Fast, Accurate Answers Throughout the Design Validation Cycle

Keysight Technologies, Inc. logic analyzers help you minimize project risk by providing the most reliable, accurate measurements and the most complete view of system behavior. A comprehensive family of products offers the measurement capabilities, probing, application support and analysis tools to meet your toughest digital debug needs.
### 16800 Series portable logic analyzers
- Affordable fixed configurations
- Supports a wide range of applications with 34, 68, 102, 136 or 204 channels
- Built-in 48-ch pattern generator available on select models
- 4 GHz high-speed timing zoom
- Up to 1 GHz conventional timing
- Up to 450 MHz state rate, 500 Mb/s data rate
- Up to 204 channels
- Up to 32 M deep memory

### 16850 Series portable logic analyzers
- Fastest portable timing analyzer with deep memory to distinguish between functional and timing errors
- Supports a wide range of applications with 34, 68, 102 or 136 channels
- 12.5 GHz high-speed timing zoom
- Up to 5 GHz conventional timing
- Up to 1.4 GHz state rate, 1.4 Gb/s data rate
- Up to 136 channels
- Up to 128 deep memory

### 16901A 2-slot modular logic analysis system
- Flexibility to configure the system for your acquisition and stimulus needs
- Long-term investment protection – upgrade or re-configure as your needs evolve
- Maximize your measurement capability
  - Increase your channel count – up to 204 channels
  - Deepest memory depth available – up to 256 M across all channels
  - Highest timing and state speeds
  - Single-ended and differential signal support
- 4 GHz high-speed timing zoom
- Up to 1.2 GHz conventional timing
- Up to 667 MHz state rate, 1066 Mb/s data rate
- Up to 204 channels
- Up to 256 M deep memory

### 16902B 6-slot modular logic analysis system
- Maximum configuration flexibility – six slots for multiple logic analyzer and/or pattern generator modules
- Long-term investment protection – upgrade or re-configure as your needs evolve
- Maximize your measurement capability
  - Increase your channel count – up to 204 channels
  - Deepest memory depth available – up to 256 M across all channels
  - Highest timing and state speeds
  - Single-ended and differential signal support
- 4 GHz high-speed timing zoom
- Up to 1.2 GHz conventional timing
- Up to 667 MHz state rate, 1066 Mb/s data rate
- Up to 612 channels
- Up to 256 M deep memory
## Logic Analyzers - Selection Guide

### Keysight model number

<table>
<thead>
<tr>
<th>Model</th>
<th>Series</th>
<th>Series</th>
<th>16910A/16911A</th>
<th>16950B/16951B</th>
<th>16962A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Keysight</td>
<td>16800 Series</td>
<td>16850 Series</td>
<td>16910A/16911A</td>
<td>16950B/16951B</td>
<td>16962A</td>
</tr>
<tr>
<td>Portables</td>
<td>Series</td>
<td>Series</td>
<td>16910A/16911A</td>
<td>16950B/16951B</td>
<td>16962A</td>
</tr>
<tr>
<td>16800</td>
<td>16850</td>
<td>16910A/16911A</td>
<td>16950B/16951B</td>
<td>16962A</td>
<td></td>
</tr>
<tr>
<td>Channels</td>
<td>34, 68, 102, 136, 204</td>
<td>34, 68, 102, 136</td>
<td>102 / 68</td>
<td>68</td>
<td>68</td>
</tr>
<tr>
<td>Max channels on single time base</td>
<td>34, 68, 102, 136, 204</td>
<td>34, 68, 102, 136</td>
<td>340</td>
<td>340</td>
<td>340</td>
</tr>
<tr>
<td>High-speed timing zoom</td>
<td>4 GHz (250 ps) with 64 K depth</td>
<td>12.5 GHz (80 ps) with 256 K depth</td>
<td>4 GHz (250 ps) with 64 K depth</td>
<td>4 GHz (250 ps) with 64 K depth</td>
<td>–</td>
</tr>
<tr>
<td>Max timing sample range (half / full channels)</td>
<td>1.0 GHz (1.0 ns) / 500 MHz (2.0 ns)</td>
<td>5.0 GHz (200 ps) / 2.5 GHz (400 ps)</td>
<td>1.0 GHz (1.0 ns) / 500 MHz (2.0 ns)</td>
<td>1.2 GHz (833 ps) / 600 MHz (1.67 ns)</td>
<td>8 GHz / 4 GHz / 2 GHz Quarter / half / full channel</td>
</tr>
<tr>
<td>Max state clock rate</td>
<td>450 MHz with Option 500, 250 MHz with Option 250</td>
<td>700 MHz with option 700 Hz / 350 MHz standard</td>
<td>450 MHz with Option 500, 250 MHz with Option 250</td>
<td>667 MHz</td>
<td>2 GHz</td>
</tr>
<tr>
<td>Max state data rate</td>
<td>500 Mb/s with Option 500, 250 Mb/s with Option 250</td>
<td>1.4 Mb/s with option 700 Hz / 700 Mb/s standard</td>
<td>500 Mb/s with Option 500, 250 Mb/s with Option 250</td>
<td>1066 Mb/s</td>
<td>2 GHz</td>
</tr>
<tr>
<td>Memory depth</td>
<td>1 M up to 32 M</td>
<td>1 M up to 128 M</td>
<td>256 K up to 32 M</td>
<td>1 M up to 64 M (16950B), 256 M (16951B)</td>
<td>4 M up to 100 M</td>
</tr>
<tr>
<td>Probe compatibility</td>
<td>40-pin cable connector</td>
<td>Direct connect and 90-pin cable connector</td>
<td>40-pin cable connector</td>
<td>90-pin cable connector</td>
<td>90-pin cable connector</td>
</tr>
</tbody>
</table>

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1. All channels, all the time, simultaneous state and timing through the same probe.
2. Single edge clock - double for dual edge clock.

### Pattern generator

**Pattern generator**  
*(Available in 16821A, 16822A, 16823A portable logic analyzers and 16720A module)*

<table>
<thead>
<tr>
<th>Feature</th>
<th>Half channels</th>
<th>Full channels</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max clock speed</td>
<td>300 MHz</td>
<td>180 MHz</td>
</tr>
<tr>
<td>Max memory depth</td>
<td>16 M vectors</td>
<td>8 M vectors</td>
</tr>
<tr>
<td>Channels per module</td>
<td>24</td>
<td>48</td>
</tr>
<tr>
<td>Max number of channels per time base</td>
<td>120</td>
<td>240</td>
</tr>
<tr>
<td>Stimulus commands</td>
<td>Initialize, Block, Repeat, and Break macros</td>
<td></td>
</tr>
<tr>
<td>Logic levels supported</td>
<td>5 V TTL, 3-state TTL, 3-state CMOS, 3-state 3.3 V ECL, 5 V PECL, 3.3 V LVPECL, 3-state 2.5 V, 3-state 1.8 V, LVDS</td>
<td></td>
</tr>
</tbody>
</table>
Additional Considerations When Configuring Your Logic Analyzer

Accurate measurements start with reliable probing
Your logic analyzer measurement is only as accurate and reliable as your probing. Keysight’s general purpose and device specific probes provide a robust, reliable connection between your Keysight logic analyzer and the system under test. They are easy to connect and are electrically and mechanically unobtrusive, giving you unsurpassed measurement accuracy.

Probes are ordered separately. For more information about Keysight’s logic analyzer probes and accessories, visit www.keysight.com/find/la_probing

Application software
Turn low-level measurement data into meaningful insight with a suite of application software that can save you up to weeks of development time. A wide range of analysis and viewing tools provide insight into your system’s behavior in a format you understand.

For more information, visit www.keysight.com/find/logic-sw-apps

Extend the life of your equipment
Easily upgrade your 16800 or 16900 Series logic analyzer by “turning on” additional memory depth and state speed when you need more. Purchase the capability you need now, then upgrade as your needs evolve.

For the most up-to-date and complete application and product information, please visit our web site at: www.keysight.com/find/logic
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