

1. AccuVote to Digi PortServer II (PSII)

The Digi PortServer II is a port expansion device that allows you to connect up to 64 high-speed serial ports to any TCP/IP Ethernet network. It supports asynchronous terminals, modems, printers and other serial devices.

The following document describes cable configuration using either 5 pair or 4 pair RJ-45 cable.

Note: The latest drivers for the Digi PortServer are available at www.digiboard.com.

1.1. RJ-45 Cable Configuration

Ideally, when using RJ-45 cabling, 10-wire (5 pair) shielded cable is used. However, most RJ-45 cable is designed for 10Base-T cabling which uses 8-wire (4 pair) unshielded cable. The lack of shielding will reduce the length of cable that can be supported but otherwise the PSII can be configured to work over the 8-wire connection. The AccuVote will also work over a 4-wire (2 pair) cable.

1.1.1. Using 10-wire (5 pair) RJ-45 Cable

Use an RJ-45 to DB-9 connector to terminate with either a DB-9 DCE (normally female) connection to plug directly into the AccuVote or a DB-9 (normally male) connection that connects to the AccuVote via a null-modem connector. Set the ports for either modem operation (i.e. set ports dev=mio ...) or, when fixed, for terminal operation (i.e. set ports dev=term ...). The modem operation will require the AccuVote power to be cycled or the cable to be disconnected before allowing a new connection. When fixed, the terminal mode should allow a new connection after a small time delay.

1.1.2. Using 8-wire (4 pair) RJ-45 Cable

Use an RJ-45 to DB-9 connector to terminate with either a DB-9 DCE (normally female) connection to plug directly into the AccuVote or a DB-9 (normally male) connection that connects to the AccuVote via a null-modem connector. Set the ports for either modem operation (i.e. set ports dev=mio ...) or, when fixed, for terminal operation (i.e. set ports dev=term ...). The modem operation will require the AccuVote power to be cycled or the cable to be disconnected before allowing a new connection. When fixed, the terminal mode should allow a new connection after a small time delay.

If using the modem mode, the ALTPIN option MUST be enabled on the PSII (i.e. set flow altpin=on) and either pins 1 and 6 MUST be tied together OR pin 1 MUST be connected in place of pin 6 (which can remain unconnected).

Table 1: Wiring table for RJ-45 to DB-9

10-pin RJ-45	8-pin RJ-45	Color	DTE Signal	DB-9 DTE	DB-9 DCE	DCE Signal
1	-	-	RI	9	9	RI
2	1	Blue	DSR (DCD*)	6 (1*)	4	DTE
3	2	Orange	RTS	7	8	CTS
4	3	Black	GND	Shell	Shell	GND
5	4	Red	TxD	3	2	RxD

6	5	Green	RxD	2	3	TxD
7	6	Yellow	SG	5	5	SG
8	7	Brown	CTS	8	7	RTS
9	8	White	DTR	4	6 (1*)	DSR (DCD*)
10	-	-	DCD (DSR*)	1 (6*)	1 (6*)	DCD (DTR*)

*Note: When the PortServer's ALTPIN is enabled, DSR and DCD signals are swapped.