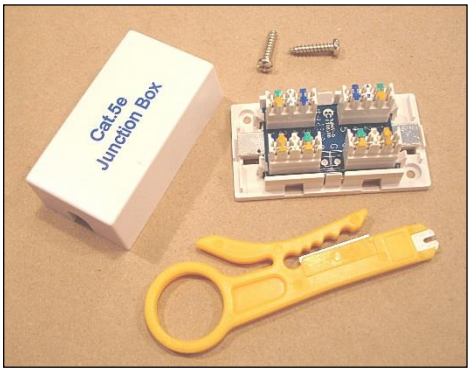
BAD BOY Cable Testing

Many common problems that can occur with the Bad Boy system can often be related to cable installation issues (i.e. improper or poor connections). These can occur at the RJ45 end connectors, Junction Box and include incorrect crimping of RJ45 connectors. If the Junction Box was used, check for problems there first. The pins of the Junction Box have a V shape and are designed to pierce the insulation of the wire as they are punched down. If the wire is not fully punched down to the bottom of the V, then a proper connection may not have been made. Another common Junction Box problem is reversing the Green/White and Blue/White wires. The tests described below will assist in finding these condition.

Pin	Wire Colour	Function
1	Orange / White	TX+
2	Orange	TX-
3	Green / White	RX+
4	Blue	+10-20Vdc
5	Blue / White	+10-20Vdc
6	Green	RX-
7	Brown / White	Ground
8	Brown	Ground



Note: There are two wires used to supply power (blue pair) and two wires that are ground (brown pair). All four of these must be connected or improper operation will result. Data is carried on the orange and green pairs. If the Bad Boy device does not detect a proper data connection, it will not turn on its green LAN LED to indicate this. This LED will blink as data traffic moves across the cable.

To test the cable, use an ohm meter. Note: Do not force fat probe lead tips between the small plastic pin separators on the RJ45 connector as damage to the connector will result and it will no longer be able to make a proper connection in an Ethernet socket. The test can be done from either end of the cable or from the Junction Box pins. If done from the Junction Box, the first set of tests will need to be done twice – with a Bad Boy device connected one at a time to each end of the cable.

1) Important: Ensure power OFF!
2) Ensure that one end of the cable has a known working Bad Boy device connected. Measure from the other cable end.
3) Measure between all combinations of the following wires:
   Orange/White (1), Orange (2), Green/White (3) and Green (6) ..... < 25 ohms
4) Measure between the following wires:
   Orange/White (1) to Brown (8) ..... 4K to 5K ohms
5) Measure between the following wires:
   Blue (4) and Blue/White (5) ..... Short or continuity
   Brown/White (7) and Brown (8) ..... Short or continuity

The next set of measurements tests for shorts.

1) Important: Ensure power OFF!
2) Ensure that both ends of the cable have nothing connected. Measure from one cable end.
3) Measure between all combinations of the following wires:
   Orange/White (1), Orange (2), Green/White (3) and Green (6) ..... Open or infinity
4) Measure between each the following wires:
   Orange/White (1) to Brown (8) ..... Open or infinity
   Orange (2) to Brown (8) ..... Open or infinity
   Green/White (3) to Brown (8) ..... Open or infinity
   Green (6) to Brown (8) ..... Open or infinity
   Orange/White (1) to Blue (4) ..... Open or infinity
   Orange (2) to Blue (4) ..... Open or infinity
   Green/White (3) to Blue (4) ..... Open or infinity
   Green (6) to Blue (4) ..... Open or infinity

If any tested values are different than what is show above, investigate as to the cause.