

Vibration device enters market

A unique triaxial vibration device developed by Electro Optical and Data Systems Group will now be manufactured and sold on the commercial market.

The device provides simultaneous broadband vibration in three axes, using a microprocessor to provide closed loop control, automatic calibration, self test, and fail-safe features.

A license agreement between Hughes Aircraft Company and Screening Systems, Inc., founded by Dick Baker, will enable that firm to manufacture and market the quasi-random vibration system.

Under the agreement, Hughes has made available to SSI the design, data, and patent rights, both U.S. and foreign, relating to the product line of triaxial shaker equipment. In addition, Hughes will provide technical assistance to the firm, according to Gabe Pitta, EDSG director of Domestic and International Agreements.

"Increased complexity and spiraling logistic support costs have resulted in greater customer emphasis on equipment reliability," explained Jack Frantz, director of Product Integrity, whose personnel designed the equipment.

"While state-of-the-art advances in electronics devices have allowed significant growth in inherent design reliability, the problems associated with detecting and removing latent manufacturing and part defects have prevented a commensurate growth in operational reliability," he said.

"There is now a growing recognition that a

comprehensive manufacturing stress screening program is an *essential element* in achieving significant improvements in operational reliability," Mr. Frantz said.

The triaxial vibration device is specially designed for production line screening, and has proved to be a safe and effective quality assurance screen on a wide variety of electronic, electro-optical, and electro-mechanical equipment during implementation at Hughes the past 12 months.

"As one of the pioneers in the use of random vibration and screening methods, HAC recognized early the need for a compact and inexpensive alternative to the conventional vibration equipment," said Mr. Frantz.

"As a result, efforts were undertaken several years ago to develop such equipment for use on the F/A-18 radar and A6E TRAM/DRS programs. Fourteen facilities are in use and have proved to be an effective manufacturing screen, permitting evolution of the design to improve flexibility and utility."

Mr. Frantz indicated Hank Abstein, Allen Curtis, Jim Kallis, Gus Lena, Walt Marotta, Dennis Page, Sam SantoSpirito, and Chuck Talbott from Design Effectiveness Operations were instrumental in development of the vibration system.

Screening Systems' first customer for the equipment is HAC's Santa Barbara Research Center, which is purchasing QRS-100 quasi-random vibration systems for use on the AIM-9L/AIM-9J electro-optical fuze and the XMI/FVS/M60/M113/LVP7 fire suppression systems.