is in standby.

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3.2.2 RS232 Control

Examples:

Request power status:

```
TX:   53 41 50 01 FF FF FF FF 00 00 00 4B 00 00 00 00
      54 50 01 00 00 00 00 00 00 00 00 3B 00 00 00 00
      50 46 27 07 00 00 00 00 00 00 00 2F 00 00 00 2B
      23 70 6F 77 72 2C 30 2C 30 2C 30 2C 30 2C 30 2C
      30 2C 73 79 73 74 65 6D 2C 70 72 6F 6A 65 63 74
      6F 72 2C 72 65 61 64 2C 31 0D 00

RX:   73 61 50 01 FF FF FF FF 00 00 00 00 00 00 00 00
      53 41 50 01 FF FF FF FF 00 00 00 2D 00 00 00 00
      74 50 01 00 00 00 00 00 00 00 00 1D 00 00 00 00
      70 46 27 07 00 00 00 00 00 00 00 11 00 00 00 00
      0C 70 6F 77 72 2C 41 43 4B 2C 6F 6E 00

TX:   73 61 50 01 FF FF FF FF 00 00 00 00 00 00 00 00
```

Indicates projector is on.

Request power status:

```
TX:   53 41 50 01 FF FF FF FF 00 00 00 4B 00 00 00 00
      54 50 01 00 00 00 00 00 00 00 00 3B 00 00 00 00
      50 46 27 07 00 00 00 00 00 00 00 2F 00 00 00 2B
      23 70 6F 77 72 2C 30 2C 30 2C 30 2C 30 2C 30 2C
      30 2C 73 79 73 74 65 6D 2C 70 72 6F 6A 65 63 74
      6F 72 2C 72 65 61 64 2C 31 0D 00

RX:   73 61 50 01 FF FF FF FF 00 00 00 00 00 00 00 00
      53 41 50 01 FF FF FF FF 00 00 00 32 00 00 00 00
      74 50 01 00 00 00 00 00 00 00 00 22 00 00 00 00
      70 46 27 07 00 00 00 00 00 00 00 16 00 00 00 00
      11 70 6F 77 72 2C 41 43 4B 2C 73 74 61 6E 64 62
      79 00

TX:   73 61 50 01 FF FF FF FF 00 00 00 00 00 00 00 00
```

Indicates projector is in standby.

3.3 Lamp Mode Set

Description:

Sets lamp mode.

Lamp mode can be one of the following values:

HL660 series / Titan Pro Series III / Titan 800 Series projectors:

30 – Dual Lamp
31 – Single Lamp 1
32 – Single Lamp 2

Quad Titan series projectors:

30 – 4 Lamps
31 – 3 Lamps
32 – 2 Lamps
33 – 1 Lamp

Note:

Only available on multi-lamp based projector models.

3.3.1 LAN Control

Example:

Set lamp mode to dual lamp (HL660 / Titan Pro Series III /Titan 800 Series):
Set lamp mode to all 4 lamps (Quad Titan):

```
TX:  54 50 01 00 00 00 00 00 00 00 00 3A 00 00 00 00
     50 46 27 07 00 00 00 00 00 00 00 2E 00 00 00 2A
     23 6C 61 6D 70 4D 6F 64 65 2C 30 2C 30 2C 30 2C
     30 2C 30 2C 30 2C 6C 70 73 75 2C 6D 6F 64 65 2C
     77 72 69 74 65 2C 30 30 0D 00

RX:  74 50 01 00 00 00 00 00 00 00 00 1E 00 00 00 00
     70 46 27 07 00 00 00 00 00 00 00 12 00 00 00 00
     0D 6C 61 6D 70 4D 6F 64 65 2C 41 43 4B 00
```

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3.3.2 RS232 Control

Example:

Set lamp mode to dual lamp (HL660 / Titan Pro Series III /Titan 800 Series):
Set lamp mode to all 4 lamps (Quad Titan):

```
TX:   53 41 50 01 FF FF FF FF 00 00 00 4A 00 00 00 00
      54 50 01 00 00 00 00 00 00 00 00 3A 00 00 00 00
      50 46 27 07 00 00 00 00 00 00 00 2E 00 00 00 2A
      23 6C 61 6D 70 4D 6F 64 65 2C 30 2C 30 2C 30 2C
      30 2C 30 2C 30 2C 6C 70 73 75 2C 6D 6F 64 65 2C
      77 72 69 74 65 2C 30 30 0D 00

RX:   73 61 50 01 FF FF FF FF 00 00 00 00 00 00 00 00
      53 41 50 01 FF FF FF FF 00 00 00 2E 00 00 00 00
      74 50 01 00 00 00 00 00 00 00 00 1E 00 00 00 00
      70 46 27 07 00 00 00 00 00 00 00 12 00 00 00 00
      0D 6C 61 6D 70 4D 6F 64 65 2C 41 43 4B 00

TX:   73 61 50 01 FF FF FF FF 00 00 00 00 00 00 00 00
```

3.4 Lamp Mode Get

Description:

Gets current lamp mode status.

Lamp mode can be one of the following values:

HL660 series / Titan Pro Series III / Titan 800 Series projectors:

30 – Dual Lamp
31 – Single Lamp 1
32 – Single Lamp 2

Quad Titan series projectors:

30 – 4 Lamps
31 – 3 Lamps
32 – 2 Lamps
33 – 1 Lamp

Note:

Only available on multi-lamp based projector models.

3.4.1 LAN Control

Example:

Get lamp mode status:

```
TX:   54 50 01 00 00 00 00 00 00 00 00 39 00 00 00 00
      50 46 27 07 00 00 00 00 00 00 00 2D 00 00 00 29
      23 6C 70 73 75 5F 6D 6F 64 65 2C 30 2C 30 2C 30
      2C 30 2C 30 2C 30 2C 6C 70 73 75 2C 6D 6F 64 65
      2C 72 65 61 64 2C 31 0D 00

RX:   74 50 01 00 00 00 00 00 00 00 00 21 00 00 00 00
      70 46 27 07 00 00 00 00 00 00 00 15 00 00 00 00
      10 6C 70 73 75 5F 6D 6F 64 65 2C 41 43 4B 2C 32
      00
```

Indicates lamp mode is single lamp 2 (HL660 / Titan Pro Series III) / 2 lamps (Quad Titan).

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3.4.2 RS232 Control

Example:

Get lamp mode status:

```
TX:  53 41 50 01 FF FF FF FF 00 00 00 49 00 00 00 00
     54 50 01 00 00 00 00 00 00 00 00 39 00 00 00 00
     50 46 27 07 00 00 00 00 00 00 00 2D 00 00 00 29
     23 6C 70 73 75 5F 6D 6F 64 65 2C 30 2C 30 2C 30
     2C 30 2C 30 2C 30 2C 6C 70 73 75 2C 6D 6F 64 65
     2C 72 65 61 64 2C 31 0D 00

RX:  73 61 50 01 FF FF FF FF 00 00 00 00 00 00 00 00
     53 41 50 01 FF FF FF FF 00 00 00 31 00 00 00 00
     74 50 01 00 00 00 00 00 00 00 00 21 00 00 00 00
     70 46 27 07 00 00 00 00 00 00 00 15 00 00 00 00
     10 6C 70 73 75 5F 6D 6F 64 65 2C 41 43 4B 2C 32
     00

TX:  73 61 50 01 FF FF FF FF 00 00 00 00 00 00 00 00
```

Indicates lamp mode is single lamp 2 (HL660 / Titan Pro Series III / Titan 800 Series)
Indicates lamp mode is 2 lamps (Quad Titan)

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3.5 Lamp Power Set

Description:

Sets lamp power.

Note:

The lamp power can be any value between 1h and 64h (1% to 100%). Values less than the permitted lowest power will set the lowest power, not the value sent.

The lowest permitted power is projector model dependent.

3.5.1 LAN Control

Example:

Set lamp power to 100%:

```
TX:   54 50 01 00 00 00 00 00 00 00 00 3D 00 00 00 00
      50 46 27 07 00 00 00 00 00 00 00 31 00 00 00 2D
      23 6C 70 73 75 5F 70 6F 77 65 72 2C 30 2C 30 2C
      30 2C 30 2C 30 2C 30 2C 6C 70 73 75 2C 70 6F 77
      65 72 2C 77 72 69 74 65 2C 36 34 0D 00
```

```
36 34  =  ASCII representation of 64
          (64 = hexadecimal representation of 100%)
```

```
RX:   74 50 01 00 00 00 00 00 00 00 00 20 00 00 00 00
      70 46 27 07 00 00 00 00 00 00 00 14 00 00 00 00
      0F 6C 70 73 75 5F 70 6F 77 65 72 2C 41 43 4B 00
```

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3.5.2 RS232 Control

Example:

Set lamp power to 100%:

```
TX:    53 41 50 01 FF FF FF FF 00 00 00 4D 00 00 00 00
       54 50 01 00 00 00 00 00 00 00 00 3D 00 00 00 00
       50 46 27 07 00 00 00 00 00 00 00 31 00 00 00 2D
       23 6C 70 73 75 5F 70 6F 77 65 72 2C 30 2C 30 2C
       30 2C 30 2C 30 2C 30 2C 6C 70 73 75 2C 70 6F 77
       65 72 2C 77 72 69 74 65 2C 36 34 0D 00
```

`36 34` = ASCII representation of 64
(64 = hexadecimal representation of 100%)

```
RX:    73 61 50 01 FF FF FF FF 00 00 00 00 00 00 00 00
       53 41 50 01 FF FF FF FF 00 00 00 30 00 00 00 00
       74 50 01 00 00 00 00 00 00 00 00 20 00 00 00 00
       70 46 27 07 00 00 00 00 00 00 00 14 00 00 00 00
       0F 6C 70 73 75 5F 70 6F 77 65 72 2C 41 43 4B 00
```

```
TX:    73 61 50 01 FF FF FF FF 00 00 00 00 00 00 00 00
```

3.6 Lamp Power Get

Description:

Gets lamp power.

3.6.1 LAN Control

Example:

Get lamp power:

```
TX:   54 50 01 00 00 00 00 00 00 00 00 3B 00 00 00 00
      50 46 27 07 00 00 00 00 00 00 00 2F 00 00 00 2B
      23 6C 70 73 75 5F 70 6F 77 65 72 2C 30 2C 30 2C
      30 2C 30 2C 30 2C 30 2C 6C 70 73 75 2C 70 6F 77
      65 72 2C 72 65 61 64 2C 31 0D 00

RX:   74 50 01 00 00 00 00 00 00 00 00 23 00 00 00 00
      70 46 27 07 00 00 00 00 00 00 00 17 00 00 00 00
      12 6C 70 73 75 5F 70 6F 77 65 72 2C 41 43 4B 2C
      35 30 00
```

35 30 = ASCII representation of 50
           (50 = hexadecimal representation of 80%)

Indicates the lamp power is set to 80%.

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3.6.2 RS232 Control

Example:

Get lamp power:

```
TX:  53 41 50 01 FF FF FF FF 00 00 00 4B 00 00 00 00
     54 50 01 00 00 00 00 00 00 00 00 3B 00 00 00 00
     50 46 27 07 00 00 00 00 00 00 00 2F 00 00 00 2B
     23 6C 70 73 75 5F 70 6F 77 65 72 2C 30 2C 30 2C
     30 2C 30 2C 30 2C 30 2C 6C 70 73 75 2C 70 6F 77
     65 72 2C 72 65 61 64 2C 31 0D 00

RX:  73 61 50 01 FF FF FF FF 00 00 00 00 00 00 00 00
     53 41 50 01 FF FF FF FF 00 00 00 33 00 00 00 00
     74 50 01 00 00 00 00 00 00 00 00 23 00 00 00 00
     70 46 27 07 00 00 00 00 00 00 00 17 00 00 00 00
     12 6C 70 73 75 5F 70 6F 77 65 72 2C 41 43 4B 2C
     [36 34] 00

TX:  73 61 50 01 FF FF FF FF 00 00 00 00 00 00 00 00
```

> [36 34] = ASCII representation of 64
>   (64 = hexadecimal representation of 100%)

Indicates the lamp power is set to 100%

3.7 Gamma Table Set

Description:

Sets gamma table.

Gamma table can be one of the following values:

30 – Gamma 1.0
31 – Gamma 1.8
32 – Gamma 2.0
33 – Gamma 2.2
34 – Gamma 2.4
35 – Gamma 2.6
36 – Gamma 2.8

3.7.1 LAN Control

Example:

Set gamma to 2.4:

```
TX:   54 50 01 00 00 00 00 00 00 00 00 42 00 00 00 00
      50 46 27 07 00 00 00 00 00 00 00 36 00 00 00 32
      23 64 65 67 61 6D 6D 61 2C 30 2C 30 2C 30 2C 30
      2C 30 2C 30 2C 69 6D 61 67 65 2C 64 65 67 61 6D
      6D 61 73 65 6C 65 63 74 2C 77 72 69 74 65 2C 34
      0D 00

RX:   74 50 01 00 00 00 00 00 00 00 00 1D 00 00 00 00
      70 46 27 07 00 00 00 00 00 00 00 11 00 00 00 00
      0C 64 65 67 61 6D 6D 61 2C 41 43 4B 00
```

3.7.2 RS232 Control

Example:

Set gamma to 2.4:

```
TX:   53 41 50 01 FF FF FF FF 00 00 00 52 00 00 00 00
      54 50 01 00 00 00 00 00 00 00 00 42 00 00 00 00
      50 46 27 07 00 00 00 00 00 00 00 36 00 00 00 32
      23 64 65 67 61 6D 6D 61 2C 30 2C 30 2C 30 2C 30
      2C 30 2C 30 2C 69 6D 61 67 65 2C 64 65 67 61 6D
      6D 61 73 65 6C 65 63 74 2C 77 72 69 74 65 2C 34
      0D 00

RX:   73 61 50 01 FF FF FF FF 00 00 00 00 00 00 00 00
      53 41 50 01 FF FF FF FF 00 00 00 2D 00 00 00 00
      74 50 01 00 00 00 00 00 00 00 00 1D 00 00 00 00
      70 46 27 07 00 00 00 00 00 00 00 11 00 00 00 00
      0C 64 65 67 61 6D 6D 61 2C 41 43 4B 00

TX:   73 61 50 01 FF FF FF FF 00 00 00 00 00 00 00 00
```

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3.8 Gamma Table Get

Description:

Get gamma table.

Gamma table can be one of the following values:

30 – Gamma 1.0
31 – Gamma 1.8
32 – Gamma 2.0
33 – Gamma 2.2
34 – Gamma 2.4
35 – Gamma 2.6
36 – Gamma 2.8

3.8.1 LAN Control

Example:

Get current gamma table:

```
TX:   54 50 01 00 00 00 00 00 00 00 00 41 00 00 00 00
      50 46 27 07 00 00 00 00 00 00 00 35 00 00 00 31
      23 64 65 67 61 6D 6D 61 2C 30 2C 30 2C 30 2C 30
      2C 30 2C 30 2C 69 6D 61 67 65 2C 64 65 67 61 6D
      6D 61 73 65 6C 65 63 74 2C 72 65 61 64 2C 31 0D
      00

RX:   74 50 01 00 00 00 00 00 00 00 00 1F 00 00 00 00
      70 46 27 07 00 00 00 00 00 00 00 13 00 00 00 00
      0E 64 65 67 61 6D 6D 61 2C 41 43 4B 2C 30 00
```

Indicates gamma is set to 1.0

3.8.2 RS232 Control

Example:

Get current gamma table:

```
TX:   73 61 50 01 FF FF FF FF 00 00 00 00 00 00 00 00
      53 41 50 01 FF FF FF FF 00 00 00 51 00 00 00 00
      54 50 01 00 00 00 00 00 00 00 00 41 00 00 00 00
      50 46 27 07 00 00 00 00 00 00 00 35 00 00 00 31
      23 64 65 67 61 6D 6D 61 2C 30 2C 30 2C 30 2C 30
      2C 30 2C 30 2C 69 6D 61 67 65 2C 64 65 67 61 6D
      6D 61 73 65 6C 65 63 74 2C 72 65 61 64 2C 30 0D
      00

RX:   73 61 50 01 FF FF FF FF 00 00 00 00 00 00 00 00
      53 41 50 01 FF FF FF FF 00 00 00 2F 00 00 00 00
      74 50 01 00 00 00 00 00 00 00 00 1F 00 00 00 00
      70 46 27 07 00 00 00 00 00 00 00 13 00 00 00 00
      0E 64 65 67 61 6D 6D 61 2C 41 43 4B 2C 32 00

TX:   73 61 50 01 FF FF FF FF 00 00 00 00 00 00 00 00
```

Indicates gamma is set to 1.0

3.9 Picture Mute Set

Description:

Mute or unmute the projected image.

Note:

There is no *Picture Mute Get* command.

3.9.1 LAN Control

Examples:

Turn picture mute on:

```
TX:   54 50 01 00 00 00 00 00 00 00 00 3D 00 00 00 00
      50 46 27 07 00 00 00 00 00 00 00 31 00 00 00 2D
      23 70 69 63 6D 75 74 65 2C 30 2C 30 2C 30 2C 30
      2C 30 2C 30 2C 69 6D 61 67 65 2C 70 69 63 6D 75
      74 65 2C 77 72 69 74 65 2C 6F 6E 0D 00

RX:   74 50 01 00 00 00 00 00 00 00 00 1D 00 00 00 00
      70 46 27 07 00 00 00 00 00 00 00 11 00 00 00 00
      0C 70 69 63 6D 75 74 65 2C 41 43 4B 00
```

Turn picture mute off:

```
TX:   54 50 01 00 00 00 00 00 00 00 00 3E 00 00 00 00
      50 46 27 07 00 00 00 00 00 00 00 32 00 00 00 2E
      23 70 69 63 6D 75 74 65 2C 30 2C 30 2C 30 2C 30
      2C 30 2C 30 2C 69 6D 61 67 65 2C 70 69 63 6D 75
      74 65 2C 77 72 69 74 65 2C 6F 66 66 0D 00

RX:   74 50 01 00 00 00 00 00 00 00 00 1D 00 00 00 00
      70 46 27 07 00 00 00 00 00 00 00 11 00 00 00 00
      0C 70 69 63 6D 75 74 65 2C 41 43 4B 00
```

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3.9.2 RS232 Control

Examples:

Turn picture mute on:

```
TX:  53 41 50 01 FF FF FF FF 00 00 00 4D 00 00 00 00
     54 50 01 00 00 00 00 00 00 00 00 3D 00 00 00 00
     50 46 27 07 00 00 00 00 00 00 00 31 00 00 00 2D
     23 70 69 63 6D 75 74 65 2C 30 2C 30 2C 30 2C 30
     2C 30 2C 30 2C 69 6D 61 67 65 2C 70 69 63 6D 75
     74 65 2C 77 72 69 74 65 2C 6F 6E 0D 00

RX:  73 61 50 01 FF FF FF FF 00 00 00 00 00 00 00 00
     53 41 50 01 FF FF FF FF 00 00 00 2D 00 00 00 00
     74 50 01 00 00 00 00 00 00 00 00 1D 00 00 00 00
     70 46 27 07 00 00 00 00 00 00 00 11 00 00 00 00
     0C 70 69 63 6D 75 74 65 2C 41 43 4B 00

TX:  73 61 50 01 FF FF FF FF 00 00 00 00 00 00 00 00
```

Turn picture mute off:

```
TX:  53 41 50 01 FF FF FF FF 00 00 00 4E 00 00 00 00
     54 50 01 00 00 00 00 00 00 00 00 3E 00 00 00 00
     50 46 27 07 00 00 00 00 00 00 00 32 00 00 00 2E
     23 70 69 63 6D 75 74 65 2C 30 2C 30 2C 30 2C 30
     2C 30 2C 30 2C 69 6D 61 67 65 2C 70 69 63 6D 75
     74 65 2C 77 72 69 74 65 2C 6F 66 66 0D 00

RX:  73 61 50 01 FF FF FF FF 00 00 00 00 00 00 00 00
     53 41 50 01 FF FF FF FF 00 00 00 2D 00 00 00 00
     74 50 01 00 00 00 00 00 00 00 00 1D 00 00 00 00
     70 46 27 07 00 00 00 00 00 00 00 11 00 00 00 00
     0C 70 69 63 6D 75 74 65 2C 41 43 4B 00

TX:  73 61 50 01 FF FF FF FF 00 00 00 00 00 00 00 00
```

3.10 Brightness Set

Description:

Sets brightness.

Brightness range 0000h – FFFFh, mid point 7FFFh.

Note:

This data is not persistent between power cycles unless followed by a *Brightness Save* command.

3.10.1 LAN Control

Example:

Set brightness to 7FFFh:

```
TX:   54 50 01 00 00 00 00 00 00 00 00 10 00 00 00 00
      50 46 00 68 00 00 00 00 00 00 00 04 7F FF FF FF

RX:   74 50 01 00 00 00 00 00 00 00 00 0D 00 00 00 00
      70 46 00 68 00 00 00 00 00 00 00 01 00
```

3.10.2 RS232 Control

Example:

Set brightness to 7FFFh:

```
TX:   53 41 50 01 FF FF FF FF 00 00 00 20 00 00 00 00
      54 50 01 00 00 00 00 00 00 00 00 10 00 00 00 00
      50 46 00 68 00 00 00 00 00 00 00 04 7F FF FF FF

RX:   73 61 50 01 FF FF FF FF 00 00 00 00 00 00 00 00
      53 41 50 01 FF FF FF FF 00 00 00 1D 00 00 00 00
      74 50 01 00 00 00 00 00 00 00 00 0D 00 00 00 00
      70 46 00 68 00 00 00 00 00 00 00 01 00

TX:   73 61 50 01 FF FF FF FF 00 00 00 00 00 00 00 00
```

3.11 Brightness Save

3.11.1 LAN Control

Example:

Save brightness:

```
TX:   54 50 01 00 00 00 00 00 00 00 00 0C 00 00 00 00
      50 46 00 7A 00 00 00 00 00 00 00 00

RX:   74 50 01 00 00 00 00 00 00 00 00 0D 00 00 00 00
      70 46 00 7A 00 00 00 00 00 00 00 01 00
```

3.11.2 RS232 Control

Example:

Save brightness:

```
TX:   53 41 50 01 FF FF FF FF 00 00 00 1C 00 00 00 00
      54 50 01 00 00 00 00 00 00 00 00 0C 00 00 00 00
      50 46 00 7A 00 00 00 00 00 00 00 00

TX:   73 61 50 01 FF FF FF FF 00 00 00 00 00 00 00 00
      53 41 50 01 FF FF FF FF 00 00 00 1D 00 00 00 00
      74 50 01 00 00 00 00 00 00 00 00 0D 00 00 00 00
      70 46 00 7A 00 00 00 00 00 00 00 01 00

TX:   73 61 50 01 FF FF FF FF 00 00 00 00 00 00 00 00
```

3.12 Brightness Get

Description:

Gets brightness.

Brightness range 0000h – FFFFh, mid point 7FFFh.

3.12.1 LAN Control

Example:

Get current brightness:

```
TX:   54 50 01 00 00 00 00 00 00 00 00 0D 00 00 00 00
      50 46 00 7B 00 00 00 00 00 00 00 01 00

RX:   74 50 01 00 00 00 00 00 00 00 00 11 00 00 00 00
      70 46 00 7B 00 00 00 00 00 00 00 05 00 7F FF FF
      FF
```

Indicates current brightness is set to 7FFFh.

3.12.2 RS232 Control

Example:

Get current brightness:

```
TX:  53 41 50 01 FF FF FF FF 00 00 00 1D 00 00 00 00
     54 50 01 00 00 00 00 00 00 00 00 0D 00 00 00 00
     50 46 00 7B 00 00 00 00 00 00 00 01 00

RX:  73 61 50 01 FF FF FF FF 00 00 00 00 00 00 00 00
     53 41 50 01 FF FF FF FF 00 00 00 21 00 00 00 00
     74 50 01 00 00 00 00 00 00 00 00 11 00 00 00 00
     70 46 00 7B 00 00 00 00 00 00 00 05 00 7F FF FF
     FF

TX:  73 61 50 01 FF FF FF FF 00 00 00 00 00 00 00 00
```

Indicates current brightness is set to 7FFFh.

3.13 Contrast Set

Description:

Sets contrast.

Contrast range 0000h – FFFFh, mid point 7FFFh.

Note:

This data is not persistent between power cycles unless followed by a *Contrast Save* command.

3.13.1 LAN Control

Example:

Set contrast to 7FFFh:

```
TX:   54 50 01 00 00 00 00 00 00 00 00 10 00 00 00 00
      50 46 00 7C 00 00 00 00 00 00 00 04 7F FF FF FF

RX:   74 50 01 00 00 00 00 00 00 00 00 0D 00 00 00 00
      70 46 00 7C 00 00 00 00 00 00 00 01 00
```

3.13.2 RS232 Control

Example:

Set contrast to 7FFFh:

```
TX:   53 41 50 01 FF FF FF FF 00 00 00 20 00 00 00 00
      54 50 01 00 00 00 00 00 00 00 00 10 00 00 00 00
      50 46 00 7C 00 00 00 00 00 00 00 04 7F FF FF FF

RX:   73 61 50 01 FF FF FF FF 00 00 00 00 00 00 00 00
      53 41 50 01 FF FF FF FF 00 00 00 1D 00 00 00 00
      74 50 01 00 00 00 00 00 00 00 00 0D 00 00 00 00
      70 46 00 7C 00 00 00 00 00 00 00 01 00

TX:   73 61 50 01 FF FF FF FF 00 00 00 00 00 00 00 00
```

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3.14 Contrast Save

3.14.1 LAN Control

Example:

Save contrast:

```
TX:  54 50 01 00 00 00 00 00 00 00 00 0C 00 00 00 00
     50 46 00 7D 00 00 00 00 00 00 00 00

RX:  74 50 01 00 00 00 00 00 00 00 00 0D 00 00 00 00
     70 46 00 7D 00 00 00 00 00 00 00 01 00
```

3.14.2 RS232 Control

Example:

Save contrast:

```
TX:   53 41 50 01 FF FF FF FF 00 00 00 1C 00 00 00 00
      54 50 01 00 00 00 00 00 00 00 00 0C 00 00 00 00
      50 46 00 7D 00 00 00 00 00 00 00 00

RX:   73 61 50 01 FF FF FF FF 00 00 00 00 00 00 00 00
      53 41 50 01 FF FF FF FF 00 00 00 1D 00 00 00 00
      74 50 01 00 00 00 00 00 00 00 00 0D 00 00 00 00
      70 46 00 7D 00 00 00 00 00 00 00 01 00

TX:   73 61 50 01 FF FF FF FF 00 00 00 00 00 00 00 00
```

3.15 Contrast Get

Description:

Gets contrast.

Brightness range 0000h – FFFFh, mid point 7FFFh.

3.15.1 LAN Control

Example:

Get current contrast level:

```
TX:   50 46 00 7E 00 00 00 00 00 00 00 01 00
      54 50 01 00 00 00 00 00 00 00 00 0D 00 00 00 00

RX:   74 50 01 00 00 00 00 00 00 00 00 11 00 00 00 00
      70 46 00 7E 00 00 00 00 00 00 00 05 00 7F FF FF
      FF
```

Indicates current contrast is set to 7FFFh.

3.15.2 RS232 Control

Example:

Get current contrast level:

```
TX:   53 41 50 01 FF FF FF FF 00 00 00 1D 00 00 00 00
      54 50 01 00 00 00 00 00 00 00 00 0D 00 00 00 00
      50 46 00 7E 00 00 00 00 00 00 00 01 00

RX:   73 61 50 01 FF FF FF FF 00 00 00 00 00 00 00 00
      53 41 50 01 FF FF FF FF 00 00 00 21 00 00 00 00
      74 50 01 00 00 00 00 00 00 00 00 11 00 00 00 00
      70 46 00 7E 00 00 00 00 00 00 00 05 00 7F FF FF
      FF

TX:   36 15 00 1F FF FF FF F0 00 00 00 00 00 00 00 00
```

Indicates current contrast is set to 7FFFh.

3.16 Image Orientation Set

Description:

Sets image orientation.

Image orientation can be one of the following values:

`30 30` – Desktop Front
`30 31` – Desktop Rear
`30 32` – Ceiling Front
`30 33` – Ceiling Rear

3.16.1 LAN Control

Example:

Set orientation to ceiling front:

```
TX:    54 50 01 00 00 00 00 00 00 00 00 40 00 00 00 00
       50 46 27 07 00 00 00 00 00 00 00 34 00 00 00 30
       23 6F 72 69 65 6E 74 2C 30 2C 30 2C 30 2C 30 2C
       30 2C 30 2C 69 6D 61 67 65 2C 69 6D 61 67 65 6F
       72 69 65 6E 74 2C 77 72 69 74 65 2C 30 32 0D 00

RX:    74 50 01 00 00 00 00 00 00 00 00 1D 00 00 00 00
       70 46 27 07 00 00 00 00 00 00 00 0D 00 00 00 00
       0B 6F 72 69 65 6E 74 2C 41 43 4B 00
```

3.16.2 RS232 Control

Example:

Set orientation to ceiling front:

```
TX:   53 41 50 01 FF FF FF FF 00 00 00 50 00 00 00 00
      54 50 01 00 00 00 00 00 00 00 00 40 00 00 00 00
      50 46 27 07 00 00 00 00 00 00 00 34 00 00 00 30
      23 6F 72 69 65 6E 74 2C 30 2C 30 2C 30 2C 30 2C
      30 2C 30 2C 69 6D 61 67 65 2C 69 6D 61 67 65 6F
      72 69 65 6E 74 2C 77 72 69 74 65 2C 30 32 0D 00

RX:   73 61 50 01 FF FF FF FF 00 00 00 00 00 00 00 00
      74 50 01 00 00 00 00 00 00 00 00 1D 00 00 00 00
      70 46 27 07 00 00 00 00 00 00 00 0D 00 00 00 00
      0B 6F 72 69 65 6E 74 2C 41 43 4B 00

TX:   73 61 50 01 FF FF FF FF 00 00 00 00 00 00 00 00
```

3.18 Image Orientation Get

Description:

Gets image orientation.

Image orientation can be one of the following values:

`30 30` – Desktop Front
`30 31` – Desktop Rear
`30 32` – Ceiling Front
`30 33` – Ceiling Rear

3.18.1 LAN Control

Example:

Get current image orientation:

```
TX:   54 50 01 00 00 00 00 00 00 00 00 0D 00 00 00 00
      50 46 00 8A 00 00 00 00 00 00 00 01 00

RX:   74 50 01 00 00 00 00 00 00 00 00 11 00 00 00 00
      70 46 00 8A 00 00 00 00 00 00 00 05 00 00 00 00
      03
```

Indicates current orientation is ceiling rear.

3.18.2 RS232 Control

Example:

Get current image orientation:

```
TX:  53 41 50 01 FF FF FF FF 00 00 00 1D 00 00 00 00
     54 50 01 00 00 00 00 00 00 00 00 0D 00 00 00 00
     50 46 00 8A 00 00 00 00 00 00 00 01 00

TX:  73 61 50 01 FF FF FF FF 00 00 00 00 00 00 00 00
     53 41 50 01 FF FF FF FF 00 00 00 21 00 00 00 00
     74 50 01 00 00 00 00 00 00 00 00 11 00 00 00 00
     70 46 00 8A 00 00 00 00 00 00 00 05 00 00 00 00
     03

TX:  73 61 50 01 FF FF FF FF 00 00 00 00 00 00 00 00
```

Indicates current orientation is ceiling rear.

3.19 Input Select Set

Description:

Sets input selection.

Input selection can be one of the following values:

00 – Composite 1   04 – VGA   08 – Test Pattern
01 – Composite 2   05 – HDSDI
02 – S-Video   06 – DVI
03 – Component   07 – HDMI

3D capable models also allow the following values:

09 – Main / DVI
0A – Sub / HDMI
0B – Dual Pipe

Note:

This data is not persistent between power cycles unless followed by an *Input Select Save* command.

3.19.1 LAN Control

Example:

Set input selection to DVI:

```
TX:   54 50 01 00 00 00 00 00 00 00 00 10 00 00 00 00
      50 46 01 3E 00 00 00 00 00 00 00 04 00 00 00 06

RX:   74 50 01 00 00 00 00 00 00 00 00 0D 00 00 00 00
      70 46 01 3E 00 00 00 00 00 00 00 01 00
```

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3.19.2 RS232 Control

Example:

Set input selection to DVI:

```
TX:   53 41 50 01 FF FF FF FF 00 00 00 20 00 00 00 00
      54 50 01 00 00 00 00 00 00 00 00 10 00 00 00 00
      50 46 01 3E 00 00 00 00 00 00 00 40 00 00 00 00 06

RX:   73 61 50 01 FF FF FF FF 00 00 00 00 00 00 00 00
      53 41 50 01 FF FF FF FF 00 00 00 1D 00 00 00 00
      74 50 01 00 00 00 00 00 00 00 00 0D 00 00 00 00
      70 46 01 3E 00 00 00 00 00 00 00 01 00

TX:   73 61 50 01 FF FF FF FF 00 00 00 00 00 00 00 00
```

3.20 Input Select Save

3.20.1 LAN Control

Example:

Save input selection:

```
TX:   54 50 01 00 00 00 00 00 00 00 00 0C 00 00 00 00
      50 46 01 3F 00 00 00 00 00 00 00 00

RX:   74 50 01 00 00 00 00 00 00 00 00 0D 00 00 00 00
      70 46 01 3F 00 00 00 00 00 00 00 01 00
```

3.20.2 RS232 Control

Example:

Save input selection:

```
TX:   53 41 50 01 FF FF FF FF 00 00 00 1C 00 00 00 00
      54 50 01 00 00 00 00 00 00 00 00 0C 00 00 00 00
      50 46 01 3F 00 00 00 00 00 00 00 00

RX:   73 61 50 01 FF FF FF FF 00 00 00 00 00 00 00 00
      53 41 50 01 FF FF FF FF 00 00 00 1D 00 00 00 00
      74 50 01 00 00 00 00 00 00 00 00 0D 00 00 00 00
      70 46 01 3F 00 00 00 00 00 00 00 01 00

TX:   73 61 50 01 FF FF FF FF 00 00 00 00 00 00 00 00
```

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3.21 Input Select Get

Description:

Gets input selection.

Input selection can be one of the following values:

00 – Composite 1	04 – VGA	08 – Test Pattern
01 – Composite 2	05 – HDSDI	
02 – S-Video	06 – DVI	
03 – Component	07 – HDMI	

3D capable models also allow the following values:

09 – Main / DVI
0A – Sub / HDMI
0B – Dual Pipe

3.21.1 LAN Control

Example:

Get current input selection:

```
TX:   54 50 01 00 00 00 00 00 00 00 00 0D 00 00 00 00
      50 46 01 40 00 00 00 00 00 00 00 01 00

RX:   74 50 01 00 00 00 00 00 00 00 00 11 00 00 00 00
      70 46 01 40 00 00 00 00 00 00 00 05 00 00 00 00
      03
```

Indicates current input is component.

3.21.2 RS232 Control

Example:

Get current input selection:

```
TX:   53 41 50 01 FF FF FF FF 00 00 00 1D 00 00 00 00
      54 50 01 00 00 00 00 00 00 00 00 0D 00 00 00 00
      50 46 01 40 00 00 00 00 00 00 00 01 00


RX:   73 61 50 01 FF FF FF FF 00 00 00 00 00 00 00 00
      53 41 50 01 FF FF FF FF 00 00 00 21 00 00 00 00
      74 50 01 00 00 00 00 00 00 00 00 11 00 00 00 00
      70 46 01 40 00 00 00 00 00 00 00 05 00 00 00 00
      03

TX:   73 61 50 01 FF FF FF FF 00 00 00 00 00 00 00 00
```

Indicates current input is component.

3.22 Aspect Ratio Set

Description:

Sets aspect ratio.

Aspect ratio can be one of the following values:

00 – Standard
01 – Full Screen
02 – Crop
03 – Anamorphic
04 – TheaterScope

Notes:

This data is not persistent between power cycles unless followed by an *Aspect Ratio Save* command.
TheaterScope is only avalable on projectors with Scaler software
BL07 FW 2-5-0J 0174 DP or later installed.

3.22.1 LAN Control

Example:

Set aspect ratio to full screen:

```
TX:   54 50 01 00 00 00 00 00 00 00 00 10 00 00 00 00
      50 46 00 BA 00 00 00 00 00 00 00 04 00 00 00 01

RX:   74 50 01 00 00 00 00 00 00 00 00 0D 00 00 00 00
      70 46 00 BA 00 00 00 00 00 00 00 01 00
```

3.22.2 RS232 Control

Example:

Set aspect ratio to full screen:

```
TX:   53 41 50 01 FF FF FF FF 00 00 00 20 00 00 00 00
      54 50 01 00 00 00 00 00 00 00 00 10 00 00 00 00
      50 46 00 BA 00 00 00 00 00 00 00 04 00 00 00 01

RX:   73 61 50 01 FF FF FF FF 00 00 00 00 00 00 00 00
      53 41 50 01 FF FF FF FF 00 00 00 1D 00 00 00 00
      74 50 01 00 00 00 00 00 00 00 00 0D 00 00 00 00
      70 46 00 BA 00 00 00 00 00 00 00 01 00

TX:   73 61 50 01 FF FF FF FF 00 00 00 00 00 00 00 00
```

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3.23 Aspect Ratio Save

Example:

Save aspect ratio:

3.23.1 LAN Control

```
TX:  54 50 01 00 00 00 00 00 00 00 00 0C 00 00 00 00
     50 46 00 BB 00 00 00 00 00 00 00 00

RX:  74 50 01 00 00 00 00 00 00 00 00 0D 00 00 00 00
     70 46 00 BB 00 00 00 00 00 00 00 01 00
```

3.23.2 RS232 Control

Example:

Save aspect ratio:

```
TX:   53 41 50 01 FF FF FF FF 00 00 00 1C 00 00 00 00
      54 50 01 00 00 00 00 00 00 00 00 0C 00 00 00 00
      50 46 00 BB 00 00 00 00 00 00 00 00

RX:   73 61 50 01 FF FF FF FF 00 00 00 00 00 00 00 00
      53 41 50 01 FF FF FF FF 00 00 00 1D 00 00 00 00
      74 50 01 00 00 00 00 00 00 00 00 0D 00 00 00 00
      70 46 00 BB 00 00 00 00 00 00 00 01 00

TX:   73 61 50 01 FF FF FF FF 00 00 00 00 00 00 00 00
```

3.24 Aspect Ratio Get

Description:

Gets aspect ratio.

Aspect ratio can be one of the following values:

00 – Standard
01 – Full Screen
02 – Crop
03 – Anamorphic
04 – TheaterScope

Note:

TheaterScope is only avalable on projectors with Scaler software
BL07 FW 2-5-0J 0174 DP or later installed.

3.24.1 LAN Control

Example:

Get current aspect ratio:

```
TX:   54 50 01 00 00 00 00 00 00 00 00 0D 00 00 00 00
      50 46 00 BC 00 00 00 00 00 00 00 01 00

RX:   74 50 01 00 00 00 00 00 00 00 00 11 00 00 00 00
      70 46 00 BC 00 00 00 00 00 00 00 05 00 00 00 00
      02
```

Indicates that the current aspect ratio is crop.

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3.24.2 RS232 Control

Example:

Get current aspect ratio:

```
TX:   53 41 50 01 FF FF FF FF 00 00 00 1D 00 00 00 00
      54 50 01 00 00 00 00 00 00 00 00 0D 00 00 00 00
      50 46 00 BC 00 00 00 00 00 00 00 01 00

RX:   73 61 50 01 FF FF FF FF 00 00 00 00 00 00 00 00
      53 41 50 01 FF FF FF FF 00 00 00 21 00 00 00 00
      74 50 01 00 00 00 00 00 00 00 00 11 00 00 00 00
      70 46 00 BC 00 00 00 00 00 00 00 05 00 00 00 00
      02

TX:   73 61 50 01 FF FF FF FF 00 00 00 00 00 00 00 00
```

Indicates that the current aspect ratio is crop.

3.25 Colour Mode Set

Description:

Sets colour mode.

Colour mode can be one of the following values:

30 30 – Peak   30 34 – 5400K   30 38 – User 1
30 31 – HDTV   30 35 – 6500K   30 39 – User 2
30 32 – SDTV   30 36 – 8000K
30 33 – 3200K   30 37 – 9000K

3.25.1 LAN Control

Example:

Set colour mode to HDTV:

```
TX:   54 50 01 00 00 00 00 00 00 00 00 43 00 00 00 00
      50 46 27 07 00 00 00 00 00 00 00 37 00 00 00 33
      23 70 37 74 61 62 6C 65 2C 30 2C 30 2C 30 2C 30
      2C 30 2C 30 2C 69 6D 61 67 65 2C 70 37 74 61 62
      6C 65 73 65 6C 65 63 74 2C 77 72 69 74 65 2C 30
      31 0D 00

RX:   74 50 01 00 00 00 00 00 00 00 00 1D 00 00 00 00
      70 46 27 07 00 00 00 00 00 00 00 11 00 00 00 00
      0C 70 37 74 61 62 6C 65 2C 41 43 4B 00
```

3.25.2 RS232 Control

Example:

Set colour mode to 5400K:

```
TX:  53 41 50 01 FF FF FF FF 00 00 00 53 00 00 00 00
     54 50 01 00 00 00 00 00 00 00 00 43 00 00 00 00
     50 46 27 07 00 00 00 00 00 00 00 37 00 00 00 33
     23 70 37 74 61 62 6C 65 2C 30 2C 30 2C 30 2C 30
     2C 30 2C 30 2C 69 6D 61 67 65 2C 70 37 74 61 62
     6C 65 73 65 6C 65 63 74 2C 77 72 69 74 65 2C 30
     34 0D 00

RX:  73 61 50 01 FF FF FF FF 00 00 00 00 00 00 00 00
     53 41 50 01 FF FF FF FF 00 00 00 2D 00 00 00 00
     74 50 01 00 00 00 00 00 00 00 00 1D 00 00 00 00
     70 46 27 07 00 00 00 00 00 00 00 11 00 00 00 00
     0C 70 37 74 61 62 6C 65 2C 41 43 4B 00

TX:  73 61 50 01 FF FF FF FF 00 00 00 00 00 00 00 00
```

3.26 Colour Mode Get

Description:

Gets colour mode.

Colour mode can be one of the following values:

30 30 – Peak	30 34 – 5400K	30 38 – User 1
30 31 – HDTV	30 35 – 6500K	30 39 – User 2
30 32 – SDTV	30 36 – 8000K	
30 33 – 3200K	30 37 – 9000K	

3.26.1 LAN Control

Example:

Get current colour mode:

```
TX:  54 50 01 00 00 00 00 00 00 00 00 41 00 00 00 00
     50 46 27 07 00 00 00 00 00 00 00 35 00 00 00 31
     23 70 37 74 61 62 6C 65 2C 30 2C 30 2C 30 2C 30
     2C 30 2C 30 2C 69 6D 61 67 65 2C 70 37 74 61 62
     6C 65 73 65 6C 65 63 74 2C 72 65 61 64 2C 31 0D
     00

RX:  74 50 01 00 00 00 00 00 00 00 00 20 00 00 00 00
     70 46 27 07 00 00 00 00 00 00 00 14 00 00 00 00
     0F 70 37 74 61 62 6C 65 2C 41 43 4B 2C 30 37 00
```

Indicates that the current colour mode is set to 9000K.

3.26.2 RS232 Control

Example:

Get current colour mode:

```
TX:   53 41 50 01 FF FF FF FF 00 00 00 51 00 00 00 00
      54 50 01 00 00 00 00 00 00 00 00 41 00 00 00 00
      50 46 27 07 00 00 00 00 00 00 00 35 00 00 00 31
      23 70 37 74 61 62 6C 65 2C 30 2C 30 2C 30 2C 30
      2C 30 2C 30 2C 69 6D 61 67 65 2C 70 37 74 61 62
      6C 65 73 65 6C 65 63 74 2C 72 65 61 64 2C 31 0D
      00

RX:   73 61 50 01 FF FF FF FF 00 00 00 00 00 00 00 00
      53 41 50 01 FF FF FF FF 00 00 00 30 00 00 00 00
      74 50 01 00 00 00 00 00 00 00 00 20 00 00 00 00
      70 46 27 07 00 00 00 00 00 00 00 14 00 00 00 00
      0F 70 37 74 61 62 6C 65 2C 41 43 4B 2C 30 37 00

TX:   73 61 50 01 FF FF FF FF 00 00 00 00 00 00 00 00
```

Indicates that the current colour mode is set to 9000K.

3.27 Edge Blend Set

Description:

Sets Edge Blend.

Note:

This data is not persistent between power cycles unless followed by an *Edge Blend Save* command.

3.27.1 LAN Control

Example:

Enable Edge Blend:

```
TX:  54 50 01 00 00 00 00 00 00 00 00 10 00 00 00 00
     50 46 0C 28 00 00 00 00 00 00 00 04 00 00 00 01

RX:  74 50 01 00 00 00 00 00 00 00 00 0D 00 00 00 00
     70 46 0C 28 00 00 00 00 00 00 00 01 00
```

Disable Edge Blend:

```
TX:  54 50 01 00 00 00 00 00 00 00 00 10 00 00 00 00
     50 46 0C 28 00 00 00 00 00 00 00 04 00 00 00 00

RX:  74 50 01 00 00 00 00 00 00 00 00 0D 00 00 00 00
     70 46 0C 28 00 00 00 00 00 00 00 01 00
```


Edge Blend Alignment Pattern:

```
TX:  54 50 01 00 00 00 00 00 00 00 00 10 00 00 00 00
     50 46 0C 28 00 00 00 00 00 00 00 04 00 00 00 02

RX:  74 50 01 00 00 00 00 00 00 00 00 0D 00 00 00 00
     70 46 0C 28 00 00 00 00 00 00 00 01 00
```

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3.27.2 RS232 Control

Example:

Enable Edge Blend:

```
TX:   53 41 50 01 FF FF FF FF 00 00 00 20 00 00 00 00
      54 50 01 00 00 00 00 00 00 00 00 10 00 00 00 00
      50 46 0C 28 00 00 00 00 00 00 00 04 00 00 00 01

RX:   73 61 50 01 FF FF FF FF 00 00 00 00 00 00 00 00
      53 41 50 01 FF FF FF FF 00 00 00 1D 00 00 00 00
      74 50 01 00 00 00 00 00 00 00 00 0D 00 00 00 00
      70 46 0C 28 00 00 00 00 00 00 00 01 00

TX:   73 61 50 01 FF FF FF FF 00 00 00 00 00 00 00 00
```

Disable Edge Blend:

```
TX:   53 41 50 01 FF FF FF FF 00 00 00 20 00 00 00 00
      54 50 01 00 00 00 00 00 00 00 00 10 00 00 00 00
      50 46 0C 28 00 00 00 00 00 00 00 04 00 00 00 00

RX:   73 61 50 01 FF FF FF FF 00 00 00 00 00 00 00 00
      53 41 50 01 FF FF FF FF 00 00 00 1D 00 00 00 00
      74 50 01 00 00 00 00 00 00 00 00 0D 00 00 00 00
      70 46 0C 28 00 00 00 00 00 00 00 01 00

TX:   73 61 50 01 FF FF FF FF 00 00 00 00 00 00 00 00
```

Edge Blend Alignment Pattern:

```
TX:   53 41 50 01 FF FF FF FF 00 00 00 20 00 00 00 00
      54 50 01 00 00 00 00 00 00 00 00 10 00 00 00 00
      50 46 0C 28 00 00 00 00 00 00 00 04 00 00 00 02

RX:   73 61 50 01 FF FF FF FF 00 00 00 00 00 00 00 00
      53 41 50 01 FF FF FF FF 00 00 00 1D 00 00 00 00
      74 50 01 00 00 00 00 00 00 00 00 0D 00 00 00 00
      70 46 0C 28 00 00 00 00 00 00 00 01 00

TX:   73 61 50 01 FF FF FF FF 00 00 00 00 00 00 00 00
```

3.28 Edge Blend Save

Description:

Save Edge Blend

3.28.1 LAN Control

Example:

Save Edge Blend:

```
TX:  54 50 01 00 00 00 00 00 00 00 00 0C 00 00 00 00
     50 46 0C 2A 00 00 00 00 00 00 00 00

RX:  74 50 01 00 00 00 00 00 00 00 00 0D 00 00 00 00
     70 46 0C 2A 00 00 00 00 00 00 00 01 00
```

3.28.2 RS232 Control

Example:

Save Edge Blend:

```
TX:  53 41 50 01 FF FF FF FF 00 00 00 1C 00 00 00 00
     54 50 01 00 00 00 00 00 00 00 00 0C 00 00 00 00
     50 46 0C 2A 00 00 00 00 00 00 00 00

RX:  73 61 50 01 FF FF FF FF 00 00 00 00 00 00 00 00
     53 41 50 01 FF FF FF FF 00 00 00 1D 00 00 00 00
     74 50 01 00 00 00 00 00 00 00 00 0D 00 00 00 00
     70 46 0C 2A 00 00 00 00 00 00 00 01 00

TX:  73 61 50 01 FF FF FF FF 00 00 00 00 00 00 00 00
```

3.29 Lamp Hours Get

Description:

Gets lamp hours.

Lamp number can be one of

31 – Lamp 1
32 – Lamp 2
33 – Lamp 3
34 – Lamp 4

Note:

The number of lamps fitted is model dependent.

3.29.1 LAN Control

Example:

Get lamp 2 hours:

```
TX:   54 50 01 00 00 00 00 00 00 00 00 3E 00 00 00 00 50
      46 27 07 00 00 00 00 00 00 00 32 00 00 00 2E 23 6C
      61 6D 70 74 69 6D 65 2C 30 2C 30 2C 30 2C 30 2C 30
      2C 30 2C 73 79 73 74 65 6D 2C 6C 61 6D 70 74 69 6D
      65 2C 72 65 61 64 2C 32 0D 00
```

```
RX:   74 50 01 00 00 00 00 00 00 00 00 26 00 00 00 00 70
      46 27 07 00 00 00 00 00 00 00 1A 00 00 00 00 15 6C
      61 6D 70 74 69 6D 65 2C 41 43 4B 2C 32 2C 36 33 3A
      32 35 00
```

32 2C 36 33 3A 32 35 = ASCII representation of 2,63:25

Indicates lamp 2 hours is 63 hours 25 minutes

3.29.2 RS232 Control

Example:

Get lamp 1 hours:

```
TX:  53 41 50 01 FF FF FF FF 00 00 00 4E 00 00 00 00 54
     50 01 00 00 00 00 00 00 00 00 3E 00 00 00 00 50 46
     27 07 00 00 00 00 00 00 00 32 00 00 00 2E 23 6C 61
     6D 70 74 69 6D 65 2C 30 2C 30 2C 30 2C 30 2C 30 2C
     30 2C 73 79 73 74 65 6D 2C 6C 61 6D 70 74 69 6D 65
     2C 72 65 61 64 2C 31 0D 00

RX:  73 61 50 01 FF FF FF FF 00 00 00 00 00 00 00 00 53
     41 50 01 FF FF FF FF 00 00 00 35 00 00 00 00 74 50
     01 00 00 00 00 00 00 00 00 25 00 00 00 00 70 46 27
     07 00 00 00 00 00 00 00 19 00 00 00 00 14 6C 61 6D
     70 74 69 6D 65 2C 41 43 4B 2C 31 2C 36 38 3A 30 00

TX:  73 61 50 01 FF FF FF FF 00 00 00 00 00 00 00 00
```

31 2C 36 38 3A 30 = ASCII representation of 1,68:0

Indicates lamp 1 hours is 68 hours 0 minutes

3.30 Segmentation Set

Description:

Sets Segmentation.

Note:

This data is not persistent between power cycles unless followed by a *Segmentation Save* command.

3.30.1 LAN Control

Example:

Enable Segmentation:

```
TX:   54 50 01 00 00 00 00 00 00 00 00 10 00 00 00 00
      50 46 0C 61 00 00 00 00 00 00 00 04 00 00 00 01

RX:   74 50 01 00 00 00 00 00 00 00 00 0D 00 00 00 00
      70 46 0C 61 00 00 00 00 00 00 00 01 00
```

Disable Segmentation:

```
TX:   54 50 01 00 00 00 00 00 00 00 00 10 00 00 00 00
      50 46 0C 61 00 00 00 00 00 00 00 04 00 00 00 00

RX:   74 50 01 00 00 00 00 00 00 00 00 0D 00 00 00 00
      70 46 0C 61 00 00 00 00 00 00 00 01 00
```

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3.30.2 RS232 Control

Example:

Enable Segmentation:

```
TX:  53 41 50 01 FF FF FF FF 00 00 00 20 00 00 00 00
     54 50 01 00 00 00 00 00 00 00 00 10 00 00 00 00
     50 46 0C 61 00 00 00 00 00 00 00 04 00 00 00 01

RX:  73 61 50 01 FF FF FF FF 00 00 00 00 00 00 00 00
     53 41 50 01 FF FF FF FF 00 00 00 1D 00 00 00 00
     74 50 01 00 00 00 00 00 00 00 00 0D 00 00 00 00
     70 46 0C 61 00 00 00 00 00 00 00 01 00

TX:  73 61 50 01 FF FF FF FF 00 00 00 00 00 00 00 00
```

Disable Segmentation:

```
TX:  53 41 50 01 FF FF FF FF 00 00 00 20 00 00 00 00
     54 50 01 00 00 00 00 00 00 00 00 10 00 00 00 00
     50 46 0C 61 00 00 00 00 00 00 00 04 00 00 00 00

RX:  73 61 50 01 FF FF FF FF 00 00 00 00 00 00 00 00
     53 41 50 01 FF FF FF FF 00 00 00 1D 00 00 00 00
     74 50 01 00 00 00 00 00 00 00 00 0D 00 00 00 00
     70 46 0C 61 00 00 00 00 00 00 00 01 00

TX:  73 61 50 01 FF FF FF FF 00 00 00 00 00 00 00 00
```

3.31 Segmentation Save

Description:

Save Segmentation

3.31.1 LAN Control

Example:

Save Segmentation Blend:

```
TX:  54 50 01 00 00 00 00 00 00 00 00 0C 00 00 00 00
     50 46 0C 63 00 00 00 00 00 00 00 00

RX:  74 50 01 00 00 00 00 00 00 00 00 0D 00 00 00 00
     70 46 0C 63 00 00 00 00 00 00 00 01 00
```

3.31.2 RS232 Control

Example:

Save Segmentation:

```
TX:  53 41 50 01 FF FF FF FF 00 00 00 1C 00 00 00 00
     54 50 01 00 00 00 00 00 00 00 00 0C 00 00 00 00
     50 46 0C 63 00 00 00 00 00 00 00 00

RX:  73 61 50 01 FF FF FF FF 00 00 00 00 00 00 00 00
     53 41 50 01 FF FF FF FF 00 00 00 1D 00 00 00 00
     74 50 01 00 00 00 00 00 00 00 00 0D 00 00 00 00
     70 46 0C 63 00 00 00 00 00 00 00 01 00

TX:  73 61 50 01 FF FF FF FF 00 00 00 00 00 00 00 00
```

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112-166	G	SHEET 69

3.32 3D Enable Set

Description:

Turn 3D on and off.

Enable can be one of:

30 – 3D off
31 – 3D on

Note:

Only available on 3D capable projector models

3.32.1 LAN Control

Example:

Enable 3D:

```
TX:   54 50 01 00 00 00 00 00 00 00 00 3F 00 00 00 00
      50 46 27 07 00 00 00 00 00 00 00 33 00 00 00 2F
      23 33 64 73 65 6C 65 63 74 2C 30 2C 30 2C 30 2C
      30 2C 30 2C 30 2C 69 6D 61 67 65 2C 33 64 73 65
      6C 65 63 74 2C 77 72 69 74 65 2C 30 31 0D 00

RX:   74 50 01 00 00 00 00 00 00 00 00 1E 00 00 00 00
      70 46 27 07 00 00 00 00 00 00 00 0E 00 00 00 00
      0D 33 64 73 65 6C 65 63 74 2C 41 43 4B 00
```

3.32.2 RS232 Control

Example:

Enable 3D:

```
TX:   73 61 50 01 FF FF FF FF 00 00 00 00 00 00 00 00
      53 41 50 01 FF FF FF FF 00 00 00 4F 00 00 00 00
      54 50 01 00 00 00 00 00 00 00 00 3F 00 00 00 00
      50 46 27 07 00 00 00 00 00 00 00 33 00 00 00 2F
      23 33 64 73 65 6C 65 63 74 2C 30 2C 30 2C 30 2C
      30 2C 30 2C 30 2C 69 6D 61 67 65 2C 33 64 73 65
      6C 65 63 74 2C 77 72 69 74 65 2C 30 31 0D 00

RX:   73 61 50 01 FF FF FF FF 00 00 00 00 00 00 00 00
      74 50 01 00 00 00 00 00 00 00 00 1E 00 00 00 00
      70 46 27 07 00 00 00 00 00 00 00 12 00 00 00 00
      0D 33 64 73 65 6C 65 63 74 2C 41 43 4B 00
```

3.33 3D Enable Get

Description:

Get the current status of 3D enable.

Enable can be one of:

30 – 3D off
31 – 3D on

Note:

Only available on 3D capable projector models

3.33.1 LAN Control

Example:

```
TX:   54 50 01 00 00 00 00 00 00 00 00 3B 00 00 00 00
      50 46 27 07 00 00 00 00 00 00 00 2F 00 00 00 2B
      23 33 64 73 65 6C 65 63 74 2C 30 2C 30 2C 30 2C
      30 2C 30 2C 30 2C 69 6D 61 67 65 2C 33 64 73 65
      6C 65 63 74 2C 72 65 61 64 00 0D

RX:   74 74 50 01 00 00 00 00 00 00 00 22 00 00 00 00
      70 46 27 07 00 00 00 00 00 00 00 12 00 00 00 00
      11 33 64 73 65 6C 65 63 74 2C 41 43 4B 2C 30 31
      0D 00
```

Indicates that 3D is on

3.33.2 RS232 Control

Example:

```
TX:   53 41 50 01 FF FF FF FF 00 00 00 4B 00 00 00 00
      54 50 01 00 00 00 00 00 00 00 00 3B 00 00 00 00
      50 46 27 07 00 00 00 00 00 00 00 2F 00 00 00 2B
      23 33 64 73 65 6C 65 63 74 2C 30 2C 30 2C 30 2C
      30 2C 30 2C 30 2C 69 6D 61 67 65 2C 33 64 73 65
      6C 65 63 74 2C 72 65 61 64 0D 00

RX:   73 61 50 01 FF FF FF FF 00 00 00 00 00 00 00 00
      53 41 50 01 FF FF FF FF 00 00 00 32 00 00 00 00
      74 74 50 01 00 00 00 00 00 00 00 22 00 00 00 00
      70 46 27 07 00 00 00 00 00 00 00 14 00 00 00 00
      11 33 64 73 65 6C 65 63 74 2C 41 43 4B 2C 30 31
      0D 00

TX:   73 61 50 01 FF FF FF FF 00 00 00 00 00 00 00 00
```

Indicates that 3D is on

3.34 3D Dark Time Set

Description:

Adjust the dark time .

Dark Time can be one of:

30 – 0μs
31 – 650μs
32 – 1300μs
33 – 7500μs

Note:

Only available on 3D capable projector models

3.34.1 LAN Control

Example:

Set Dark Time to 1300μs:

```
TX:  54 50 01 00 00 00 00 00 00 00 00 49 00 00 00 00
     50 46 27 07 00 00 00 00 00 00 00 3D 00 00 00 39
     23 33 64 64 61 72 6B 74 69 6D 65 2C 30 2C 30 2C
     30 2C 30 2C 30 2C 30 2C 69 6D 61 67 65 2C 33 64
     64 61 72 6B 74 69 6D 65 61 64 6A 75 73 74 2C 77
     72 69 74 65 2C 30 32 0D 00

RX:  74 50 01 00 00 00 00 00 00 00 00 20 00 00 00 00
     70 46 27 07 00 00 00 00 00 00 00 10 00 00 00 00
     0F 33 64 64 61 72 6B 74 69 6D 65 2C 41 43 4B 00
```

3.34.2 RS232 Control

Example:

Set Dark Time to 1300μs:

```
TX:   53 41 50 01 FF FF FF FF 00 00 00 58 00 00 00 00
      54 50 01 00 00 00 00 00 00 00 00 48 00 00 00 00
      50 46 27 07 00 00 00 00 00 00 00 3C 00 00 00 38
      23 33 64 64 61 72 6B 74 69 6D 65 2C 30 2C 30 2C
      30 2C 30 2C 30 2C 30 2C 69 6D 61 67 65 2C 33 64
      64 61 72 6B 74 69 6D 65 61 64 6A 75 73 74 2C 77
      72 69 74 65 2C 30 32 0D 00

RX:   73 61 50 01 FF FF FF FF 00 00 00 00 00 00 00 00
      74 50 01 00 00 00 00 00 00 00 00 20 00 00 00 00
      70 46 27 07 00 00 00 00 00 00 00 10 00 00 00 00
      0F 33 64 64 61 72 6B 74 69 6D 65 2C 41 43 4B 00

TX:   73 61 50 01 FF FF FF FF 00 00 00 00 00 00 00 00
```

3.35 3D Dark Time Get

Description:

Get the currently set dark time .

Dark Time can be one of:

30 – 0µs
31 – 650µs
32 – 1300µs
33 – 7500µs

Note:

Only available on 3D capable projector models

3.35.1 LAN Control

Example:

```
TX:  54 50 01 00 00 00 00 00 00 00 00 43 00 00 00 00
     50 46 27 07 00 00 00 00 00 00 00 37 00 00 00 33
     23 64 61 72 6B 74 69 6D 65 2C 30 2C 30 2C 30 2C
     30 2C 30 2C 30 2C 69 6D 61 67 65 2C 33 64 64 61
     72 6B 74 69 6D 65 61 64 6A 75 73 74 2C 72 65 61
     64 0D 00

RX:  74 74 50 01 00 00 00 00 00 00 00 21 00 00 00 00
     70 46 27 07 00 00 00 00 00 00 00 11 00 00 00 00
     10 64 61 72 6B 74 69 6D 65 2C 41 43 4B 2C 30 33
     00
```

Indicates that the dark time is currently 7500µs

3.35.2 RS232 Control

Example:

```
TX:   53 41 50 01 FF FF FF FF 00 00 00 53 00 00 00 00
      54 50 01 00 00 00 00 00 00 00 00 43 00 00 00 00
      50 46 27 07 00 00 00 00 00 00 00 37 00 00 00 33
      23 64 61 72 6B 74 69 6D 65 2C 30 2C 30 2C 30 2C
      30 2C 30 2C 30 2C 69 6D 61 67 65 2C 33 64 64 61
      72 6B 74 69 6D 65 61 64 6A 75 73 74 2C 72 65 61
      64 0D 00

RX:   73 61 50 01 FF FF FF FF 00 00 00 00 00 00 00 00
      74 74 50 01 00 00 00 00 00 00 00 21 00 00 00 00
      70 46 27 07 00 00 00 00 00 00 00 11 00 00 00 00
      10 64 61 72 6B 74 69 6D 65 2C 41 43 4B 2C 30 33
      00

RX:   73 61 50 01 FF FF FF FF 00 00 00 00 00 00 00 00
```

Indicates that the dark time is currently 7500µs

3.36 3D Frame Rate Multiplier Set

Description:

Set the frame rate multiplication factor

Frame rate multiplier can be one of:

30 – x1
31 – x2
32 – x3

Note:

Only available on 3D capable projector models

3.36.1 LAN Control

Example:

Set frame rate multiplier to x3:

```
TX:   54 50 01 00 00 00 00 00 00 00 00 48 00 00 00 00
      50 46 27 07 00 00 00 00 00 00 00 3C 00 00 00 38
      23 6D 75 6C 74 69 70 6C 69 65 72 2C 30 2C 30 2C
      30 2C 30 2C 30 2C 30 2C 69 6D 61 67 65 2C 33 64
      66 72 61 6D 65 72 61 74 65 6D 75 6C 74 2C 77 72
      69 74 65 2C 30 32 0D 00

RX:   74 50 01 00 00 00 00 00 00 00 00 20 00 00 00 00
      70 46 27 07 00 00 00 00 00 00 00 10 00 00 00 00
      0F 6D 75 6C 74 69 70 6C 69 65 72 2C 41 43 4B 00
```

3.36.2 RS232 Control

Example:

Set frame rate multiplier to x3:

```
TX:  53 41 50 01 FF FF FF FF 00 00 00 58 00 00 00 00
     54 50 01 00 00 00 00 00 00 00 00 48 00 00 00 00
     50 46 27 07 00 00 00 00 00 00 00 3C 00 00 00 38
     23 6D 75 6C 74 69 70 6C 69 65 72 2C 30 2C 30 2C
     30 2C 30 2C 30 2C 30 2C 69 6D 61 67 65 2C 33 64
     66 72 61 6D 65 72 61 74 65 6D 75 6C 74 2C 77 72
     69 74 65 2C 30 32 0D 00

RX:  73 61 50 01 FF FF FF FF 00 00 00 00 00 00 00 00
     74 50 01 00 00 00 00 00 00 00 00 20 00 00 00 00
     70 46 27 07 00 00 00 00 00 00 00 10 00 00 00 00
     0F 6D 75 6C 74 69 70 6C 69 65 72 2C 41 43 4B 00

TX:  73 61 50 01 FF FF FF FF 00 00 00 00 00 00 00 00
```

3.37 3D Frame Rate Multiplier Get

Description:

Get the current frame rate multiplication factor

Frame rate multiplier can be one of:

30 – x1
31 – x2
32 – x3

Note:

Only available on 3D capable projector models

3.37.1 LAN Control

Example:

```
TX:   54 50 01 00 00 00 00 00 00 00 00 44 00 00 00 00
      50 46 27 07 00 00 00 00 00 00 00 38 00 00 00 34
      23 6D 75 6C 74 69 70 6C 69 65 72 2C 30 2C 30 2C
      30 2C 30 2C 30 2C 30 2C 69 6D 61 67 65 2C 33 64
      66 72 61 6D 65 72 61 74 65 6D 75 6C 74 2C 72 65
      61 64 0D 00

RX:   74 74 50 01 00 00 00 00 00 00 00 23 00 00 00 00
      70 46 27 07 00 00 00 00 00 00 00 13 00 00 00 00
      12 6D 75 6C 74 69 70 6C 69 65 72 2C 41 43 4B 2C
      30 31 00
```

Indicates that the frame rate multiplier is currently x2

3.37.2 RS232 Control

Example:

```
TX:   53 41 50 01 FF FF FF FF 00 00 00 54 00 00 00 00
      54 50 01 00 00 00 00 00 00 00 00 44 00 00 00 00
      50 46 27 07 00 00 00 00 00 00 00 38 00 00 00 34
      23 6D 75 6C 74 69 70 6C 69 65 72 2C 30 2C 30 2C
      30 2C 30 2C 30 2C 30 2C 69 6D 61 67 65 2C 33 64
      66 72 61 6D 65 72 61 74 65 6D 75 6C 74 2C 72 65
      61 64 0D 00

RX:   73 61 50 01 FF FF FF FF 00 00 00 00 00 00 00 00
      74 74 50 01 00 00 00 00 00 00 00 23 00 00 00 00
      70 46 27 07 00 00 00 00 00 00 00 13 00 00 00 00
      12 6D 75 6C 74 69 70 6C 69 65 72 2C 41 43 4B 2C
      30 31 00

TX:   73 61 50 01 FF FF FF FF 00 00 00 00 00 00 00 00
```

Indicates that the frame rate multiplier is currently x2

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3.38 3D Format Set

Description:

Set the 3D format of the incoming video

3D format can be one of:

30 – Auto
31 – Sequential
32 – Frame Packing
33 – Top-and-bottom
34 – Side-by-side (half)

Note:

Only available on 3D capable projector models

3.38.1 LAN Control

Example:

Set 3D format to frame packing:

```
TX:  54 50 01 00 00 00 00 00 00 00 00 3F 00 00 00 00
     50 46 27 07 00 00 00 00 00 00 00 33 00 00 00 2F
     23 33 64 66 6F 72 6D 61 74 2C 30 2C 30 2C 30 2C
     30 2C 30 2C 30 2C 69 6D 61 67 65 2C 33 64 66 6F
     72 6D 61 74 2C 77 72 69 74 65 2C 30 32 0D 00

RX:  74 50 01 00 00 00 00 00 00 00 00 1E 00 00 00 00
     70 46 27 07 00 00 00 00 00 00 00 0E 00 00 00 00
     0D 33 64 66 6F 72 6D 61 74 2C 41 43 4B 00
```

3.38.2 RS232 Control

Example:

Set 3D format to frame packing:

```
TX:   53 41 50 01 FF FF FF FF 00 00 00 4F 00 00 00 00
      54 50 01 00 00 00 00 00 00 00 00 3F 00 00 00 00
      50 46 27 07 00 00 00 00 00 00 00 33 00 00 00 2F
      23 33 64 66 6F 72 6D 61 74 2C 30 2C 30 2C 30 2C
      30 2C 30 2C 30 2C 69 6D 61 67 65 2C 33 64 66 6F
      72 6D 61 74 2C 77 72 69 74 65 2C 30 32 0D 00

RX:   73 61 50 01 FF FF FF FF 00 00 00 00 00 00 00 00
      74 50 01 00 00 00 00 00 00 00 00 1E 00 00 00 00
      70 46 27 07 00 00 00 00 00 00 00 0E 00 00 00 00
      0D 33 64 66 6F 72 6D 61 74 2C 41 43 4B 00

TX:   73 61 50 01 FF FF FF FF 00 00 00 00 00 00 00 00
```

3.39 3D Format Get

Description:

Get the selected 3D format of the incoming video

3D format can be one of:

30 – Auto
31 – Sequential
32 – Frame Packing
33 – Top-and-bottom
34 – Side-by-side (half)

Note:

Only available on 3D capable projector models

3.39.1 LAN Control

Example:

```
TX:  54 50 01 00 00 00 00 00 00 00 00 3B 00 00 00 00
     50 46 27 07 00 00 00 00 00 00 00 2F 00 00 00 2B
     23 33 64 66 6F 72 6D 61 74 2C 30 2C 30 2C 30 2C
     30 2C 30 2C 30 2C 69 6D 61 67 65 2C 33 64 66 6F
     72 6D 61 74 2C 72 65 61 64 0D 00

RX:  74 50 01 00 00 00 00 00 00 00 00 21 00 00 00 00
     70 46 27 07 00 00 00 00 00 00 00 11 00 00 00 00
     10 33 64 66 6F 72 6D 61 74 2C 41 43 4B 2C 30 34
     00
```

Indicates that the 3D format is currently set to side-by-side (half)

3.39.2 RS232 Control

Example:

```
TX:  53 41 50 01 FF FF FF FF 00 00 00 4B 00 00 00 00
     54 50 01 00 00 00 00 00 00 00 00 3B 00 00 00 00
     50 46 27 07 00 00 00 00 00 00 00 2F 00 00 00 2B
     23 33 64 66 6F 72 6D 61 74 2C 30 2C 30 2C 30 2C
     30 2C 30 2C 30 2C 69 6D 61 67 65 2C 33 64 66 6F
     72 6D 61 74 2C 72 65 61 64 0D 00

RX:  73 61 50 01 FF FF FF FF 00 00 00 00 00 00 00 00
     74 50 01 00 00 00 00 00 00 00 00 21 00 00 00 00
     70 46 27 07 00 00 00 00 00 00 00 11 00 00 00 00
     10 33 64 66 6F 72 6D 61 74 2C 41 43 4B 2C 30 34
     00

TX:  73 61 50 01 FF FF FF FF 00 00 00 00 00 00 00 00
```

Indicates that the 3D format is currently set to side-by-side (half)

3.40 3D Eye Dominance Set

Description:

Set the 3D eye dominance

Eye dominance can be one of:

`30` – Left
`31` – Right

Note:

Only available on 3D capable projector models

3.40.1 LAN Control

Example:

Set 3D eye dominance to right:

```
TX:  54 50 01 00 00 00 00 00 00 00 00 44 00 00 00 00
     50 46 27 07 00 00 00 00 00 00 00 38 00 00 00 34
     23 64 6F 6D 69 6E 61 6E 63 65 2C 30 2C 30 2C 30
     2C 30 2C 30 2C 30 2C 69 6D 61 67 65 2C 33 64 69
     70 66 72 61 6D 65 64 6F 6D 2C 77 72 69 74 65 2C
     30 31 0D 00

RX:  74 50 01 00 00 00 00 00 00 00 00 1F 00 00 00 00
     70 46 27 07 00 00 00 00 00 00 00 0F 00 00 00 00
     0E 64 6F 6D 69 6E 61 6E 63 65 2C 41 43 4B 00
```

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3.40.2 RS232 Control

Example:

Set 3D eye dominance to right:

```
TX:  53 41 50 01 FF FF FF FF 00 00 00 54 00 00 00 00
     54 50 01 00 00 00 00 00 00 00 00 44 00 00 00 00
     50 46 27 07 00 00 00 00 00 00 00 38 00 00 00 34
     23 64 6F 6D 69 6E 61 6E 63 65 2C 30 2C 30 2C 30
     2C 30 2C 30 2C 30 2C 69 6D 61 67 65 2C 33 64 69
     70 66 72 61 6D 65 64 6F 6D 2C 77 72 69 74 65 2C
     30 31 0D 00

RX:  73 61 50 01 FF FF FF FF 00 00 00 00 00 00 00 00
     74 50 01 00 00 00 00 00 00 00 00 1F 00 00 00 00
     70 46 27 07 00 00 00 00 00 00 00 0F 00 00 00 00
     0E 64 6F 6D 69 6E 61 6E 63 65 2C 41 43 4B 00

TX:  73 61 50 01 FF FF FF FF 00 00 00 00 00 00 00 00
```

3.41 3D Eye Dominance Get

Description:

Get the selected 3D eye dominance

Eye dominance can be one of:

30 – Left
31 – Right

Note:

Only available on 3D capable projector models

3.41.1 LAN Control

Example:

```
TX:  54 50 01 00 00 00 00 00 00 00 00 40 00 00 00 00
     50 46 27 07 00 00 00 00 00 00 00 34 00 00 00 30
     23 64 6F 6D 69 6E 61 6E 63 65 2C 30 2C 30 2C 30
     2C 30 2C 30 2C 30 2C 69 6D 61 67 65 2C 33 64 69
     70 66 72 61 6D 65 64 6F 6D 2C 72 65 61 64 0D 00

RX:  74 50 01 00 00 00 00 00 00 00 00 22 00 00 00 00
     70 46 27 07 00 00 00 00 00 00 00 12 00 00 00 00
     11 64 6F 6D 69 6E 61 6E 63 65 2C 41 43 4B 2C 30
     30 00
```

Indicates that the 3D eye dominance is currently set to left

3.41.2 RS232 Control

Example:

```
TX:  53 41 50 01 FF FF FF FF 00 00 00 50 00 00 00 00
     54 50 01 00 00 00 00 00 00 00 00 40 00 00 00 00
     50 46 27 07 00 00 00 00 00 00 00 34 00 00 00 30
     23 64 6F 6D 69 6E 61 6E 63 65 2C 30 2C 30 2C 30
     2C 30 2C 30 2C 30 2C 69 6D 61 67 65 2C 33 64 69
     70 66 72 61 6D 65 64 6F 6D 2C 72 65 61 64 0D 00


RX:  73 61 50 01 FF FF FF FF 00 00 00 00 00 00 00 00
     74 50 01 00 00 00 00 00 00 00 00 22 00 00 00 00
     70 46 27 07 00 00 00 00 00 00 00 12 00 00 00 00
     11 64 6F 6D 69 6E 61 6E 63 65 2C 41 43 4B 2C 30
     30 00

TX:  73 61 50 01 FF FF FF FF 00 00 00 00 00 00 00 00
```

Indicates that the 3D eye dominance is currently set to left

3.42 3D Sync Polarity Set

Description:

Set the 3D sync polarity

3D sync polarity is on of:

30 – positive
31 – negative

Note:

Only available on 3D capable projector models

3.42.1 LAN Control

Example:

Set 3D sync polarity to positive:

```
TX:   54 50 01 00 00 00 00 00 00 00 00 46 00 00 00 00
      50 46 27 07 00 00 00 00 00 00 00 3A 00 00 00 36
      23 70 6F 6C 61 72 69 74 79 2C 30 2C 30 2C 30 2C
      30 2C 30 2C 30 2C 69 6D 61 67 65 2C 33 64 6F 70
      72 65 66 70 6F 6C 61 72 69 74 79 2C 77 72 69 74
      65 2C 30 30 0D 00

RX:   74 50 01 00 00 00 00 00 00 00 00 1E 00 00 00 00
      70 46 27 07 00 00 00 00 00 00 00 0E 00 00 00 00
      0D 70 6F 6C 61 72 69 74 79 2C 41 43 4B 00
```

3.42.2 RS232 Control

Example:

Set 3D sync polarity to positive:

```
TX:   53 41 50 01 FF FF FF FF 00 00 00 56 00 00 00 00
      54 50 01 00 00 00 00 00 00 00 00 46 00 00 00 00
      50 46 27 07 00 00 00 00 00 00 00 3A 00 00 00 36
      23 70 6F 6C 61 72 69 74 79 2C 30 2C 30 2C 30 2C
      30 2C 30 2C 30 2C 69 6D 61 67 65 2C 33 64 6F 70
      72 65 66 70 6F 6C 61 72 69 74 79 2C 77 72 69 74
      65 2C 30 30 0D 00

RX:   73 61 50 01 FF FF FF FF 00 00 00 00 00 00 00 00
      74 50 01 00 00 00 00 00 00 00 00 1E 00 00 00 00
      70 46 27 07 00 00 00 00 00 00 00 0E 00 00 00 00
      0D 70 6F 6C 61 72 69 74 79 2C 41 43 4B 00

TX:   73 61 50 01 FF FF FF FF 00 00 00 00 00 00 00 00
```

3.43 3D Sync Polarity Get

Description:

Set the 3D sync polarity

3D sync polarity is on of:

30 – positive
31 – negative

Note:

Only available on 3D capable projector models

3.43.1 LAN Control

Example:

```
TX:  54 50 01 00 00 00 00 00 00 00 00 42 00 00 00 00
     50 46 27 07 00 00 00 00 00 00 00 36 00 00 00 32
     23 70 6F 6C 61 72 69 74 79 2C 30 2C 30 2C 30 2C
     30 2C 30 2C 30 2C 69 6D 61 67 65 2C 33 64 6F 70
     72 65 66 70 6F 6C 61 72 69 74 79 2C 72 65 61 64
     0D 00

RX:  74 50 01 00 00 00 00 00 00 00 00 21 00 00 00 00
     70 46 27 07 00 00 00 00 00 00 00 11 00 00 00 00
     10 70 6F 6C 61 72 69 74 79 2C 41 43 4B 2C 30 31
     00
```

Indicates that the 3D sync polarity is negative

3.43.2 RS232 Control

Example:

```
TX:   53 41 50 01 FF FF FF FF 00 00 00 52 00 00 00 00
      54 50 01 00 00 00 00 00 00 00 00 42 00 00 00 00
      50 46 27 07 00 00 00 00 00 00 00 36 00 00 00 32
      23 70 6F 6C 61 72 69 74 79 2C 30 2C 30 2C 30 2C
      30 2C 30 2C 30 2C 69 6D 61 67 65 2C 33 64 6F 70
      72 65 66 70 6F 6C 61 72 69 74 79 2C 72 65 61 64
      0D 00


RX:   73 61 50 01 FF FF FF FF 00 00 00 00 00 00 00 00
      74 50 01 00 00 00 00 00 00 00 00 21 00 00 00 00
      70 46 27 07 00 00 00 00 00 00 00 11 00 00 00 00
      10 70 6F 6C 61 72 69 74 79 2C 41 43 4B 2C 30 31
      00

TX:   73 61 50 01 FF FF FF FF 00 00 00 00 00 00 00 00
```

Indicates that the 3D sync polarity is negative

3.44 Main / DVI Input Configuration Set

Description:

Set the Main / DVI input configuration

Configuration is one of:

30 – Single link type A
31 – Single link type B
32 – Dual link

Note:

Only available on projector models which have the Main / DVI input fitted

3.44.1 LAN Control

Example:

Set the Main / DVI configuration to dual link:

```
TX:   54 50 01 00 00 00 00 00 00 00 00 42 00 00 00 00
      50 46 27 07 00 00 00 00 00 00 00 36 00 00 00 32
      23 63 6F 6E 66 69 67 2C 30 2C 30 2C 30 2C 30 2C
      30 2C 30 2C 69 6D 61 67 65 2C 33 64 69 6E 70 75
      74 63 6F 6E 66 69 67 2C 77 72 69 74 65 2C 30 32
      0D 00

RX:   74 50 01 00 00 00 00 00 00 00 00 1C 00 00 00 00
      70 46 27 07 00 00 00 00 00 00 00 0C 00 00 00 00
      0B 63 6F 6E 66 69 67 2C 41 43 4B 00
```

3.44.2 RS232 Control

Example:

Set the Main / DVI configuration to dual link:

```
TX:   53 41 50 01 FF FF FF FF 00 00 00 56 00 00 00 00
      54 50 01 00 00 00 00 00 00 00 00 42 00 00 00 00
      50 46 27 07 00 00 00 00 00 00 00 36 00 00 00 32
      23 63 6F 6E 66 69 67 2C 30 2C 30 2C 30 2C 30 2C
      30 2C 30 2C 69 6D 61 67 65 2C 33 64 69 6E 70 75
      74 63 6F 6E 66 69 67 2C 77 72 69 74 65 2C 30 32
      0D 00

RX:   73 61 50 01 FF FF FF FF 00 00 00 00 00 00 00 00
      74 50 01 00 00 00 00 00 00 00 00 1C 00 00 00 00
      70 46 27 07 00 00 00 00 00 00 00 0C 00 00 00 00
      0B 63 6F 6E 66 69 67 2C 41 43 4B 00

TX:   73 61 50 01 FF FF FF FF 00 00 00 00 00 00 00 00
```

3.45 Main / DVI Input Configuration Get

Set the Main / DVI input configuration

Configuration is one of:

30 – Single link type A
31 – Single link type B
32 – Dual link

Note:

Only available on projector models which have the Main / DVI input fitted

3.45.1 LAN Control

Example:

```
TX:  54 50 01 00 00 00 00 00 00 00 00 3E 00 00 00 00
     50 46 27 07 00 00 00 00 00 00 00 32 00 00 00 2E
     23 63 6F 6E 66 69 67 2C 30 2C 30 2C 30 2C 30 2C
     30 2C 30 2C 69 6D 61 67 65 2C 33 64 69 6E 70 75
     74 63 6F 6E 66 69 67 2C 72 65 61 64 0D 00
```

```
RX:  74 50 01 00 00 00 00 00 00 00 00 1F 00 00 00 00
     70 46 27 07 00 00 00 00 00 00 00 0F 00 00 00 00
     0E 63 6F 6E 66 69 67 2C 41 43 4B 2C 30 30 00
```

Indicates that main / DVI is set to single link type A

3.45.2 RS232 Control

Example:

```
TX:  53 41 50 01 FF FF FF FF 00 00 00 4E 00 00 00 00
     54 50 01 00 00 00 00 00 00 00 00 3E 00 00 00 00
     50 46 27 07 00 00 00 00 00 00 00 32 00 00 00 2E
     23 63 6F 6E 66 69 67 2C 30 2C 30 2C 30 2C 30 2C
     30 2C 30 2C 69 6D 61 67 65 2C 33 64 69 6E 70 75
     74 63 6F 6E 66 69 67 2C 72 65 61 64 0D 00

RX:  73 61 50 01 FF FF FF FF 00 00 00 00 00 00 00 00
     74 50 01 00 00 00 00 00 00 00 00 1F 00 00 00 00
     70 46 27 07 00 00 00 00 00 00 00 0F 00 00 00 00
     0E 63 6F 6E 66 69 67 2C 41 43 4B 2C 30 30  00

TX:  73 61 50 01 FF FF FF FF 00 00 00 00 00 00 00 00
```

Indicates that main / DVI is set to single link type A