

## Automatic verification of Signal Integrity on High-Speed PCB assemblies.

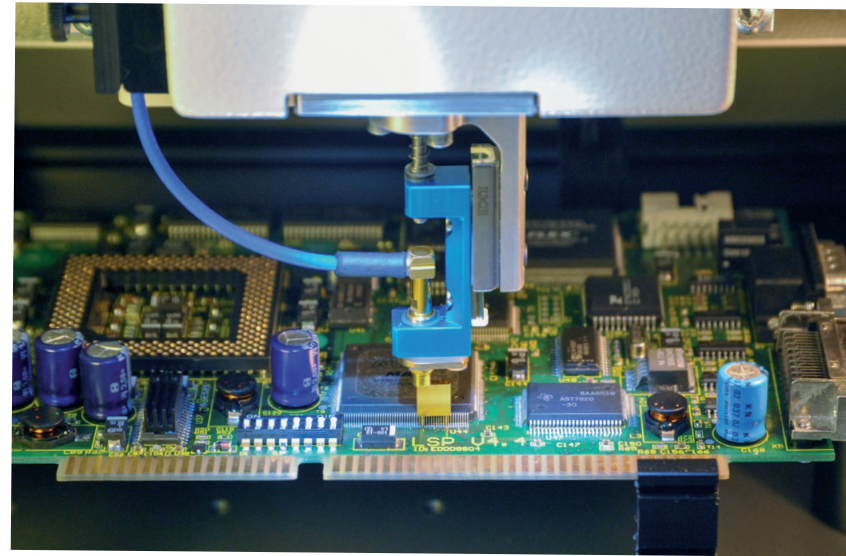
Ensuring Signal Integrity is of paramount importance for a reliable Circuit Board Function not least as a result of constantly increasing digital data rates on modern High-Speed PCB assemblies

Manufacturers are confronted with reduced design-to-market cycles and are looking for ways to save time in the prototype design process. Manual design verification has been a time consuming process so far causing unnecessary delays in the development stage.

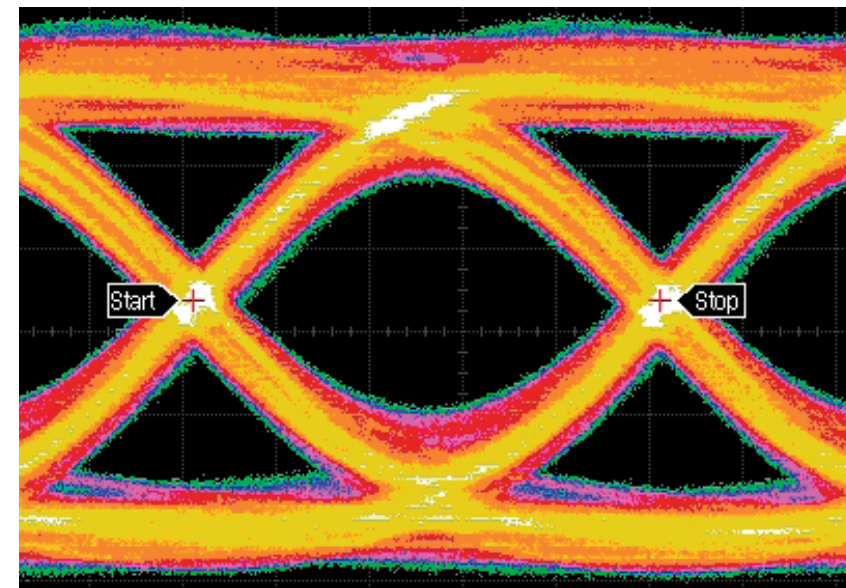
### Characterization of Signal Integrity on Prototype Builds.

The **DVS 550** is able to test and document measurements on hundreds of nets in less than a few hours while manual measurements would take weeks of valuable engineering time.

The **DVS 550** System has been designed for measuring signal frequencies into the GHz range using custom designed Coaxial Probing Technology contrasting significantly conventional Flying Probe Systems with a focus on detecting typical manufacturing faults only. The probing technology in these standard systems is mostly not suitable for carrying high frequency signals. Additionally the **DVS 550** System includes a specially designed Rotating Probe Head for probing of any Signal-Ground Test Point Operation.



Very high position accuracy allows probing of fine pitch components.



### Open platform architecture

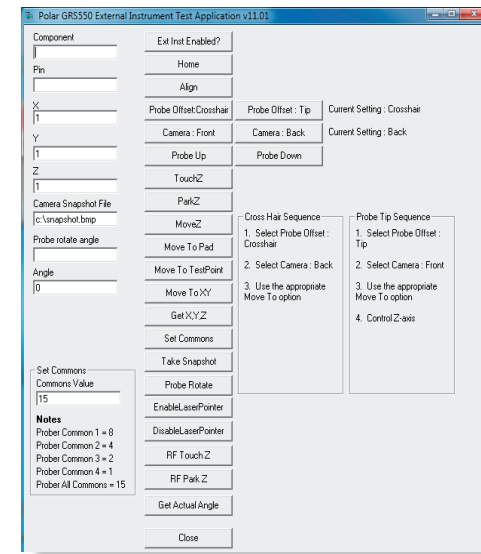
An open ActiveX software programming interface allows control of the **DVS 550** from a variety of different applications. Test sequences may easily be created by using industry standard software such as LabVIEW™ and TestStand™ from National Instruments. A set of predefined remote control commands such as move to testpoint, set rotation angle, touching a testpoint are compiled into a sequence and automatically executed.

### Controlling external Test- and Measurement Hardware

The **DVS 550** is an Automated Probe for measurements replacing the previously time consuming procedure carried out manually. A highly flexible, low loss coaxial cable feeds the signal at the probe tip to Test-and Measurement Equipment such as High Speed Oscilloscopes, Spectrum Analyzers or Time Domain Reflectometers. Control external hardware via USB, Ethernet, GPIB, RS232. The underlying control software synchronizes the sequence of probe movement commands with the individual measurements and result documentation.

### Test Application for Generating and Debugging of test sequences

A special test application provides all remote control commands of the **DVS 550** with a single mouse click, thus aiding the programming process. This feature allows all movement commands to be executed by hand for debugging purposes. As a result test hardware settings are being optimized prior to including individual steps in a sequence.



System also available with optional trolley



Probing of signals in the GHz range using the new designed rotational probe head.



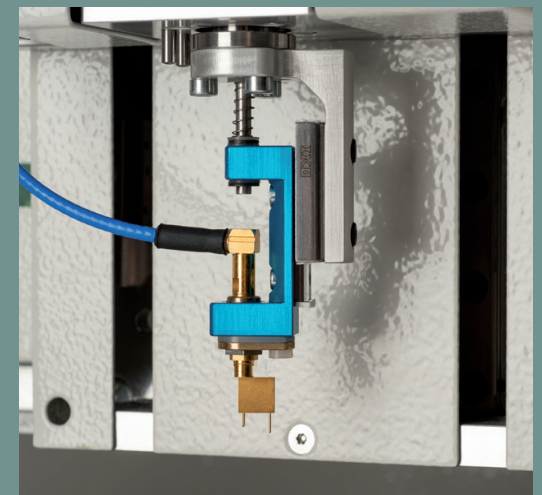
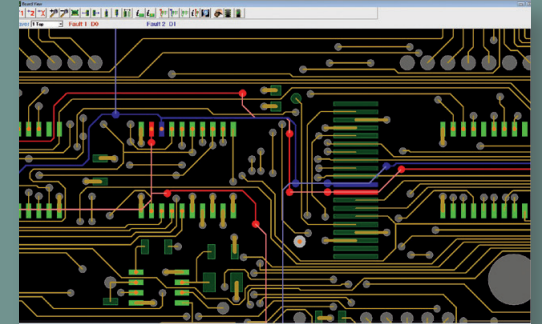
### Reliable industrial motion control system and robust mechanical construction.

A robust mechanical construction combined with reliable motion controllers allows high precision pinpoint probing via a CAD interface. The industry standard modular motion controller may easily be adapted to future applications by simply loading different firmware. Encoders on all drives ensure positional loopback. All dynamic parameters such as maximum velocity, acceleration, deceleration may be adjusted to suit the specific application.

The **DVS 550** loads CAD data in many different formats and allows simple probe positioning by specifying the component reference and pin number. A virtual Xray allows technicians to “see” traces as they run inside the board.

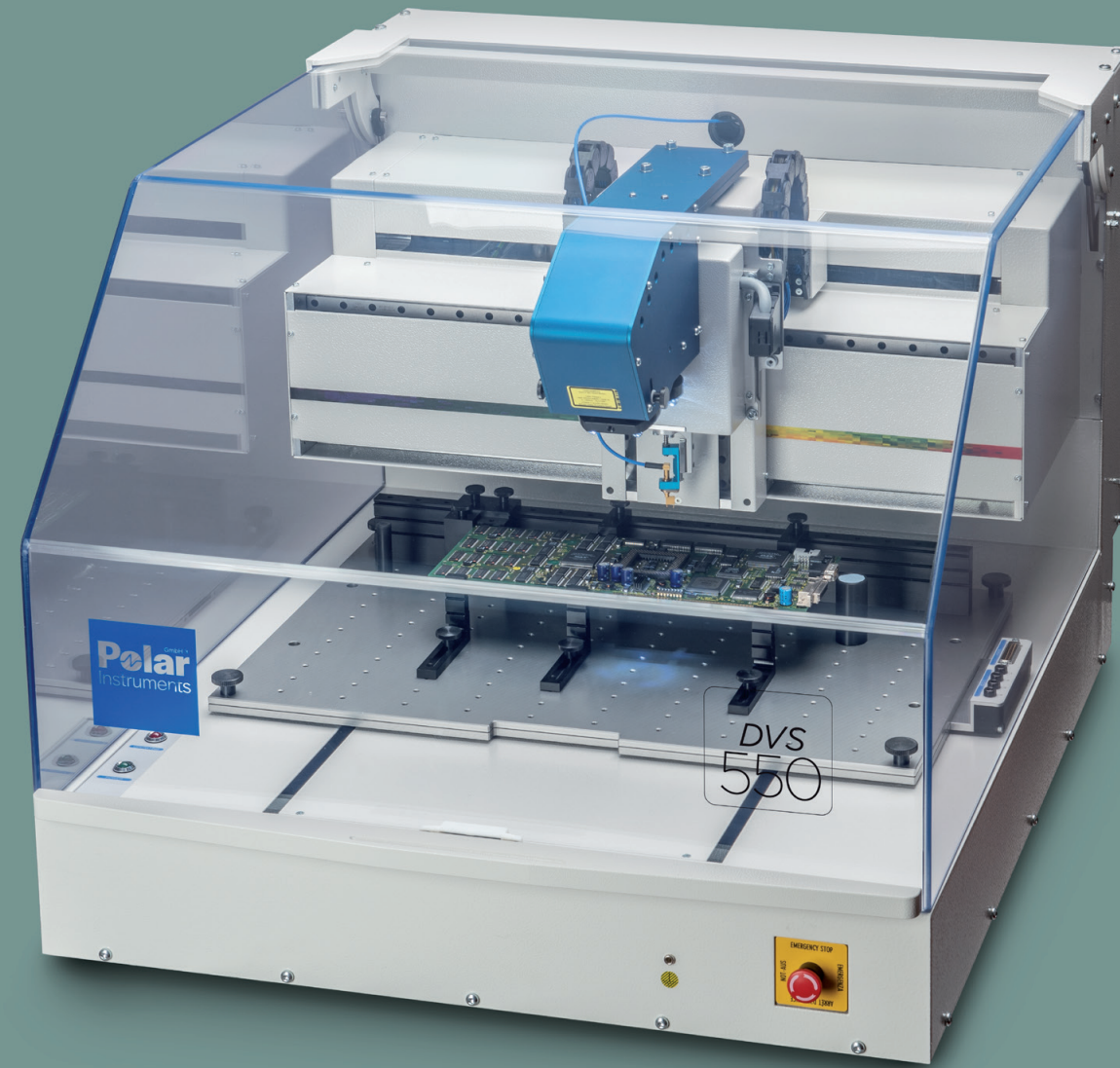
### High Frequency probing

Standard Test Pins with varied grid dimensions and pin styles may be used for a majority of probing tasks. Specially designed pin styles are available on demand. A Rotating Probe Head supports single-ended as well as differential measurements. Small pad geometries and constantly increasing package density on circuit board assemblies complicate manual probing significantly or makes it even impossible. The **DVS 550** provides outstanding advantages in such applications. Precise control of the probing process ensures repeatable High Frequency signal acquisition far superior to manual probing



Superior probing accuracy · High system bandwidth ·  
Single ended and differential probing · Control via  
industry standard software

DVS  
550



DVS  
550

## Specification

### Flying Probe Specification

System Bandwidth	6 GHz
Probing	rotating 50 Ohm coaxial probe, single ended and differential.
Control Interface	ActiveX-Interface for control via NI LabVIEW™ and TestStand
Rotating speed (max)	700 Deg./second
Maximul rotating angle	270 Degrees
Probing area (max.)	300 x 450 mm, 12" x 18"
PCB size (max.)	330 x 630 mm, 13" x 24.8"
Moving speed	200 mm/second (max.)
Position accuracy	±0.04 mm over 300 mm
Minimum pad size	0.3 mm
Repeatability (typical)	+/- 0.004 mm +/- 0.16 mil, 0.00016"
Resolution	0.008 mm 0.3 mil, 0.0003"
Probe pressure	adjustable, typically less than 120 gm
Dimensions	940 x 650 x 524 mm
Weight	95 kg (ca.)
Standard accessories	Controller PC with DVS 550 software preinstalled, Joystick, Monitor, Mouse, Keyboard
Optional Accessories	LabVIEW™ Software, TestStand™ Software
Approvals	Conforms to applicable European Directives and is CE marked.



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DVS  
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# DESIGN VERIFICATION SYSTEM

Automatic verification of Signal Integrity on High-Speed PCB assemblies.

