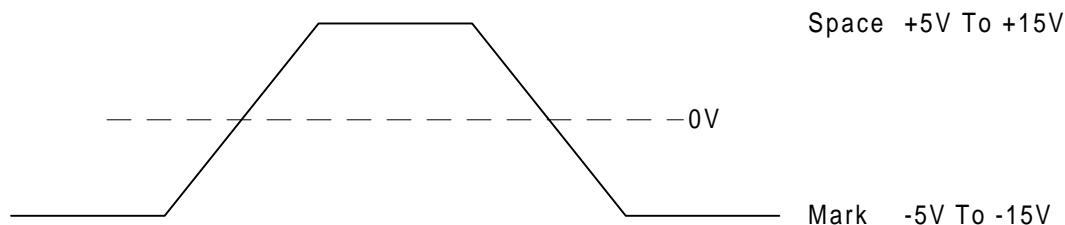


RS-232 Serial Data Communications

Some of the CAT controllers have RS-232 port capability to enable communications between the controller and a personal computer. This paper will address the RS-232 interface signals, how these signals are applied to the CAT controllers, and interconnection diagrams.

A Look At The RS-232 Signals

The RS-232 standard (EIA/TIA-232-E) specifies a high level signal output as being between +3 to +15 volts and a low level as being between -3 and -15 volts. Below is an illustration of those logic levels as defined by the RS-232 standard.



RS-232 Logic Specifications

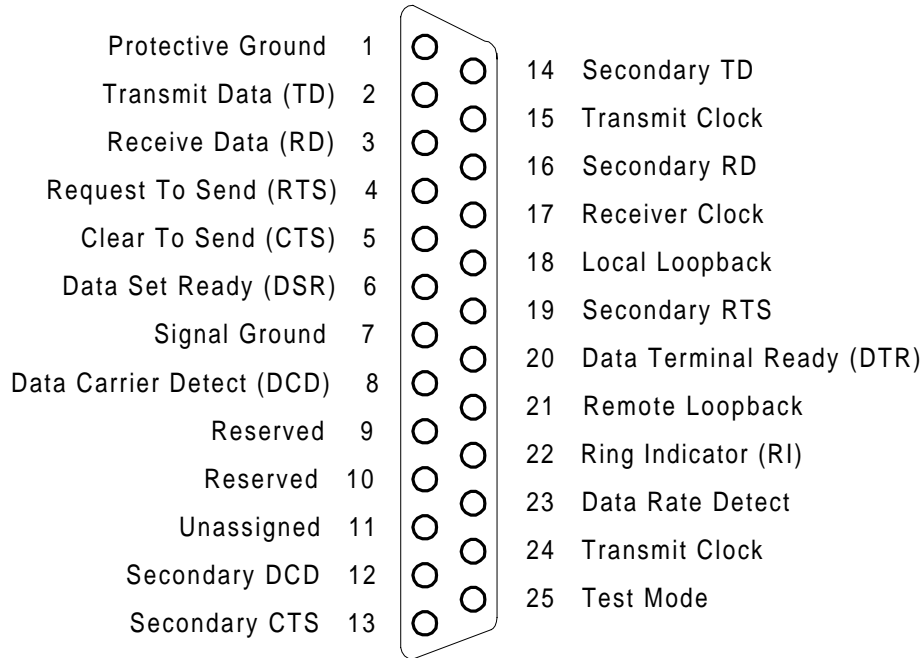
A low level (-3V to -15V) is defined as a logic 1 and is referred to as marking. A high level (+3V to +15V) is defined as a logic 0 and is referred to as spacing.

RS-232 Signals Identification

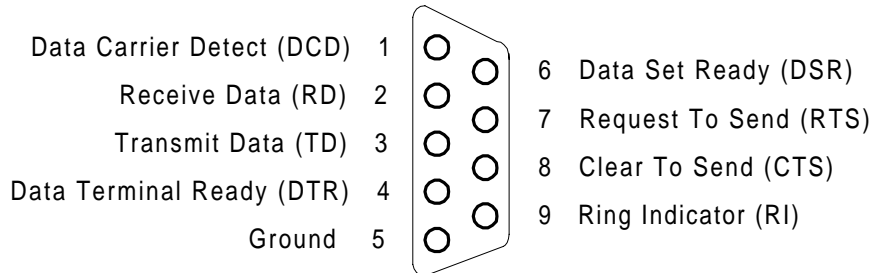
The RS-232 standard breaks down the various signals into four categories; data, control, timing, and common. These signals, listed and identified on the following page, are very numerous and most applications do need most if not all of the signal connections. The CAT controllers only need a few of these signals because the data protocol used requires no signal handshaking.



RS-232 Serial Data Communications



PC Computer RS-232 Connector Pin Assignment, 25 Pin Connector



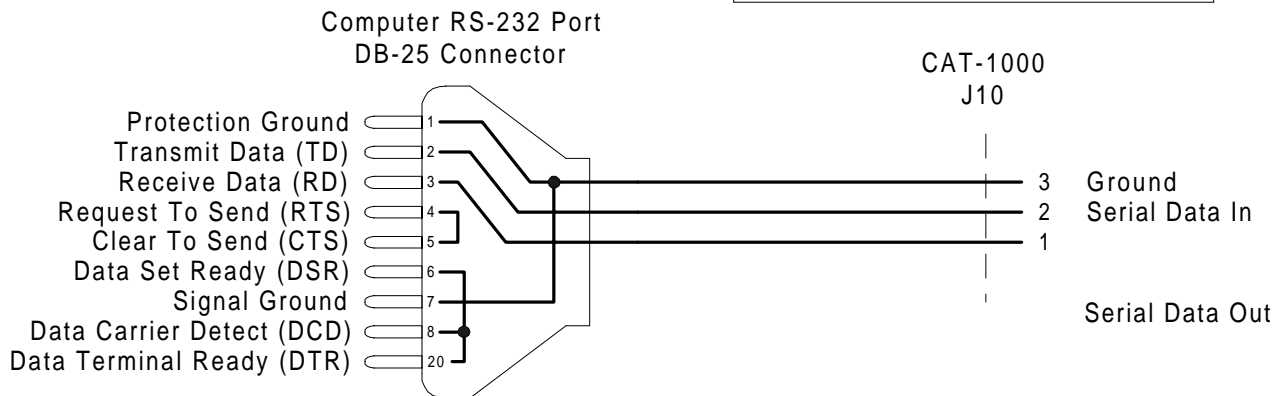
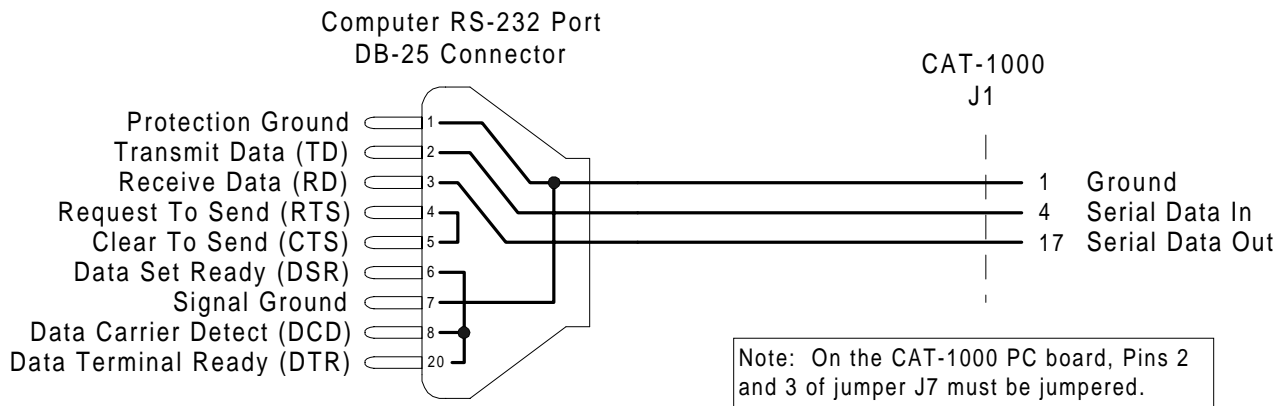
PC Computer RS-232 Connector Pin Assignment, 9 Pin Connector



RS-232 Serial Data Communications

Signal connections for the CAT controllers require only three signal lines; transmit data, receive data, and ground. Since some computer serial ports and/or serial communications software are setup to interface with the RTS (Request To Send) and CTS (Clear To Send), it becomes necessary to satisfy these signal requirements before data transmission can take place. The diagrams below illustrate connections necessary for both the CAT-1000 and the CAT-300DX controller's RS-232 port. Note that the CAT-1000 has two RS-232 interface plugs and cable connections are illustrated for both types.

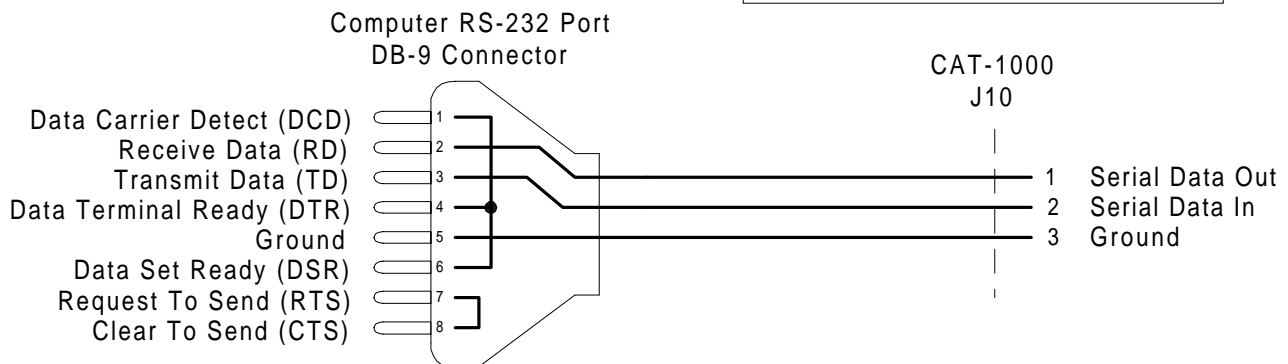
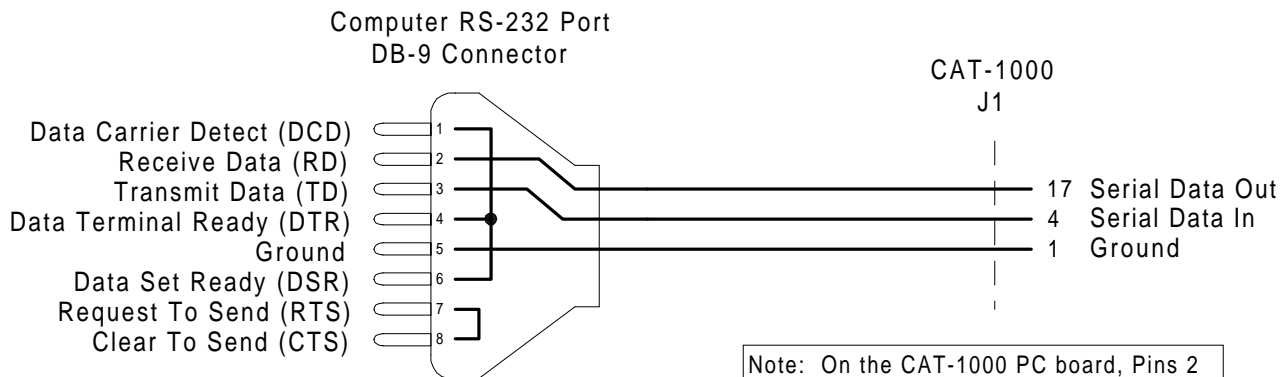
CAT-1000 RS-232 Interface Cables





CAT PAPER

RS-232 Serial Data Communications



CAT-1000 Communication Parameters

Whenever you communicate with the CAT-1000 through a direct connection cable, the microprocessor serial communications port is preset as follows:

Baud	4800
Data Bits	8
Stop Bits	1
Parity	None

CAT PAPER

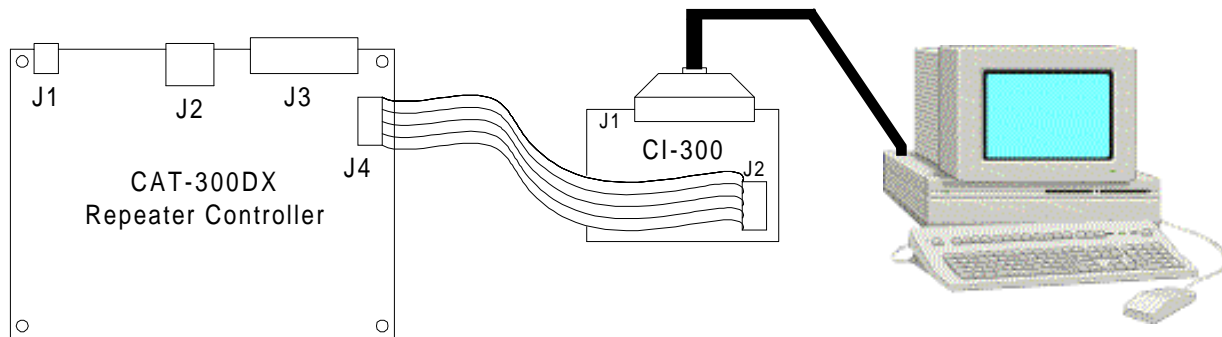
CAT Paper: P-2

Page 5

RS-232 Serial Data Communications

CAT-300 and the CI-300 Interface

RS-232 interfacing with the CAT-300 controller requires the CI-300 interface module. This module is necessary to perform the necessary data level conversions because the CAT-300 controller uses TTL level (0V/5V) RS-232 signal levels.



CAT-300 Communication Parameters

Whenever you communicate with the CAT-300 through the CI-300 interface module, the microprocessor is configured as follows:

Baud	4800
Data Bits	8
Stop Bits	1
Parity	None

Computer Automation Technology, Inc.
Fort Lauderdale, Florida
(954) 978-6171



RS-232 Serial Data Communications

CAT-300 RS-232 Interface Cables

