STATEMENT OF WORK
Research and Development Shaker Control System

PR: 4200552371

Background

- Acquisition of a shaker table system for research and development.
- This system will be used to simulate the launch environment of instruments and system.
- Prefer system built in the US for control of the supply chain of parts and the need to have the vendor access NASA GSFC to maintain the system.

Scope

- Development and delivery of shaker system.

Requirements

- At least 1 year full warranty of all parts of system including labor.
- Includes on-site delivery, installation (electrically performed by NASA/GSFC), witness of initial power-on, and 1 day instruction.

System requirements

Vibration table system is defined as the shaker table, amplifier and additional hardware, electronics, and cables such that system only need to be interfaced to controller to work immediately.	
Vibration table system shall be capable of testing in sine wave, random vibe, quasi-static (sine-burst), and shock modes	
Sine vector force (rated peak sinusoidal force) shall be greater than	5000 lbf
Rated random force (rms) shall be greater than	5000 lbf
Rated shock force	9900 lbf
Armature resonance shall be greater than	2100 hz
Rated displacement (travel) shall be greater than or equal to	2 in pk to pk
Frequency of operation (usable frequency) shall be in range from	5-3000 hz
Shaker peak velocity shall be greater than or equal to	78.7 in/s
System shall have a pneumatic load support system wil full relative displacement	

Transport options shall include air glide transport pads and castors.	
The heat generated within the vibration system shall be cooled to meet all performance requirements through air cooling.	
System shall include electronics armature position indicator and overtravel switch.	
System shall include insulation resistance.	
Dimensions and Weights – Shaker – **with slip table, system can be larger by 52 in length.**	
The shaker table height shall be less than	36 in
The shaker table width shall be less than	52 in
The shaker table depth shall be less than	48 in
The shaker table weight shall be less than	2500 lb
Dimensions and Weights - Amplifier	
The amplifier height shall be less than	
The amplifier width shall be less than	
The amplifier depth shall be less than	
The amplifier weight shall be less than	1300 lb
Armature insert pattern shall be capable of accomodating the following fixtures depicted on sheet 2, sheet 3 and sheet 4 with 3/8"-24 inserts	
System shall include 1 year parts and labor warranty	
System shall include user manual for installation, commissioning, and operation of system	
System shall include onsite installation and instruction of system usage.	
System shall include a power amplifier with power range from	8-280 kVA
System shall include a data acquistion system and software or shall be compatable with LAS-200 LaserUSB LDS (Bruel & Kjaer) vibration control system	
Contoller shall be capable of processing and accepting 16 accelerometer inputs	
System shall be capable of operating between	40-80 degrees F

Deliverables or Delivery Schedule

- Shaker table
- Amplifier
- Supporting hardware, electronics, and cables to operate system, interface amplifier to shaker table, and interface shaker system to control system.
- Delivery shall be less than 4 months ARO.

Government-Furnished Equipment and Government-Furnished Information

- None

Place of Performance

- Place of performance is vendor's facility(s). No work will be performed on center. Contract only includes on-site delivery, installation (electrically performed by NASA/GSFC), witness of initial power-on, and 1 day instruction..

Period of Performance

- Not applicable.