

Purpose and Objectives: The intent of this Sources Sought Notice is to identify potential Small Businesses especially any SDVOSB offerors capable of providing a ProtoLaser U4 and components as listed in the attached Statement of Need: These are for the VA Medical Center (HERL) in Pittsburgh, PA 15240. Responses to this Sources Sought Notice should demonstrate the firm's ability, capability, and responsibility to provide the principal components of supplies listed in the attached document. Responses should include the following information: Business name, address, Business point of Contact. All information is to be submitted via e-mail at Ronald.Kline@va.gov. Information provided will not be returned. All responses shall be in the English Language. Responses are due by 12:00 pm (EST) on Monday November 13, 2017. No submissions will be accepted after this date and time. Questions can be submitted electronically to at Ronald.Kline@va.gov. This is a Sources Sought Notice and submissions will be used for informational and planning purposes only. This notice does not constitute a formal Request for Quote (RFQ), nor is the government obligated to issue an RFQ. In addition, the Government does not intend to pay for any information provided under this notice. The Government is not obligated to notify respondents of the results of this survey.

DISCLAIMER

This RFI is issued solely for information and planning purposes only and does not constitute a solicitation. All information received in response to this RFI that is marked as proprietary will be handled accordingly. In accordance with FAR 15.201(e), responses to this notice are not offers and cannot be accepted by the Government to form a binding contract. Responders are solely responsible for all expenses associated with responding to this RFI.

Statement of Need: Description and Requirements

The VA Pittsburgh Healthcare System (HERL) intends to award a Firm Fixed Price, one-time delivery order for the purchase of a ProtoLaser U4 and additional components. The ProtoLaser U4 and components will allow for quickly created printed circuit boards with multiple layers and ultrafine footprints, expanding electronics design capabilities to utilize modern components and design techniques concurrent with electronics industry standards for research and development.

REQUIRED PRODUCTS AND SPECIFICATIONS:

10055358 ProtoLaser U4

Compact laser system for micro material processing and laser cutting of
laminated substrates, rigid, flex-rigid and flexible materials, ceramics,

TCO/ITO, LTCC, bare board and assembled circuit boards. The automated X/Y/Z vacuum table has a working area of 9" x 12" x 0.4" with fiducial recognition and automatic beam focus. The ProtoLaser® U4 can create ultrafine pitch in a wide variety of substrates and includes an internal laser power map sensor. The totally enclosed ProtoLaser® U4 has a class 1 laser safety rating and is air-cooled.

Quantity 1

Part 1. Item 10055358: ProtoLaser U4

1.01 Research and Development or PCB Prototyping Laser

- A. The laser machine shall be the ProtoLaser U4 model as manufactured by LPKF Laser and Electronics, Inc., or equivalent.**
- B. The laser machine shall be designed for use in a laboratory environment and include an acoustic/safety cabinet featuring an integrated safety switch.**
- C. The laser movement shall be controlled via galvanometer scanners and focused with theta lens.**
- D. The laser pulse frequency shall be Q-Switch controlled.**
- E. The laser system shall include a doubled 532nm source (PL-S4), or tripled to 355nm (PL-U4) created and manufactured by LPKF Laser & Electronics.**
 - 1. The laser machine shall have integrated control electronics, located beneath the working table.**
 - a. The laser machine shall have 0.4" or approximately 10 mm of Z axis clearance.**
 - 2. The laser machine shall have a maximum working area of 9" x 12".**
 - 3. The laser machine shall have a movement resolution of 0.01 mils of the work table.**
 - 4. The laser machine shall have a repetition accuracy of +/- 2um (0.08 mils)**
 - 5. The laser machine shall allow for software control of the beam travel speed, pulse frequency, output power, number of repetitions and the focal height.**
 - a. Travel speed adjustable up to 500 mm/sec**
 - b. Frequency adjustable from 25-300 kHz (S4 and U4)**
 - 6. The laser beam width shall be ~ 23um (S4) or 20um (U4) at the focal point.**
 - 7. The laser system must perform surface metallization removal using an LPKF Laser & Electronics patented hatch and delaminate process which removes metallization from various PCB substrates; ProtoLaser S4 and U4 models.**
 - 8. The laser machine shall have integrated lighting for clear viewing of the tool as it works and for illumination during fiducial recognition.**

9. The laser machine shall have a pilot laser for rough positioning of the material in the working area.
- F. The laser machine shall have an integrated vacuum table with replaceable air-permeable insert for material backing.
- G. The laser machine shall have a fiducial recognition camera system integrated in the LPKF CircuitPro or CircuitMaster software for automated positioning.
 1. The camera shall be used for:
 - a. Recognition of fiducial marks/holes and subsequent software adjustment of the data to account for any offset
 - b. Inspection of drill holes and cut lines
 - c. Reloading of project materials for re-work purposes
- H. The laser machine shall require a vacuum system.
 1. LPKF shall provide an optional HEPA filter and deep chemical filter dust extraction system, variable speed, software controlled.
- I. The laser shall be powered by standard 110-230VAC, 50/60Hz power and include a power cord, plug and replaceable fuse.
- J. The laser shall be internally cooled within the machine.
- K. The laser shall include LPKF CircuitPro and, if necessary, CircuitMaster software for data preparation and machine control.
 1. The CircuitPro PL software shall import PCB design files from all popular CAD formats including Gerber, Gerber-X, Excellon, HP-GL, DXF, Sieb and Meyer, ODB++, and others.
 2. The CircuitPro PCB software shall employ arbitrary polygon algorithms to calculate the most efficient tool/laser path for insulation of circuits, rubouts, and contours.
 3. The CircuitPro PCB software shall output LMD machine control files for use by CircuitMaster.
 4. The CircuitMaster software shall automatically keep track of the usage time.
 - a. The CircuitPro or CircuitMaster software tasks or “tool” settings can be user customized for use with new materials or for the creation of specialized tools.

- L. The supplier shall have a toll free, technical support phone number open from 8AM to 5PM PST staffed by a technician trained in the use, operation and repair of the equipment.**
- M. The supplier shall have an online internet presence where a customer can purchase consumables, download user manuals, and contact technical support after hours via trouble ticket.**
- N. The supplier shall offer technical support free of charge during the initial one year warranty period and during extended warranty periods.**
- O. The supplier shall offer several purchase options for training and maintenance which can be ordered as needed.**

124391-i Vacuum: Dust extraction unit for ProtoLaser S/U/U3/3D/ML1100, 1800, 2000, D104.

Includes:

Antimicrobial, HEPA, ASHRAE pleated and deep chemical air filters. Built in Silencers (~62 dB A at full speed). Operates with 110V 60Hz power and provides up to 282 CFM air flow.

Quantity 1

225036 First Day On-Site Installation USA- based Factory Engineer. Including travel expenses and airfare (North America Only) 1-8 hours. Overtime not included.

****Non-GSA Item****

Quantity 1

225037 Each additional day On-Site Training - USA- based Factory Engineer. Including travel expenses and airfare (North America Only) 1-8 hours.

Overtime not included. ****Non-GSA Item****

Quantity 2

120736 MultiPress S w/Auto Pump Quantity 1

Key Component 120736: Multilayer PCB Lamination Press

- P. The multilayer PCB lamination press shall be the MultiPress S as manufactured by LPKF Laser & Electronics, Inc., or equal.**
- Q. The multilayer PCB lamination press shall be a desktop unit designed for use in a laboratory environment.**
- R. The multilayer PCB lamination press shall utilize microprocessor controlled pressure, time and temperature profiles.**
 - 1. The multilayer PCB lamination press shall have nine programmable pressure, time and temperature profiles.**
 - a. The multilayer PCB lamination press shall have pre-set profiles as well as the ability to customize profiles.**
 - b. The multilayer PCB lamination press shall contain profiles for flexible and RF materials.**
- S. The multilayer PCB lamination press shall have a maximum laminating area of 9" x 12".**
 - 1. The multilayer PCB lamination press shall support a maximum layout area of 7.8" x 10.8"**
- T. The multilayer PCB lamination press shall support a maximum of eight layer PCBs.**
- U. The multilayer PCB lamination press shall support a maximum laminating pressure of 286 N/ sq. cm at 9" x 12".**
- V. The multilayer PCB lamination press shall have a maximum temperature of 480 °F.**
- W. The multilayer PCB lamination press shall come with an automatic hydraulic unit.**
- X. The multilayer PCB lamination press shall have a LCD display with navigable menu.**
- Y. The multilayer PCB lamination press shall have an approximate pressing time of 90 minutes.**
- Z. The multilayer PCB lamination press shall have dimensions of 23.6" x 24.4" x20.9"**
- AA. The supplier shall have a toll free, technical support phone number open from 7AM to 5PM PST staffed by a technician trained in the use, operation and repair of the equipment.**

1. The supplier shall have an online internet presence where a customer can purchase consumables, download user manuals, and contact technical support after hours via trouble ticket.

BB. The supplier shall offer technical support free of charge.

119612 4-Layer Multilayer Set for MultiPress, 9x12 material size. Quantity 4

215790 ProConduct: Manual Through-hole System Vacuum Table (p/n 115878) & Starter Kit (p/n 115790).

Requires: oven for curing at 320°F for 30 minutes.

Quantity 1

114647-i Dust extraction unit - Variable Speed iSeries Quantity 1

116159 ProConduct Foil Consumable Package Quantity 10

116110 ProConduct paste RS. Includes 20 packets, 2.5g each Quantity 10

10050282 LPKF ProtoFlow S/N2 oven, lead free SMT soldering with maximum process temperature of 320 degrees Celsius and inert gas connection. 220-240V

Quantity 1

117850 On-board Thermocouple Option Quantity 1

127066 ProtoPrint S- RP ..x/y/fi adjustable printing table 300x300mm, left to right transport and verticle separation for fine-pitch on-contact printing; fast clamping for different frames up to width 460mm length between 420-520mm and height from 20-33mm; fine adjustment of stencil level with micrometer screws; 4 magnetic PCB supports and 4 screw type edge/through-hole position clamping PCB supports, mylar test-registration system, metal squeegee 180 mm, mechanical stretching frame QR 266x380mm with adaptor for printing with polymer stencils.

Quantity 1

108321 A4 Stencil foils (10 pieces) for ProtoPrint (8 x 12) compatible with S-Series ProtoMat machines

Quantity 3

127017 LPKF ZelFlex QR 362 x 480..Mechanical Quick Release stretching frame

Outer dim: 362 x 480mm (14,3" x 18,9")

Inner dim: 310 x 370mm (12,2" x 14,6")

Max.print area: 260 x 330mm (10,2" x 13,0")

Foil size (max): 310 x 410mm (12,2" x 6,1")

Max.squeegee width: 280mm (11,0"")

Perf. file: QR_362x480.GBX

****Non GSA Item****

Quantity 1

010582 Hand rubber squeegee 260 mm ****Non GSA Item**** Quantity 1

111433 LPKF ProtoPlace BGA, including camera Semi-automatic placement of BGA and QFQ components from 5 mm x 5 mm (0.2" x 0.2") up to 45 mm x 45 mm (1.77" x 1.77"), Granite base plate, air-bearing positioning table, optical placement verification. Max. PCB size 220 mm x 300 mm (8.6" x 11.8"), Pitch 0.3 mm (12 mil). Placement accuracy $\pm 50 \mu\text{m}$ ($\pm 2 \text{ mil}$), Compressed Air supply necessary, 6 bar, 87 psi, .18 cfm, oil free **Non GSA Item**
Quantity 1

130483 Flat Screen Monitor **Non GSA Item** Quantity 1

126979 ProtoPlace S a Semi-automatic Pick&Place, with accessory kit Quantity 1

125154 Swiveling color Micro Camera NTSC compatible (for ProtoPlace) **Non GSA Item**
Quantity 1

130483 Flat Screen Monitor **Non GSA Item** Quantity 1

114461_75 Motorized component carousel set with 75 antistatic component bins Quantity 1

115590 Feeder carrier for ProtoPlace - Tape and Stick Feeder Carrier (necessary for mounting any feeders)
Quantity 1

116004 8 mm Tape Feeder Quantity 1

116008 12mm Tape Feeder Quantity 1

116009 16mm Tape Feeder Quantity 1

101356 Stick feeder SO8-SO28, SO8L-SO28L Quantity 1

101357 Stick feeder PLCC28-PLCC44 Quantity 1

103897 Stick feeder PLCC52-PLCC84 Quantity 1

115591 Accessory set for ProtoPlace solder paste dispensing and component placement
Quantity 1

127411 LPKF ProtoMat ® S63 Compact mechanical milling system for the production of single and double sided prototype PCB's and pocket milling. Working area 9" x 12" x 1.4"/0.9" (229 x 305 x 35/22 mm). Includes: High speed spindle motor adjustable 10,000 – 60,000 rpm, 15 position auto-tool change, fiducial alignment camera, 2.5D depth milling, auto tool depth adjustment, acoustic cabinet and LPKF CircuitPro software. Requires: PC with two USB 2.0 ports and a Clean/Dry Compressed Air Supply; 1.76 cu. Ft./min., 87 PSI, 6 bar recommended for Solder Paste dispensing function only.
Quantity 1

Item 127411: Rapid PCB Milling Machine

- CC. The PCB milling machine shall be the ProtoMat S63 as manufactured by LPKF Laser & Electronics, Inc., or equal.**
- DD. The PCB milling machine shall be designed for use in a laboratory environment and include an acoustic cabinet featuring an integrated safety switch.**
- EE. The PCB milling machine shall utilize microprocessor based control of X, Y, and Z axis control of the milling head.**
 - 1. The PCB milling machine shall be controlled by USB connection to a user supplied computer.**
 - 2. The PCB milling machine shall have integrated control electronics, located beneath the working table.**
 - a. The PCB milling machine shall have 1.4" of Z axis travel, controlled by stepper motor with clearance of 0.9" with the optional vacuum table installed
 - 3. The PCB milling machine shall have a maximum working area of 9" x 12".**
 - 4. The PCB milling machine shall have a movement resolution of 0.02 mils**
 - 5. The PCB milling machine shall have a repetition accuracy of +/- 0.04 mils**
 - 6. The PCB milling machine shall have a maximum drilling speed of 120 strokes per minute**
 - 7. The PCB milling machine has a maximum X/Y travel speed of 6" per sec/150mm per second**
 - 8. The PCB milling machine shall have depth limiter foot with hardened material to minimize wear for this consumable item.**
 - a. The depth limiter foot must follow the material surface allowing the z-drive to lift and lower with small intolerances in the substrate and metal thickness.
 - b. The depth limiter foot contact area must be comprised of a composite resin material to minimize abrasive contact with the material surface

- c. The depth limiter foot can also be removed for 2.5D controlled depth engraving applications or replaced with a non-air foot as desired by the operator.
- 9. The 2.5D controlled depth engraving shall be an included function allowing for pocket milling and peck drilling up to a max depth of ~8mm.
- 10. The PCB milling machine shall have integrated LED head lighting for clear viewing of the tool as it works.
- FF. The PCB milling machine shall have a variable 60,000 RPM motor with spindle speeds on each tool assigned within the included CircuitPro software.
- GG. The PCB milling machine shall have an optional vacuum table.
- HH. The PCB milling machine shall have a fiducial recognition camera integrated with the machine driver software for automated alignment of double sided boards. Fiducial Camera alignment shall be fully automated with auto-capture and auto adjustment for material offset.
 - 1. The camera shall not require guide assist paper and will be used for:
 - a. Calibration of the machine (orthogonality, tool bar, work table)
 - b. Recognition of fiducial marks/holes shall be fully automated as well as subsequent software adjustment of the milling data to account for any offset
 - c. Inspection of drill holes and cut lines
 - d. Automated measurement of tool cut widths
 - e. Allow for manual measurements of traced, drill sizes, pad size, etc.
- II. The PCB milling machine shall require a HEPA filtered vacuum system.
- JJ. The PCB milling machine shall be powered by standard 120-240VAC, 50/60Hz power and include a power cord, plug and replaceable fuse.
- KK. The PCB milling machine shall include a 15 position tool exchange bar
- LL. The PCB Milling Machine shall include CircuitPro software for data preparation and machine control.
 - 1. Software for machine operations must include setup wizard capabilities on the front end helping to guide the operator through: design import, tool assignment and system operations with templates saved for single sided, double sided and multilayer designs.

2. **Process steps must include options for plating and lamination press that modify based on the method chosen.**
 3. **The software shall produce a concentric milling path and smart adjacent path algorithm reducing the milling time required (less head lifting/lowering during operation)**
 4. **Software shall alert the operator of the option to change the tool after a programmable length of tool use. . If another identical tool is loaded in the tool bar, the machine will retrieve it and continue working unattended**
 5. **The software shall be operational without the need of a hardware dongle**
 6. **All tooling shall be 100% tungsten carbide.**
- MM. The supplier shall have a toll free, technical support phone number open from 8AM to 5PM PST staffed by a technician trained in the use, operation and repair of the equipment.**
1. **The supplier shall have an online internet presence where a customer can purchase consumables, download user manuals, and contact technical support after hours via trouble ticket.**
- NN. The supplier shall offer technical support free of charge during the initial one year warranty period and during extended warranty periods.**
- OO. The supplier shall offer several purchase options for training and maintenance which can be ordered as needed.**

114647-i Dust extraction unit - Variable Speed iSeries Quantity 1

129103-1 Starter Pack: Tools with distance rings Quantity 1

116394-1 RF Starter Pack: Tools with distance rings Quantity 1

103678 60X Wide Stand Microscope Quantity 1

127688 LPKF Vacuum Table for ProtoMat S43, S63, S103 to ensure the precise positioning of the base material
Quantity 1

Freight Shipping & Handling cost for Non GSA Items

DELIVERY/INSTALLATION

The vendor will be expected to deliver the specific requirements noted above using a suitable carrier such as UPS Freight or Fed-Ex Freight. There is installation and set up requirements for this contract. Delivery should be made in a timely manner once the contract is signed.

The contractor shall deliver to:

Josh Brown or Garrett Grindle

412-822-3700
ggg3@pitt.edu
jdb83@pitt.edu

The contractor shall deliver required items to the following address:

VA Pittsburgh Healthcare System/HERL
6425 Penn Avenue, Suite 400 offices, B101 machine shop,
@ Bakery Square
Pittsburgh, PA 15206

The contracting officer representative for this contract is Andrea Bagay who is responsible for ensuring that the contractor complies with physical security policies. A compliant ID badge must be worn by Contractors at all times while on VA premises.

Contractor may not have access to the VA network or any VA sensitive information under this contract.

All Contractors must receive Privacy training annually using one of the following methods:

- Complete "VA Privacy Training for Personnel without Access to VA Computer Systems or Direct Access to or Use to VA Sensitive Information" training by using VA's TMS system (<https://www.tms.va.gov/>). Contractors may use the TMS Managed Self Enrollment method to complete the training in TMS. The COR must ensure that all contractors are validated in the PIH domain.
- Complete the hard copy version of "VA Privacy Training for Personnel without Access to VA Computer Systems or Direct Access to or Use to VA Sensitive Information". Signed training documents must be submitted to the COR.

Training must be completed prior to the performance of the contract and annually thereafter. Proof of training completion must be verified and tracked by the COR.

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