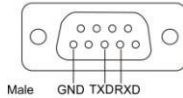


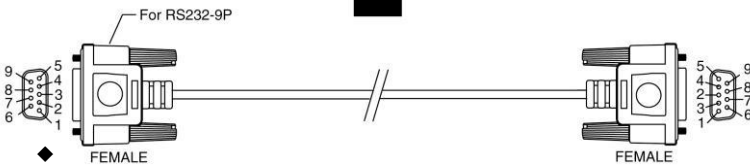


# Dell™ P4317Q RS232 Protocol Document

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



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



**Pin Assignments**

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

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

- **RS232 Protocol Communication Settings**

Connection Settings	Value
Baud Rate	9600 bps
Data Bits	8 bits
Parity	None
Stop Bits	1 bit
Flow control	None

**Command Types**

To adjust the OSD settings.

## Control Command Syntax (From PC to Monitor)

[H0][H1][Len][R/W][Cmd][Data0]...[DataN][CHK]

[H0] = 0x37

[H1] = 0x51

[Len] = Length

[R/W] = Read/Write

Read = 0xEB

Write = 0xEA

[Cmd] = Command

[Data0]...[DataN] = Data0~N

[CHK] = Check Sum

## Reply Command Syntax (From Monitor to PC)

[H2][H3][Len][Reply][RC][Cmd][Data0]...[DataN][CHK]

[H2] = 0x6F

[H3] = 0x37

[Len] = Length

[Reply] = Reply (0x02)

[RC] = Result Code

0x00 = Success

0x01 = Timeout

0x02 = Parameters Error

0x03 = Not connected

0xFF = Other Failure

[Cmd] = Command

[Data0]...[DataN] = Data0~N

[CHK] = Check Sum

## Example: Get Monitor Name

[From PC to Monitor] = 37, 51, 02, EB, 01, 8E

[From Monitor to PC] = 6F, 37, 0F, 02, 00, 01, 44, 65, 6C, 20, 50, 34, 33, 31, 37, 51, 00, 55

## Control Commands List

Op Code Write (From PC)	7-6h	37-51 (Length) 4A (VCPCode) [SubCode] [Data0] [Data1] ... [DataN] CHK
Op Code Read (From PC)	6-5h	37-51 (Length) 4B (VCPCode) [SubCode] CHK
Op Code Reply (From Monitor)	02h	6F-37 (Length) 02 (ResultCode) [VCPCode] [SubCode] [Data0] [Data1] ... [DataN] CHK
Check Sum Calculation (CHK)	X0h	Start from first byte to the end (excluded CHK byte) and calculated with X0h.
Result Code (RC)	[RC]	00 Success 01 Timeout 02 Parameter error 03 Not connected FF Other failure

APIs	Cmd Code (MHS)	API Code (L4Bit) / Size	VCP Code / Range	R/W	N bytes of sent Data	Param / Return / Comments	Command	N bytes of replied Data	Reply
<b>*/ MONITOR MANAGEMENT */</b>									
GetMonitorName	00h	1	02h	R	0	ASCII string	37-51-02-EB-01-CHK	12	6F-37-0F-02-[RC] 01 [Data0] ... [Data8] CHK
GetMonitorSerialNumber	00h	2	02h	R	0	ASCII string	37-51-02-EB-02-CHK	13	6F-37-0F-02-[RC] 02 [Data0] ... [DataC] CHK
GetBacklightHours	00h	4	04h	R	0	Monitor Backlight Hours (WORK) 0-65535	37-51-02-EB-04-CHK	2	6F-37-0F-02-[RC] 04 [Data0] ... [Data1] CHK
<b>*/ POWER MANAGEMENT */</b>									
GetPowerState	20h	0	20h	R	0	Power State (BYTE) 0 - off 1 - on 2 - standby	37-51-02-EB-20-CHK	1	6F-37-04-02-[RC] 20 [Data0] CHK
SetPowerState	20h	0	20h	W	1		37-51-03-FA-20-[Data0] CHK	0	6F-37-03-02-[RC] 20-CHK
GetPowerLED	20h	1	21h	R	0	Power LED Setting (BYTE) 0 - off during Active 1 - on during Active	37-51-02-EB-21-CHK	1	6F-37-04-02-[RC] 21 [Data0] CHK
SetPowerLED	20h	1	21h	W	1		37-51-03-FA-21-[Data0] CHK	0	6F-37-03-02-[RC] 21-CHK
GetPowerUSB	20h	2	22h	R	0	Power USB Setting (BYTE) 0 - off during Standby 1 - on during Standby	37-51-02-EB-22-CHK	1	6F-37-04-02-[RC] 22 [Data0] CHK
SetPowerUSB	20h	2	22h	W	1		37-51-03-FA-22-[Data0] CHK	0	6F-37-03-02-[RC] 22-CHK
ResetPower	20h	1	23h	W	0	NONE	37-51-02-FA-2F-CHK	0	6F-37-03-02-[RC] 2F-CHK
<b>*/ IMAGE ADJUSTMENT */</b>									
GetBrightness	30h	0	30h	R	0	Brightness (BYTE) 0-100 values in increments of 1	37-51-02-EB-30-CHK	1	6F-37-04-02-[RC] 30 [Data0] CHK
SetBrightness	30h	0	30h	W	1		37-51-03-FA-30-[Data0] CHK	0	6F-37-03-02-[RC] 30-CHK
GetContrast	30h	1	31h	R	0	Contrast (BYTE) 0-100 values in increments of 1	37-51-02-EB-31-CHK	1	6F-37-04-02-[RC] 31 [Data0] CHK
SetContrast	30h	1	31h	W	1		37-51-03-FA-31-[Data0] CHK	0	6F-37-03-02-[RC] 31-CHK
GetAspectRatio	30h	3	33h	R	0	Aspect Ratio (BYTE) 0 - Wide (5:4) 1 - Auto Sense	37-51-02-EB-33-CHK	1	6F-37-04-02-[RC] 33 [Data0] CHK
SetAspectRatio	30h	3	33h	W	1		37-51-03-FA-33-[Data0] CHK	0	6F-37-03-02-[RC] 33-CHK

GetSharpness	30h	4	34h	R	0	Sharpness (BYTE) 0 - 100 values in increments of 10	3751-02-EB-34-CHK	1	6F-37-04-02 [RC] 34 [Data0] CHK
SetSharpness	30h	4	34h	W	1		3751-03-0A-34 [Data0] CHK	0	6F-37-03-02 [RC] 34-CHK
** COLOR MANAGEMENT **									
GetInputColorFormat	40h	6	46h	R	0	Input Color Format (BYTE) 0 - RGB 1 - YCbCr	3751-02-EB-46-CHK	1	6F-37-04-02 [RC] 46 [Data0] CHK
SetInputColorFormat	40h	6	46h	W	1		3751-03-0A-46 [Data0] CHK	0	6F-37-03-02 [RC] 46-CHK
GetColorPresetCaps	40h	7	47h	R	0	Bitwise representation of color presets 0x00000001 - Standard 0x00000002 - Multimedia 0x00000004 - sRGB 0x00000008 - Game 0x00000010 - Paper 0x00000020 - Color-True 0x00000040 - Color-Open 0x00000080 - Custom Color 0x00000100 - Warm 0x00000200 - Cool	3751-02-EB-47-CHK	4	6F-37-07-02 [RC] 47 [Data0] ... [Data3] CHK
GetColorPreset	40h	8	48h	R	0		3751-02-EB-48-CHK	4	6F-37-07-02 [RC] 48 [Data0] ... [Data3] CHK
SetColorPreset	40h	8	48h	W	4		3751-06-0A-48 [Data0] ... [Data3] CHK	0	6F-37-03-02 [RC] 48-CHK
GetCustomColor	40h	9	49h	R	1	Custom color type (BYTE) 0 - Gain 1 - offset 2 - hue 3 - saturation 4 value (BYTE) - 0 - 100 5 value (BYTE) - 0 - 100 6 value (BYTE) - 0 - 100 7 value (BYTE) - 0 - 100 8 value (BYTE) - 0 - 100 9 value (BYTE) - 0 - 100	3751-03-0B-49 [Data0] CHK	6	6F-37-09-02 [RC] 49 [Data0] ... [Data5] CHK
SetCustomColor	40h	9	49h	W	7		3751-09-0A-49 [Data0] ... [Data6] CHK	0	6F-37-03-02 [RC] 49-CHK
ResetColor	40h	1	40h	W	0	NONE	3751-02-0A-4F-CHK	0	6F-37-03-02 [RC] 4F-CHK
** VIDEO INPUT MANAGEMENT **									
GetAutoSelect	60h	0	60h	R	0	Auto Select (BYTE) 0 - on 1 - on	3751-02-0B-60-CHK	1	6F-37-04-02 [RC] 60 [Data0] CHK
SetAutoSelect	60h	0	60h	W	1		3751-03-0A-60 [Data0] CHK	0	6F-37-03-02 [RC] 60-CHK
GetVideoInputCaps	60h	1	61h	R	0	Bitwise representation of video inputs (DWORD) 0x00000001 - HDMI1/Mini1 0x00000002 - HDMI2/Mini2 0x00000004 - DP1 0x00000008 - DP2 0x00000010 - sRGB 0x00000020 - VGA1 0x00000040 - VGA2 0x00000080 - sRGB 0x00000100 - DP2	3751-02-EB-61-CHK	4	6F-37-07-02 [RC] 61 [Data0] ... [Data3] CHK
GetVideoInput	60h	2	62h	R	0		3751-02-EB-62-CHK	4	6F-37-07-02 [RC] 62 [Data0] ... [Data3] CHK
SetVideoInput	60h	2	62h	W	4		3751-06-0A-62 [Data0] ... [Data3] CHK	0	6F-37-03-02 [RC] 62-CHK
** PIP/PIP MANAGEMENT **									
GetPipMode	70h	0	70h	R	0	PIP/PIP Mode (BYTE) 0 - off 1 - PIP Small 2 - PIP Large 3 - PIP Aspect Ratio 4 - PIP Fill 5 - PIP 2 windows 6 - PIP 3 windows mode 1 7 - PIP 3 windows mode 2 8 - PIP 4 windows	3751-02-EB-70-CHK	1	6F-37-04-02 [RC] 70 [Data0] CHK
SetPipMode	70h	0	70h	W	1		3751-03-0A-70 [Data0] CHK	0	6F-37-03-02 [RC] 70-CHK
GetPipSubinput	70h	1	71h	R	1	SubInput (BYTE) 0 - window 1 1 - window 2 2 - window 3 3 - window 4	3751-03-0B-71 [Data0] CHK	4	6F-37-07-02 [RC] 71 [Data0] ... [Data3] CHK
SetPipSubinput	70h	1	71h	W	5	Bitwise representation of video inputs (DWORD) 0x00000001 - HDMI1/Mini1 0x00000002 - HDMI2/Mini2 0x00000004 - DP1 0x00000008 - DP2 0x00000010 - sRGB 0x00000020 - VGA1 0x00000040 - VGA2 0x00000080 - sRGB 0x00000100 - DP2	3751-07-0A-71 [Data0] ... [Data4] CHK	0	6F-37-03-02 [RC] 71-CHK
GetPipLocation	70h	2	72h	R	0	PIP Location (BYTE) 0 - Top-Right 1 - Top-Left 2 - Bottom-Right 3 - Bottom-Left	3751-02-EB-72-CHK	1	6F-37-04-02 [RC] 72 [Data0] CHK
SetPipLocation	70h	2	72h	W	1		3751-03-0A-72 [Data0] CHK	0	6F-37-03-02 [RC] 72-CHK
** TDD LUT MANAGEMENT **									
GetOSDManagement	80h	12	80h-8Fh						
GetOSDTransparency	80h	0	80h	W	1	OSD Transparency (BYTE) 0 - 100 values in increments of 20	3751-03-0A-80 [Data0] CHK	0	6F-37-03-02 [RC] 80-CHK
SetOSDTransparency	80h	0	80h	R	0		3751-02-EB-80-CHK	1	6F-37-04-02 [RC] 80 [Data0] CHK
GetOSDLanguage	80h	1	81h	W	1	OSD Language (BYTE) 0 - English 1 - Spanish 2 - Francais 3 - Deutsch 4 - Portugais (Brazil) 5 - Pycckий 6 - Italiano 7 - [] [] [] []	3751-03-0A-81 [Data0] CHK	0	6F-37-03-02 [RC] 81-CHK
SetOSDLanguage	80h	1	81h	R	0		3751-02-EB-81-CHK	1	6F-37-04-02 [RC] 81 [Data0] CHK
GetOSDTimer	80h	3	83h	W	1	OSD Timer (BYTE) 0 - 60 seconds values in increments of 1	3751-03-0A-83 [Data0] CHK	0	6F-37-03-02 [RC] 83-CHK
SetOSDTimer	80h	3	83h	R	0		3751-02-EB-83-CHK	1	6F-37-04-02 [RC] 83 [Data0] CHK
GetOSDButtonLock	80h	4	84h	W	1	OSD Button Lock (BYTE) 0 - UnLock 1 - Lock	3751-03-0A-84 [Data0] CHK	0	6F-37-03-02 [RC] 84-CHK
SetOSDButtonLock	80h	4	84h	R	0		3751-02-EB-84-CHK	1	6F-37-04-02 [RC] 84 [Data0] CHK
ResetOSD	80h	7	80h	W	0	NONE	3751-02-0A-8F-CHK	0	6F-37-03-02 [RC] 8F-CHK
** SYSTEM MANAGEMENT **									
GetVersionFirmware	A0h	0	A0h	R	0	ASCII string	3751-02-EB-A0-CHK	7	6F-37-04-02 [RC] A0 [Data0] ... [Data6] CHK
GetDCCI	A0h	2	A2h	R	0	DCCI (BYTE) 0 - Disabled 1 - Enabled	3751-02-EB-A2-CHK	1	6F-37-04-02 [RC] A2 [Data0] CHK
SetDCCI	A0h	2	A2h	W	1		3751-03-0A-A2 [Data0] CHK	0	6F-37-03-02 [RC] A2-CHK
GetLCDConditioning	A0h	3	A3h	R	0	LCD Conditioning (BYTE) 0 - Disabled 1 - Enabled	3751-02-EB-A3-CHK	1	6F-37-04-02 [RC] A3 [Data0] CHK
SetLCDConditioning	A0h	3	A3h	W	1		3751-03-0A-A3 [Data0] CHK	0	6F-37-03-02 [RC] A3-CHK
FactoryReset	A0h	1	A0h	W	0	NONE	3751-02-0A-AF-CHK	0	6F-37-03-02 [RC] AF-CHK
** RESERVED **									
GetReserved 1	B0h	16	B0h-BFh						
SetReserved 1	B0h	16	B0h-BFh						
GetReserved 2	C0h	16	C0h-CFh						
SetReserved 2	C0h	16	C0h-CFh						
GetReserved 3	D0h	16	D0h-DFh						
SetReserved 3	D0h	16	D0h-DFh						

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