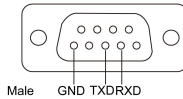


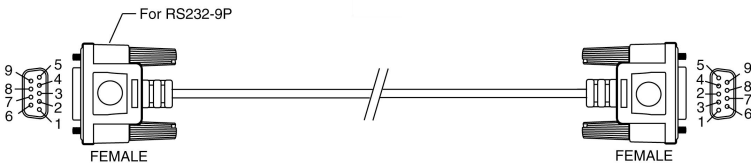


Dell P519HL RS232 Protocol Document

- **RS232 Projector Pin Assignment (Facing Projector)**



- **RS232 Serial Communication Cable Pin Assignment (Facing Cable)**



◆ **Pin Assignments**

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

Note 1: The RS232 (pin2-3 swap) 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 Operating Hour

Byte0, Byte1, Byte2, Byte3

Byte0: 0x00 (Success)

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

Byte2: LSB (Hex)

Byte3: MSB (Hex)

Ex: 800 (3x256 + 2x16 = 800) hours --> 0x00, 0x2f, 0x20, 0x03

Firmware Version Response

Byte0, Byte1, Byte2, Byte3...Byte7

Byte0: 0x00 (Success)

Byte1: 0x30 (the Command Code of Firmware Version)

Byte2...Byte7

Firmware version: 6 Bytes ASCII Code: "M0RXXX"

XXX: 000-999

Ex: Version M0R001 → "M0R001" → 0x4d, 0x30, 0x52, 0x30, 0x30, 0x31 (Success, the Command Code of FW Version, 6 Bytes ASCII Code: "M0RXXX")

Control Commands List

Command Description	Header (WORD)	Address (BYTE)	Size Of The Payload (WORD)	CR16 For The Entire Packet (WORD)	Msg ID (WORD)	Msg Size (WORD)	Command Code (BYTE)	Value (BYTE)	Comment	Power On/Standby
Power On	0xfeb	0x10	0x0005	0xffc6	0x1111	0x0001	0x01		See Note 2	S
Menu	0xfeb	0x10	0x0005	0xbfc7	0x1111	0x0001	0x02			P
Up	0xfeb	0x10	0x0005	0x7e07	0x1111	0x0001	0x03			P
Down	0xfeb	0x10	0x0005	0x3fc5	0x1111	0x0001	0x04			P
Left	0xfeb	0x10	0x0005	0xfe05	0x1111	0x0001	0x05			P
Right	0xfeb	0x10	0x0005	0xbe04	0x1111	0x0001	0x06			P
R-sync	0xfeb	0x10	0x0005	0x7fc4	0x1111	0x0001	0x07			P
Source Search	0xfeb	0x10	0x0005	0x3fc0	0x1111	0x0001	0x08			P
Volume +	0xfeb	0x10	0x0005	0xfe00	0x1111	0x0001	0x09			P
Volume -	0xfeb	0x10	0x0005	0xbe01	0x1111	0x0001	0x0a			P
Zoom In	0xfeb	0x10	0x0005	0x7fc1	0x1111	0x0001	0x0b			P
Zoom Out	0xfeb	0x10	0x0005	0x3e03	0x1111	0x0001	0x0c			P
Mute On	0xfeb	0x10	0x0005	0xffc3	0x1111	0x0001	0x0d			P
Freeze	0xfeb	0x10	0x0005	0xbfc2	0x1111	0x0001	0x0e			P
Hide	0xfeb	0x10	0x0005	0x7e02	0x1111	0x0001	0x0f			P
Video Mode	0xfeb	0x10	0x0005	0x3fca	0x1111	0x0001	0x10		Toggle	P
V. Keystone Up	0xfeb	0x10	0x0005	0x7fcb	0x1111	0x0001	0x13		Max. +30	P
V. Keystone Down	0xfeb	0x10	0x0005	0x3e09	0x1111	0x0001	0x14		Min. -30	P
Aspect Ratio (Original/4:3/16:9/16:10)	0xfeb	0x10	0x0005	0x7e08	0x1111	0x0001	0x17		Toggle	P
Power Off	0xfeb	0x10	0x0005	0x3e0c	0x1111	0x0001	0x18			P
Source-VGA	0xfeb	0x10	0x0005	0xffcc	0x1111	0x0001	0x19			P
Analog-A	0xfeb	0x10	0x0005	0xffcc	0x1111	0x0001	0x19			P
Key Pad Lock On	0xfeb	0x10	0x0005	0x3e1d	0x1111	0x0001	0x24			P
Key Pad Lock Off	0xfeb	0x10	0x0005	0xffdd	0x1111	0x0001	0x25			P
Current Source	0xfeb	0x10	0x0005	0xbfdc	0x1111	0x0001	0x26		0x00: No Source 0x01: VGA 0x03: HDMI 0x0c: HDMI-2 0x0f: USB Video 0x10: USB Music 0x11: USB Photo 0x12: USB Document 0x13: USB Setting 0x14: Network 0x15: Internal memory Video 0x16: Internal memory Music 0x17: Internal memory Photo 0x18: Internal memory Document 0x19: Storage Mode	P
V. Keystone Read	0xfeb	0x10	0x0005	0x3e18	0x1111	0x0001	0x28			P
Auto Keystone Write	0xfeb	0x10	0x0006	0x1b28	0x1111	0x0002	0x29	0x00~0x01	0x00: No (Off) 0x01: Yes (On)	P
Power-Mode-ECO	0xfeb	0x10	0x0005	0xbfd9	0x1111	0x0001	0x2a			P
Power-Mode-Normal	0xfeb	0x10	0x0005	0x7e19	0x1111	0x0001	0x2b			P
Auto Source On	0xfeb	0x10	0x0005	0x3fdb	0x1111	0x0001	0x2c			P
Auto Source Off	0xfeb	0x10	0x0005	0xfe1b	0x1111	0x0001	0x2d			P
Factory Reset	0xfeb	0x10	0x0005	0xbe1a	0x1111	0x0001	0x2e			P
Operating Hour	0xfeb	0x10	0x0005	0x7fda	0x1111	0x0001	0x2f			P
Firmware Version	0xfeb	0x10	0x0005	0x3e12	0x1111	0x0001	0x30			P
Auto Keystone Read	0xfeb	0x10	0x0005	0xffd2	0x1111	0x0001	0x31		0x00: No (Off) 0x01: Yes (On)	P
Aspect Ratio Read	0xfeb	0x10	0x0005	0xbfd3	0x1111	0x0001	0x32		Feedback: 0x00: Original(1:1) 0x01: 4:3 0x02: 16:9	P

									0x03: 16:10	
Projector Mode Write	0xfeb6	0x10	0x0006	0x9ae3	0x1111	0x0002	0x33	0x01~0x04	0x01: Front 0x02: Front, Ceiling 0x03: Rear 0x04: Rear, Ceiling	P
Projector Mode Read	0xfeb6	0x10	0x0005	0x3fd1	0x1111	0x0001	0x34	0x01~0x04	0x01: Front 0x02: Front, Ceiling 0x03: Rear 0x04: Rear, Ceiling	P
Brightness Write	0xfeb6	0x10	0x0006	0x1ae1	0x1111	0x0002	0x35	0x00~0x64	Range (0x00~0x64)	P
Brightness Read	0xfeb6	0x10	0x0005	0xbe10	0x1111	0x0001	0x36	Range (0x00~0x64)	Range (0x00~0x64)	P
Contrast Write	0xfeb6	0x10	0x0006	0x9b20	0x1111	0x0002	0x37	0x00~0x64	Range (0x00~0x64)	P
Contrast Read	0xfeb6	0x10	0x0005	0x3fd4	0x1111	0x0001	0x38	Range (0x00~0x64)	Range (0x00~0x64)	P
Color Temperature Write	0xfeb6	0x10	0x0006	0x1ae4	0x1111	0x0002	0x39	0x01~0x04	0x01: Low 0x02: Mid 0x03: High 0x04: Custom	P
Color Temperature Read	0xfeb6	0x10	0x0005	0xbe15	0x1111	0x0001	0x3a	0x01~0x04	0x01: Low 0x02: Mid 0x03: High 0x04: Custom	P
Saturation Write	0xfeb6	0x10	0x0006	0x9b25	0x1111	0x0002	0x3b	0x00~0x64	Range (0x00~0x64)	P
Saturation Read	0xfeb6	0x10	0x0005	0x3e17	0x1111	0x0001	0x3c	Range (0x00~0x64)	Range (0x00~0x64)	P
Sharpness Write	0xfeb6	0x10	0x0006	0x1b27	0x1111	0x0002	0x3d	S518WL: 0x0 ~ 0x1f	Range (0x00~0x1f)	P
Sharpness Read	0xfeb6	0x10	0x0005	0xbfd6	0x1111	0x0001	0x3e	Range (0x00~0x1f)	Range (0x00~0x1f)	P
Tint Write	0xfeb6	0x10	0x0006	0x9ae6	0x1111	0x0002	0x3f	0x00~0x64	Range (0x00~0x64)	P
Enter	0xfeb6	0x10	0x0005	0x3ff6	0x1111	0x0001	0x40			P
Tint Read	0xfeb6	0x10	0x0005	0xfe36	0x1111	0x0001	0x41		Range (0x00~0x64)	P
Video Mode Read	0xfeb6	0x10	0x0005	0xbe37	0x1111	0x0001	0x42		0x00: Presentation Mode 0x01: Birght Mode 0x02: Movie Mode 0x03: sRGB Mode 0x04: Custom Mode	P
Color Space Write	0xfeb6	0x10	0x0006	0x9b07	0x1111	0x0002	0x43	0x01~0x03	0x01: Auto 0x02: RGB 0x03: YUV	P
Color Space Read	0xfeb6	0x10	0x0005	0x3e35	0x1111	0x0001	0x44	0x01~0x03	0x01: Auto 0x02: RGB 0x03: YUV	P
White Intensity Write	0xfeb6	0x10	0x0006	0x1b05	0x1111	0x0002	0x45	0x00~0x0a	Range (0x00~0x0a)	P
White Intensity Read	0xfeb6	0x10	0x0005	0xbff4	0x1111	0x0001	0x46	Range (0x00~0x0a)	Range (0x00~0x0a)	P
H. Position Write	0xfeb6	0x10	0x0006	0x1b00	0x1111	0x0002	0x49	0x00~0x64	Range (0x00~0x64)	P
H. Position Read	0xfeb6	0x10	0x0005	0xbff1	0x1111	0x0001	0x4a	Range (0x00~0x64)	Range (0x00~0x64)	P
V. Position Write	0xfeb6	0x10	0x0006	0x9ac1	0x1111	0x0002	0x4b	0xfb~0xff, 0x00	Range (0x05~0x00)	P
V. Position Read	0xfeb6	0x10	0x0005	0x3ff3	0x1111	0x0001	0x4c	Range (0x05~0x00)	Range (0x05~0x00)	P
Current Language Write	0xfeb6	0x10	0x0006	0x1ac3	0x1111	0x0002	0x4d	0x01~0x12	0x01: English 0x02: German 0x03: French 0x04: Italian 0x05: Spanish 0x07: Swedish 0x08: Dutch 0x09: Iberian Portuguese	P

								0x0c: S_Chinese 0x13: Norwegian 0x14: Brazil Portuguese 0x01: English 0x02: German 0x03: French 0x04: Italian 0x05: Spanish 0x07: Swedish 0x08: Dutch 0x09: Iberian Portuguese 0x0c: S_Chinese 0x13: Norwegian 0x14: Brazil Portuguese		
Current Language Read	0xfeb	0x10	0x0005	0xbe32	0x1111	0x0001	0x4e			P
Volume Read	0xfeb	0x10	0x0005	0x7ff2	0x1111	0x0001	0x4f		Range (0x00~0x14)	P
Source-HDMI	0xfeb	0x10	0x0005	0x3e3a	0x1111	0x0001	0x50			P
Password	0xfeb	0x10	0x0009	0xaaf9	0x1111	0x0005	0x56	0x30~0x39 0x41~0x5a	4byte: Original Password	P
Change Password	0xfeb	0x10	0x000d	0x99fa	0x1111	0x0009	0x57	0x30~0x39 0x41~0x5a	4byte: Original Password 4byte: New Password	P
H. Frequency	0xfeb	0x10	0x0005	0xfe3c	0x1111	0x0001	0x59		(KHz)	P
V. Frequency	0xfeb	0x10	0x0005	0xbe3d	0x1111	0x0001	0x5a		(Hz)	P
H. Sync Polarity	0xfeb	0x10	0x0005	0x7ffd	0x1111	0x0001	0x5b		1: Negative 2: Positive	P
V. Sync Polarity	0xfeb	0x10	0x0005	0x3e3f	0x1111	0x0001	0x5c		1: Negative 2: Positive	P
Mute Off	0xfeb	0x10	0x0005	0x7e3e	0x1111	0x0001	0x5f			P
Get Mute State	0xfeb	0x10	0x0005	0xffee	0x1111	0x0001	0x61		0x00: Mute Off 0x01: Mute On	P
Unfreeze	0xfeb	0x10	0x0005	0xbfef	0x1111	0x0001	0x62			P
Unhide	0xfeb	0x10	0x0005	0x3fed	0x1111	0x0001	0x64			P
Get Hide State	0xfeb	0x10	0x0005	0xfe2d	0x1111	0x0001	0x65		0x00: Unhide 0x01: Hide	P
OSD Transparency Write	0xfeb	0x10	0x0006	0x5adc	0x1111	0x0002	0x66	0x00~0x0f	Range (0x00~0x0f)	P
OSD Transparency Read	0xfeb	0x10	0x0005	0x7fec	0x1111	0x0001	0x67		Range (0x00~0x0f)	P
Volume Write	0xfeb	0x10	0x0006	0xdb18	0x1111	0x0002	0x68	0x00~0x14	Range (0x00~0x14)	P
Temp Alert	0xfeb	0x10	0x0005	0xbe29	0x1111	0x0001	0x6a		0x00: Normal 0x01: Abnormal	P
Exit Lockup	0xfeb	0x10	0x0005	0xffeb	0x1111	0x0001	0x6d			S
Source-HDMI2	0xfeb	0x10	0x0005	0xbe23	0x1111	0x0001	0x72			P
Power Saving	0xfeb	0x10	0x0006	0xfe66	0x1111	0x0002	0x81	0x00~0x78	0x00, 0x05, 0x0a, 0x0f, 0x14, 0x19, 0x1e, 0x23, 0x28, 0x2d, 0x32, 0x37, 0x3c, 0x41, 0x46, 0x4b, 0x50, 0x55, 0x5a, 0x5f, 0x64, 0x69, 0x6e, 0x73, 0x78	P
Power-Mode Read	0xfeb	0x10	0x0005	0x7fa7	0x1111	0x0001	0x83		0x00: Eco 0x01: Normal	P
Operating hours	0xfeb	0x10	0x0005	0x3e65	0x1111	0x0001	0x84		Hours (2 byte)	P
Password Off	0xfeb	0x10	0x0005	0xffa5	0x1111	0x0002	0x85			P
Password Delete	0xfeb	0x10	0x0005	0xbfa4	0x1111	0x0002	0x86			P
Speaker	0xfeb	0x10	0x0005	0x7e64	0x1111	0x0002	0x87		0x00: Off 0x01: On	P
Speaker Status	0xfeb	0x10	0x0005	0x3e60	0x1111	0x0001	0x88		0x00: Off 0x01: On	P
Zoom Status	0xfeb	0x10	0x0005	0xffa0	0x1111	0x0001	0x89		Range (0x01~0x0a)	P
Power Saving Status	0xfeb	0x10	0x0005	0xbfa1	0x1111	0x0002	0x8a		0x00, 0x05, 0x0a, 0x0f, 0x14, 0x19, 0x1e, 0x23, 0x28, 0x2d, 0x32, 0x37,	P

								0x3c, 0x41, 0x46, 0x4b, 0x50, 0x55, 0x5a, 0x5f, 0x64, 0x69, 0x6e, 0x73, 0x78	
Source-USB-Video	0xefbe	0x10	0x0005	0x3fb2	0x1111	0x0001	0xB0		P
Source-USB-Music	0xefbe	0x10	0x0005	0xfe72	0x1111	0x0001	0xB1		P
Source-USB-Photo	0xefbe	0x10	0x0005	0xbe73	0x1111	0x0001	0xB2		P
Source-USB-Document	0xefbe	0x10	0x0005	0x7fb3	0x1111	0x0001	0xB3		P
Source-USB-Setting	0xefbe	0x10	0x0005	0x3e71	0x1111	0x0001	0xB4		P
Source-Network	0xefbe	0x10	0x0005	0xffb1	0x1111	0x0001	0xB5		P
Source-Internal Memory Video	0xefbe	0x10	0x0005	0xbfb0	0x1111	0x0001	0xB6		P
Source-Internal Memory Music	0xefbe	0x10	0x0005	0x7e70	0x1111	0x0001	0xB7		P
Source-Internal Memory Photo	0xefbe	0x10	0x0005	0x3e74	0x1111	0x0001	0xB8		P
Source-Internal Memory Document	0xefbe	0x10	0x0005	0xffb4	0x1111	0x0001	0xB9		P
Source-Storage Mode	0xefbe	0x10	0x0005	0xbfb5	0x1111	0x0001	0xBA		P
System Status	0xefbe	0x10	0x0005	0x7e46	0x1111	0x0001	0xff	0x01: Standby 0x02: Warm Up 0x03: Power On 0x04: Cooling 0x05: Power Saving	P / S



Note 2: After power on the projector, wait for 5 seconds before sending next command.

Note 3: The range will depend on VGA input resolution.

Note 4: If sending multiple commands, check that a response has been received from the projector before sending next command.

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