

Application Note

DIODE / LED TESTING

Diode / LED Testing

This document explains how to use PASS 6.0 software to program the Analyzer to detect the presence of a diode in a harness. Since an LED (Light Emitting Diode) is electrically similar to a diode, this document also applies to detecting the presence of an LED in a harness.

The Analyzer performs the diode / LED testing by ensuring that continuity is present in the forward direction and that continuity is not present in the reverse direction. This ensures that the diode / LED has been assembled in the harness with the proper orientation.

This document contains the following main sections:

- 1 a list of assumptions – knowledge required to perform the tasks outlined in this document
- 2 instructions for adding a diode in PASS - Wires Method
- 3 instructions for adding a diode in PASS using the Group Method

Assumptions

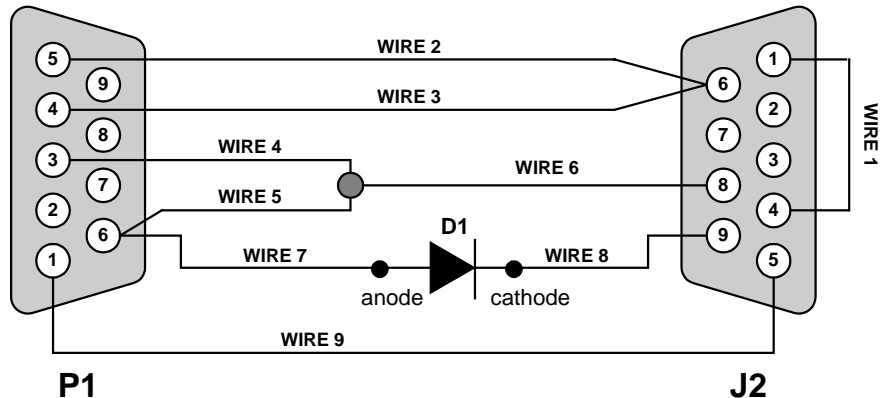
To successfully use this document, the following knowledge is required:

- knowledge of how to build Netlists using PASS 6.0
- knowledge of how to use the Sequence table to create a Sequence

For assistance on how to use features of PASS 6.0, see the PASS 6.0 Help file.

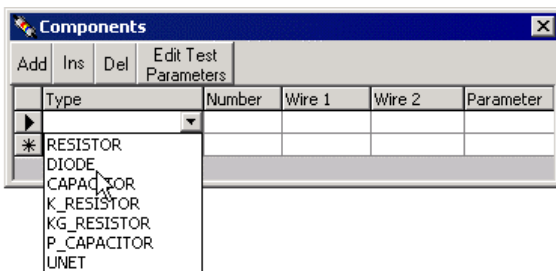
Adding a Diode: Wires Method

The best way to explain the procedure for adding a diode to a PASS program for a harness is with an example. This example illustrates how to program a diode in PASS 6.0 using the Wires Method. This example uses the simple wire harness shown below. Note that there is one diode connected between Wire 7 and Wire 8. The anode side is connected to Wire 7. The cathode side is connected to Wire 8.

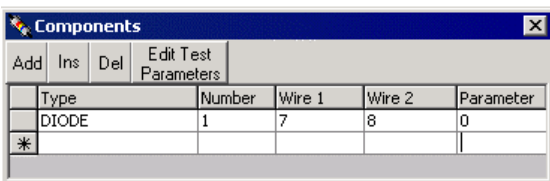


When building a PASS 6.0 Netlist using the Wires Method, it is necessary to describe the connectors, wires, pins, and splices. It is assumed that the reader is familiar with building a Netlist in PASS 6.0 using the Wires Method, so these details will not be covered in this document.

In addition to describing the connectors, wires, pins, and splices in the PASS 6.0 Netlist, the diode must be added to the PASS Components table. In this example, diode D1 is added to the Components table as follows:

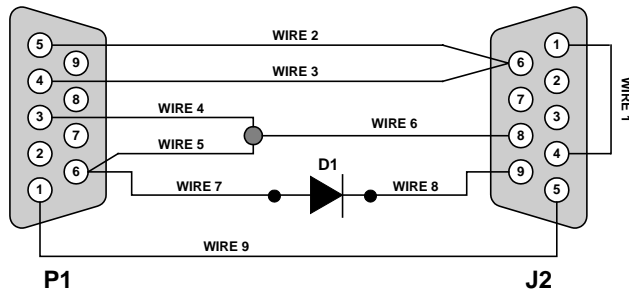


In the Components table, populate the Type field with the type of component. A pull down menu of possible selections is provided. In this case, select DIODE.



The Number field should contain the Diode number. In this case, the number is 1. Wire 1 and Wire 2 fields should be populated with the two wires to which the diode is connected. In this case, these are 7 and 8. Wire 1 is connected to the diode's anode, and Wire 2 is connected to the diode's cathode. The Parameter set number is always 0 for a diode.

Example Netlist tables for harness with diode using Wires Method



In summary, the PASS 6.0 Netlist tables for the example harness including the diode, are shown below:

Dynalab PASS 6.0 - Diode_Wires_Method.dpf

File Edit Netlist Tables Sequence Tools Window Help

Sequence New Save Print Paste Labels File Settings Compile Download

Paste

Connectors

Connector	Pins Qty
P1	9
J2	9

Wires

Wire	Base Color	Stripe Color
1	BLK	(none)
2	BLU	(none)
3	BRN	(none)
4	GRN	(none)
5	GRY	(none)
6	ORG	(none)
7	RED	(none)
8	VIO	(none)
9	WHT	(none)

Splices

Number	Wire
1	4
1	5
1	6

Pins

Connector	Pin	Wire
P1	1	9
P1	3	4
P1	4	3
P1	5	2
P1	6	5
P1	6	7
J2	1	1
J2	4	1
J2	5	9
J2	6	2
J2	6	3
J2	8	6
J2	9	8

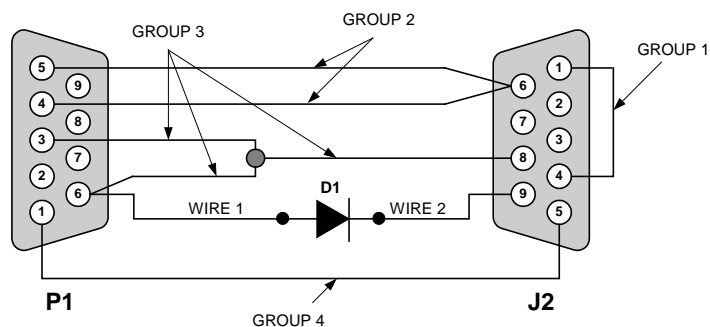
Components

Type	Number	Wire 1	Wire 2	Parameter
DIODE	1	7	8	0

MAIN

View All Hide All Connectors Wires Pins Splices Components Groups Fixture Compile

Adding a Diode: Group Method



The following example explains how to define a diode in a Netlist where the Group Method has been used. This example uses the simple wire harness shown at left. Note that four groups are defined in the harness. ***The diode is not part of any group, but is added to the Netlist using the Wires Method.*** So, in addition to defining the four groups in the Netlist, it is also necessary to define Wire 1 and Wire 2 as well as the Pins to which these wires connect. The diode is defined in

the same way as was described in the previous section. The resulting PASS 6.0 Netlist is shown below:

Dynalab PASS 6.0 - Diode_Group_Method.dpf

File Edit Netlist Tables Sequence Tools Window Help

Sequence New Save Print Paste Labels File Settings Compile Download

Paste

Connectors

Connector	Pins Qty
P1	9
J2	9

Wires

Wire	Base Color	Stripe Color
1	BLK	(none)
2	BLU	(none)

Pins

Connector	Pin	Wire
P1	6	1
J2	9	2

Groups

Group	Connector	Pin	Base Color	Stripe Color
1	J2	1	(none)	(none)
1	J2	4	(none)	(none)
2	J2	6	(none)	(none)
2	P1	4	(none)	(none)
3	P1	5	(none)	(none)
3	P1	6	(none)	(none)
3	J2	8	(none)	(none)
4	P1	1	(none)	(none)
4	J2	5	(none)	(none)

Components

Type	Number	Wire 1	Wire 2	Parameter
DIODE	1	1	2	0

MAIN

View All Hide All Connectors Wires Pins Splices Components Groups Fixture Compile

Add Wires to which diode is connected, and Pins to which wires are connected

Diode is defined in the same way as in the Wires Method as described in the previous section