



# EMU

## MULTI-PROCESS ADDITIVE MANUFACTURING

A PRECISE, VERSATILE, AND EXTENSIBLE SYSTEM FOR SPECIALTY ADDITIVE MANUFACTURING AND INTEGRATED ADDITIVE PROTOTYPING. THE SYSTEM IS SEMI-MODULAR AND CUSTOMIZABLE TO SUIT THE NEEDS OF THE USER, PROVIDING A WIDE VARIETY OF MATERIALS AND PROCESSES.

# EMU

## MULTI-PROCESS ADDITIVE MANUFACTURING

### SUMMARY

Initially developed as part of an ARMY Additive Manufacturing Technology Phase II SBIR effort, the EMU and associated 3D manufacturing tools and accessories provide a flexible and powerful additive solution for applications requiring unique materials and high precision application of those materials on a variety of substrates.

As the system was designed with printed electronics in mind it can print a variety of polymers and nano-particle ink suspensions. The EMU provides the performance of industry leading machines at just a fraction of the price and is configurable to fulfill customer requirements.

### PRINT TRACE PERFORMANCE

Direct Write Trace	Width = 50 microns
	Height = 10 microns
FDM Trace	Width = 150 microns
	Height = 50 microns

Water Cooled Dual Extrusion with Hot End Temperatures over 400°C

Heated Build Platform and Build Volume Available

### MOTION CONTROL SPECIFICATIONS

Build Volume	250 x 250 x 250 mm (9.8 x 9.8 x 9.8 in)
X/Y Resolution	10 microns full steps
	0.625 microns micro-stepping
X/Y Repeatability	12.5 microns
Z Layer Resolution	10 microns
	0.625 microns micro-stepping
Z Layer Repeatability	12.5 microns

## TARGET MARKETS

Applications involving high precision and repeatability as well as the broad range of materials and process capabilities of the EMU include:

*Aerospace & Defense Industry*

*Research & Development Firms*

*Universities & Research Organizations*

*Medical Industry*

*Prosthetics*

*Materials Development*

*Industrial Design Firms*

## MATERIALS

### Dispensable Fluid

*Inks, Paints, and Pastes, Resins, Epoxies, and Polyamides*

### 1.75mm Filament Material

*ABS, ASA, PC, Nylon, PVDF, PEEK, PEKK, PSU, PPSF, PPS and carbon and glass fiber filled variations*