**PJ15X**

3D Printed Electronics System

The **PJ1-5X** is an economic Rapid Prototyping system for 3D Printed Electronics. This unique system combines piezo-actuated printing technology with 5-axis motion control enabling complex 3D printing. It is ideally suited for a wide range of R&D, Prototyping and Product Development operations. The system has a modular configuration and uses a standardised high performance control system offering a clear path to future High Volume Manufacturing. The base system is scalable with optional upgrades that can be added at the time of order or in the customer facility that allow the creation of novel process chains:

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<th>Print/Functionalising Tools</th>
<th>Pre/Post-Processing</th>
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<td>SMD Pick &amp; Place</td>
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*Beta test option*

With the wide range of print and post-processing tools the PJ15X supports a wide variety of functional materials. Conductive nano-particle inks, micron scale pastes, can be accurately deposited onto complex shaped non-planar substrates and combined with SMD Pick and Place for manufacturing mechatronic systems. Structural bodies can also be generated via the FFF and dispensing modules enabling fully additive 3D electronics.
Features

Full 3D Functional Printing Capability Fully Additive 3D PE combining structural build, Surface Mount Devices & printed circuits Intuitive and Easy to use Software Cost Effective Prototyping to Low Volume Manufacturing

Applications

• 3D Printed Electronics
• „Fully Additive“ Structural Electronics

Printable Materials (Base Configuration)

• Nano particle solutions, Micro particle inks, (to ca. 50 μm)
• Dielectrics
• Resistive inks
• Ink Viscosity Range: 50 to 200.000mPas

Alternative print methods extend range of materials. Contact Neotech for details.

Motion Module

• Print Speed: 100 mm/s max.
• Motion Range: 400-300-140mm (X-Y-Z).
• X, Y and Z – Axes Repeatability: +/-10μm.
• A & B Axis position accuracy – Angle deviation 0° 1' 20"
• A & B Axis repeatability – Angle deviation 0° 0'6"
• Stand alone system dimensions 769mm x 834mm x 1370mm (X-Y-Z) – control case & monitor extra
• Stand alone system weight ca. 350kg

CAD/CAM Software Motion 3D

• 3+2 indexed printing through 5 axis simultaneous
• Optimised cycle times via free definition of the print sequence.
• Printing, Pick & Place Pre- and Post processing path & machine motion simulation (collision Detection)
• Machine specific ISO Standard G-Code post processor
• Look ahead function giving clean end to printed feature.
• CAM Check Function – check programmed tool-path vs. hardware limits

Utilities Required (Base System)

• Electrical: 240V/10A or 110V/10A
• Compressed Air (4bar min.)