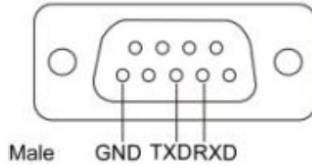


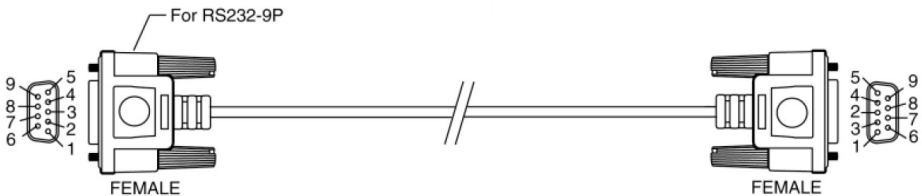


Dell™ C7017T RS232 Protocol Document

- RS232 Pin Assignment



- 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 : The RS232 (pin2-3 swap) 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

Control Command Syntax (From PC to Monitor)

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

[H0] = 6E

[H1] = 51

[Len] = Length

[R/W] = Read/Write

Read = EB

Write = EA

[Cmd] = Command

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

[Chk] = Check Sum

[Len] = 0x80+N

When N is the number of bytes from [R/W] to [DataN]

Exclusive OR = xor, check sum is calculated as below:

[Chk] = [H0] xor [H1] xor [Len] xor [R/W] xor [Cmd] xor [Data0]...[DataN]

Reply Command Syntax (From Monitor to PC)

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

[H2] = 6F

[H3] = 6E

[Len] = Length

[Reply] = Reply (02)

[RC] = Result Code

0 = Success

1 = Timeout

2 = Parameters Error

3 = Not connected

4 = Other Failure

[Cmd] = Command

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

[Chk] = Check Sum

[Reply Len] = 0x80+N

When N is the number of bytes from [Reply] to [DataN]

Exclusive OR = xor, check sum is calculated as below:

if Len = 3

[Chk] = 0X50 xor [H2] xor [H3] xor [Len] xor [Reply] xor [RC]

if Len = 4

[Chk] = 0X50 xor [H2] xor [H3] xor [Len] xor [Reply] xor [RC] xor [Cmd]

if len > 4

[Chk] = 0X50 xor [H2] xor [H3] xor [Len] xor [Reply] xor [RC] xor [Cmd] xor ... xor [Data[Len-5]]

Example Command

Example: GetBrightness Command

Command: 6E 51 82 EB 30 66

[H0] = 6E

[H1] = 51

[Len] = 82

[R/W] = EB

[Cmd] = 30

[Chk] = 66

Example: GetBrightness Reply

Reply: 6F 6E 84 02 00 30 4B E7

[H2] = 6F

[H3] = 6E

[Len] = 84

[Reply] = 02

[RC] = 00

[Cmd] = 30

[Data0] = 4B

[Chk] = E7

Control Commands List

APIs	Command	N bytes of replied Data	Reply	Reply Example
/* MONITOR MANAGEMENT */				
GetMonitorName	6E 51 82 EB 01 57	10	6F 6E 8D 02 [RC] 01 [DATA0] ... [DATAN] CHK	6F 6E 8D 02 00 01 43 37 30 31 37 54 00 00 00 00 C9
GetMonitorSerialNumber	6E 51 82 EB 02 54	12	6F 6E 8F 02 [RC] 02 [DATA0] ... [DATAN] CHK	6F 6E 8F 02 00 02 58 36 43 32 34 36 35 35 41 30 38 50 8A
GetBacklightHours	6E 51 82 EB 04 52	2	6F 6E 85 02 [RC] 04 [DATA0] ... [DATAN] CHK	6F 6E 85 02 00 04 00 89 D2
/* POWER MANAGEMENT */				
GetPowerState	6E 51 82 EB 20 76	1	6F 6E 84 02 [RC] 20 [DATA0] ... [DATAN] CHK	6F 6E 84 02 00 20 01 F7 (ON) 6F 6E 84 02 00 20 00 F7(OFF) 6F 6E 84 02 00 20 02 F7(SAVING)
SetPowerState	ON:6E 51 83 EA 20 01 77 OFF:6E 51 83 EA 20 00 76 STANDBY:6E 51 83 EA 20 02 74	0	6F 6E 83 02 [RC] 20 [DATA0] ... [DATAN] CHK	6F 6E 83 02 00 20 D0(ON) 6F 6E 83 02 00 20 D0(OFF) 6F 6E 83 02 00 20 D0(SAVING)
GetPowerLED	6E 51 82 EB 21 77	1	6F 6E 84 02 [RC] 21 [DATA0] ... [DATAN] CHK	6F 6E 84 02 00 21 01 F6(LED ON) 6F 6E 84 02 00 21 00 F6(LED OFF)
SetPowerLED	OFF:6E 51 83 EA 21 00 77 ON:6E 51 83 EA 21 01 76	0	6F 6E 83 02 [RC] 21 [DATA0] ... [DATAN] CHK	6F 6E 83 02 00 21 D0(ON) 6F 6E 83 02 00 21 D0(OFF)
GetPowerUSB	6E 51 82 EB 22 74	1	6F 6E 84 02 [RC] 22 [DATA0] ... [DATAN] CHK	6F 6E 84 02 00 22 00 F5(OFF) 6F 6E 84 02 00 22 01 F5(ON)
SetPowerUSB	OFF:6E 51 83 EA 22 00 74 ON:6E 51 83 EA 22 01 75	0	6F 6E 83 02 [RC] 22 [DATA0] ... [DATAN] CHK	6F 6E 83 02 00 22 D0

ResetPower	6E 51 82 EA 2F 78	0	6F 6E 83 02 [RC] 2F [DATA0] ... [DATAN] CHK	6F 6E 83 02 00 2F D0
/* IMAGE ADJUSTMENT */				
GetBrightness	6E 51 82 EB 30 66	1	6F 6E 84 02 [RC] 30 [DATA0] ... [DATAN] CHK	6F 6E 84 02 00 30 4B E7
SetBrightness	6E 51 83 EA 30 [DATA0] ... [DATAN] CHK	0	6F 6E 83 02 [RC] 30 [DATA0] ... [DATAN] CHK	6F 6E 83 02 00 30 D0
GetContrast	6E 51 82 EB 31 67	1	6F 6E 84 02 [RC] 31 [DATA0] ... [DATAN] CHK	6F 6E 84 02 00 31 4B E6
SetContrast	6E 51 83 EA 31 [DATA0] ... [DATAN] CHK	0	6F 6E 83 02 [RC] 31 [DATA0] ... [DATAN] CHK	6F 6E 83 02 00 31 D0
GetSharpness	6E 51 82 EB 34 62	1	6F 6E 84 02 [RC] 34 [DATA0] ... [DATAN] CHK	6F 6E 84 02 00 34 32 E3
SetSharpness	6E 51 83 EA 34 [DATA0] ... [DATAN] CHK	0	6F 6E 83 02 [RC] 34 [DATA0] ... [DATAN] CHK	6F 6E 83 02 00 34 D0
GetAspect Ratio	6E 51 82 EB 33 65	1	6F 6E 84 02 [RC] 33 [DATA0] ... [DATAN] CHK	WIDE:6F 6E 84 02 00 33 00 E4 4:3:6F 6E 84 02 00 33 02 E4 5:4:6F 6E 84 02 00 33 04 E4
SetAspect Ratio	4:3: 6E 51 83 EA 33 02 67 16:9: 6E 51 83 EA 33 00 65 5:4: 6E 51 83 EA 33 04 61	0	6F 6E 83 02 [RC] 33 [DATA0] ... [DATAN] CHK	6F 6E 83 02 00 33 D0
GetResponseTime	6E 51 82 EB 35 63	1	6F 6E 84 02 [RC] 35 [DATA0] ... [DATAN] CHK	NORMAL:6F 6E 84 02 00 35 00 E2 FAST:6F 6E 84 02 00 35 01 E2
SetResponseTime	NORMAL:6E 51 83 EA 35 00 63 FAST:6E 51 83 EA 35 01 62	0	6F 6E 83 02 [RC] 35 [DATA0] ... [DATAN] CHK	NORMA:6F 6E 83 02 00 35 D0 FAST:6F 6E 83 02 00 35 D0
/* COLOR MANAGEMENT */				
GetInputColorFormat	6E 51 82 EB 46 10	1	6F 6E 84 02 [RC] 46 [DATA0] ... [DATAN] CHK	6F 6E 84 02 00 46 00 91(RGB) 6F 6E 84 02 00 46 01 91(Ybpr)

SetInputColorFormat	6E 51 83 EA 46 [DATA0] ... [DATAN] CHK	0	6F 6E 83 02 [RC] 46 [DATA0] ... [DATAN] CHK	6F 6E 83 02 00 46 D0
GetColorPresetCaps	6E 51 82 EB 47 11	4	6F 6E 87 02 [RC] 47 [DATA0] ... [DATAN] CHK	6F 6E 87 02 00 47 00 00 04 81 97
GetColorPreset	6E 51 82 EB 48 1E	4	6F 6E 87 02 [RC] 48 [DATA0] ... [DATAN] CHK	6F 6E 87 02 00 48 00 00 00 80 9C(CUSTOMER COLOR) 6F 6E 87 02 00 48 00 00 00 01 9C(STANDARD) 6F 6E 87 02 00 48 00 00 04 00 98(WARM)
SetColorPreset	STANDARD: 6E 51 86 EA 48 00 00 00 01 1A WARM: 6E 51 86 EA 48 00 00 04 00 1F CUSTOM: 6E 51 86 EA 48 00 00 00 80 9B	0	6F 6E 83 02 [RC] 48 [DATA0] ... [DATAN] CHK	6F 6E 83 02 00 48 D0
GetCustomColor	6E 51 82 EB 49 1F	6	6F 6E 89 02 [RC] 49 [DATA0] ... [DATAN] CHK	6F 6E 89 02 00 49 64 64 64 00 00 00 F7
SetCustomColor	6E 51 83 EA 49 [DATA0] ... [DATAN] CHK(EXAMPLE: 6E 51 86 EA 49 00 00 80 00 9A)	0	6F 6E 83 02 [RC] 49 [DATA0] ... [DATAN] CHK	EXAMPLE : 6F 6E 83 02 00 49 D0
ResetColor	6E 51 82 EA 4F 18	0	6F 6E 83 02 [RC] 4F [DATA0] ... [DATAN] CHK	6F 6E 83 02 00 4F D0
/* VIDEO INPUT MANAGEMENT */				
SetAutoSelect	6E 51 83 EA 60 0 36 6E 51 83 EA 60 1 37	0	6F 6E 83 02 [RC] 60 [DATA0] ... [DATAN] CHK	6F 6E 83 02 00 60 D0
GetAutoSelect	6E 51 82 EB 60 36	1	6F 6E 84 02 [RC] 60 [DATA0] ... [DATAN] CHK	ON: 6F 6E 84 02 00 60 01 B7 OFF: 6F 6E 84 02 00 60 00 B7
GetVideoInputCaps	6E 51 82 EB 61 37	4	6F 6E 87 02 [RC] 61 [DATA0] ... [DATAN] CHK	6F 6E 87 02 00 61 00 00 00 4F B5

GetVideoInput	6E 51 82 EB 62 34	4	6F 6E 87 02 [RC] 62 [DATA0] ... [DATAN] CHK	VGA:6F 6E 87 02 00 62 00 00 00 40 B6 HDMI1:6F 6E 87 02 00 62 00 00 00 01 B6 HDMI2:6F 6E 87 02 00 62 00 00 00 02 B6 HDMI3:6F 6E 87 02 00 62 00 00 00 04 B6 DP:6F 6E 87 02 00 62 00 00 00 08 B6
SetVideoInput	VGA: 6E 51 86 EA 62 00 00 00 40 71 HDMI1: 6E 51 86 EA 62 00 00 00 01 30 HDMI2: 6E 51 86 EA 62 00 00 00 02 33 HDMI3: 6E 51 86 EA 62 00 00 00 04 35 DP: 6E 51 86 EA 62 00 00 00 08 39	0	6F 6E 83 02 [RC] 62 [DATA0] ... [DATAN] CHK	VGA:6F 6E 83 02 00 62 D0 HDMI1:6F 6E 83 02 00 62 D0 HDMI2:6F 6E 83 02 00 62 D0 HDMI3:6F 6E 83 02 00 62 D0 DP:6F 6E 83 02 00 62 D0
/* PIP/PBP MANAGEMENT */				
/* OSD MANAGEMENT */				
SetOSDLanguage	6E 51 83 EA 81 [DATA0] ... [DATAN] CHK	0	6F 6E 83 02 [RC] 81 [DATA0] ... [DATAN] CHK	6F 6E 83 02 00 81 D0
GetOSDLanguage	6E 51 82 EB 81 D7	1	6F 6E 84 02 [RC] 81 [DATA0] ... [DATAN] CHK	English:6F 6E 84 02 00 81 00 56 Japan:6F 6E 84 02 00 81 07 56 Espanol:6F 6E 84 02 00 81 01 56 Fran:6F 6E 84 02 00 81 02 56 Desu:6F 6E 84 02 00 81 03 56 Port:6F 6E 84 02 00 81 04 56 Pycc:6F 6E 84 02 00 81 05 56 Chinese:6F 6E 84 02 00 81 06 56

SetOSDTimer	6E 51 83 EA 83 [DATA0] ... [DATAN] CHK	0	6F 6E 83 02 [RC] 83 [DATA0] ... [DATAN] CHK	6F 6E 83 02 00 83 D0
GetOSDTimer	6E 51 82 EB 83 D5	1	6F 6E 84 02 [RC] 83 [DATA0] ... [DATAN] CHK	6F 6E 84 02 00 83 07 54
SetOSDButtonLock	UNLOCK:6E 51 83 EA 84 00 D2 LOCK:6E 51 83 EA 84 01 D3	0	6F 6E 83 02 [RC] 84 [DATA0] ... [DATAN] CHK	UNLOCK:6F 6E 83 02 00 00 84 D0 LOCK:6F 6E 83 02 00 84 D0
GetOSDButtonLock	6E 51 82 EB 84 D2	1	6F 6E 84 02 [RC] 84 [DATA0] ... [DATAN] CHK	UNLOCK:6F 6E 84 02 00 84 00 53 LOCK:6F 6E 84 02 00 84 01 53
ResetOSD	6E 51 82 EA 8F D8	0	6F 6E 83 02 [RC] 8F [DATA0] ... [DATAN] CHK	6F 6E 83 02 00 8F D0
/* SYSTEM MANAGEMENT */				
GetVersionFirmware	6E 51 82 EB A0 F6	10	6F 6E 8D 02 [RC] A0 [DATA0] ... [DATAN] CHK	6F 6E 8D 02 00 A0 4D 33 46 31 30 30 54 34 00 00 17
GetLCDConditioning	6E 51 82 EB A4 F2	1	6F 6E 84 02 [RC] A4 [DATA0] ... [DATAN] CHK	6F 6E 84 02 00 A4 00 73(DISABLE) 6F 6E 84 02 00 A4 01 73 (ENABLE)
SetLCDConditioning	DISABLE:6E 51 83 EA A4 00 F2 ENABLE:6E 51 83 EA A4 01 F3	0	6F 6E 83 02 [RC] A4 [DATA0] ... [DATAN] CHK	6F 6E 83 02 00 A4 D0
FactoryReset	6E 51 82 EA AF F8	0	6F 6E 83 02 [RC] AF [DATA0] ... [DATAN] CHK	6F 6E 83 02 00 AF D0
/* Audio MANAGEMENT */				
SetVolumeLevel	6E 51 83 EA B0 [DATA] CHK (EXAMPLE : 6E 51 83 EA B0 64 82)	0	6F 6E 83 02 [RC] B0 [DATA0] ... [DATAN] CHK	6F 6E 83 02 00 B0 D0
GetVolumeLevel	6E 51 82 EB B0 E6	1	6F 6E 84 02 [RC] B0 [DATA0] ... [DATAN] CHK	6F 6E 84 02 00 B0 32 67
SetSpeakerMute	MUTE:6E 51 83 EA B1 1 E6 UNMUTE:6E 51 83 EA B1 0 E7	0	6F 6E 83 02 [RC] B1 [DATA0] ... [DATAN] CHK	6F 6E 83 02 00 B1 D0
GetSpeakerMute	6E 51 82 EB B1 E7	1	6F 6E 84 02 [RC] B1 [DATA0] ... [DATAN] CHK	UNMUTE: 6F 6E 84 02 00 B1 00 66 MUTE :6F 6E 84 02 00 B1 01 66

SetAudioSource	HDMI/DP:6E 51 83 EA B2 1 E5 PC AUDIO:6E 51 83 EA B2 2 E6	0	6F 6E 83 02 [RC] B2 [DATA0] ... [DATAN] CHK	6F 6E 83 02 00 B2 D0
GetAudioSource	6E 51 82 EB B2 E4	1	6F 6E 84 02 [RC] B2 [DATA0] ... [DATAN] CHK	HDMI/DP : 6F 6E 84 02 00 B2 01 65 PC AUDIO : 6F 6E 84 02 00 B2 02 65
Audio Reset	6E 51 82 EA BF E8	0	6F 6E 83 02 [RC] BF [DATA0] ... [DATAN] CHK	6F 6E 83 02 00 BF D0

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