FACILITY LOCATION: Hampton, Virginia 23665
FACILITY NUMBER: 1218-A
FACILITY NAME: Anechoic Noise Facility
FUNCTIONAL NAME: Anechoic Test Chamber
TECHNOLOGICAL AREAS: Noise studies

INITIAL COST: $740 K
ACCUM. COST: $840 K
LIFE EXPECT.: Indef.

YR. BUILT: 1966
NASA B.O.D.: 1966

STATUS CODE: Active
OWNER CODE: NASA
OPER. CODE: NASA

CONTRACTOR NAME (if contr. oper.): This facility will both complement and supplement Aircraft Noise Reduction Laboratory research activities on models of fans, nozzles, and powered-lift systems.

PLANS: Data acquisition and acoustic analysis equipment will be updated.


COGNIZANT ORG. COMPONENT: Acoustics and Noise Reduction Division

LOCAL CONTACT FOR FURTHER INFO: Chief, Research Facilities Engineering Division, Code 56.000; (804) 827-3171

January 1974
DESCRIPTION

The test chamber (8 m x 8 m x 8 m) is composed of acoustic fiberglass wedges that are 99% absorptive on the ceiling, floor, and walls so as to provide a free-field or anechoic environment. This capability permits measurements of the true noise radiation patterns of noise sources associated with aircraft and aerospace vehicles. A 300-psi air supply system is used to conduct studies of jet exhaust noise. The air system is designed with quiet valves and mufflers to provide a very low system noise. Jet nozzles of from one cm to 6 cm can be investigated at velocities of M 0.1 to M 2.5.

An electrically-driven 3-stage transonic noise research compressor of 25 lb/sec weight flow for studies of fan/compressor noise and/or as a noise source for engine nacelle inlet acoustic treatment studies is also available. Far-field noise surveys are accomplished by means of microphones on a rotating boom. Test frequency range is from 100 Hz to 60,000 Hz.