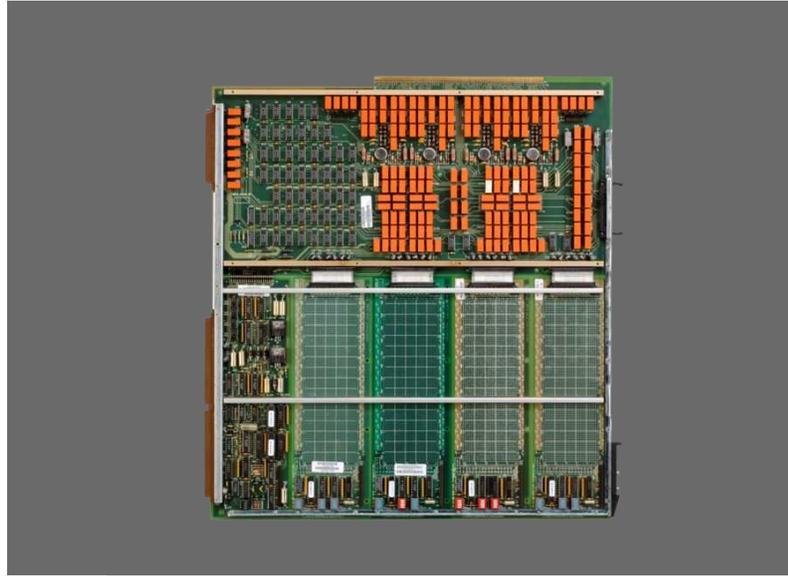# TestStation™ Multi-Function Application Board

Expand Functionality of your TestStation System with Flexible Application Modules

Key Features:

- *Plugs directly into TestStation Instrument Backplane*
- *Supports 4 independent Application Modules*
- *Flexible switching matrix*
- *Up to 100MHz signal bandwidth*
- *Extends ICT test capabilities*
- *Expands test coverage*

Expand test capabilities with the TestStation Multi-Function Application Board.

The TestStation Multi-Function Application Board expands the functionality of your In-Circuit tester by allowing manufacturers to plug specially designed Application Modules directly into your TestStation system. Its innovative design makes it easy to integrate functional test capability and custom circuitry directly into the test system.

Multi-Function Application Board Overview

Each Multi-Function Application Board supports four independent Application Modules. Each module has a breadboard area of 115 square cm for application circuitry. An additional 45 square cm is available to either side of the breadboarding area where bypass capacitors and other support circuitry may be added. Manufacturers can design their own custom circuitry on the Application Modules or choose one of the standard Application Modules that have been developed by Teradyne or our Support Partners.

The Multi-Function Application Board has a Signal Distribution Hub that supports routing of the signals on the Application Modules directly to the Unit-Under-Test, to the external IEEE-488 Instrument ports, or to the system's Analog Bus (where they can be

further routed to any pin in the test system). Operators can control the signal path using simple TestStation programming language commands.

Buffer/Amplifiers are included on the Multi-Function Application Board to handle situations of UUT signal conditioning. The buffers can be DC or AC coupled and a 50 ohm termination can be programmed to match transmission line impedance. Additional lines are provided to connect the TestStation's Arbitrary Waveform Generator and to synchronize the Application Modules with the TestStation's DMM Instrument.

Up to two Multi-Function Application Boards can be installed in the Accessory or pin board slots of the TestStation system – supporting a maximum of eight independent Application Modules.

Expanding Test Capabilities

The flexible design of the Multi-Function Application Board allows manufacturers to integrate functionality into the ICT test stage that is often performed at separate test stages on the production floor. Application Modules have been successfully designed for communication with specific automotive protocols, the measurement of frequency and

time events, the application of advanced boundary scan and BIST technologies, the communication with special-purpose PLD programming solutions, and the switching of custom UUT load components. The possibilities are only limited by your imagination.

Using the Multi-Function Application Board to expand the system's test capabilities is beneficial when manufacturers are able to combine multiple test stages such as board programming, functional test, and system test into a single ICT test stage. The benefits of consolidation include reduced fixture and tooling costs, lower handling costs, reduced development costs, fewer test operators, faster production beat rate, and greater system utilization.

Contact your Teradyne Sales Representative for more information on TestStation's Multi-Function Application Board or visit www.teradyne.com/atd.

General Board Features

- Four Breadboard areas for plugging in Application Modules
- Relay switched signals to the UUT with current handling capacity of 2 Amps
- 100MHz bandwidth signals through Direct Connect signals
- High signal isolation (< -40dB @ 100MHz)
- Switched and un-switched ground pins
- Four high performance unity gain linear amplifiers
- Direct cable access to eight IEEE-488 BNC ports at rear of system
- Connection to ICA Arbitrary Waveform Generator output signal
- Connection to trigger ICA's Digital Multi-meter instrument
- Eight analog channel connections to the system backplane and scanner matrix
- Four maskable trigger pulses are available for synchronization with digital Bursts
- Four Busy lines to communicate status of Application Modules to the test system
- Each of the Application Modules has four switched analog I/O lines plus four direct analog power signal lines available at the receiver interface
- Each of the Application Modules has a programmable Board-ID register
- Each of the Application Modules has access to four fused power supply voltages; +/- 15V, +5V, and -5.2V