

eBIRST Switching System Test Tools

- Quickly determine if your switching system has faults
- Identify fault location at relay level allowing fast corrective action
- Minimize downtime of the switching system
- Save repair costs



Our **eBIRST™** tools quickly determine if a Pickering PXI, PCI, or LXI switching system has faults, identifies the location of the fault at relay level and allows the user to take fast corrective action, saving on repair costs and minimizing the downtime.

The **eBIRST** test tools support Pickering switching systems that use mechanical relays with precious metal contacts (typically contacts with a rating of 2A or less) as well as most solid state relays. DC coupled RF systems using SMB connectors are supported thru the use of test adapters. Each tool is generic—it will test any module that has the same connector type.

eBIRST Switching System Test Tools



Test Tools

Three test tools with 200-way LFH, 78-way D and 50-way D connectors that perform the measurement.

Adapters

Set of adapters that allow extension to other switching system connectors, including SMB.



Calibration Fixtures

Each test tool has an optional calibration fixture that can be used to verify that the tool is working.



Master/Slave Cable

Required to connect two eBIRST tools together for applications requiring two tools to test thru paths.

Why choose Pickering products supported by eBIRST?

Providing a high-level of product support, such as eBIRST, is of utmost importance to Pickering. With other switching system vendors, you will have first to establish what sub-assembly or module is faulty, and then test the individual modules to find which relay(s) have failed. You can do this manually, consuming hours of engineer or technician time, or you can try to write your own self-test program as part of the test system design to diagnose connectivity faults – this again will consume hours of your engineer's time gaining knowledge of the test system and how the switching system is put together. Even so, there is always the risk of an incorrect diagnosis leading to the wrong components being replaced, causing unnecessary stress on the switching system parts.

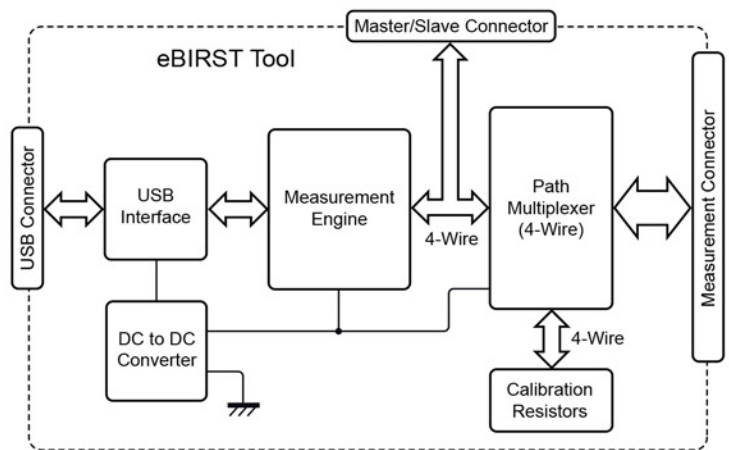
eBIRST tools will quickly test the switching system, locate the faulty relay and inform you what relays to replace via a graphical output. Downtime is considerably reduced, and the problems of misdiagnosed faults causing ineffective repairs to be carried out are minimized.

	eBIRST	Manual or System Test
Equipment required	Tool set to support specific connectors used in switching system.	None if already part of the system.
User software investment	None, application program provided.	Responsibility of user or integrator.
Cost	Low, tools can be shared across multiple requirements.	High software and hardware investment for each test system built.
Ease of fault identification	Simple, tool finds specific relay and its physical location.	Typically restricted to identifying a faulty path from which the most likely relay fault needs to be determined via a schematic diagram.
Fault coverage	100% coverage of relay faults in a switching system.	Typically identifies only a general indication of fault paths, includes cable faults but unable to easily distinguish from relay faults.
Repair time	Short, identifies all the faults and displays their physical location.	Longer, the user has to identify faulty relays and find their physical location using the manual.
Chance of misdiagnosed repairs	Low	Significant risk
Downtime	Short	Longer, especially if the fault leads to the switching system being sent back to the vendor for repair.

How eBIRST Tools Operate

These tools perform a resistance measurement between any designated pins on the switching system, either directly or via an adapter. No supporting equipment is required other than the **eBIRST** tools. Power for the tools is provided by the USB control port. The test for each type of our switching systems is determined by a Test Definition File available along with the application software for a Windows PC, there is no charge for the software. Each tool is generic since it applies to any of our switching systems using the designated connector and incorporating precious metal switching contacts.

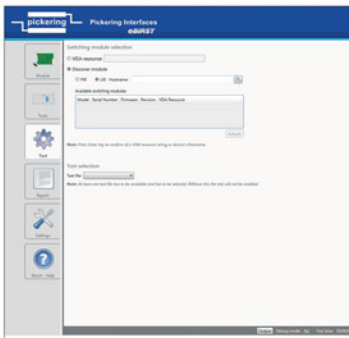
Some applications require the use of two tools to allow the testing of paths between two connectors of the same type or different. The two tools work together in a master/slave mode via a connection between their master/slave connectors to measure the thru path.



eBIRST Tool Functional Diagram

Running the Test

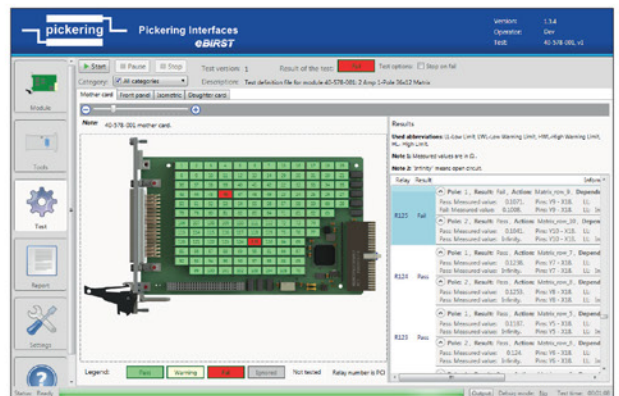
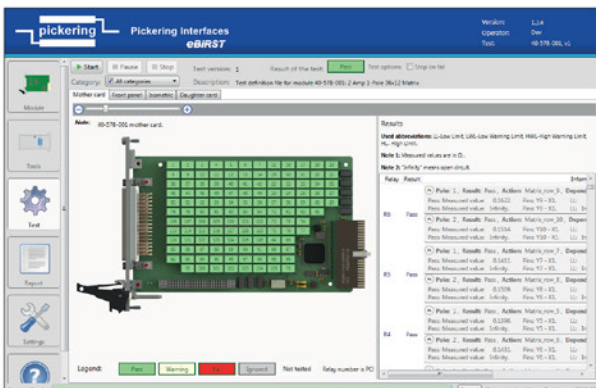
Connect the **eBIRST** tool to the switching system. For RF systems, use the 50-way D-type tool with the **eBIRST** coaxial adapter to convert from 50-way D-type to SMB.



Run the application program - for each switching system to be tested there is a Test Definition File that describes the tests to be performed and the limits to be applied.



Check the test results on the graphical display - this display identifies the relays that need attention and where they are physically located on the switching system. No need to refer to manuals to identify where the relays are located, the tool makes fault location information easily identifiable to simplify the repair.



Carry out repairs as required, reconnect the test tool and run the application program again to check that repairs were successful.

Re-deploy the switching system with a minimum of downtime.

What Can eBIRST Test?

The number of our switching systems supported by **eBIRST** will grow as new products are released, and requests to support additional ones are received. Models supported are indicated on product data sheets and web pages, if the model of interest to you is not supported contact your local sales office and we will create the required Test Definition File. Once you own a tool, its model coverage can be expanded by updating the application software. Supported PXI products can be tested in either a PXI Chassis or our LXI Modular Chassis.



PXI Reed Relay Modules

All of our PXI Reed Relay Modules are supported.



PXI Solid State Modules

All of our low frequency PXI Solid State Modules are supported.



PXI BRICs

Any of our BRIC matrices with a rating of 2A or less by using two tools in a master/slave arrangement.



PXI EMR Modules

All of our PXI based EMR solutions that use contacts that have a consistent path resistance for signal levels of 5V and 30mA.



PCI Switching Cards

All of our PCI Switching Cards are supported.



LXI Switching Systems

Any of our LXI Switching Systems with a current rating of 2A or less.

Pickering Support for Switching

No other switching systems supplier provides the level of support for their products as we do. In addition to our **eBIRST** tools, some of our switching systems are supported by our Built-In Relay Self-Test (**BIRST™**). **BIRST** is available on selected models and requires no tool investment.

The **eBIRST** and **BIRST** diagnostic test tools reduce the cost of ownership of switching systems by making it easy to maintain and verify the systems are functioning correctly.

Pickering Interfaces Knowledgebase

More information on the principles behind our **eBIRST** and **BIRST** diagnostic test tools can be found on our Knowledgebase at: wiki.pickeringtest.net/eBIRST+and+BIRST.

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