

3070-65A-S

S E R V I C E N O T E

Supersedes:
3070-65-S

Agilent or HP 3070 Board Test Systems

Serial Numbers: 0000A00000 / 9999Z99999

**POSSIBLE "Shock" HAZARD
POSSIBLE "Fire" HAZARD**

WARNING

Agilent Technologies has identified a potential safety hazard with the Agilent or HP 3070 Performance Port high power connector block that may cause death, serious injury, and/or serious damage to the test system.

To Be Performed By: Agilent-Qualified Personnel or Customer

Parts Required:

P/N	Description
5980-2089E	Power block product overview (Attached)
5980-2088E	Performance port product overview (Attached)

ADMINISTRATIVE INFORMATION

SERVICE NOTE CLASSIFICATION:			
SAFETY			
ACTION CATEGORY: <input type="checkbox"/> ON SPECIFIED FAILURE <input checked="" type="checkbox"/> AGREEABLE TIME		STANDARDS: LABOR: 0.5 Hours	
LOCATION CATEGORY: <input checked="" type="checkbox"/> CUSTOMER INSTALLABLE <input type="checkbox"/> ON-SITE <input type="checkbox"/> SERVICE CENTER		SERVICE INVENTORY: <input type="checkbox"/> RETURN <input type="checkbox"/> SCRAP <input checked="" type="checkbox"/> SEE TEXT	USED PARTS: <input type="checkbox"/> RETURN <input type="checkbox"/> SCRAP <input checked="" type="checkbox"/> SEE TEXT
AVAILABILITY: ALWAYS		AGILENT RESPONSIBLE UNTIL: ALWAYS	
AUTHOR: Guy Sittler		PRODUCT LINE: 80	
ADDITIONAL INFORMATION:			

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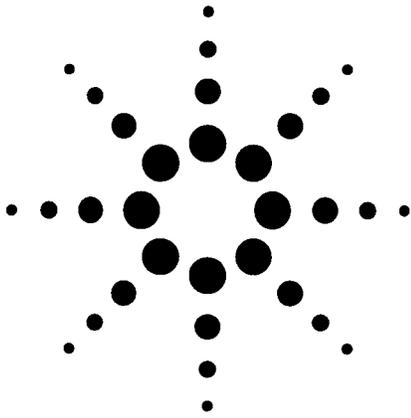
January 30, 2003

Situation:

The Performance Port The Performance Port accessory and High Power Connector Blocks are also known as product numbers E3700A/E3710A and ET35623/ET35622, respectively. Documentation for the high power connector block specifies a maximum voltage of 622 VAC Peak or 622 VDC. Although this is a correct specification for the high power connector block, it does not take into consideration the hazardous implications of human error or potential faults on the board being tested in conjunction with the use of 622 VAC Peak or 622 VDC. There are potential scenarios that could result in the unexpected transfer of this high voltage to other areas of the test system and/or operator. Therefore the maximum voltage specified should be 200 VAC Peak or 200 VDC. Use of voltages beyond the corrected specification risks injury or death to operators and/or can seriously damage the test system.

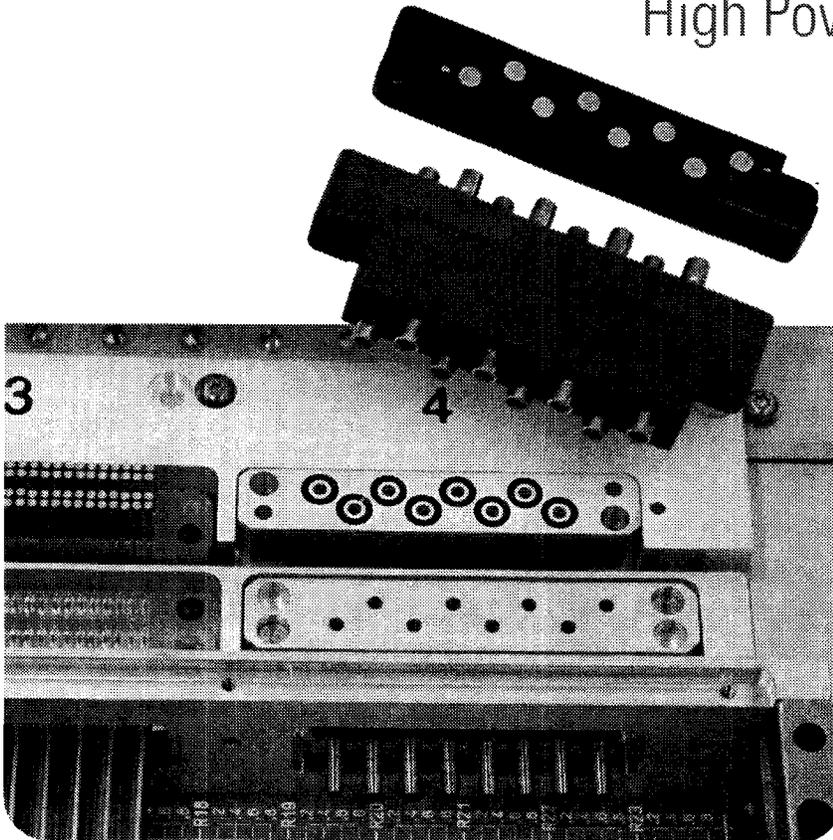
Solution/Action:

Review and revise as necessary all test programs utilizing Performance Port high power connector blocks to ensure that test voltages fall within the corrected specifications. Locate and replace all existing documentation with new documentation that reflects the revised specification. Destroy all documentation with the incorrect specifications.



Agilent Technologies 3070 Performance Port

High Power Connector Block

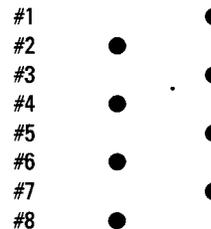


The Agilent 3070 Performance Port lets you connect loads or external instruments to the board under test through the 3070 testhead – simply and efficiently, without many of the limits common to other connection solutions. One option, the High Power Connector Block, lets you run high current and/or high voltage into or out of the fixture via the testhead.

The High Power Connector Block contains eight individual connectors rated for a maximum current of 20 amps and a maximum voltage of 200 VAC Peak (200 VDC). The testhead block is soldered to two fifteen foot lengths of four conductor cables (for a total of eight individual conductors). This cable is available in different lengths as a special order. The unconnected end of the cable is ready for attachment by the user to some equipment external to the testhead.

Pin Numbering

The pins in the High Power Connector Block are normally numbered from 1 to 8, viewed from the top to the bottom. If looking down into the top of a block mounted within a testhead, on the left side, the suggested numbering would appear as follows:



Maximum Ratings

Maximum Current: 20 amps
Maximum Voltage: 200 VAC Peak or 200 VDC

Ordering Information

Testhead High Power Connector Block ET35623*
(Fifteen foot cables will be attached to the testhead block unless otherwise specified.)

Fixture High Power Connector Block ET35622*

*Order both products through the MTD/
Applications Center Project Coordinator.



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Important Performance Port

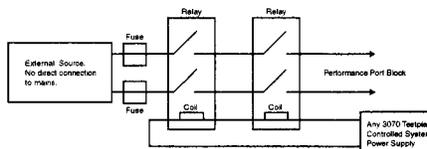
Safety Information

Voltages greater than 60 volts DC (42 volts peak AC) present a risk of electrical shock to the operator. Safe operation requires that a double-interlocked safety shroud (cover) be added to a fixture any time electric shock hazard voltages are present on the board being tested, whether generated by the board itself, generated by internal system power supplies, or connected to the fixture from an external source. This cover must protect the operator while the board is being placed into the fixture, while the board is under test, and while the board is being removed from the fixture. Safety interlocks must be provided if voltages on the Performance Port block or the board exceed 60 volts DC, 42 volts peak AC, or 30 volts RMS AC, as well as other instances described in the manual, "Building Board Test Fixtures." Information on building safety shrouds and recommendations on when they must be used are contained in the same the manual, which is provided with your system. Additional copies are available from Agilent Technologies by ordering part number 44200-90022.

When Performance Port is used to connect external electronics of any kind -- sources, detectors, or even simple components (especially capacitors) -- care must be taken to avoid excess pin card voltages, and/or discharge problems. The maximum voltage that must ever be applied to a pin card, even under fault conditions, is 100 volts peak. Furthermore IPG will only create discharge tests for capacitors entered in board forms, and most devices and instruments have capacitance. Consider such things as entering the external capacitance into board forms, external discharge paths, special discharge subroutines, etc.

Also remember that *external instrumentation connected via a Performance Port block will not be automatically controlled by the test program*. The programmer should try to modify the testplan to reset all external instrumentation for a zero output voltage -- this is not easy! In these cases, every possible method of exiting a test must be trapped (break, abort, errors, etc.) and a routine written to disconnect or turn the output off on each piece of external equipment. This is not an easy task, and any overlooked exits could cause problems.

A much better solution (and one that is *highly recommended*) is to add two external relays, energized by one of the 3070 systems internal DUT power supplies. Use the relay contacts to disconnect all equipment and devices connected via the Performance Port block automatically whenever that particular internal supply is turned off or disconnected. If the relay is operator accessible, the relay itself must have a safety cover and interlock. It may also be necessary to have the relay contacts turn off any external sources; the method used will depend on the source.



No Performance Port block should ever be used for a direct connection to AC mains. Furthermore, if an isolation transformer is used between AC mains and a Performance Port connection, no earth grounded secondary winding must be connected unless it goes to a polarized mains outlet, and then one side of the secondary must be tied to earth ground to polarize the outlet. The non-earth grounded secondary makes for a reduced electric shock hazard in that the accessible voltage is not referenced to earth ground.

High Power Fixture Probes

Several manufacturers make high power fixture probes. Connect2it (www.connect2it.com) offers probes with as much as 400 amps capability if desired, while Everett Charles Technologies (www.ectinfo.com) offers several styles of probes handling up to 35 amps. Note that standard 100 mil probes usually can only handle one amp or less. Consult your fixturing Agilent Technologies Channel Partner for further information.

Sales Offices

For more information about Agilent Technologies' products and solutions in electronics manufacturing, visit our website:

<http://www.agilent.com/go/manufacturing>.

To learn about other Agilent test and measurement products, applications and services, or for a current sales office listing, visit our website:

<http://www.agilent.com/find/tmdir>.

You can also contact one of the following centers and ask for a test and measurement sales representative.

United States

Agilent Technologies
Test and Measurement Call Center
P.O. Box 4026
Englewood, CO 80155-4026
Tel: 1 800 452 4844

Canada

Agilent Technologies Canada Inc.
5150 Spectrum Way
Mississauga, Ontario, L4W 5G1
Tel: 1 877 894 4414

Europe

Agilent Technologies
European Marketing Organisation
P.O. Box 999
1180 AZ Amstelveen
The Netherlands
Tel: (31 20) 547 9999

Japan

Agilent Technologies Japan Ltd.
Measurement Assistance Center
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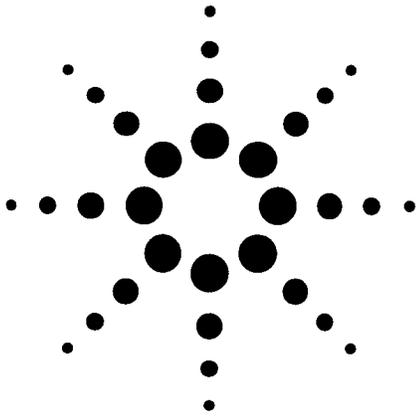
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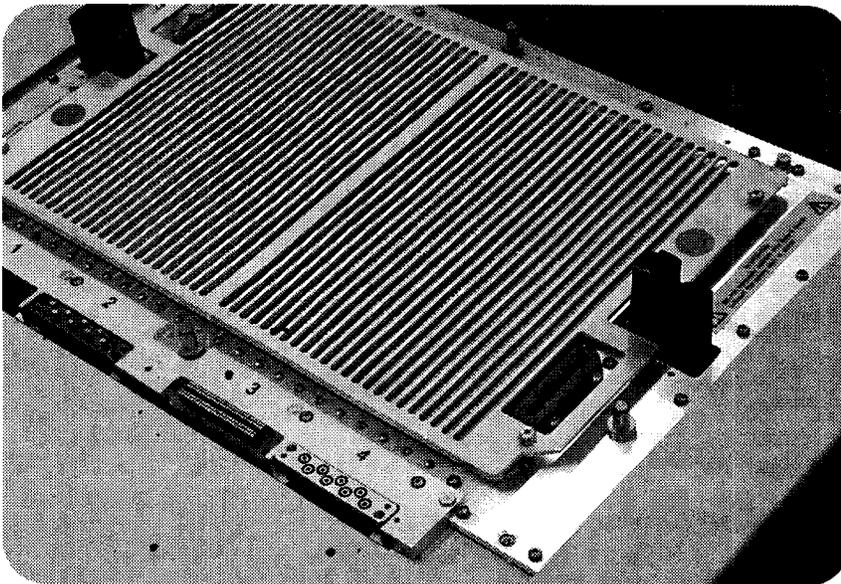
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Agilent Technologies 3070 Performance Port

The complete solution
for connecting external loads and instruments



- Extends the testing capability of the 3070
- Extremely flexible and adaptable to your test needs
- Designed for practical use with fewer limitations
- Handles it all -- high amperage, high voltage, high frequency, air, multiple inputs
- Saves money by letting you check high-failure parts early in the process.

Agilent Technology's 3070 is your in-circuit tester of choice, for good reason. Agilent makes it easy to extend the 3070 testing capability by adding functional test. Put a large load on the board while testing. Connect an oscilloscope, spectrum analyzer, or bench top signal generator. Conduct a wide variety of performance tests. The 3070 Performance Port lets you connect loads or external instruments to the board under test through the 3070 testhead – simply and efficiently, without many of the limits common to other connection solutions.

Unlike flying leads on the fixture, Agilent's 3070 Performance Port can remain attached to the testhead and fixture, even when not in use. Easier than using functional test access ports on each testhead module, Performance Port does not require switching between tests. Supplementing Agilent's Access Plus pin card (limited to 200 volts peak, 40VA), the 3070 Performance Port can handle higher voltage, higher amperage, higher frequency, and a larger number of inputs and outputs.

Depending on system configuration, a maximum of either four or eight 3070 Performance Port blocks can be added to every Agilent Technology 3070 test system. Designed for practical flexibility, Performance Port can handle one or more pairs of connection blocks. A pair consists of one block for the testhead and one for the fixture. Five different pairs of connection blocks are available and can be mixed as required to meet your specific test needs.



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Agilent 3070 Performance Port Connector Block Choices

- Air Connector Block – Puts pneumatic control on the test head. It can accommodate 8 different lines for air and works well with pneumatic fixtures.
- 100-Pin Connector Block – Useful for electrical control and serves as a general purpose conduit for getting wires in and out. It handles 100 single wires with 1 amp and 150v peak.
- 50-Ohm Coaxial Connector Block – Gets high frequency signals into or out of the testhead. It works with 8 coaxial cables with 1 GHz 3 dB bandwidth.
- 75-Ohm Coaxial Connector Block – Useful for high frequency signals, this block handles 6 coaxial cables with 1 GHz 3 dB bandwidth.
- High Power Connector Block – Lets you put high voltage or high currents into the fixture. It can accommodate 8 wires with up to 20 amps and 200v peak.

Ordering Information

All blocks listed below should be ordered as Standard Products through your Agilent field representative, except those indicated with an asterisk. Products with an asterisk must be ordered through the MTD/Applications Center Project Coordinator.

Testhead Connector Blocks:

Air System with Blocks – separate control box for 8 lines	E3714A
Air System with Blocks – direct testhead control for 8 lines	ACS Lite Control*
100-Pin Connector Block	ET35621*
50-Ohm Coaxial Connector Block and cable assembly	E3712A
75-Ohm Coaxial Connector Block and cable assembly	E3713A
High Power Connector Block (with 15' cables)	ET35623*

Fixture Connector Blocks:

Air Connector Block – right angle, 8 port connector block	E3707A
Air Connector Block – straight, 8 port connector block	E3708A
100-Pin Connector Block	E3709A
50-Ohm Coaxial Connector Block	E3705A
75-Ohm Coaxial Connector Block	E3706A
High Power Connector Block	ET35622*

* Products with an asterisk must be ordered through the MTD/Applications Center Project Coordinator.

www.agilent.com/go/manufacturing

Sales Offices

For more information about Agilent Technologies' products and solutions in electronics manufacturing, visit our website:

<http://www.agilent.com/go/manufacturing>.

To learn about other Agilent test and measurement products, applications and services, or for a current sales office listing, visit our website:

<http://www.agilent.com/find/tmdir>.

You can also contact one of the following centers and ask for a test and measurement sales representative.

United States

Agilent Technologies
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P.O. Box 4026
Englewood, CO 80155-4026
Tel: 1 800 452 4844

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