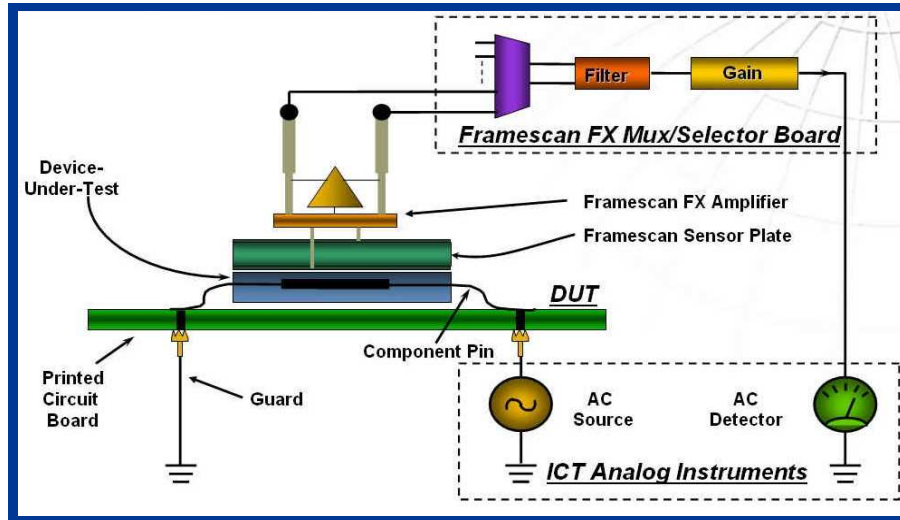


# Analog Framescan™ Test Technology

Unpowered Vectorless Test Technology for TestStation In-Circuit

## Key Features:

- Unpowered test technique
- Uses standard ICT instrumentation
- Proven open pin fault detection
- Works on IC packages, sockets, connectors, and polarized caps
- Automated learn process
- Advanced Framescan FX hardware



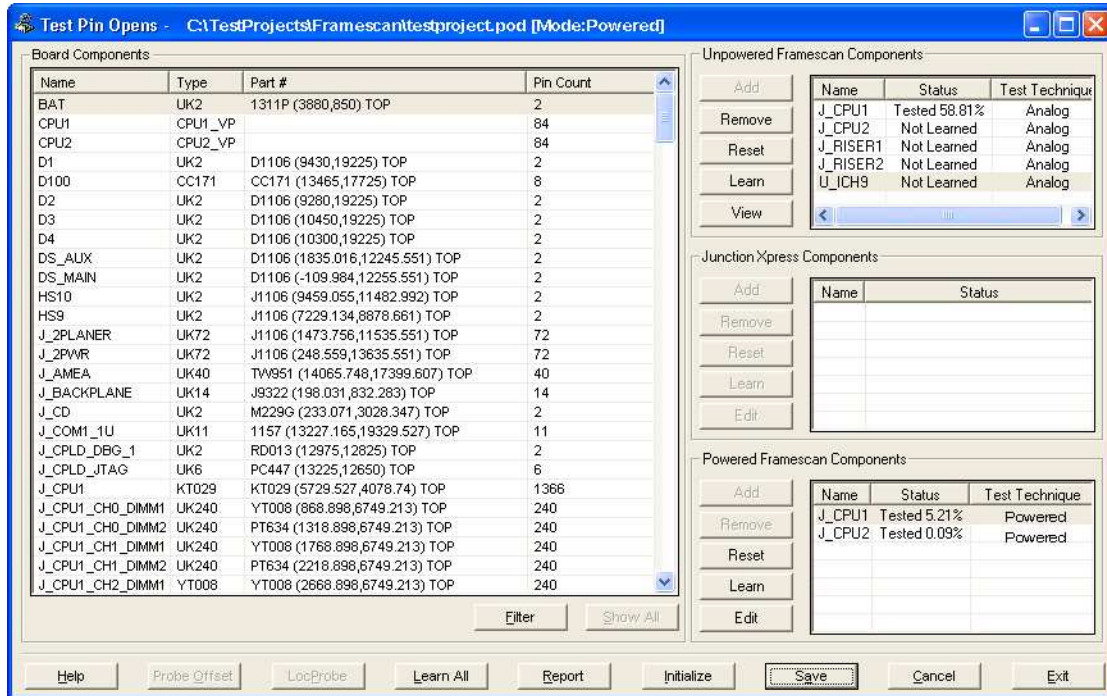
Block Diagram of Analog Framescan Test Technique

Analog Framescan is an integral component of Teradyne's suite of Framescan™ vectorless test tools. Analog Framescan tests for open or shorted pins by applying an AC signal to a node on an unpowered printed circuit board. If the pin is properly connected, the AC signal will be coupled to a capacitive sensor plate placed just above the component. A high gain, low noise amplifier picks up the signal on the sensor plate and passes it to a Framescan FX Multiplexer/Selector board located inside the ICT test fixture. On this board the amplified signal passes through some advanced noise-filtering hardware before it is sent to the tester's AC voltmeter. The software then performs a discrete Fourier transform of the analog signal to further eliminate the effects of random noise and it compares the calculated results against learned values previously measured on a known good board. During production testing any pins that measure below their learned low limit thresholds are diagnosed as open. Pins that measure above an optional high threshold are diagnosed

as potentially shorted.

The Analog Framescan technology employs Teradyne's Third Generation Framescan FX amplifier and signal conditioning hardware which increases pin measurement magnitudes by 6-8 times and improves signal-to-noise ratio by 18dbV compared with previous generation Framescan hardware. With these enhancements the Analog Framescan tool is capable of detecting capacitive coupling as small as 1 FemtoFarad. The enhanced resolution minimizes false failure diagnostic messages and makes it possible to reliably measure pins on today's high density micro-packages.

Despite the advanced capabilities of Analog Framescan technology, it is very simple to use. The software contains automated Learn algorithms that quickly and reliably set pin thresholds and report fault coverage and measurement results. A graphical display window helps the operator to quickly view or modify any of the Analog Framescan test parameters. There is no need to learn test language as parameters can be changed with the click of a mouse.



Framescan Main User Interface Window allows operators to quickly select components, learn the measurement results, and review the pin fault coverage all with the click of a mouse. There is no need for operators to learn complex test language programming code.

## Requirements for Analog Framescan

- Framescan FX Amplifier and Sensor Plate (1 for each device to be tested)
- Framescan FX Multiplexer/Selector Board (1 per fixture)
- Fixed power supply option or external power supplies
- Version 5.8.0 or later software for GR228X/TS8X test systems
- Version 6.2.0 or later software for TestStation test systems
- Framescan run-time software license



Contact your Teradyne sales representative for more information or visit [www.teradyne.com/atd](http://www.teradyne.com/atd).

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