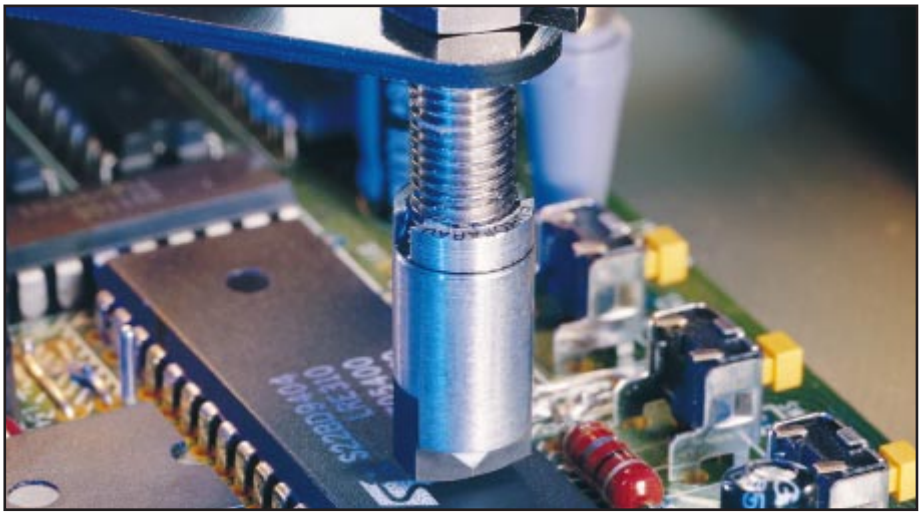
4200 series
Q-Test II Vectorless Test

Provides the highest vectorless test capability using two complementary techniques



- Simplified vectorless testing
- Inductive or capacitive signal pickup for broad applications
- Graphical user set-up
- Flexible mounting for detection circuitry

Introduction

After being the first ATE vendor with a vector-less test solution for IC opens IFR has enhanced the capability of the Q-Test probe along with a graphical user interface. Q-Test II includes an enhanced inductive probe including the option of fitting proprietary capacitive probes if required.

The techniques allow integrated circuit devices (analog or digital) plus connectors to be tested for pin connectivity without detailed information on the device under test. In practice only pin list data is required to generate, debug and test, even for high pin out devices.

Inductive Probes

The original Q-Test probe has been enhanced to improve sensitivity, positioning accuracy and reduce the cost per probe. A new probe mounting kit has improved ease of positioning and debug.

The revised design of inductive pick-up gives the probe greater low level resolution and more focused detection window giving improved dry joint detection.

Capacitive Probes

Commercially available capacitive probes can be used on the 4200 series fixtures using a mounting kit available from IFR. Capacitive probes are particularly useful for the testing of connectors.

Interface Board

Both inductive and capacitive probes require an interface board for connection to a 4200 series tester. The interface board is known as the Q-Mux card and can be located within the tester for use on a number of fixtures or for specific applications within the fixture itself.

The fixture mounted card can accept up to sixteen probes while the system card, which is mounted on the General Purpose Input Output (GPIO) card, can accept up to ten probes. Up to four Q-Mux cards can be fitted to a single GPIO card giving forty probe connections per GPIO.

The Q-Mux card not only conditions the input signals but also provides gain and sensitivity control for both the inductive and capacitive probes. The card also provides stimulus in place of a standard driver/sensor.

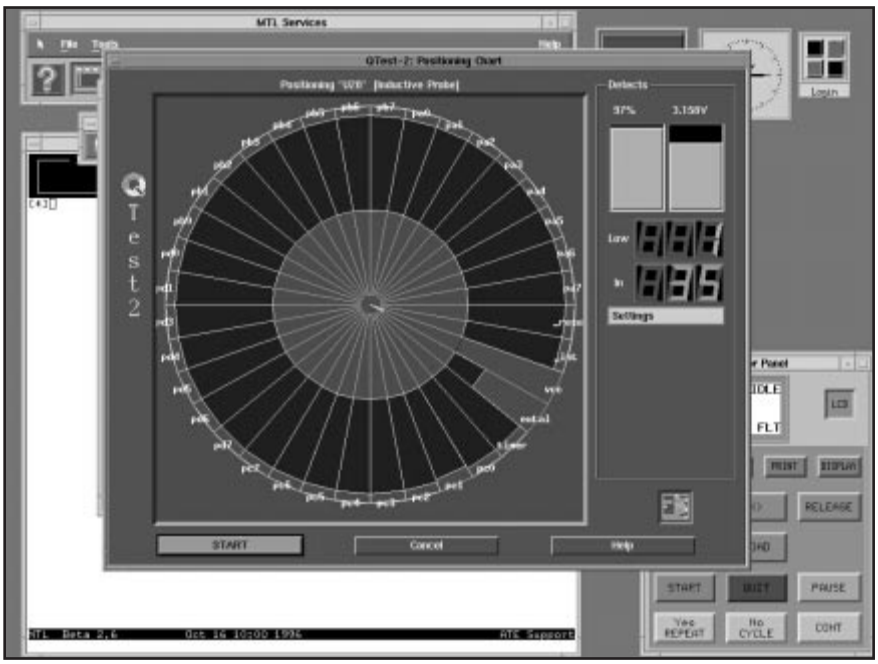
Q-Test QuickStep Menu

4200 series

Graphical User Interface

A graphical user interface has been added to the software which includes automatic calibration of pins and devices under test. These tools further reduce the program debug time. The standard debug environment gives mouse control of all parameters that may need to be modified or invoked to position and calibrate inductive or capacitive probes.

The software has self-learn algorithms built-in to aide debug and automatically calibrate each pin on a known good board. The steps to go through to position and debug a Q-Test II probe are shown on the example screen shot.



Q-Test Probe Positioning Chart

Specification

Card Performance

Power supply requirements
+5 V, 200 mA
-15 V, 200 mA
+24 V, 200 mA

Drive levels
Three stimulus levels available
Stimulus frequency 455 kHz

Gain levels
Ten detection levels available

Board connections
GPIO Q-Mux
10 probes per board
Fixture Q-Mux

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