

**Overview**

The Q-RS232S connects to RS-232 devices via the Vantage Station Bus. This design eliminates extra wire runs normally needed for interfacing with RS-232 devices. The Vantage System may be programmed to control RS-232 devices, or vice versa. Among the ever-growing list of devices that communicate via RS-232 are Audio/Video, Drapery Controls, Pool Systems, Security Systems, Touch screens, PCs, etc. The system also allows “recognition” of RS-232 strings from third party devices. When these strings are sent to or monitored by the Vantage System any custom program may be executed. The station is small making it easy to conceal in inconspicuous places.

**System Specifications/Requirements**

Description	Specification
Dimensions, HWD	3.8" x 2.4" x 0.9" 97mm x 61mm x 23mm
Weight	8.2oz -or- 119g
Station Wiring configuration	Daisy-chain/Star/Branch
Station Bus Wiring	2C, 16AWG / 1.31mm <sup>2</sup> , twisted, non-shielded, <30pF per foot. Separate a minimum of 12" / 30.5cm from other parallel communication and/or high voltage runs.
Station Equivalent InFusion	0.75W on IC-24 / 0.75W on IC-36
Station Equivalent QLink	Counts as 2 Stations on Main Controller
Station Bus connections*	24V / 36V Station Bus
Memory Buffer	64 KB
RS-232	Male NULL Adaptor Included RX, TX, GND PINS
LED Indicators	<ul style="list-style-type: none"> <li>Data Out (TX)</li> <li>Data In (RX)</li> <li>Handshake Out (RTS)</li> <li>Handshake In (CTS)</li> <li>Diagnostic (Configured Status)</li> </ul>
Finish	Black
Ambient Operating Temperature	32-95° F -or- 0-35° C
Ambient Operating Humidity	5-95% non-condensing

\*CAUTION: 36V stations have a **36** symbol on the Serial Number sticker. Any station, not displaying this symbol, should not be connected to a 36Volt Station Bus.

**Software/Firmware**

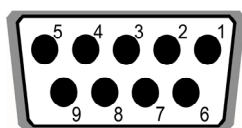
InFusion Systems or QLink Software 2.5 or higher and QLink Firmware 5.7 or higher. For new projects it is recommended that firmware and software be kept to the most current release.

**Mounting**

Installation of Vantage products should be performed or supervised by a Certified Vantage Installer. The RS-232 Station is connected to the equipment it will be interfacing with. The small package will fit into most enclosures, or hang behind the equipment. A Station Bus Receptacle, part # Q-RSO is available that makes a connection from the wall to the RS-232 Station.

**Station Connection**

The RS-232 Station connects to a Vantage System Station Bus through two screw terminals on the RS-232 Station. The Vantage Station Bus wiring specification should be followed for connecting the station to the station bus.



DB9 Female Connector

**Q-RS232S Connector Signal Summary**

Connect to	DB9 Pin	Wire Color	Description
RX	2	Brown	Receive Data
TX	3	Red	Transmit Data
GND	5	Yellow	Ground
CTS	7	Blue	Handshake In
RTS	8	Violet	Handshake Out

**Q-RS232S Connector With RS-232 Null Adaptor (included)**

Connect to	DB9 Pin	Wire Color	Description
RX	2	Brown	Transmit Data
TX	3	Red	Receive Data
GND	5	Yellow	Ground
CTS	NA		
RTS	NA		

**Setup Using InFusion Design Center Software**

First select the room, then click on Vantage Objects in the Object Explorer and expand Stations, WireLink. From the list of stations double click on the RS-232 Station to place it in the room. In the Object Editor name the station and make sure it is on the correct station bus port. Make sure the communication protocol is setup to match the equipment it will be communicating with. With the RS-232 Station defined, it may be used to transmit and receive RS-232 Strings. When you program a task and select the Send Serial String procedure, the RS-232 station's port will be an option as a destination.

**Setup Using QLink Software**

In Location view, select the floor and room to add the RS-232 Station in. Right click on the Room and from the popup menu select Add WireLink Stations and select the RS232 station from the list. The RS232 Station properties dialog box appears. Select the options for Baud Rate, Parity, the number of data and stop bits and the type of handshaking if any. With the RS-232 Station defined, it may be used to transmit and receive RS-232 Strings. When you program a button and select the RS-232 function, the RS-232 Station will be an option as a destination.

**Using Q-RS232S for System "Tweaks" on QLink Systems**

Once connected to the Vantage Station Bus, the RS-232 Station is ready to be connected to a PC and used to make *small* system programming changes with QLink. *The RS-232 station does not need to be configured when used to connect and make small program changes to the Main Controller.* Connect the PC and the Q RS232S with a 9-pin male to 9-pin female straight through RS 232 cable. *The RS-232 station should not be used to program the Vantage System, instead do a Connect Only and make minor changes to the program while online.* For most programming it is recommended that the QLink connection be to the Main Controller directly. Do not use the Q-RS232S station to configure stations.

**Configuration**

When the Q-RS232S is first connected, the diagnostic LED will blink twice followed by a pause. This means the RS-232 Station is connected correctly but is not configured. It is configured like any other station. From Design Center, click on the *Configure Stations* button on the toolbar or from QLink, Select *System | Configure Stations* menu and select the radio *Configure* button in the online configuration section. To finish configuring, highlight the RS-232 station on the list of stations and press the *Config Button* on the front of the RS-232 Station. You will need to use a small screwdriver or a paper clip to depress this button. The station may also be configured by typing the serial number in the project file, using this method the station will automatically be configured when the system is programmed. Once configured the diagnostic LED will blink evenly.

**Diagnostic Information**

The Diagnostic LED blinks 1 time evenly or 2, 3, 4, or 5 blinks followed by a pause.

**One Even Blink:** The Q-RS232S is operating correctly and is configured.

**Two Blinks:** The Q-RS232S is operating correctly but is not configured.

**Three Blinks:** The Q-RS232S is not communicating with the Main Controller. Check the Station Bus connection.

**Four Blinks:** Factory problem. Please contact the factory.

**Five Blinks:** The Q-RS232S is waiting to be configured.

**Hints**

**Connecting two RS-232 Ports with a Voltmeter:**

Often it is difficult to determine the correct connection between two RS-232 devices. To correctly connect the TX or Transmit line on one to the RX or Receive line on the other follow these instructions. With the two ports powered on, but not connected, take a Voltmeter and put the ground probe in pin 5 and then measure the voltage on pins 2 and 3 on both ports. One pin will have around -10V and the other will be close to 0V. Having done that on both ports, match the 0V to -10V for both pin pairs or the *Positive* to the *Negative* for both pin pairs. If you need hardware hand shaking, then repeat this same procedure on pins 7 and 8.

Example: Results of measuring the voltages on both ports:

RS-232 Port 1		RS-232 Port 2	
Pin 2	-11 V	Pin 2	-0.4 V
Pin 3	0.1 V	Pin 3	-10 V

In this case Port1-Pin 2 would connect to Port 2-Pin 2 and Port 1-Pin 3 would connect to Port 2-Pin 3.

**Using the RS-232 Station For Metadata:**

**Warning:** Passing metadata on this device is not recommended and has been proven *to not work* for such devices as the *iPort* and others that require *high speed communication*. This port is not fast enough for the data volume. Therefore, Vantage recommends that these devices be connected *directly* to one of the RS-232 Ports on the *Main Enclosure Terminal Board*.

**Memory Allocation on the Main Controller**

Each RS-232 station will use approximately 1200 bytes of memory on the Main Controller.

