

Jet Engine Test Systems



*In use on US Aircraft Carrier**

Racal Instruments' integrated instrumentation suite, with its wide variety of capabilities, provides diverse solutions that meet the demands of the engine test community. With the flexibility to test multiple engine types, Racal Instruments' jet engine test system utilizes high-powered processors for conducting complex test analysis coupled with state-of-the-art communications infrastructure for remote site interfacing and networking.

Systems Description

- Complete COTS Solution
- VXI Based
- Mixed Vendor Components
- Throttle Control Subsystem
- PC/Windows NT® System



US Navy Aircraft Carrier T-1A Installation



US Air Force T-21 Installation

Benefits

- Accommodates Multiple Engine Types
- Open Architecture Allows Flexibility
- Meets Jet and Shaft Engine Requirements
- Commercial TPS Development Environment

Customers

- US Navy — Jet Engine Test Instrumentation (JETI) Program
- US Air Force — Engine Test/Trim Automated System (ETTAS) II Program

Jet Engine Test Systems

JETI Infrastructure

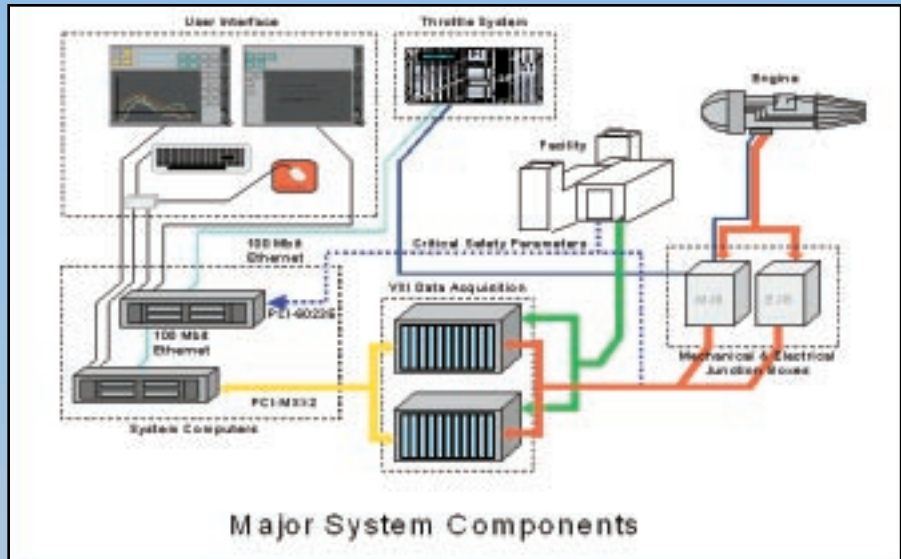
Two VXI Chassis
 Two Computers (1 GHz)
 Data Acquisition
 GUI, Analysis and Communications
 Two Touch Screen Monitors
 Two GUPS
 Throttle System
 Interface Panels
 Engine Personality Module
 Test Facility

Software Platform

Windows NT®
 LabVIEW® 5.1
 NIVXI®
 NIDAQ®
 Microsoft® Office
 TCP/IP Communications

Engines Support

F414-400 (F-18E/F)
 F404-400 (F-18A/B/C/D)
 F404-402 (F-18C/D)
 F110-400 (F-14D)
 GTC36-200 (F-18E/F)
 GTCP36-201 (S3A)
 J52-408A (EA-6B)
 T-56 (C-130)
 F-118 (B-2)



Signal Types

Analog Inputs

80 channels Programmable Gain
 32 channels Direct
 16 channels Current Source
 Frequency Inputs, 10 channels
 Function Generator
 Synchro/Resolver
 12 channels, 26 vrms
 4 channels, 115 vrms

Discrete I/O

96 channels, 28 vdc Input
 16 channels, 115 vdc Input
 32 channels, 5 Vdc I/O

Analog Outputs

48 channels, 0-10 vdc Outputs
 48 channels, Current Source Switching
 6 - 4x12 Switch Matrix
 60 vdc or 125 vac @ 1 A
 4 - 4x16 Switch Matrix
 250 vdc or 250 vac @ 1 A
 2 - 52 channels SPDT Switch
 220 vdc or 250 vac @ 2 A
 1 - 40 channels SPDT Switch
 30 vdc or 250 vac @ 5 A

Vibration

8 channels
 Broadband, Tracking, Spread Spectrum
 Acceleration, Velocity, Displacement
 2 channels, Tachs (N1 & N2)



User Interface

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