The EyePoint - Automatic diagnostic system
with moving probe and smart recognition function

The EyePoint system is a small desktop moving probe system that provides automatic probing of an electronic circuit. Comparing the measured analog signatures on each circuit of analyzed board with previously learnt and stored signatures, the EyePoint can identify causes of failure in a circuit on a single pass.

Using a single probe makes the EyePoint system extremely fast to install. There is no physical or electronical restrains on the electronic components due to the universal probe in use.

High-speed precision probe provides all-time quick and accurate testing even for ultra-small components.

The system does not need programming; you should just fix the board and start the program. The rest will be done automatically!

Figure1. Physical form of the system

Using the built-in camera mounted on the probe tower and programmed correlation analysis algorithms, the system automatically determines board components where testing is possible and marks the device pins.
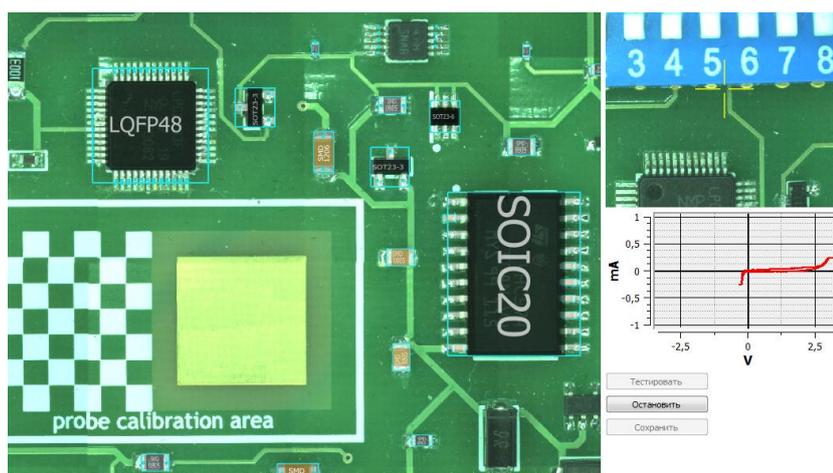

Then the testing is done: the system makes the list of components and their signatures and compares them with the reference data. Eventually, the user gets the list of faulty and/or "suspicious" electronic components.

Figure 2. Operator interface – Testing

An IV curve analysis technique is applied for testing in the EyePoint, providing a power-off test of devices and electrical circuits. It is a powerful and rapid way to compare signatures learnt from a known good PCB with those on a faulty PCB.

The technique is ideal for testing circuit with passive components such as resistors, inductors, capacitors and semiconductor junctions.

However, it also can be applied to test the input and output stages of active devices e.g. ICs, FPGAs etc. The technique provides a rapid indication of possible damage such as static damage destroying the protection diodes or damage to output/input transistors.

The technique applies a high-frequency signal to electrical circuit by measuring the voltage and current relationship in four quadrants.

The software automatically compares a learnt signature with the one being measured and will make a pass or fail decision based on a user programmable tolerance envelope.

The software will automatically determine the best frequency and voltage to apply to electrical circuit and then takes three readings, one above, one below and one in the middle of the voltage and frequency range to ensure stability and repeatability of the diagnostics.
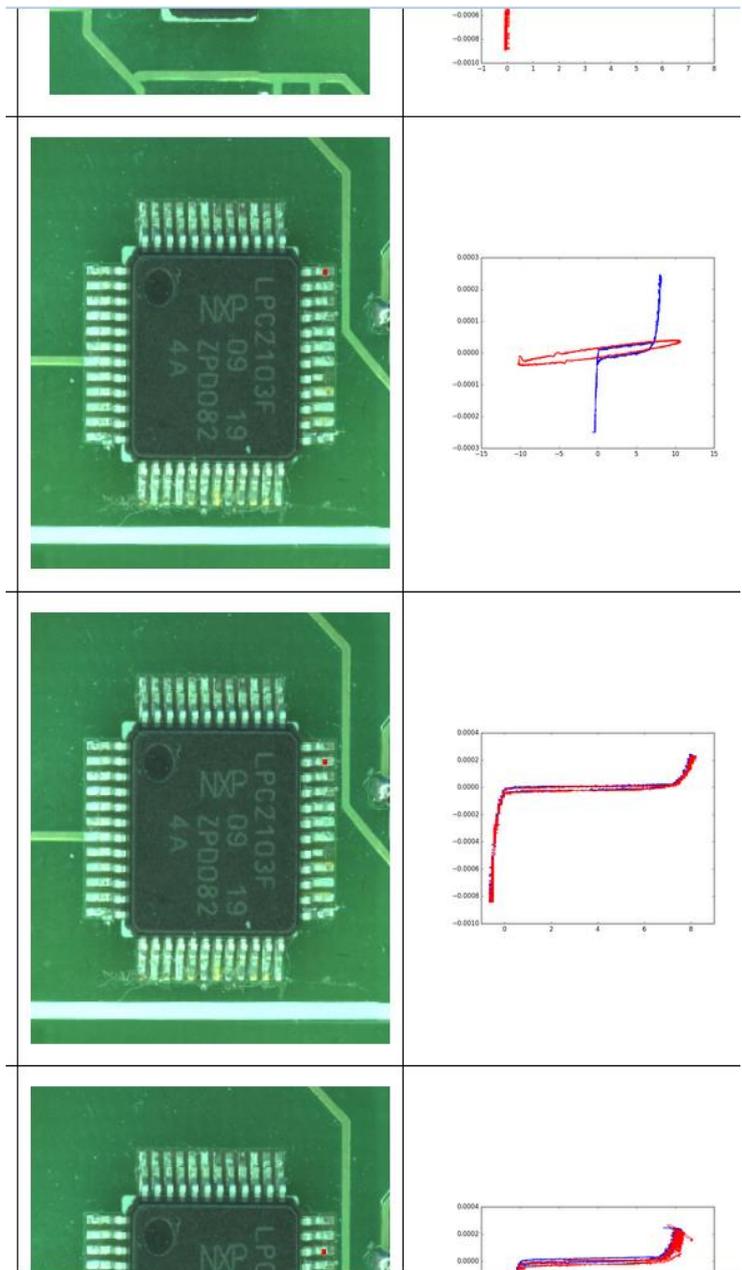

Figure 3. IV curve analysis report

The EyePoint makes the diagnostics of all kinds of PCB automatically, including extra complicated boards and/or boards with high level of integration. High-precise robot-based probe makes available the diagnostics of boards containing the newest chips, including such types as: SOIC, SSOP, TSOP, QFP, SMD chips, SOT, SOD, and so on. There is no need to use expensive tooling and manual programming.

Complete set:

№	Name	Quantity
1	**The EyePoint package:** • Assembled installation • Control computer • Monitor (LCD 24") • Keyboard (standard) • Manipulator "mouse"(400 dpi) • Feeding cable (2 items) • USB cable (1 m)	1 set
2	**Technical documents:** • Quick start manual • Technical features • Program and testing procedure • User manual	1 set
3	**Spare parts and accessories:** • Changeable probe • Magnetic stands set • Conductive track with "alligator" clip	1 set

Technical features:

№	Name	Technical features
1	Power supply voltage	190-240 VAC 50-60 Hz
2	Installation dimensions: • length • width • height	 520 mm 600 mm 450 mm
3	Working space dimensions: • length • width • height	 250 mm 240 mm 45 mm
4	Maximum board dimensions: • length • width • height of components	 340 mm 310 mm 30 mm
5	Working speed: • recognizing • testing	 1.5 In^2/min 1 point/sec

The price of the given configuration is **48500 USD**.

One-year warranty is included. The equipment is loaded under CIP Moscow. The price includes start-up and commissioning works as well as basic training of customer personnel. Payment conditions: 100% prepayment.

Terms of equipment delivery – 12-18 weeks from the payment day.