



Required Data Package for Test Development and Fixturing

To ensure high-quality test coverage, accurate fixture development, and streamlined integration with test platforms, The Test Connection, Inc. (TTCI) requires the following documentation and files.

Schematics

Why it's needed:

Schematics provide a complete view of the circuit's electrical connectivity. This enables our engineers to:

- Understand how components interact electrically.
- Identify critical test nodes and high-risk circuits.
- Pinpoint areas that may lack testability (e.g., power, ground, analog paths, or signal isolation).

Preferred formats: PDF, Postscript, EDIF, DXF, HPGL, DWG, OrCAD (.DSN), or P-CAD (.SCH).

Note: A “readable” printed copy is acceptable if electronic versions are not available.

Assembly Drawings

Why it's needed:

Assembly drawings help our mechanical and test engineers:

- Identify component placement and polarity.
- Determine fixture interference risks, such as:
 - Bottom-side connectors
 - Tall components
 - Components extending past PCB edges
 - Switches or buttons that need mechanical access during test

Having this information early prevents costly delays or redesigns of the test fixture.

Preferred format: PDF

Panel Drawing

Why it's needed:

Panel drawings are necessary to:

- Understand the panelized array layout.



- Determine overall dimensions for fixture plate sizing.
- Identify tooling hole locations for alignment and registration.
- Ensure proper clearance for clamps, actuators, and vacuum routing (if applicable).

Accurate panel data ensures the fixture will align correctly with the PCB in production.

Preferred format: PDF

Bill of Materials (BOM)

Why it's needed:

The BOM ties component identifiers to real-world part numbers, values, and tolerances.

It helps:

- Verify component type and functionality.
- Support automated CAD/BOM cross-referencing.
- Identify critical or high-value components requiring specific test attention.
- Ensure accurate part matching during program development.

Preferred format: ASCII text or Excel spreadsheet

CAD Data

Why it's needed:

The CAD file is the foundation for both **test coverage analysis** and **fixture probe placement**. It provides “intelligent” data including:

- Component locations and orientations (X, Y, Theta)
- Mounting side (top/bottom)
- Package styles (e.g., SOIC, QFP, BGA)
- Technology type (SMT vs. PTH)
- Electrical net information, including node count and testpoint availability

Without this, accurate modeling, testability analysis (e.g., with Aster TestWay or similar), and automated fixture drilling are not possible.

Preferred formats: GenCAD, ODB++, IPC-356 (processable with extra effort)

If CAD is unavailable: Provide a netlist and testpoint file to determine if every net can be accessed.



Statement of Work (SOW)

Why it's needed:

An SOW outlines any special requirements that may fall outside standard test development:

- Unique fixture specifications (e.g., mechanical actuation, Kelvin connections)
- Environmental or safety constraints
- Electrical parameter ranges (e.g., high current/voltage testing)
- Customer-defined test sequences or limits

This ensures that the final solution aligns with the customer's expectations and product-specific needs.

If no SOW is available: TTCI will apply its default SOW, and all tolerances and scope will align with the assumptions made in the project quote.