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## Testing to the Max

*Lower costs – and fewer headaches – related to building and tracking adapter cables...automatic program generation and efficient troubleshooting...powerful database and standard networking technology...efficient development of test programs for complex assemblies with relays and switches.*

These results, and more, are readily achieved with DIT-MCO International's new test programming software. TestAssistant® II combines advanced capabilities with a robust, intuitive user interface to produce such results.

A complete test management system, TestAssistant II:

- Provides integrated, enterprise-wide functions that all use a single database of wiring information.
- Automatically generates test programs including complex components.
- Automatically designs adapter cables.
- Produces printed documentation for purchasing and fabrication departments including bill of materials, wiring diagrams, and labels for cables.
- Tracks inventory of adapters allowing for reuse on new projects..

“TestAssistant II offers unprecedented efficiencies, usability, and cost reductions,” says Charlie Jennings, National Sales Manager. One of the first implementations allowed the customer, an airplane manufacturer, to eliminate redundant tasks and data, reduce costs, and accelerate production schedules. Overall, the solution cut man-hours by two-thirds.

“TestAssistant II can almost pay for itself with your first project,” says Jennings.

“In an economy characterized by funding cutbacks and downsizing, everyone stretches to

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the limit. Companies try to do more with less. TestAssistant II gives our customers an innovative tool to respond to those challenges.”

## **Powerful Relational Database Provides Common Ground**

As user-friendly and robust as the interface is, the real power of TestAssistant II lies behind the scenes in a relational database. Every function draws on shared information stored in this database.

“Setting up and sharing common data and information increases efficiency and accuracy and reduces cost in the long run,” says Jennings.

A common Part Library means components only need to be defined once for all assembly applications, and unused components in the part list can readily be identified. Similarly, wiring analyzer system definitions allow test data to be defined independently of the tester to be used.

The Test Adapter Library streamlines documentation by generating assembly documents, such as work orders, bills of material, wiring instructions, reference drawings, summary parts lists, and cable bar code labels. This library also lets users edit wiring instructions and match wiring data to adapter cable assembly errors, thus avoiding costly assembly rework.

How does sharing all this common information improve processes? Consider adapter cables, for example. The Adapter Cable summary Part List identifies everything needed to build all of the adapter cables, thus simplifying procurement and setting the stage to negotiate greater volume purchases. “The database also tracks all interfaces that have been built and searches the database when you need a new adapter,” says Jennings. “It directs you to a ‘best fit’ cable for your current application, saving the cost of building a new adapter.”

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Further, programmers can define the physical layout of the unit under test (UUT) and wiring analyzers, establishing optimal adapter cable length and cutting the time to design the physical layout of switching system cabinets or portable units.

Common files also streamline the engineering change order (ECO) process. Users may input ECOs directly into the database, identify end connectors that require adapter cable changes, and generate reports for new adapters and parts. “TestAssistant II eliminates the need to repeat the entire test development process whenever there are changes to the product or component being tested,” says Jennings. “Process ECOs in less time with greater accuracy.”

Since TestAssistant II uses standard networking technology and supports Internet protocols, the new software facilitates enterprise-wide communications. It’s ideal for global, server-based installations. In fact, TestAssistant II allows for multiple operators and the communications between them.

As a result, customers can make the best use of their human resources. Multiple users can have simultaneous access. No single task requires completion of another. “That translates into a real efficiency boost when several programmers are trying to repair the same assembly or implement concurrent engineering,” says Jennings.

## **Comprehensive Test Coverage**

Although TestAssistant II was developed by DIT-MCO, it can produce test programs for many different test environments. Test code is thoroughly commented, providing information that is particularly useful for troubleshooting.

TestAssistant II’s program generator:

- Allows the user to determine the testing sequence.

- Automatically creates tests for each state of an active component (a relay, switch, breaker, or other “multi-state” component), and may insert prompts for the test operator, such as activating a switch or verifying the condition of a lamp.
- Automatically identifies splices and other non-defined connection points.
- Provides on-screen clues for “dead-end” or “looped” paths in wiring data, as well as unused components defined in the parts list.

Edit “wizards” walk users through the editing process. All edits are made directly to the test database and test data is always reproducible.

## **Better Performance**

“There’s no doubt that TestAssistant II’s automatic functions and easier problem identification will save customers time,” says Gary Mullins, DIT-MCO’s Director of Sales & Marketing. “In reality, many issues can be corrected after testing. With all these test generation features in place, test operators can keep right on working when they run into a snag. They can correct problems later, then run tests without repeating operations they completed before.”

TestAssistant II produces benefits from a management standpoint, too. Various status reports are available to help manage testing and production and ensure on-time project completion.

“TestAssistant II has already been implemented in some demanding test environments,” says Mullins. “In each application, it creates opportunities to improve performance.”

Aerospace, weapons manufacturing, mass transit, satellite and telecommunications industries will all benefit from this high-powered new toolset, according to Mullins. “I’m looking forward to seeing the positive impact for our customers.”

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<b>TestAssistant II's Software Structure &amp; Flow</b>	
<b>1</b>	TA-II extracts data – wire, connect, and part lists – from the manufacturing database.
<b>2</b>	Data is imported into TA-II's database; the user may review or edit the stored data.
<b>3</b>	TA-II searches the database's Parts Library for every item listed on the connect list. The user may add parts descriptions as necessary, along with other supplemental information.
<b>4</b>	TA-II automatically creates the adapter build drawings, along with associated documentation required for other departments.
<b>5</b>	Once the user defines characteristics of the test, TA-II automatically generates the test programs and address files.

Users *see* evidence of TestAssistant II's innovation immediately in its intuitive graphical user interface. Making use of menus, toolbars, data trees, drag-and-drop selections, and visual clues, the simplified interface streamlines processes throughout test operations, from importing wire lists and adding parts, to easy creation of both one-to-one and complex adapter cables.