

Aircraft Instrumentation



The Aircraft Instrumentation Division designs, develops, integrates, and maintains special flight-test instrumentation and data acquisition systems for fixed wing, rotary, and unmanned aircraft weapons systems in support of Naval aviation test and evaluation. The Division also provides test, operation and maintenance services to customers and coordinates with other areas in Air Vehicle Modification and Instrumentation at NAVAIR Patuxent River, MD, China Lake and Point Mugu, Calif.

facilities

Aircraft Instrumentation facilities include an instrumentation/modification hangar, design/test laboratories, fabrication shops, and electrical/mechanical design groups.

- Instrumentation/modification hangar
- Structures test lab
- Advanced systems design lab
- Instrumentation lab
- Data validation lab
- Imaging lab
- Electronics lab
- Instrumentation fabrication shop
- Machine and metal fabrication shops
- Safety & Quality Assurance
- Mobile telemetry carts



instrumentation systems

Instrumentation systems are designed to sense and acquire data on a variety of aircraft systems during flight testing. The flight test data can be transmitted real-time to remote and on-site telemetry facilities or recorded onboard an aircraft to be evaluated post-flight. Typical instrumentation systems consist of transducers, serial digital interfaces, signal processors, high speed cameras, solid-state data recorders, strain gauges and telemetry transmitters.

- Development, installation, test, evaluation, operation and maintenance of airborne and ground-based data acquisition system hardware and software.
- System design, analysis (uncertainty, electrical loads, failure modes), troubleshooting, guidance and flight clearance reviews.



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customers

The Aircraft Instrumentation Division designs, develops, integrates, and maintains aircraft instrumentation/data acquisition systems in support of all Navy and Marine Corp flight test programs. New techniques and systems are continually being developed to meet present and future flight test needs. In house developments ensure special or unique flight test requirements are satisfied.

aircraft instrumentation division services

- Instrumentation/Data acquisition/Telemetry systems
- Imaging lab and imaging services
- Test Pilot School instrumentation services
- Data validation/processing lab
- Advanced Systems Development lab
- Measurement uncertainty analysis
- Modification and installation services
- Sink rate data acquisition
- Machine shops and metal shops
- Rapid Prototyping
- Instrumentation system flight clearance review
- Special Flight Test Instrumentation Pool (SFTIP)
- Technical Review Board (TRB) – Instrumentation design reviews
- Data management
- Instrumentation, measurement theory, data acquisition and telemetry training courses

test aircraft supported

- F-18A/B/C/D/E/F
- EA-18G
- JSF
- T-45
- EA-6B
- P-3C
- T-34
- KC-130J/T
- E-6B
- T-38
- T-2
- C-2A
- E-2C
- E-2D (AHE)
- AV-8B
- P-8A (MMA)
- UH-1N/Y
- AH-1W/Z
- MH-60R/S
- SH-60B/F
- CH-53D/E
- MH-53E
- V-22
- CH-46E
- VH-71A (VXX)
- VH-3A
- UH-60 Blackhawk (Army)
- CH-53K (HLR)
- HH-65 (Coast Guard)
- Pioneer (UAV)
- Global Hawk (UAV)

test programs supported

- Flying qualities and performance
- Aircraft systems
- Carrier suitability
- Electronic warfare
- Engine performance
- NATOPS performance
- Test Pilot School
- Structural analysis
- Training
- Gun fire
- Ground test
- Sink rate
- Vibration survey
- Temperature survey
- Service life extension
- Avionics
- Captive carriage
- Weapons separation
- Imaging



for more information

Aircraft Instrumentation Management (301) 342-1570 / 5913 DSN: 342-1570 / 5913
47765 Ranch Road, Unit 1, Hangar 101
Patuxent River, MD 20670-1183