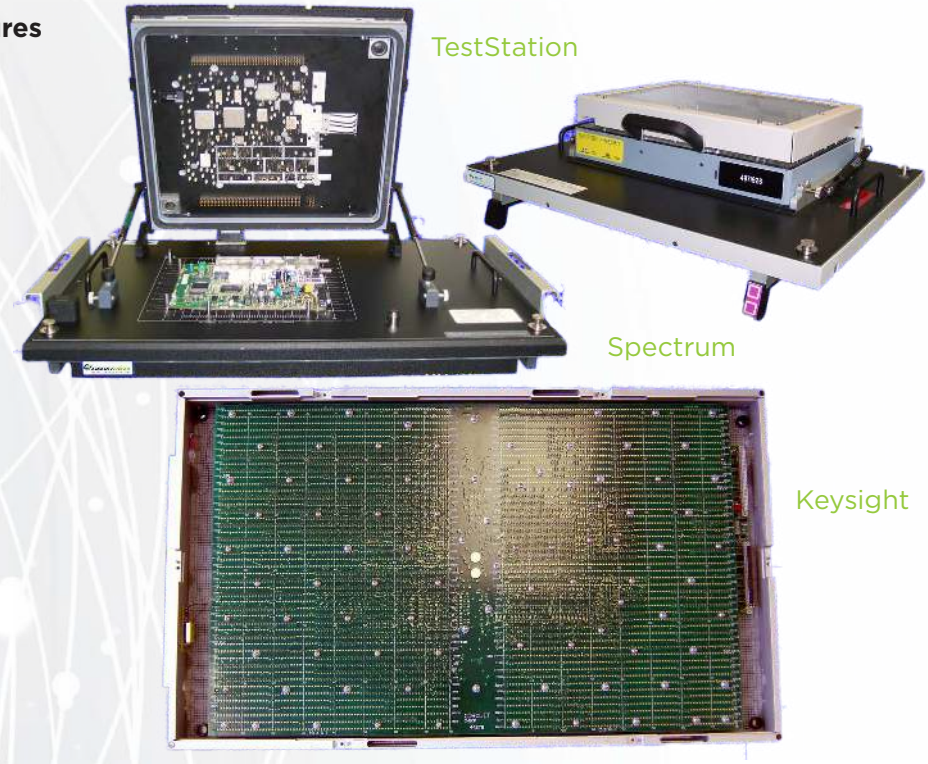
WIRELESS FIXTURE TECHNOLOGY

... a fundamental improvement in the way fixtures are designed, ECOs performed, fixtures duplicated and deployed.

- **Lower Profile lighter weight fixtures**
- **Improved signal fidelity**
- **Easier ECO process**
- **Reduced test times**



TestStation

Spectrum

Keysight

Higher density more complex circuit boards complicate testing requirements. Smaller more tightly spaced test pads create a wiring nightmare for the fixture fabricators, test engineers and maintenance personnel.

Wireless fixtures solve issues typically associated with the nest of wires found in long wire fixtures. Since the early 1990's Circuit Check has been replacing the "nest" of wires with copper traces on a multi-layered printed circuit board called a Translator Board (T-Board).

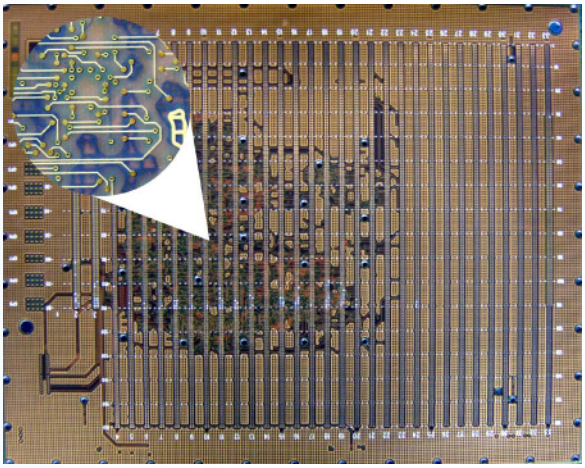
Circuit Check's Intelligent Automated Routing of sensitive signals is controlled during our layout process so they are placed for optimal signal fidelity. This is accomplished by isolating the signal trace between ground planes, using separate power planes or adding "pull-up" resistors or "decoupling" capacitors on the signal traces.

The reduced noise from grounding and crosstalk allows faster signal rebound which is particularly important in low voltage applications.

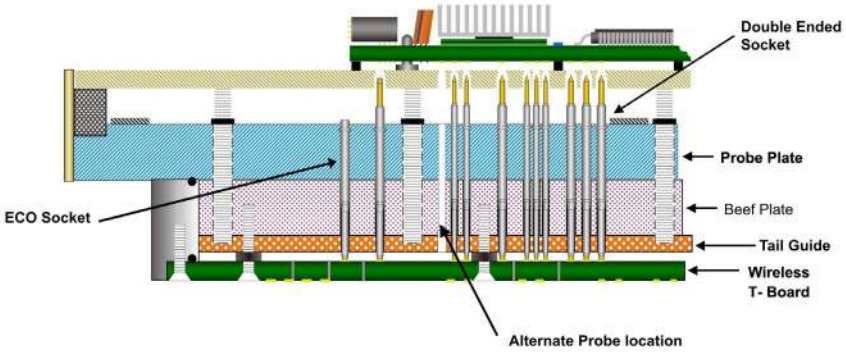
CIRCUITCHECK
INNOVATIVE TEST SOLUTIONS

From this bundle of wires

To this printed circuit board



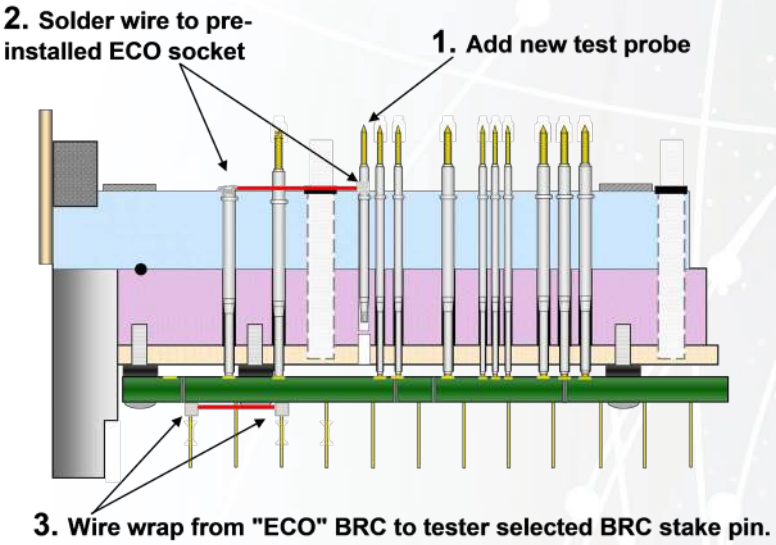
How it works...
Cross section of a Wireless Fixture



- Compared to standard wired fixtures virtually every aspect of the fixturing experience has been improved... **a fundamental improvement** in the way fixtures are designed, ECOs performed, duplicated and deployed.
- Cleaner signals permit the test to run at a faster rate. **Programming of flash memory** runs exponentially faster, up to full test system speed.
- Internal **fixture electronics** are neater, more compact and are **easily designed in** during T-Board layout.
- For proto-type boards, the enhanced performance of wireless allows fixture anomalies to be **quickly ruled out** and debugging to be focused on the UUT for design issues reducing overall debug time.
- Quicker turn of complex digital tests can be achieved since **ground bounce** has been virtually **eliminated**.
- Fixture size is kept to a minimum with a lower profile and is **up to 35% lighter** in weight than conventional wired fixtures.
- Wireless fixtures **never block resources** when compared to shortwire fixtures allowing greater test coverage.
- Since there are no blocked resources larger UUTs can be placed on **smaller fixtures**.
- Duplicate wireless fixtures provide identical test performance due to greater stability resulting in a significant **cost savings**!
- Customers report **debug** times **reduced 10-35%**

Circuit Check has been designing and fabricating wireless fixtures since the early 1990's and has no equals in the industry. There is no equivalent product that can match the test performance advantages, reduced debug time, ease of ECOs, reduced maintenance, the ability to probe denser smaller targets and ultra high node counts.

Fixture ECO Process is 1, 2, 3 ...and Finished



The ECO process is easier and faster than with the standard wired fixture.

Step 1 Add a "solder cup" socket to correct location.

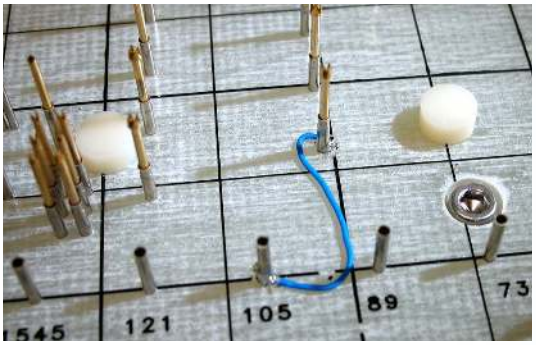
Step 2 Locate the tester selected spare resource. Solder a 30 awg wire from to the newly added socket, route that wire to the tester selected ECO location and solder to that socket.

If ECO is being performed on a Teradyne TestStation or Spectrum fixture you are finished.

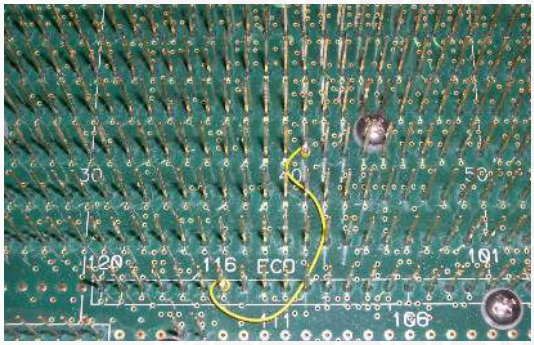
For Keysight fixtures remove the P-Pin alignment plate.

Step 3 Wire wrap a 30 awg wire from the "ECO BCR location" to the tester selected stake pin.

The ECO is now finished and the alignment plate can be reinstalled.



ECO wire added from probe location to a clearly marked (with node number) pre-installed ECO location. This completes the ECO for Teradyne fixtures.



Wire added to an Keysight T-Board from the ECO location wired to the tester selected BRC location.

Available Wireless Fixtures

Keysight 307x and In-Line 5i

- Small Kit
- Large Kit
- Oversize Large Kit

Teradyne – TestStation

- LH 19 interfaces
- G4 Kit with 33 row or Extended Interface
- G9 Kit with 33 row or Extended Interface

Teradyne Spectrum – S88xx

- G3 Kit with 2560 Interface
- G9 Kit with 5120 Interface

U.U.T Characteristics

Unlimited top and bottom probes

Vacuum Fixture

- Top Side minimum test pad Ø 0.024”
- Bottom Side min. test pad Ø 0.022”

Pneumatic Fixture

- Top Side minimum test pad Ø 0.018”
- Bottom Side min. test pad Ø 0.016”

Maximum component height on bottom of UUT for clearance 1.250”

Maximum probable component height on bottom of UUT 0.200

Keysight Files Required

Software Settings for B5.21 or higher

- Fixture Type: No-Wire
- Fixture Size: Small or Large Kit
- Wire-wrapping: Wireless

“These setting will remove Blocked Resources”

Send the entire subdirectory “fixture”

TestStation Files Required

Run all test development in Short-Wire mode.

TestStation 228x Nail Assignment Output Files

- *.NWL – Nail Wire length Report
- *.FDS – Fixture Data Set
- *.NAR – Nail Assignment Report
- *.NDB – Nail Database
- *.NCL – Nail Connections List
- *.FWI – Fixture Wiring Info
- *.DPR – Device Probe Report
- *.BOT & .TOP – Alchemist (D2B)
- *.FX1 & FX2 – CB Test

Spectrum Files Required

- Automatic Program and Fixture Generation Output Files (APG Output Files)
- UUT Power Requirements and wiring information
- Sensor Plate locations, type and wiring information

Other Required Material

The UUT CAD files (used for pushdown & deadstop locations)

- Cadence/Valid Allegro - .brd, .pad, .sym & .rte
- Mentor BoardStation Neutral File - .nf (.net)
- Mentor BoardStation - .prt, .wir, .cmp, & .net

Gerber Files

- Top & Bottom circuit layers
- Top & Bottom solder mask layers
- Top & Bottom Silkscreen
- Aperture list

Sample UUT Boards

- Non-populated Board
- Populated Board (Mechanical sample) for fixture check out or Strain Gauge Testing
- Known Good Board

Available Probe Spacing					
Double Ended .250 Travel	●	●	●	●	
Double Ended .400 Travel	●	●	●	●	
Socket-less .250 Travel		●	●	●	●
Socket-less .400 Travel		●	●	●	●
	.100	.075	.050	.039	.031

T-Board probe travel set for 68 – 88% compression. These probes do not cycle with the actuation of the UUT.

CIRCUITCHECK
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