

## **BIAXIAL ACCELERATION SIMULATION TESTS ON WAGS**

SAFFORD,F.B.;MASRI,S.F.;CROWSON,R.D.;SCHUMAN,W.J.;FREIBERG,R.

Various Department of Defense organizations use the Army standard medium tactical radio relay system for a variety of battlefield communication needs. The U.S. Army Ballistic Research Laboratory (BRL), in conjunction with the Army Engineer Waterways Experiment Station (WES), Agbabian Associates (AA), and the U.S. Army Electronic Research Development Command (ERADCOM), is conducting a research program to develop data and criteria for determining the vulnerability of this system to the effects of tactical nuclear and high-explosive weapons. The system, which was not designed to survive these threats, consists of electronic radio equipment, its protective shelter, and associated antennae.

On previous programs, the system was subjected to large-scale high-explosive tests (events DICE THROW and MISERS BLUFF) and acceleration time histories were obtained at various points on the equipment racks containing the electronic gear. Development of a simulator was needed so that these same biaxial acceleration time histories could be reproduced in a laboratory environment to verify the acceptability of the acceptability of the hardness levels of present and future system components. The development of such a simulator, called WAGS, was described in MABS VI.

The present paper describes the calibration procedure and presents the data from the first test of a C3 component. The correlation with test data is excellent in both the rack acceleration levels and the high attenuation of the loading (a factor of about ten) as it reaches the inside of the component.