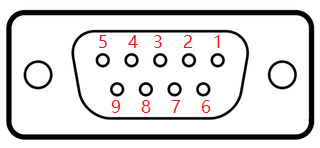
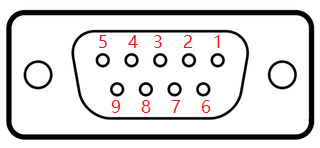
**RS-232 Cable Specifications**

Make sure the RS-232 cable matches the cable specification design.

PC COM Port Tekspring RS-232 Port

DSUB-9P(Female) DSUB-9P(Female)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| PIN | NAME | CABLE CONNECTOR | NAME | PIN |
| 1 | CD | ----------------------------------------------------- | CD | 1 |
| 2 | RXD |  | RXD | 2 |
| 3 | TXD |  | TXD | 3 |
| 4 | DTR | ----------------------------------------------------- | DTR | 4 |
| 5 | SG | ----------------------------------------------------- | SG | 5 |
| 6 | DSR | ----------------------------------------------------- | DSR | 6 |
| 7 | RTS | ----------------------------------------------------- | RTS | 7 |
| 8 | CTS | ----------------------------------------------------- | CTS | 8 |
| 9 | RI(CI) | ----------------------------------------------------- | RI(CI) | 9 |

**RS-232 Transmission Specifications**

|  |  |
| --- | --- |
| ◆ Data bit | : 8bit |
| ◆ Stop bit | : 1bit |
| ◆ Parity bit | : None |
| ◆ Flow Control | : None |
| ◆ Baud rate | : 9600bps |

**RS-232 Communication Format**

**Send Format (Host command to Device)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Offset | Field | Size(Byte) | Value | Description |
| 0 | Send Code | 1 | 52 | Host command to Device |
| 1 | Type Code | 1 | 0B | Host set parameter to Device |
| 2 | DataLength code | 1 | 04 | The length of the data |
| 3 | Data[0]…Data[3] | 4 | Group,index ,Vaule | See the Command Table for reference |
| 7 | Check Sum Code | 1 | value | See the Command Table for reference |

**Send Format (Device return to Host)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Offset | Field | Size(Byte) | Value | Description |
| 0 | Receive Code | 1 | 53 | Device return to Host |
| 1 | Type Code | 1 | 0C | Device return to Host |
| 2 | DataLength code | 1 | 04 | The length of the data |
| 3 | Data[0]…Data[3] | 4 | Data[0]:80  Data[1]:00  Data[2]:00  Data[3]:Value | If send code OK  Data[3]:01  If send code Failed  Data[3]: 00 |
| 7 | Check Sum Code | 1 | value | See the Command Table for reference |

Send Format: 52 + 0B + 04+ Data[0] + Data[1] + Data[2] + Data[3] + CheckSum

Receive Format: 53 + 0C + 04+ 80 + 00 + 00 + Data[3] + CheckSum

Example one: Virtual Remote Key Function

|  |  |  |
| --- | --- | --- |
| Step one: |  |  |
| Send | : 52,0B,04,01,00,A1,01,04 | (ZOOM IN Key Down) |
| Receive | : 53,0C,04,80,00,00,01,E4 | (Check the send code is OK return 01) |
| Step two: |  |  |
| Send | : 52,0B,04,01,00,A1,00,03 | (ZOOM IN Key Up) |
| Receive | : 53,0C,04,80,00,00,01,E4 |  |

When send the two codes, we do the ZOOM IN function.

Example two: Setting Function

|  |  |  |
| --- | --- | --- |
| Send | : 52,0B,04,40,01,03,02,A7 | (Command: Image Size 5M) |
| Receive | : 52,0B,04,01,00,A1,01,04 | (Check the send code OK return 01) |

When send the code, we set the Image Size 5M function.

**RS-232 Send Command Table**

|  |  |
| --- | --- |
| Virtual the Remote Key | Code |
| Power Key Down | 52,0B,04,01,00,A0,01,03 |
| Power Key Up | 52,0B,04,01,00,A0,00,03 |
| SNAP Key Down | 52,0B,04,01,00,AD,01,10 |
| SNAP Key Up | 52,0B,04,01,00,AD,00,0F |
| RECORDING Key Down | 52,0B,04,01,00,AC,01,0F |
| RECORDING Key Up | 52,0B,04,01,00,AC,00,0E |
| PLAYBACK Key Down | 52,0B,04,01,00,AE,01,11 |
| PLAYBACK Key Up | 52,0B,04,01,00,AE,00,10 |
| BRIGHTNESS Key Down | 52,0B,04,01,00,BD,01,20 |
| BRIGHTNESS Key Up | 52,0B,04,01,00,BD,00,1F |
| FREEZE Key Down | 52,0B,04,01,00,B3,01,16 |
| FREEZE Key Up | 52,0B,04,01,00,B3,00,15 |
| ICON Key Down | 52,0B,04,01,00,AF,01,12 |
| ICON Key Up | 52,0B,04,01,00,AF,00,11 |
| MENU Key Down | 52,0B,04,01,00,AA,01,0D |
| MENU Key Up | 52,0B,04,01,00,AA,00,0C |
| FLIP Key Down | 52,0B,04,01,00,B2,01,15 |
| FLIP Key Up | 52,0B,04,01,00,B2,00,14 |
| UP Key Down | 52,0B,04,01,00,A6,01,09 |
| UP Key Up | 52,0B,04,01,00,A6,00,08 |
| DOWN Key Down | 52,0B,04,01,00,A7,01,0A |
| DOWN Key Up | 52,0B,04,01,00,A7,00,09 |
| LEFT Key Down | 52,0B,04,01,00,A8,01,0B |
| LEFT Key Up | 52,0B,04,01,00,A8,00,0A |
| RIGHT Key Down | 52,0B,04,01,00,A9,01,0C |
| RIGHT Key Up | 52,0B,04,01,00,A9,00,0B |
| OK Key Down | 52,0B,04,01,00,AB,01,0E |
| OK Key Up | 52,0B,04,01,00,AB,00,0C |
| ZOOM OUT Key Down | 52,0B,04,01,00,A2,01,05 |
| ZOOM OUT Key Up | 52,0B,04,01,00,A2,00,04 |
| ZOOM IN Key Down | 52,0B,04,01,00,A1,01,04 |
| ZOOM IN Key Up | 52,0B,04,01,00,A1,00,03 |
| AUTO FOCUS Key Up | 52,0B,04,01,00,A5,01,08 |
| AUTO FOCUS Key Up | 52,0B,04,01,00,A5,00,07 |
| MANUAL FOCUS OUT Key Down | 52,0B,04,01,00,B9,01,1C |
| MANUAL FOCUS OUT Key Up | 52,0B,04,01,00,B9,00,1B |
| MANUAL FOCUS IN Key Down | 52,0B,04,01,00,BA,01,1D |
| MANUAL FOCUS IN Key Up | 52,0B,04,01,00,BA,00,1C |
| QUICKZOOM 2X Key Down | 52,0B,04,01,00,A3,01,06 |
| QUICKZOOM 2X Key Up | 52,0B,04,01,00,A3,00,05 |
| HIGHLIGHT Key Down | 52,0B,04,01,00,B6,01,19 |
| HIGHLIGHT Key Up | 52,0B,04,01,00,B6,00,18 |
| MASK Key Down | 52,0B,04,01,00,B5,01,18 |
| MASK Key Up | 52,0B,04,01,00,B5,00,17 |
| MACRO Key Down | 52,0B,04,01,00,A4,01,07 |
| MACRO Key Up | 52,0B,04,01,00,A4,00,06 |
| SIZE Key Down | 52,0B,04,01,00,B7,01,1A |
| SIZE Key Up | 52,0B,04,01,00,B7,00,19 |
| COLOR Key Down | 52,0B,04,01,00,B8,01,1B |
| COLOR Key Up | 52,0B,04,01,00,B8,00,1A |
| VOLUME UP Key Down | 52,0B,04,01,00,B0,01,13 |
| VOLUME UP Key Up | 52,0B,04,01,00,B0,00,12 |
| PIP Key Down | 52,0B,04,01,00,B4,01,17 |
| PIP Key Up | 52,0B,04,01,00,B4,00,16 |
| VOLUME DOWN Key Down | 52,0B,04,01,00,B1,01,14 |
| VOLUME DOWN Key Up | 52,0B,04,01,00,B1,00,13 |

|  |  |
| --- | --- |
| Setting Function | Code |
| Effect Graphics | 52,0B,04,40,01,01,00,A3 |
| Effect Text | 52,0B,04,40,01,01,01,A4 |
| Effect B&W | 52,0B,04,40,01,01,02,A5 |
| Effect Negative | 52,0B,04,40,01,01,03,A6 |
| Effect Sketch | 52,0B,04,40,01,01,04,A7 |
| Image Size 0.8M | 52,0B,04,40,01,03,00,A5 |
| Image Size 2M | 52,0B,04,40,01,03,01,A6 |
| Image Size 5M | 52,0B,04,40,01,03,02,A7 |
| Video Mode HQ | 52,0B,04,40,01,04,01,A6 |
| Video Mode HFR | 52,0B,04,40,01,04,01,A7 |

**Get Format (Host command to Device)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Offset | Field | Size(Byte) | Value | Description |
| 0 | Send Code | 1 | 52 | Host command to Device |
| 1 | Type Code | 1 | 0A | Host get parameter to Device |
| 2 | DataLength code | 1 | 04 | The length of the data |
| 3 | Data[0]…Data[3] | 4 | Group, index ,  Value | See the Command Table for reference |
| 7 | Check Sum Code | 1 | value | See the Command Table for reference |

**Get Format (Device return to Host)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Offset | Field | Size(Byte) | Value | Description |
| 0 | Receive Code | 1 | 53 | Device return to Host |
| 1 | Type Code | 1 | 0C | Device return to Host |
| 2 | DataLength code | 1 | 04 | The length of the data |
| 3 | Data[0]…Data[2] | 3 | Group, index , | Data[0]~Data[2]:Group, index |
| 6 | ReData[3] | 1 | Value | ReData[3]:Value |
| 7 | Check Sum Code | 1 | value | See the Command Table for reference |

**RS-232 Get Command Table**

Send Format ：52 + 0A +04 + Data[0] + Data[1] + Data[2] + Data[3] + CheckSum

Receive Format: 53 + 0C + 04 + Data[0] + Data[1] + Data[2]+ ReData[3] + ReCheckSum

|  |  |  |  |
| --- | --- | --- | --- |
| Function | Send Code | Receive Code | ReData[3] |
| LED\_LAMP | 52 0A 04 70 00 12 FF E1 | 53,0C,04,70,00,12,00,E5  53,0C,04,70,00,12,01,E6  53,0C,04,70,00,12,02,E7  53,0C,04,70,00,12,03,E8 | 0: Lamp OFF  1: Lamp level 1  2: Lamp level 2  3: Lamp level 3 |