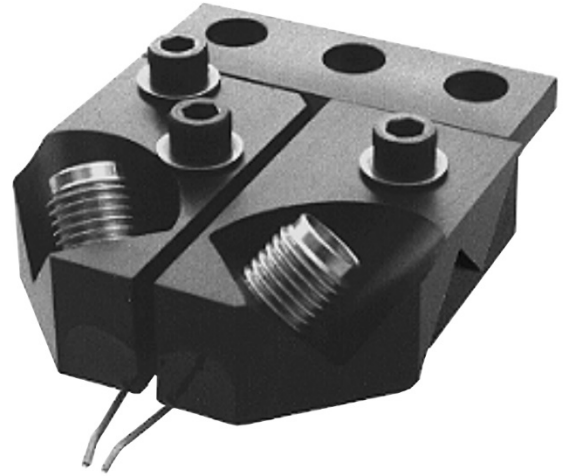


# High Performance Dual Microwave Probes for RF probing

## ❖ Model SP-D##-###-### /###-###-###-#-###

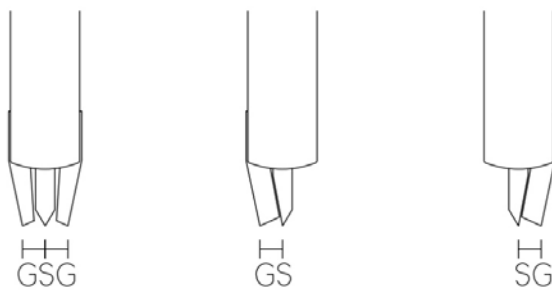
- Two probes on one positioner
- Ground to signal spacing from 50 to 2540 microns
- Signal to signal spacing is user adjustable
- Same performance as individual Model SP-40, SP-50, SP-67, and SP-110H probes
- Patented coaxial design
- Differential calibration substrates available for two, three and four port calibrations



## ❖ Flexible Tips for Flexible Probing

The DUAL MICROWAVE PROBE consists of two separate probes mounted on a single holder. One probe is fixed to the holder; the other is adjustable. Each probe may be individually configured with GSG, GS, or SG footprints having any fixed pitch from 50 to 2540 microns. The probe to probe (signal to signal) spacing is user adjustable over a 4000 micron (160 mil) range. When ordering, an initial signal to signal spacing should be specified (up to .75 inches).

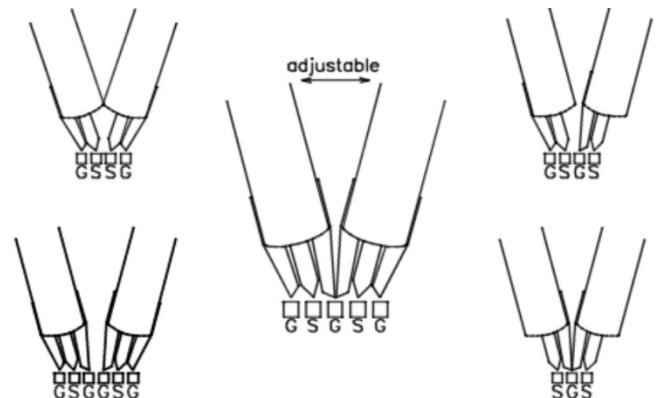
To order a Dual Probe, start by using our regular single head guide to specify each probe individually.



**Pitch:** Specify ground (G) to signal (S) tip spacing in Microns from 50 to 1250 microns. For standard GSG probes, the two spacings are equal. Contact the factory for spacings larger than 1250 microns or unusual tip placement and spacings. Then, the orientation of the two probes is specified from left to right looking from the top with the probe tips facing towards you.

For example, the Dual probe Model: **SP-D40-GSG-150 /D40-SG-150-D-300**

The left probe has a GSG footprint with 150 microns between the grounds and signal. The right probe has a SG footprint with 150 microns between the ground and signal. The spacing between the signal of the left probe and the signal of the right probe is 300 microns

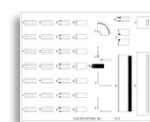
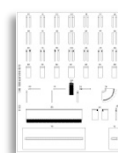
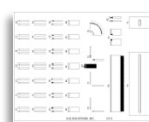
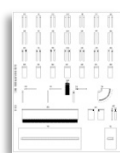


**❖ RF DUAL PROBE –SELECTION GUIDE**



**Cable Interface**

	<b>SP-D40</b>	<b>SP-D50</b>	<b>SP-D67</b>	<b>SP-D110H</b>
<b>Frequency</b>	DC-40GHz	DC-50GHz	DC-67GHz	DC-110GHz
<b>Connector</b>	2.92mm	2.4mm	1.85mm	1.0mm
<b>Tip Configuration</b>	GSSG or	GSGGSG or	GSGSG or	GSGS or SGS
<b>Pitch Range</b>	50μ - 2540μ	50μ - 1250μ	50μ - 1250μ	50μ - 1250μ
<b>Insertion Loss</b>	<.8db	<1.0db	<1.1db	<1.5db
<b>Return Loss</b>	> 18db	>18db	>14db	>15db



<b>Differential Calibration Substrate Selection Guide GSGSG</b>					
<b>Calibration Substrate</b>	<b>Pad Size (microns)</b>	<b>Calibration Types Supported</b>	<b>Footprint</b>	<b>Recommended Pitch (microns)</b>	<b>Acceptable Pitch (microns)</b>
<b>CS-2-50</b>	<b>25 X 25</b>	<b>SOLT, LRL LRM</b>	<b>GSGSG</b>	<b>50</b>	<b>45-55</b>
<b>CS-2-75</b>	<b>25 X 25</b>	<b>SOLT, LRL LRM</b>	<b>GSGSG</b>	<b>75</b>	<b>70-80</b>
<b>CS-2-100</b>	<b>50 X 50</b>	<b>SOLT, LRL LRM</b>	<b>GSGSG</b>	<b>100</b>	<b>90 - 110</b>
<b>CS-2-125</b>	<b>50 X 50</b>	<b>SOLT, LRL LRM</b>	<b>GSGSG</b>	<b>125</b>	<b>115 - 135</b>
<b>CS-2-150</b>	<b>50 X 50</b>	<b>SOLT, LRL LRM</b>	<b>GSGSG</b>	<b>150</b>	<b>140 -160</b>

<b>CS-2-200</b>	<b>50 X 50</b>	<b>SOLT, LRL LRM</b>	<b>GSGSG</b>	<b>200</b>	<b>190 - 210</b>
<b>CS-2-225</b>	<b>50 X 50</b>	<b>SOLT, LRL LRM</b>	<b>GSGSG</b>	<b>225</b>	<b>215 - 235</b>
<b>CS-2-250</b>	<b>50 X 50</b>	<b>SOLT, LRL LRM</b>	<b>GSGSG</b>	<b>250</b>	<b>240 - 260</b>
<b>CS-2-300</b>	<b>100 X 100</b>	<b>SOLT, LRL LRM</b>	<b>GSGSG</b>	<b>300</b>	<b>275 - 325</b>
<b>CS-2-350</b>	<b>100 X 100</b>	<b>SOLT, LRL LRM</b>	<b>GSGSG</b>	<b>350</b>	<b>325 - 375</b>
<b>CS-2-400</b>	<b>100 X 100</b>	<b>SOLT, LRL LRM</b>	<b>GSGSG</b>	<b>400</b>	<b>375 - 425</b>
<b>CS-2-450</b>	<b>100 X 100</b>	<b>SOLT, LRL LRM</b>	<b>GSGSG</b>	<b>450</b>	<b>425 - 475</b>
<b>CS-2-500</b>	<b>100 X 100</b>	<b>SOLT, LRL LRM</b>	<b>GSGSG</b>	<b>500</b>	<b>490 - 510</b>
<b>CS-2-750</b>	<b>150 X 150</b>	<b>SOLT, LRL LRM</b>	<b>GSGSG</b>	<b>750</b>	<b>700 - 800</b>
<b>CS-2-1000</b>	<b>150 X 150</b>	<b>SOLT, LRL LRM</b>	<b>GSGSG</b>	<b>1000</b>	<b>990 - 1010</b>
<b>CS-2-1250</b>	<b>150 X 150</b>	<b>SOLT, LRL LRM</b>	<b>GSGSG</b>	<b>1250</b>	<b>1225 - 1275</b>

**RF Cables**

	<b>RFC-40</b>	<b>RFC-50</b>	<b>RFC-67</b>	<b>RFC-110</b>
Frequency Range	DC - 40GHz	DC - 50GHz	DC - 67GHz	DC - 110GHz
Length	4 Ft.	4 Ft.	3 Ft.	*
Connectors	2.92 M – 2.92 F	2.4 M – 2.4 F	1.85 M - 1.85 F	1.0 M - 1.0 F
* Contact Factory				

### S-M40 Series RF Positioner

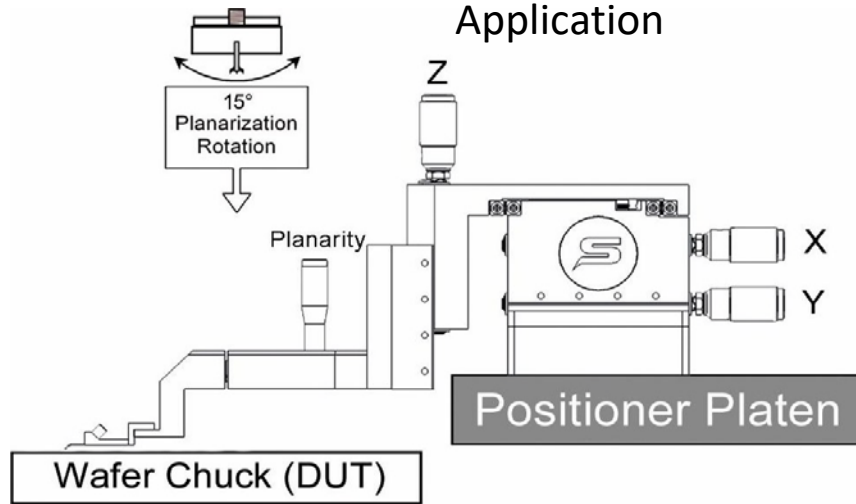
**S-M40** Series RF Positioner with 40 TPI linear X-Y-Z motion with in-line precision knobs for quick and accurate positioning of RF probes – great for use with RF and Wedge probe applications DC-110GHz.

An optional "switchable" magnetic base utilizes a neodymium rare-earth magnet. This allows for easy coarse placement of the positioner, which is then locked into place with the simple flip of a lever. Unlike typical magnetic designs, there is no loss of high-frequency performance, due to the strength of the magnetic bond. This extends non-resonant performance to beyond 110 GHz



Travel Range, X, Y, Z	1" (25mm). 40 Turns/inch
Planarization Range: X, Y, Z Resolution:	± 7.50 (.10 Resolution)
Orientation.	E/W (0°) & N/S (90°)
Standard Base: HM	Bolt-Down
Optional Bases: MM	Magnetic (Lever-actuated rare-earth magnet)
OM	Optical table bolt-down base

### Typical Application



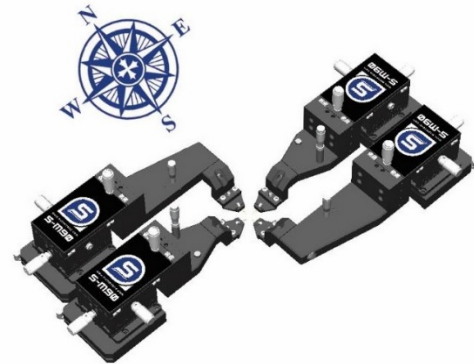
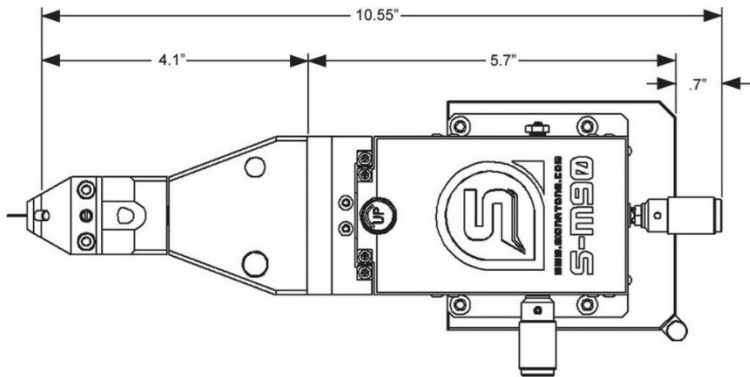
## S-M90 Series RF Positioner

Based on SIGNATONE's highly successful S-M40 design, the Model

S-M90 is intended for users that have requested orthogonal XM control. The use of over-sized cross-roller bearings insures the ultimate in precision and control of probe positioning, while the direct-drive leadscrew design virtually eliminates backlash and hysteresis.



Travel Range, X, Y, Z	1" (25mm). 40 Turns/inch
Planarization Range: X,Y,Z Resolution:	± 7.50 (.10 Resolution)
Orientation.	E/W (0°) & N/S (90°)
Standard Base: HM	Bolt-Down
Optional Bases: MM	Magnetic (Lever-actuated rare-earth magnet)
OM	Optical table bolt-down base



## ❖ WARRANTY

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- Standard Warranty 12 months \*
- For Extended Warranty and Service Contracts : Contact Signatone Corp. for more information

\* See Signatone Corporate Terms and Conditions of Sale for further details.

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- **Asia:** [Sales.Asia@signatone.com](mailto:Sales.Asia@signatone.com)
- **Tel:** 1-408-848-2851

