11 Guided Assembly Software

PRELIMINARY NOTE: The AutoBuild™ software, catalog Item 728, is *optional software* which you may order should you wish to use Guided Assembly to build cables and wiring harnesses. In this section, we provide a complete software guide to assist those who have purchased AutoBuild in using it, and to demonstrate its capabilities to those who have not.

11.1 Using the The AutoBuild™ Function

AutoBuild™ provides *Guided Assembly* for Cables and Wiring Harnesses. This means, simply, that once Match Data has been loaded to define the cable or harness, AutoBuild will issue instructions to the assembly technician one connection at a time, testing each connection before proceeding to the next one, to ensure that all connections are properly made. Errors are flagged immediately, before advancing to the next wire, so the technician may make an on-the-spot correction.

The AutoBuild option (catalog Item 728) consists of a software enabler file named "autobuild.dat" which you place in the \Program Files\Cableeye\Software folder, and a probe cable that connects to a DB9 connector on the right side of the tester. When you start the CableEye software with the enabler file present, you will see a new icon appear in the toolbar of the Match Data window. Clicking this button starts AutoBuild.

Follow this procedure to use AutoBuild:

1 – Load the correct Match Data from the database, or manually define the connections.

Note that if you have a custom harness interface to CableEye, you must previously have created and tested a pin map for the custom fixture, measured a known good cable with the pin map active, and stored the connection information in the database. If you are using standard CAMI CB boards, a custom pin map is not necessary.

To quickly evaluate the AutoBuild function without a custom pin map, choose "Wiring Harness" in the "Connectors" menu, and use "Learn Cable" to measure the

connections of a known-good harness. In this case, the pin numbers are reported simply as test points, from 1 through as many as 512 on the left and 1 through as many as 512 on the right (if your system has fewer than 1024 test points, then the maximum count on each side will be less than 512).

2 – Turn on the Match Data net list window and confirm that the proper wire list appears as shown below.

3 – After the Match Data is loaded, the "AutoBuild" button, located on the right side of the Match Data netlist toolbar, will become active. Click this button to turn on the AutoBuild screen.

4 – If no wiring has yet been connected, the first wiring instruction will appear in large size text near the top of the screen. Make the connection indicated, and press the TEST pushbutton, or click "Test Connection" button on the screen, to check the connection and advance to the next one. Completed connections appear in the list with a green checkmark shown in the "Status" column. If an error is made, a red "x" appears in the status column instead. Refer to the "Result" box for an explanation of the error. Wiring, diodes orientation, and resistor values will be checked.

If you wish to use the probe, click the "enable" button and touch the probe to a wire or pin that you are ready to connect. The instruction will tell you where this wire or pin should be joined. After the connection is made, press the TEST button to check it. In the figure below, you see that no connection has yet been made yet and the program is waiting for you to join L-1 to L-5. Click "Start Build" when ready to begin. The connections can be made in any order.
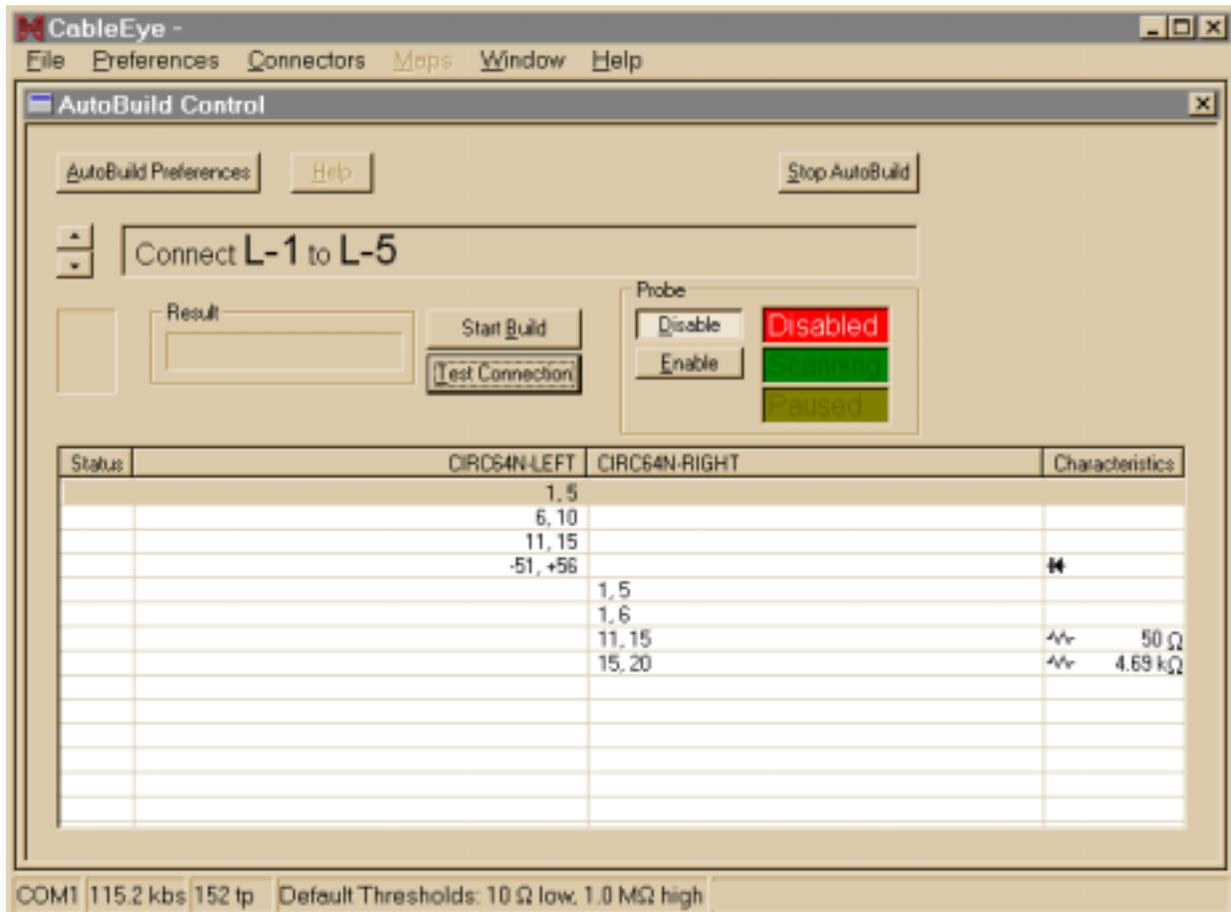
5 – In the figure below, you see that three connections have been made successfully. The probe has just touched the cathode (–) of the diode and the instruction tells you where to attach it. The probe scanning pauses while you make the connection. When finished, press the TEST button (or click the "Test Connection" button on the screen) to check the wiring and confirm that the diode was attached to the right point.
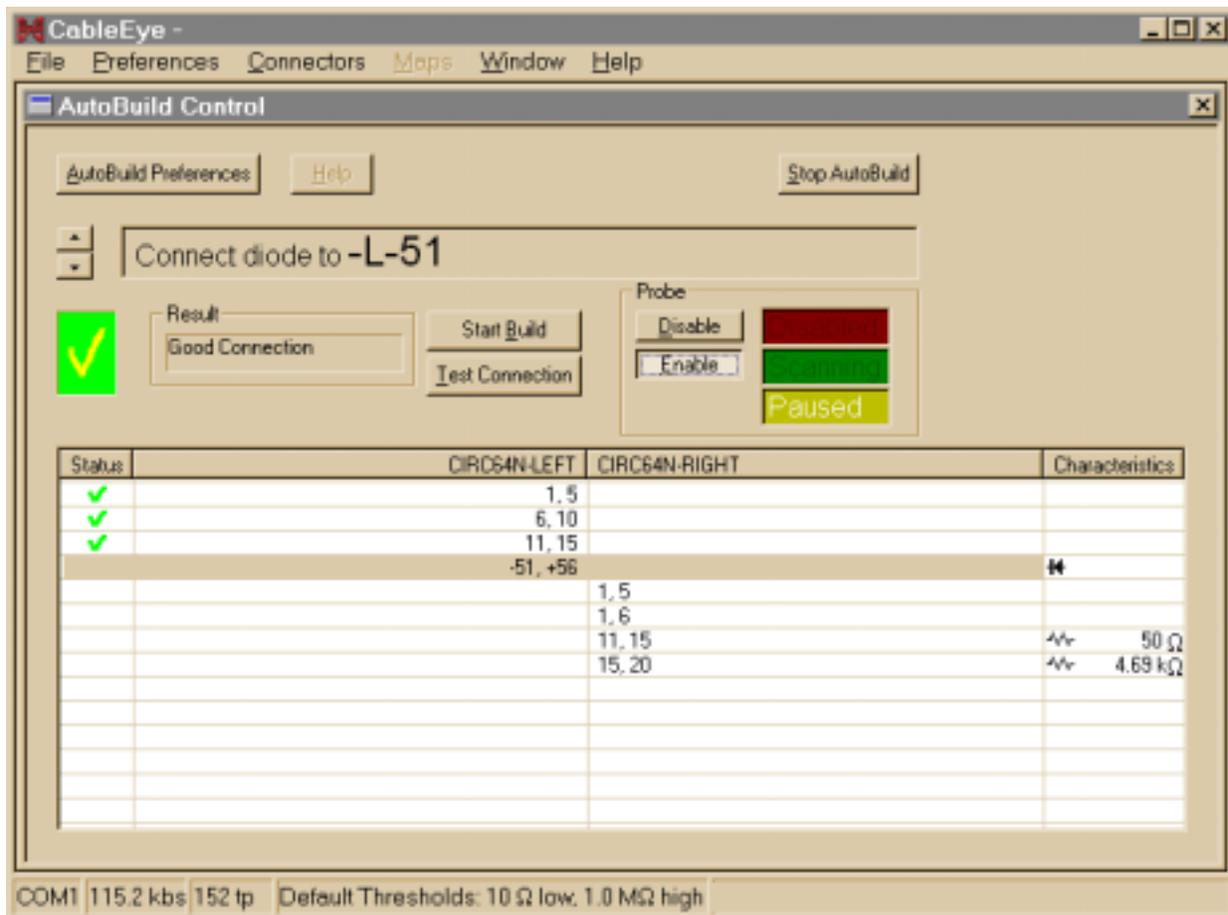
6 – Here, an error was made connecting the diode. Note the large red "X" and the smaller "x" showing the location of the bad connection. Simply remove the cathode from pin 50 and move it to 51. Then press TEST to check it again. As you can see below, the probe is active and may be touched to the diode again to repeat the original instruction.
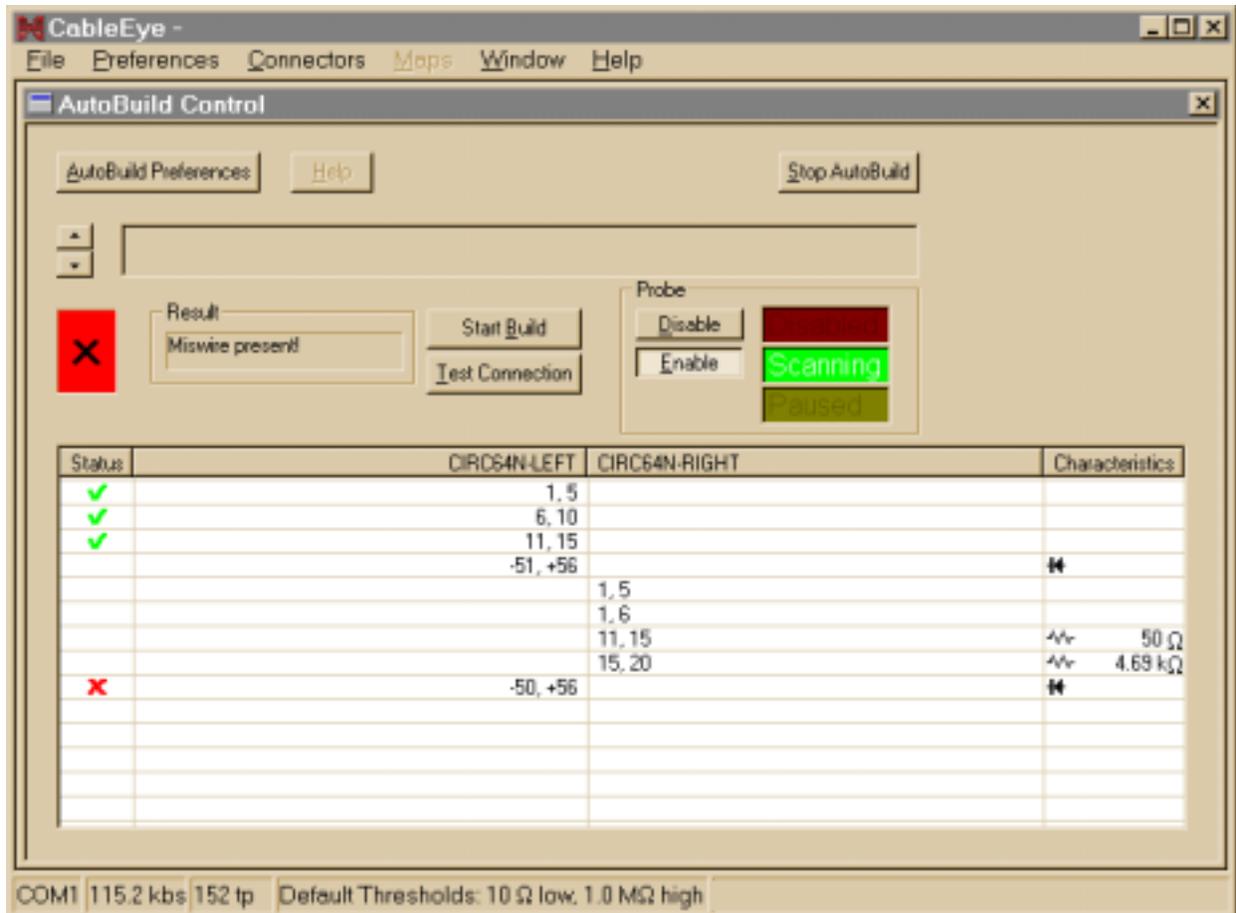
7 – When the probe touches a resistor, the connection and value appear in the assembly
instruction. If several resistors, wires, or diodes are joined in a network, the resistor
values are checked after all connections have been made.

8 – When all connections are complete, a small green checkmark appears next to each connection, and a large green box with a yellow checkmark appears near the top of the screen, indicating that the assembly is complete. You may press the TEST button at any time to reconfirm the connections or to test for intermittent connections.
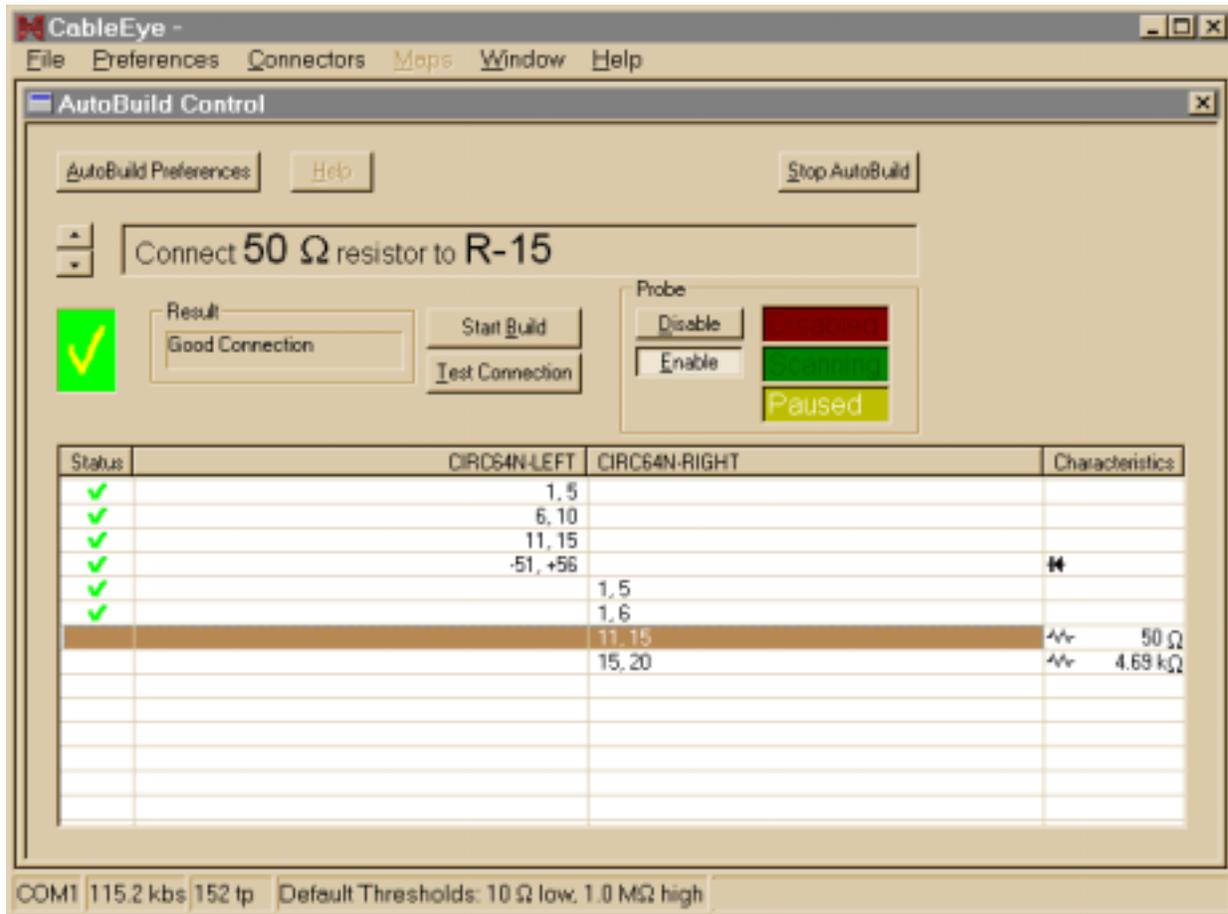
9 – AutoBuild Preferences let you control the advance through the wire list (Manual or Automatic), whether you hear tones upon completion of connections (Tone or Mute), and whether a printed report is produced upon completion (report printing not yet active).

Additional features to be available soon: Report Printing for AutoBuild, Data Logging for AutoBuild, Wire Assembly Order Definition