

ITC

MOTHERBOARD

ORDERING GUIDE

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MOTHERBOARD ORDERING GUIDE

A motherboard is the fixture that adapts a given type of probe card to the Probilt™ probe card analyzer. Because there are many different tester interfaces and sometimes several for the same basic tester, it is critical to determine exactly which motherboard is required for your application. ITC has systematized the process to assure the on-time delivery of quality motherboards that will meet your requirements.

1. QUOTATION

The first step in the process is to request a quotation. In order for ITC to provide the correct pricing, it is critical that we understand the exact requirement. The customer, with help from an ITC representative, should fill out as much information as possible on the **MOTHERBOARD INFORMATION CHECKLIST** included in this guide.

If the motherboard is a standard that already exists, ITC will confirm this and provide a fixed quote. ITC may ask the customer to review a design packet on an existing motherboard to confirm if it is the proper type.

If the motherboard is a new design, ITC will require all information on the checklist before the motherboard can actually be designed and built. This information may come from the customer, the test system vendor, the wafer prober vendor, the interface manufacturer or a combination of these sources.

A budgetary quotation can be generated if a reasonable amount of the information is known. Once all the information is received, ITC can give a firm quotation on a custom motherboard.

2. PURCHASE ORDER

Upon receipt of the customer PO, ITC will build and ship a standard motherboard or complete the design of a new type for customer approval. Upon completion of the design, before the motherboard is built, ITC will send a design review packet to the customer for approval.

3. DESIGN REVIEW

Upon receipt of the design review packet, the customer should confirm that the design meets their requirements. It is requested the customer check the *silkscreen names* and the *relay drive connections* to be sure they correspond with their standards. Critical dimensions should be checked against the design packet specifications. Motherboards can be fairly complex and careful checking eliminates costly errors. After approval by the customer, the motherboard moves on to the build stage.

4. BUILD, TEST & SHIP

ITC will correct any design errors found by the customer during the Design Review and proceed to build the motherboard. After the motherboard is built, it will be completely tested to the criteria in the Motherboard Specification and a final test report will be generated. A Style File, compatible with the customers system will also be generated. The motherboard, final test report and the style file will be shipped to the customer.

MOTHERBOARD INFORMATION CHECKLIST

This checklist provides ITC with information necessary to design and build a Probilt™ motherboard. Probe cards are generally designed to be specific to a given model tester and sometimes to a given wafer prober. In some cases, third party interfaces are used on testers and wafer probers or a tester manufacturer may have several variations of interfaces on a given tester model. Because it is impossible for ITC to know exactly what configuration the customer has, the information requested in this document is critical to defining the proper motherboard.

NOTE: Refer to the Checklist Instructions following this Information Checklist.

General Information

Contact:	Company:
Phone:	Address:
Fax:	
E-mail:	

Probilt™ Model Information

MODEL	INTERFACE	SERIAL #
<input type="checkbox"/> PB1000	Card Rails	
<input type="checkbox"/> PB2000/2500	HPCA (Standard)	
<input type="checkbox"/> PB2000	Card Rails	
<input type="checkbox"/> PB3000	1,024 Channel. MUX	
<input type="checkbox"/> PB3000/3500	3,072 Channel. MUX	
<input type="checkbox"/> PB6500	6,154 Channel. MUX	

Tester and Prober Information

Tester Mfg:	Tester Model:
Prober Mfg:	Prober Model:
Interface Mfg:	Interface Model:
Pogo Pins Qty:	Pogo Pin Spring Force:
Hypertac Qty:	Hypertac Pin Size:
Other Connector Type:	Attach Drawing or File:
Support Area Material:	Support Area Thickness:
Alignment Pin Sizes:	

Probe Card Information

Manufacturer:	Part Number:
Diameter:	Thickness:
Probe Depth Range: Reference Surface:	Maximum Array Size: (Length x Width)
Array Orientation With respect to alignment pins: (Provide Drawing)	Planarity Reference Surface <input type="checkbox"/> Top <input type="checkbox"/> Bottom <input type="checkbox"/> Other (Specify)
Pogo Pin Contacts: <input type="checkbox"/> On Pad <input type="checkbox"/> On Via	<input type="checkbox"/> Hypertac Pin. Diameter:
Pad/Pin Locations: <input type="checkbox"/> Drawing <input type="checkbox"/> File	Provide Dimensioned Drawing or File
Stiffener/Mounting Ring: <input type="checkbox"/> Yes <input type="checkbox"/> No	Provide Dimensioned Drawing or File
Name of Each Pad/Pin Connection	Provide Drawing or File
Total Signal/Utility Channels:	Total Power/GND Channels:
Relay Drive/Power Connections:	Provide Schematic of Configuration
Relay Drive: <input type="checkbox"/> Relay MUX <input type="checkbox"/> Dedicated	

NOTE: A sample probe card should be submitted for testing and to ensure the correct design.
 Drawing and file formats may be AutoCAD, Pads PCB, Adobe, Solid Works, Gerber, etc.

Additional Information: _____

After you have completed this checklist, mail or Fax it to ITC:

INTEGRATED TECHNOLOGY CORPORATION
 1228 NORTH STADEM DRIVE
 TEMPE, ARIZONA 85281, USA
 Phone: 480.968.3459
 Fax: 480.968.3099
 Attention: Sales Department

CHECKLIST INSTRUCTIONS

These instructions are used as an aid in filling out the MOTHERBOARD INFORMATION CHECKLIST.

Probilt™ Model Information

MODEL	INTERFACE	SERIAL #
<input type="checkbox"/> PB1000	Card Rails	
<input type="checkbox"/> PB2000/2500	HPCA (Standard)	
<input type="checkbox"/> PB2000	Card Rails	
<input type="checkbox"/> PB3000	1,024 Channel. MUX	
<input type="checkbox"/> PB3000/3500	3,072 Channel. MUX	
<input type="checkbox"/> PB6500	6,154 Channel. MUX	

Select the Probilt™ model and interface with which the probe card will be used. If the serial number of the system is known, please include it for additional confirmation.

Tester and Prober Information

Tester Mfg:	Tester Model:
Prober Mfg:	Prober Model:
Interface Mfg:	Interface Model:
Pogo Pins Qty:	Pogo Pin Spring Force:
Hypertac Qty:	Hypertac Pin Size:
Other Connector Type:	Attach Drawing or File:
Support Area Material:	Support Area Thickness:
Alignment Pin Sizes:	

Tester and Prober Information Description	
Tester Mfg:	This is the actual manufacturer of the test system such as Teradyne, Advantest, Credence, etc.
Tester Model:	This should be the specific model of the tester. Since there are slight variations of a particular model of some testers, it is important to know as much about the configuration as possible. Interface part numbers, etc. may be helpful.
Prober Mfg:	In some cases, a probe card may be specific to a certain type of prober (example, use of TEL ring).
Prober Model:	The prober model may require a particular type of probe card support. In order to emulate the application, the motherboard should model this configuration. Examples might be EG 4085, TEL P8, etc.
Interface Mfg:	If a third party interface is used on the tester, please specify who made it.
Interface Model:	If a third party interface is used, please give a complete model number and supply drawings if possible.
Pogo Pins Qty:	If pogo pins are used, specify total quantity used in the interface
Pogo Pin Spring Force:	This is the force in grams at the normal compression. This may be a range (min-max). The brand, part number and nominal compression may be specified as an alternative.
Hypertac Qty:	If Hypertac pins are used, specify total quantity used in the interface.
Hypertac Pin Size:	Diameter of the Hypertac pins.

Tester and Prober Information Description	
Other Connector Type:	If any other connector is used, specify the type and part number. Attach a drawing or file that completely describes the connector and its position on the probe card.
Support Area Material:	Is the support plate aluminum or steel? Is it insulating or not?
Support Area Thickness:	What is the thickness in the area under the probe card and in the rest of the support plate. A drawing of the equivalent plate on the wafer prober is helpful.
Alignment Pin Sizes:	The Diameter of each alignment pin as used on the tester interface. This will be compared to the specified alignment hole diameters in the probe card.

Probe Card Information

Manufacturer:	Part Number:
Diameter:	Thickness:
Probe Depth Range: Reference Surface:	Maximum Array Size: (Length x Width)
Array Orientation With respect to alignment pins: (Provide Drawing)	Planarity Reference Surface <input type="checkbox"/> Top <input type="checkbox"/> Bottom <input type="checkbox"/> Other (Specify)
Pogo Pin Contacts: <input type="checkbox"/> On Pad <input type="checkbox"/> On Via	<input type="checkbox"/> Hypertac Pin. Diameter:
Pad/Pin Locations: <input type="checkbox"/> Drawing <input type="checkbox"/> File	Provide Dimensioned Drawing or File
Stiffener/Mounting Ring: <input type="checkbox"/> Yes <input type="checkbox"/> No	Provide Dimensioned Drawing or File
Name of Each Pad/Pin Connection	Provide Drawing or File
Total Signal/Utility Channels:	Total Power/GND Channels:
Relay Drive/Power Connections:	Provide Schematic of Configuration
Relay Drive: <input type="checkbox"/> Relay MUX <input type="checkbox"/> Dedicated	

Probe Card Information Description	
Manufacturer	Who makes the probe card to be used? If there are multiple vendors, please list the major ones.
Part Number	The manufacturers part number for the generic type of probe card. If only a device specific part number is known, ITC may ask for permission to get the information on that probe card directly from the probe card vendor
Diameter	Outside diameter of the probe card not including any stiffeners.
Thickness	Thickness of the probe card not including any stiffeners.
Probe Depth Range/Reference Surface	The range of probe depths from a particular reference which might be the top of the card, bottom of the card, surface of stiffener, or other surface. Specify which surface is used as the reference.
Maximum Array Size	This is the total size of the probe array on the card. In a multiple die array, it includes all die, not just one.
Array Orientation	It is critical that ITC know the orientation of the array on the probe card. Some memory arrays in epoxy ring technology can be very long in one dimension and short in the other. The array must be positioned to utilize the chuck area available that is typically longer in the horizontal direction. A drawing or sketch is very helpful in showing the array and its relation to the alignment pins. Please specify whether the sketch is from the top (PCB side) or bottom (probe tips side).

Probe Card Information Description	
Planarity Reference Surface	This is the surface that is calibrated to be planar to the chuck surface that is used to measure planarity. It may be the top or bottom of the card, a surface on a mounting ring or stiffener, etc.
Pogo Pin Contacts, On Pad/Via	Do the pogo pins contact the PCB on a pad or on a via?
Hypertac Pin Diameter	Diameter of any Hypertac pins mounted on the probe card
Pad/Pin Locations, Drawing/File	This is to provide information on the location of each pogo pin or Hypertac pin. These locations must be tied to a name that will be used to generate a Style File for the motherboard. These names will be the ones you wish to use when generating Card Files. An electronic file is preferred and this may be part of the overall CAD drawing of the probe card.
Stiffener or Mounting Ring, Drawing/File	A complete drawing of the stiffener in electronic form is preferred. If this is not available, a sketch showing positioning and critical dimensions may be sufficient.
Name of Each Pad/Pin Connection	These are the names you want associated with each connection to the probe card. They will be used to generate a Style File of all possible connections and how they are routed to the analyzer. The names should be related to the physical location of each pad or pin. Normally this would be accomplished by supplying a CAD file for the probe card. The other alternative is to supply a list of names keyed to Pad/Pin locations.
Total Signal/Utility Connections	The total number of unique connections to the probe card that you may want to test with the analyzer. If this is less than the total number available on the probe card, please specify which connections will be used by providing a list or indicating them on the CAD drawing of the probe card.
Total Power/Ground Connections	ITC normally brings out multiple ground connections (4-8) on a motherboard. In many cases, redundant power supply connections may also be brought out. The number of power supplies should always be specified as some testers may have a non-standard configuration.
Relay Drive/Power Connections	Document which connections will be used for relay coils including the supply voltage and drive lines. If these connections total more than the number of relay drive lines on your system, please indicate which relay drives may be paralleled. The best way to provide information on relays is a schematic of how the relays may be used. If multiple configurations are used, please provide all of them
Relay Drive, Relay MUX/Dedicated	All Probilt systems have dedicated relay drive lines in various quantities. Some systems may be equipped with a Relay MUX that allows relays to be connected to any measurement channel. Please indicate which type you have and how many dedicated drive lines are on your system.