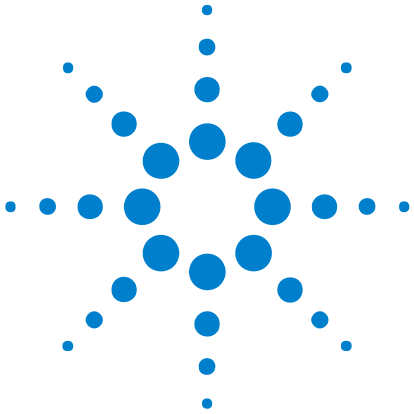

General Purpose Probes

Online Help

Agilent Technologies

Notices

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Using General Purpose Probes

General purpose probes let you define probes so that:

- Pin/pad numbers from the device under test show up in the Bus/Signal tab along with pod and channel numbers.
- This lets you define buses and signals directly from a schematic or netlist without having to figure out the pin mapping for the probe.
- Pod connections are documented.
- For example, suppose a probe that connects to "J1" on the device under test connects to Slot A Pod 1 and Slot A Pod 2. When "J1" is defined, the corresponding pods are saved in the configuration file. If there is any need to reconnect the pods, simply open the System Summary dialog and print out the "Probe Summary tab" (in the online help) which tells which pods to plug in to which probes.
- Bus/signal names can be assigned by importing an ASCII netlist file.

For information on using general purpose probes, see:

- To define probes (see page 7)
- To edit a probe (see page 13)
- To delete a probe (see page 15)

See Also

- Probe Control, COM Automation (see page 17)
- Probe Setup, XML Format (see page 19)

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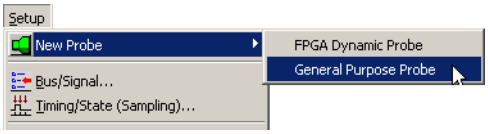
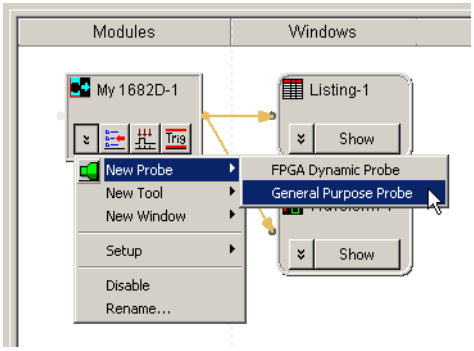
1 To define probes

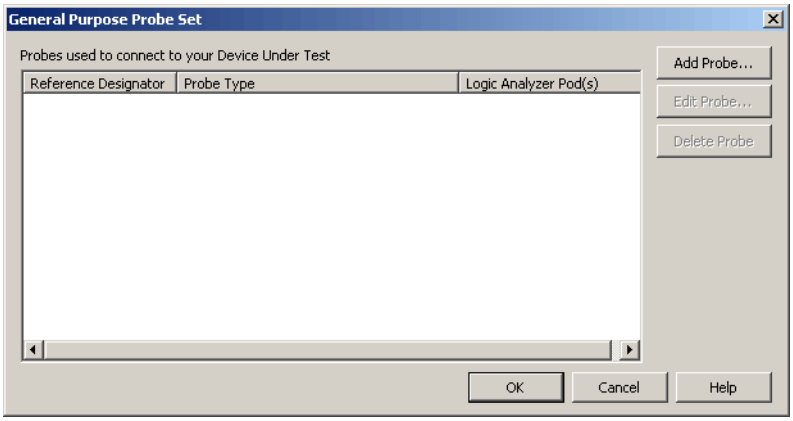
1 From the main menu, choose **Setup>(Logic Analyzer Module)>New Probe>General Purpose Probe**.



Or, in the Overview window, from a logic analyzer module's drop-down menu, choose **New Probe>General Purpose Probe**.



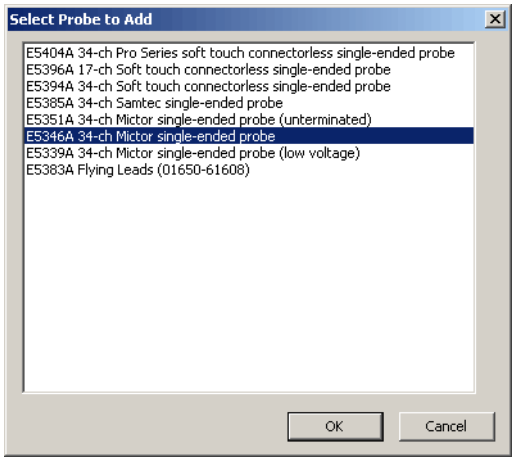
2 In the General Purpose Probe Set dialog (see page 10), define the probes associated with board connections in the device under test:



For each probe:

a Click **Add Probe...**.

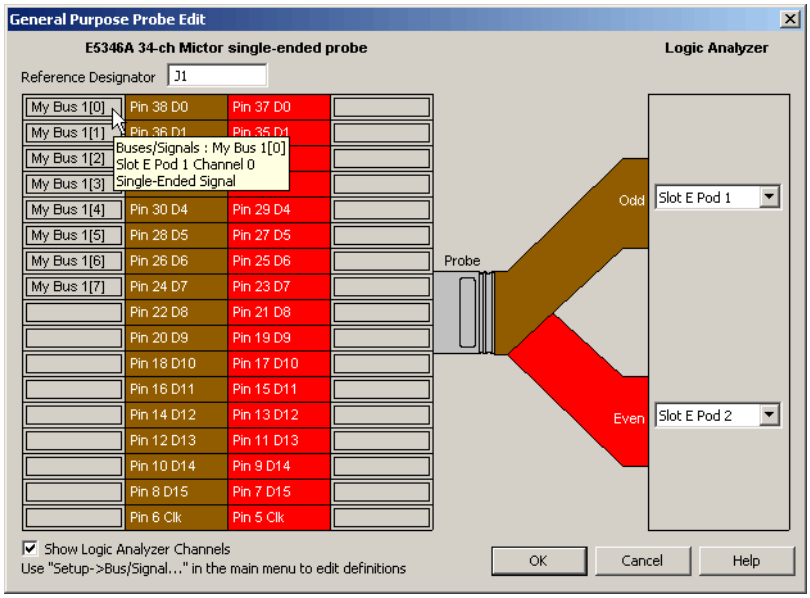
b In the Select Probe to Add dialog, select the type of probe to add, and click **OK**.



If your probe doesn't appear in the list, you can "download the latest probe definitions from the web" (in the online help).

You can also edit an XML format file "to define new probe types" (in the online help).

c In the General Purpose Probe Edit dialog (see page 12), enter the reference designator of the connection in the device under test, and select the logic analyzer pods connected to the probe.



When you hover the mouse pointer over a pin description field, a tool tip appears describing buses/signals assigned, the pod connection, the channel number, and the signal type (single-ended or differential).

The pins numbers for clock inputs are labeled with "Clk".

NOTE

When connecting differential probe channel pin/pad/lead pairs to single-ended signals, make sure the negative pin/pad/lead is connected to ground and the positive pin/pad/lead is connected to the single-ended signal.

When a single-ended "threshold voltage is specified" (in the online help), the General Purpose Probe Edit dialog shows which pins/pads/leads should be connected to ground.

---

d Click **OK**.

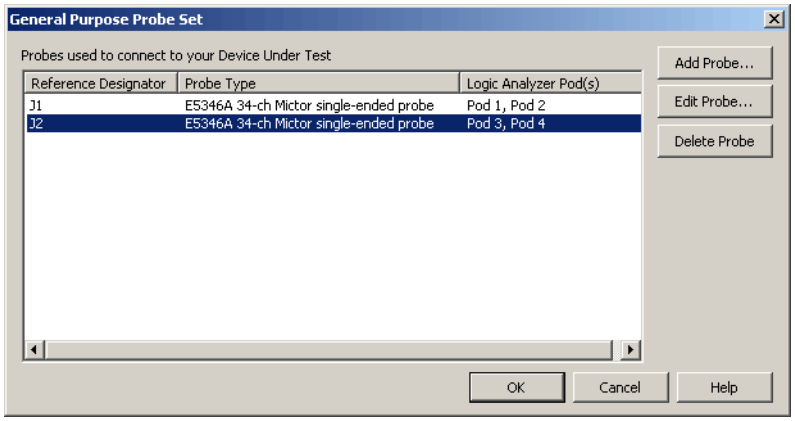
3 Click **OK** to close the General Purpose Probe Set dialog.

See Also

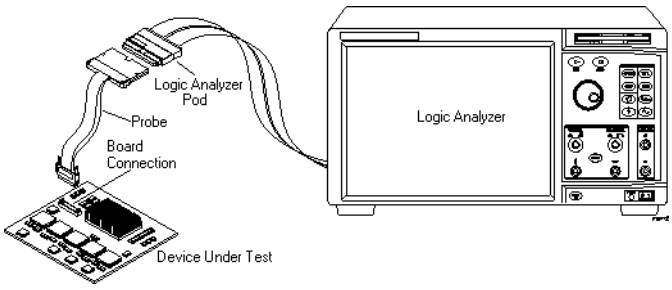
- " To define buses and signals by importing netlist files" (in the online help)
- "Pod and Channel Naming Conventions" (in the online help)
- "To define new probe types" (in the online help)

General Purpose Probe Set Dialog

Before you can import bus/signal names from netlist files and assign them to logic analyzer channels, you must use the Define Probes dialog to identify the probes that are used with the logic analyzer.



Reference Designator	Identifies the board connection in the device under test for the probe.
Probe Type	Probes connect logic analyzer pods to connectors in the device under test. The most commonly used probes connect to two pods. A probe type is the Agilent model number for the probe (for example, E5346A). If your probe doesn't appear in the list, you can "download the latest probe definitions from the web" (in the online help). You can also edit an XML format file "to define new probe types" (in the online help). The probe type "Unspecified" means that any of several probe types can be used with the configuration file you have loaded. You may leave the probe type as "Unspecified" unless you use the General Purpose Probe Edit dialog (see page 12) to view or edit the selected probe definition. When you click **Edit Probe...**, a dialog will appear asking you to select which probe you are using.
Logic Analyzer Pod	A collection of channels from a logic analyzer.



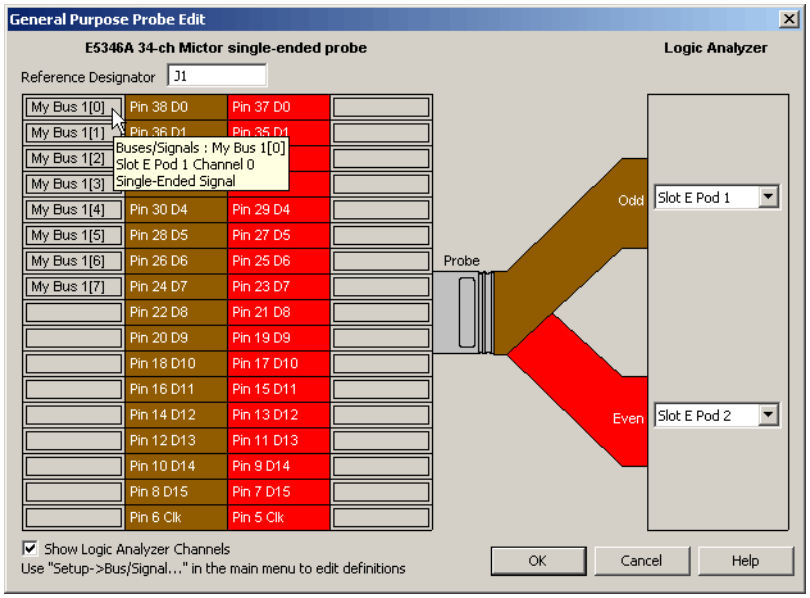
Add Probe...	Opens the General Purpose Probe Edit dialog (see page 12) for adding a probe definition.
Edit Probe...	Opens the General Purpose Probe Edit dialog (see page 12) for viewing or editing the selected probe definition.
Delete Probe	Deletes the selected probe definition.

See Also

- To define probes (see page 7)

General Purpose Probe Edit Dialog

The General Purpose Probe Edit dialog lets you identify the device under test connector (reference designator) and the logic analyzer pods connected to the probe.



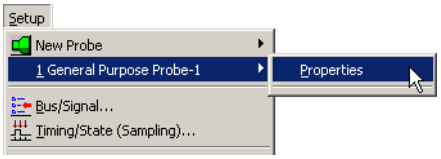
Reference Designator	Identifies the reference designator (in the device under test) of the probe connector, the connectorless probe retention module, or pins probed by flying leads.
Probe Pin/Pad Diagram	Diagrams probe pins/pads, flying-lead channels, or termination adapter pins, and provides fields for channel information tool tips.
Logic Analyzer Slot, Pod	Lets you select the logic analyzer module slots/pods to which the probe, flying leads, or termination adapter is connected.
Show Logic Analyzer Channels	When checked, the logic analyzer pod channel numbers are displayed in the probe pin/pad diagram next to the pin/pad numbers.

See Also

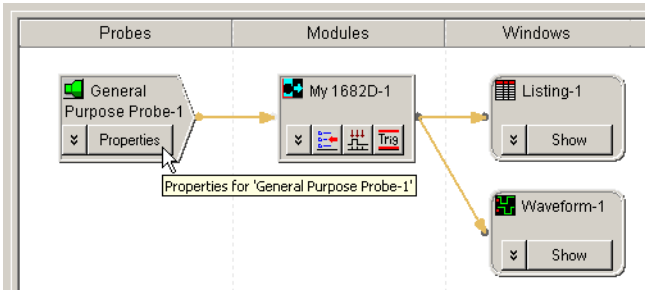
- To define probes (see page 7)

2 To edit a probe

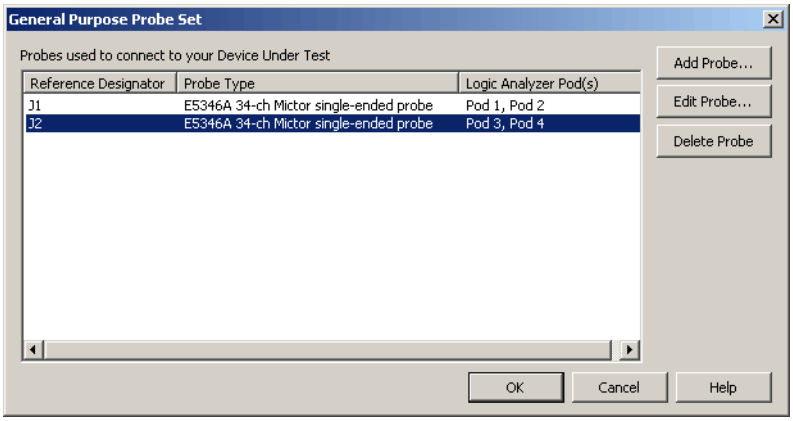
1 From the main menu, choose **Setup>(Logic Analyzer Module)>(General Purpose Probe Name)>Properties**.



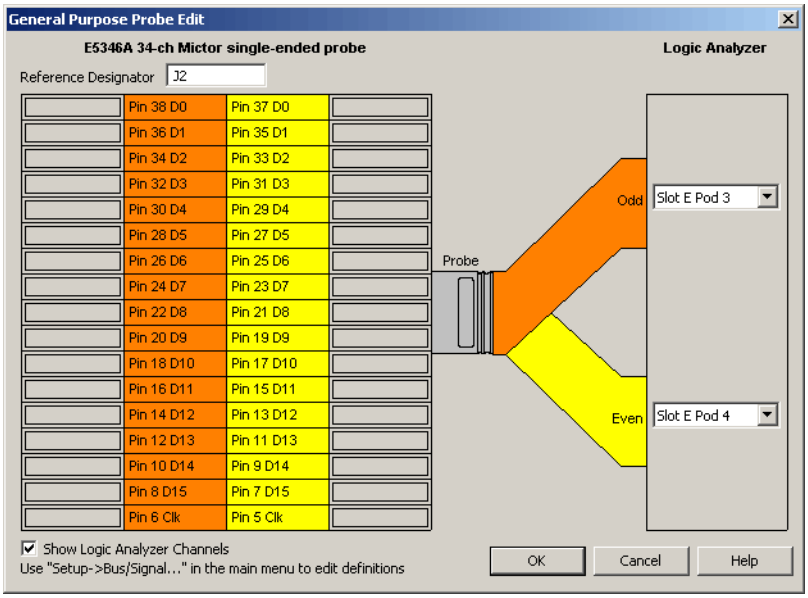
Or, in the Overview window, click the general purpose probe's **Properties** button.



2 In the General Purpose Probe Set dialog (see page 10), select the probe you want to edit, and click **Edit Probe...**.



3 In the General Purpose Probe Edit dialog (see page 12), you can change the reference designator or re-specify which logic analyzer pods are connected to the probe.



4 Click **OK** to close the General Purpose Probe Edit dialog.

5 Click **OK** to close the General Purpose Probe Set dialog.

See Also

- To define probes (see page 7)

3 To delete a probe

1 From the main menu, choose **Setup>(Logic Analyzer Module)>(General Purpose Probe Name)>Properties**. Or, in the Overview window, click the general purpose probe's **Properties** button.

2 In the General Purpose Probe Set dialog (see page 10), select the probe you want to delete, and click **Delete Probe**.

3 Click **OK** to close the Define Probes dialog.

See Also

- To define probes (see page 7)

3 To delete a probe

4 Probe Control, COM Automation

The *Agilent Logic Analyzer* application includes the COM Automation Server. This software lets you write programs that control the *Agilent Logic Analyzer* application from remote computers on the Local Area Network (LAN).

In a COM automation program, you can configure a probe by:

- Loading a configuration file (which configures the complete logic analyzer setup).
- Using the "Probe" (in the online help) object's "DoCommands" (in the online help) method with an XML-format string parameter (see Probe Setup, XML Format (see page 19)).

You can get information about a probe's configuration using the Probe object's "QueryCommand" (in the online help) method. Queries supported by the general purpose probe are listed below.

For more information about logic analyzer COM automation and probe objects in general, see "COM Automation" (in the online help).

XML-Based Queries Supported

The general purpose probe supports the following XML-based queries (made with the "Probe" (in the online help) object's "QueryCommand" (in the online help) method).

Query	Description
GetAllSetup	Returns the current setup, using the full tag set, used for writing generic configuration files (see the XML format <Properties> element (see page 24)).
GetProperties	Returns the current setup, using the full tag set, equivalent to "GetAllSetup" (see the XML format <Properties> element (see page 24)).

See Also

- "COM Automation" (in the online help)
- Probe Setup, XML Format (see page 19)

5 Probe Setup, XML Format

When you save logic analyzer configurations to XML format files, setup information for the general purpose probe is included.

This XML format setup information is also used when writing COM automation programs to control the logic analyzer from a remote computer.

XML elements for the general purpose probe have the following hierarchy:

```
<Properties> (see page 24)
   <DefinedProbes> (see page 20)
      <Probe> (see page 23)
         <Pods> (see page 22)
            <Pod> (see page 21)
```

See Also

- "XML Format" (in the online help)
- Probe Control, COM Automation (see page 17)

<DefinedProbes> Element

The <DefinedProbes> element contains defined probes.

Children This element can have the following children: <Probe> (see page 23).

Parents This element can have the following parents: <Properties> (see page 24).

Example

```
<DefinedProbes>
   <Probe Name='J1' Type='E5346A 34-ch Mictor single-ended probe'>
      <Pods>
         <Pod Index='1'/>
         <Pod Index='2'/>
      </Pods>
      <Signals/>
   </Probe>
   <Probe Name='J2' Type='E5346A 34-ch Mictor single-ended probe'>
      <Pods>
         <Pod Index='3'/>
         <Pod Index='4'/>
      </Pods>
      <Signals/>
   </Probe>
</DefinedProbes>
```

<Pod> Element

The <Pod> element describes the pod index used within a defined probe.

Attributes

Name	Description
Index	'number'

Parents This element can have the following parents: <Pods> (see page 22).

Example

```
<Pod Index='1'/>
```

<Pods> Element

The <Pods> element contains the pods used by a defined probe.

Children This element can have the following children: <Pod> (see page 21).

Parents This element can have the following parents: <Probe> (see page 23).

Example

```
<Pods>
   <Pod Index='1'/>
   <Pod Index='2'/>
</Pods>
```

<Probe> Element

The <Probe> element describes a defined probe.

Attributes

Name	Description
Name	'string' (name of connector in device under test)
Type	'string' (name of probe)

Children This element can have the following children: <Pods> (see page 22).

Parents This element can have the following parents: <DefinedProbes> (see page 20).

Example

```
<Probe Name='J1' Type='E5346A 34-ch Mictor single-ended probe'>
   <Pods>
      <Pod Index='1'/>
      <Pod Index='2'/>
   </Pods>
   <Signals/>
</Probe>
```

<Properties> Element

The <Properties> element contains setup information for the general purpose probe.

Children This element can have the following children: <DefinedProbes> (see page 20).

Parents This element can have the following parents: "<Probe>" (in the online help).

When used in COM automation, this element is returned by the "QueryCommand method" (in the online help)'s GetAllSetup and GetProperties queries. You can also use this element string as an XMLCommand with the "DoCommands method" (in the online help) to configure the general purpose probe.

Example

```
<Properties>
   <DefinedProbes>
      <Probe Name='J1' Type='E5346A 34-ch Mictor single-ended probe'>
         <Pods>
            <Pod Index='1'/>
            <Pod Index='2'/>
         </Pods>
         <Signals/>
      </Probe>
   </DefinedProbes>
</Properties>
```

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