

VRX Company^{Inc.}

Application Note: Jumper Positions for the VR2004

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Abbreviations and Phrases

ASCII	American Standard Code for Information Interchange
Flow Control	Computers usually implement flow control as multiple electrical connections between a data source, such as a computer Point Of Sale system, and a data peripheral, such as a Journal Printer. Systems use flow control to prevent overfilling the memory buffer of a peripheral, which results in the loss of data.
JOURNAL PRINTER	A receipt printer connected to a POS, which records all transactions. This printer may be located in a back office.
Pole Display	Usually a serial text display device with two lines of 20 characters. Common types are LCD and Vacuum Florescent.
POS	Point of Sale
DTR	Data Terminal Ready an electrical signal from a computer (data terminal) signaling that it is ready to send data. Expects DSR in return. A flow control signal.
DSR	Data Set Ready an electrical signal from a peripheral (a data set) signaling that it is ready to receive data. A flow control signal.
RTS	Ready To Send an electrical signal from a computer signaling that it is ready to send data. Expects CTS in return. A flow control signal.
CTS	Clear To Send an electrical signal from a peripheral signaling that it is ready to receive data. A flow control signal.
TX	An electrical data signal from a computer (terminal) to a peripheral (data set).
RX	An electrical data signal from a peripheral (data set) to a computer (terminal).
DTE	Data Terminal Equipment, a computer or terminal which originates data. Usually has male pins.
DCE	Data Communications Equipment, a peripheral such as a modem, printer or Text Inserter which receives data and usually has female pins.

Table 1 Abbreviations used in this manual

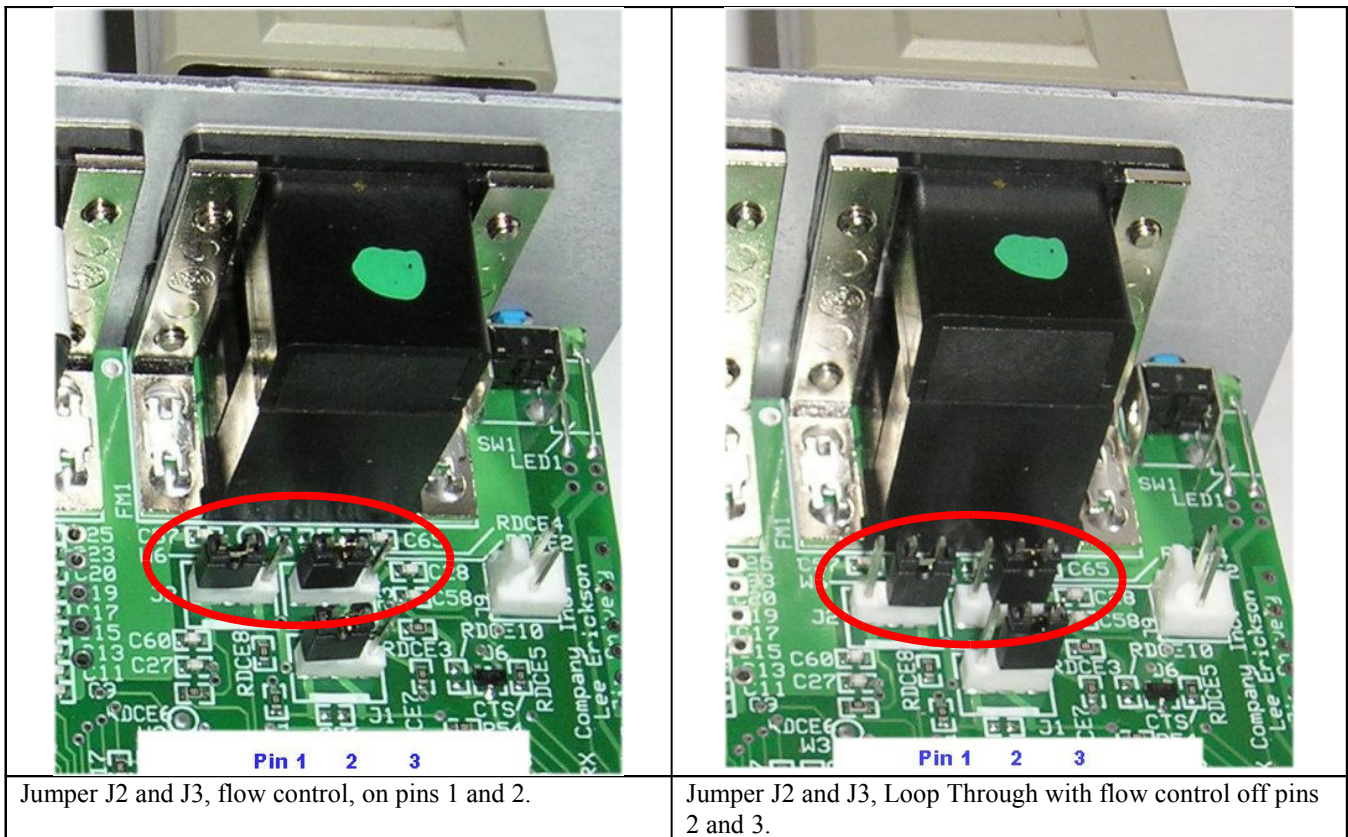
Flow Control

Flow controls is typically used to manage the transfer of data from DTE which is usually a fast data source, such as a computer, to a slow DCE preferential such as a printer with slow mechanical parts or to a text inserter. Data to a text inserter must be managed so that data is not inserted so fast it cannot be read by a human.

There are two sets of flow control signals in the serial connection. They are called DTR and DSR for pins 4 and 6 and RTS and CTS for pins 7 and 8. The jumpers J2 and J3 configure these signals in the VR2004. Internally the VR2004 can only manage flow control on both together so typically J2 and J3 will both be set to pin 1-2 together or 2-3 together.

The VR2004 can process and insert text with flow control signals or the flow control signals can be bypass passively from the Serial Input to the Serial Output. The bypass connection is useful for applications where the flow control lines are assigned to a new purpose such as sending power from a Point of Sale terminal to a preferential such as a pole display. The pin 2-3 position is also used to prevent signal contention in some configurations.

Note that regardless of the position of J2 and J3 that the input to the RS232 level converters in the VR2004 are connected to the DSR pin 6 and CTS pin 8 lines. This typically presents a 4.7K ohm load to ground on these lines.



Some Jumper configurations

VR2004 Application	J1	J2	J3	Note
Ruby tap of journal printer	Pins 2-3 for no RX	Pins 2-3 for no flow	Pins 2-3 for no flow	
Sapphire server. With DB9 tap of Seiko journal printer.	Remove jumper J1	Remove jumper J2	Remove jumper J3	
Sapphire server. Emulation of Seiko journal printer.	Pins 1-2 for RX	Pins 1-2 for flow on	Pins 1-2 for flow on	Requires handshake adapter on VR2004 Serial Output.
Most Pole Displays	Pins 2-3 for no RX	Pins 2-3 for no flow	Pins 2-3 for no flow	
SAM4s Journal Printer emulation	Pins 1-2 for RX	Pins 1-2 for flow on	Pins 1-2 for flow on	Requires handshake adapter on VR2004 Serial Output.
CASIO for Surveillance Interface	Pins 1-2 for RX	Pins 1-2 for flow on	Pins 1-2 for flow on	Requires handshake adapter on VR2004 Serial Output.
Programing application of set up into the VR2004	Pins 1-2 for RX	Do not care	Do not care	

Having trouble?

If you are having compatibility trouble with the POS system and your Text Inserter, please look for updated information on our web site at www.vrxinc.com

Contact the VRX Company Inc at support@vrxinc.com or by calling 1-866-543-8398 9-5 Eastern Time.
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