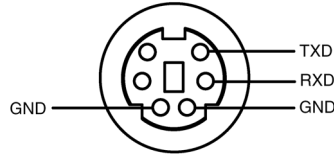


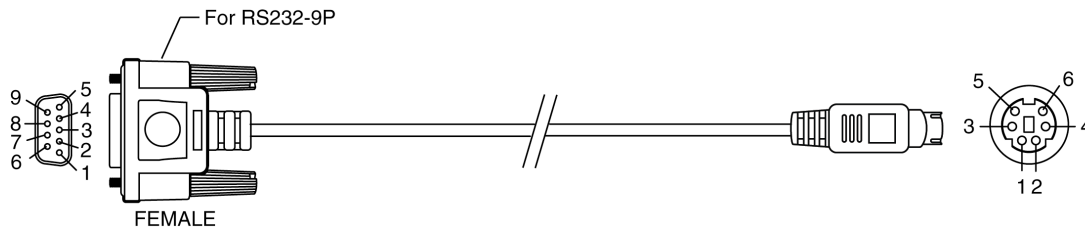


Dell™ 2400MP RS232 Protocol Document

- RS232 Projector Pin Assignment (Facing Projector)



- RS232 Serial Communication Cable Pin Assignment (Facing Cable)



◆ Pin Assignments

RS232	PIN DESCRIPTION	MINI DIN-6
1		
2	TXD	5
3	RXD	3
4		
5	GROUND	1, 2
6		
7	Not Used	6
8	Not Used	4
9		

Note 1: The RS232 cable is not provided by Dell.

- RS232 Protocol
Communication Settings

Connection Settings	Value
Baud Rate	19200 bps
Data Bits	8 bits
Parity	None
Stop Bits	1 bit
Flow control	None

Command Types

To display the OSD menu and adjust the settings.

Control Command Syntax (From PC to Projector)

[H][AC][SoP][CRC][ID][SoM][COMMAND]

[H][AC][SoP][CRC][ID][SoM][COMMAND][Value]

Example: Power On Command (Send Low Byte Firstly)

Enter the following code:

0xbe, 0xef, 0x10, 0x05, 0x00, 0xc6, 0xff, 0x11, 0x11, 0x01, 0x00, 0x01

Header [H] ==> Fixed, "be (Low Byte), ef (High Byte)"

Address Code [AC] ==> Fixed, "10"

Size of Payload [SoP] ==> Byte size from MsgID to Command Code, "05 (Low Byte), 00 (High Byte)" or Byte size from MsgID to Value, "06 (Low Byte), 00 (High Byte)".

CRC16 [CRC] ==> CRC value, "c6 (Low Byte), ff (High Byte)"

MsgID [ID] ==> Fixed, "11 11"

MsgSize [SoM] ==> Byte size of Command Code, "01 (Low Byte), 00 (High Byte)" or Byte size of Command Code and Value, "02 (Low Byte), 00 (High Byte)"

Command Code [COMMAND] ==> "Power On" Command, "01"

Projector Response Message Table

Byte0 value:

0x00: Success

0x01: Invalid Command (on the control command list but no valid)

0x02: Error Command (includes CRC error and unknown commands)

Projector Response System Status

Byte0, Byte1, Byte2

Byte0: 0x00 (Success)

Byte1: 0xff (the Command Code of System Status)

Byte2: Return status

Ex: When the projector is in standby mode, the return status will be 0x01.

Projector Response Lamp Hour

Byte0, Byte1, Byte2, Byte3

Byte0: 0x00 (Success)

Byte1: 0x2f (the Command Code of Lamp Hour)

Byte2: LSB (Hex)

Byte3: MSB (Hex)

Ex: 800 ($3 \times 256 + 2 \times 16 = 800$) hours --> 0x00, 0x2f, 0x20, 0x03

Firmware Version Response

Firmware version: 4 Bytes ASCII Code: "V*. *"


V: Version

*: 0-9

Ex: Version 1.5 --> "V1.5" --> 0x00, 0x30, 0x56, 0x31, 0x2E, 0x35 (Success, header of firmware version, 4 Bytes ASCII Code: "V*. *")

Control Commands List

Command Description	Header (WORD)	Address Code (BYTE)	Size Of The Payload (WORD)	CRC16 For The Entire Packet (WORD)	Msg ID (WORD)	Msg Size (WORD)	Command Code (BYTE)	Value (BYTE)	Comment
Power	0xefbe	0x10	0x0005	0xffc6	0x1111	0x0001	0x01		
Menu	0xefbe	0x10	0x0005	0xbfc7	0x1111	0x0001	0x02		
Up	0xefbe	0x10	0x0005	0x7e07	0x1111	0x0001	0x03		
Down	0xefbe	0x10	0x0005	0x3fc5	0x1111	0x0001	0x04		
Left	0xefbe	0x10	0x0005	0xfe05	0x1111	0x0001	0x05		
Right	0xefbe	0x10	0x0005	0xbe04	0x1111	0x0001	0x06		
R-sync	0xefbe	0x10	0x0005	0x7fc4	0x1111	0x0001	0x07		
Source	0xefbe	0x10	0x0005	0x3fc0	0x1111	0x0001	0x08		
Volume +	0xefbe	0x10	0x0005	0xfe00	0x1111	0x0001	0x09		
Volume -	0xefbe	0x10	0x0005	0xbe01	0x1111	0x0001	0x0a		
Zoom In	0xefbe	0x10	0x0005	0x7fc1	0x1111	0x0001	0x0b		
Zoom Out	0xefbe	0x10	0x0005	0x3e03	0x1111	0x0001	0x0c		
Mute	0xefbe	0x10	0x0005	0xffc3	0x1111	0x0001	0x0d		
Freeze	0xefbe	0x10	0x0005	0xbfc2	0x1111	0x0001	0x0e		
Hide	0xefbe	0x10	0x0005	0x7e02	0x1111	0x0001	0x0f		
Video Mode	0xefbe	0x10	0x0005	0x3fca	0x1111	0x0001	0x10		
H. Keystone Up	0xefbe	0x10	0x0005	0xfe0a	0x1111	0x0001	0x11		
H. Keystone Down	0xefbe	0x10	0x0005	0xbe0b	0x1111	0x0001	0x12		
V. Keystone Up	0xefbe	0x10	0x0005	0x7fcb	0x1111	0x0001	0x13		
V. Keystone Down	0xefbe	0x10	0x0005	0x3e09	0x1111	0x0001	0x14		
Aspect Ratio (4:3/16:9)	0xefbe	0x10	0x0005	0x7e08	0x1111	0x0001	0x17		Toggle
Power Off	0xefbe	0x10	0x0005	0x3e0c	0x1111	0x0001	0x18		
Source-VGA Analog	0xefbe	0x10	0x0005	0xffcc	0x1111	0x0001	0x19		
Source-S-Video	0xefbe	0x10	0x0005	0xbe1f	0x1111	0x0001	0x22		
Source-Composite	0xefbe	0x10	0x0005	0x7fdf	0x1111	0x0001	0x23		
Key Pad Lock On ¹	0xefbe	0x10	0x0005	0x3e1d	0x1111	0x0001	0x24		
Key Pad Lock Off ²	0xefbe	0x10	0x0005	0xffdd	0x1111	0x0001	0x25		
ECO Mode On	0xefbe	0x10	0x0005	0xbfd9	0x1111	0x0001	0x2a		
ECO Mode Off	0xefbe	0x10	0x0005	0x7e19	0x1111	0x0001	0x2b		
Auto Source On	0xefbe	0x10	0x0005	0x3fdb	0x1111	0x0001	0x2c		
Auto Source Off	0xefbe	0x10	0x0005	0xfe1b	0x1111	0x0001	0x2d		
Factory Reset	0xefbe	0x10	0x0005	0xbe1a	0x1111	0x0001	0x2e		
Lamp Hour	0xefbe	0x10	0x0005	0x7fda	0x1111	0x0001	0x2f		
Firmware Version	0xefbe	0x10	0x0005	0x3e12	0x1111	0x0001	0x30		
Enter key	0xefbe	0x10	0x0005	0x3ff6	0x1111	0x0001	0x40		
Key Pad Lock State ³	0xefbe	0x10	0x0005	0xffff	0x1111	0x0001	0x5d		0x01: Key Pad Lock On 0x00: Key Pad Lock Off
Unhide ⁴	0xefbe	0x10	0x0005	0x3fed	0x1111	0x0001	0x64		
Get Hide State ⁵	0xefbe	0x10	0x0005	0xfe2d	0x1111	0x0001	0x65		0x00: Unhide 0x01: Hide
System Status ⁶	0xefbe	0x10	0x0005	0x7e46	0x1111	0x0001	0xff		0x01: Standby 0x02: Warm Up 0x03: Power ON 0x04: Cooling 0x05: Power Saving

 **Note 2:** Response and control codes (remarked a superscript as 1~6) added to projector in firmware version 2.3 and above.

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