

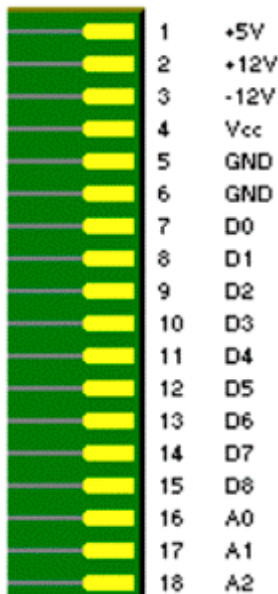
**Reduce programming and test times with the PFL
Pin By Pin function**

Using the Pin by Pin function of the PFL PCB fault locator can dramatically reduce the programming and testing time for special or inaccessible devices.

Automated fault locators like the Polar PFL series which use fault finding techniques such as Analogue Signature Analysis and/or In-Circuit Testing rely for their speed on special probes and test clips that allow rapid scanning of whole devices or circuit modules. With the wide range of test clips and probes available most devices can be tested in just a few seconds.

Using the Pin by Pin option

High component density, or tall devices, may however prevent the use of standard multi-pin probes on multi-pin devices. In such cases using single-pin probes is the only option. The Advanced Editing Pin by Pin function allows you to test each pin on the device without writing a separate test for each pin.



The PFL edge connector display

Using edge connectors

On many boards signal and control lines are brought to the edge of the board via edge or RS232 D-type connectors. In a PC manufacturing environment, for example, ISA and PCI card connectors are readily available so PFL test fixtures designed to accept PC cards are widely used. The PFL inputs are hard wired to the card connector—simply testing each line of the card connector can often quickly verify large areas of a circuit board. If you use this method you'll need to make the decision whether to test each line as a separate component within your test program or to test the whole card as a single component. The default test parameters will be appropriate for most applications so circuit modules incorporating edge connectors can be tested at high speed. With up to 128 input channels available, in many cases virtually the whole card can be tested in a few seconds. Each connection on the edge connector can be assigned a descriptive pin name which will be displayed in the test list screen.

The service environment

On boards mounted within an instrument devices can be even more difficult to access. An installed board that is buried beneath a cable harness or located within an instrument card rack may be impossible to probe using the standard multi-pin probes. The device or module that could be tested with a standard test clip or probe with the board out of circuit may now only be accessible for testing via single pin probes.

Separate tests or Pin by Pin? You can still test a board in this situation by writing a program in which each device pin is tested as a separate node—the board can then be tested with simple probes. This time-consuming process can be short circuited however by using the PFL Pin by Pin option. Using Pin by Pin the operator use a single pin test probe to test a multi-pin device or module *as a device*.

The Pin by Pin option is part of the PFL Advanced Edit command. Select the device type then from the Edit menu select Advanced Edit; in the dialog box choose the ASA settings tab and click the Pin by Pin check box. Now when

you acquire signatures for the device the Pin by Pin box is displayed with a prompt to probe the first pin. Probe the pin and press OK-the PFL780 will increment to the next pin number-repeat until the device is fully tested.

Probing special devices

Pin by Pin testing can also prove useful when testing devices with pin-outs different, for example, from the standard DIP pin-out. Special devices are common in military and research environments.



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