

General Purpose Probes

Agilent 116XA Family Passive Voltage

- **Standard replacement probes for Infiniium scopes with bandwidths ≤ 600 MHz**
- **Rugged, economical, easy to use**
- **Compact design, removable probe handle for tight probing areas**
- **Agilent 1163A, 500 Ω resistive divider, 10:1 attenuation**

Built for Reliability

These general purpose replacement devices are built and tested for high reliability. Kevlar strengthener has been added to the probe cable for extra pull strength. Durable probe tips are replaceable.

The compact design significantly reduces the problem of probing densely populated integrated circuit components or the characteristically minute conductors on printed circuit boards. These small lightweight probes allow measurements that were previously quite difficult, while reducing the danger of shorting. For tight probing areas, the probe handle can be unscrewed and pulled back along the cable.

When probing about the circuit in debug mode, the probes easily slip inside the included browsers. The browsers feature a crown

point that digs into solder and avoids the danger of slipping off the test point and shorting to adjacent leads. A pogo pin allows hand movement on the probes without losing contact with the device under test.

The 116XA family probes are compatible with the AutoProbe interface, which completely configures the Infiniium oscilloscope for the probe. A snap-on BNC connector simplifies attaching the probe to the scope. Leads are

available for connecting to a wide variety of test points. See "Ordering Information" for a complete list.

Agilent 1163A Resistive Divider

Agilent 1163A features low capacitive loading and wide bandwidth, resulting in very accurate timing measurements. Resistive divider probes are useful for probing low-voltage signals such as ECL circuits, 50 Ω transmission lines, and GaAs circuits.

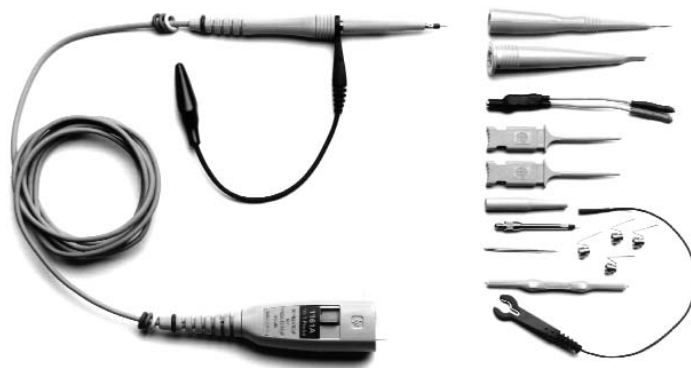


Figure 2.3. Agilent 116XA family general purpose replacement probes.



Figure 2.4. No-slip browser crown point.

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Specifications

Model Number	Type of Probe	System Bandwidth (scope + probe)	Division Ratio	Input R	Input C	Scope Input R	Compensation Range	Length
1160A	High Impedance, Passive	500 MHz	10:1	10 M Ω	9 pF	1 M Ω	6 - 9 pF	1.5 m
1161A	High Impedance, Passive	500 MHz	10:1	10 M Ω	10 pF	1 M Ω	12 - 14 pF	1.5 m
1162A	High Impedance, Passive	25 MHz	1:1	1 M Ω	50 pF + scope capacitance	1 M Ω	n/a	1.5 m
1163A	500 Ω Resistive Divider	1.5 GHz with scope model 54845A/B	10:1	500 Ω	1.5 pF	50 Ω	n/a	1.5 m
1164A	High Impedance, Passive	500 MHz	10:1	10 M Ω	10.5 pF	1 M Ω	6 - 9 pF	2.0 m
1165A	High Impedance, Passive	600 MHz typical with 54830B/31B/32B/33A 54830D/31D/32D/33D	10:1	10 M Ω	10 pF	1 M Ω	12 - 14 pF	1.5 m

Operating Characteristics

Approximate propagation delay	6.7 ns for 1160A/61A/62A/63A/65A probes 8.8 ns for 1164A probe
Maximum input voltage	300 V (dc + peak ac), CAT II 10 V (dc + peak ac), CAT I for 1163A only
Safety	Meets IEC1010-2-31
Pulling strength (BNC to barrel)	\leq 12 lb static pull
Net weight	2.6 oz

Environmental Characteristics

Temperature (operating)	0° C to +55° C
Humidity (operating)	Up to 95% relative humidity at 40° C
Altitude (operating)	Up to 4,600 meters (15,000 ft.)
Shock	50 g (400 g tip only)

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Ordering Information

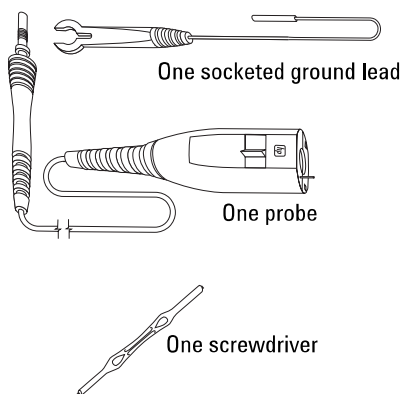
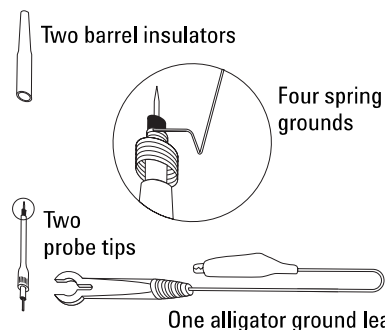
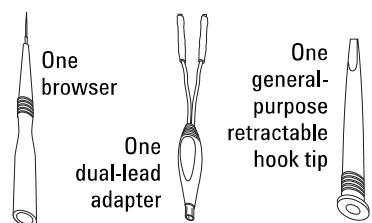
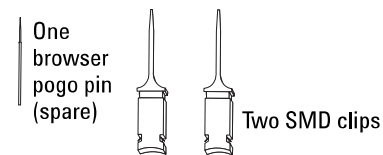
Probes and Accessories

Part #	Description	Quantity
1160A	10:1, 10 M Ω , 1.5 m, miniature passive probe	1
1161A	10:1, 10 M Ω , 1.5 m, miniature passive probe	1
1162A	1:1, 1.5 m, miniature passive probe	1
1163A	10:1, 500 Ω , low C, 1.5 m, miniature passive probe	1
1164A	10:1, 10 M Ω , 2 m, miniature passive probe	1
1165A	10:1, 10 M Ω , 1.5 m, miniature passive probe	1
5063-2143	Probe tip to BNC (m)	1
	IC clips: See "Probing Accessories"	
	Horizontal and vertical mini-probe sockets: See "Probing Accessories"	
	Wedge Probe Adapters: See "Probing Accessories"	

Replacement Parts

Part #	Description	Quantity
5063-2135	General purpose retractable hook tip	2
5063-2140	Alligator ground lead	2
5063-2120	Socketed ground lead	1
5063-2115	Browser	1
5063-2147	Dual lead adapter	1
5063-2149	SMD clips	5
01160-68701	Accessory kit (includes four spring grounds, four browser pogo pins, four barrel insulators, one screwdriver)	1
5063-2136	1160A probe tip, red	5
5063-2137	1161A probe tip, brown	5
5063-2138	1162A probe tip, black	5
5063-2139	1163A probe tip, grey	5
5063-2151	1164A probe tip, orange	5
5063-2137	1165A probe tip, brown	5

Probe Parts Supplied



Includes user's guide and three-year warranty.