



VITREK

Test & Measurement Equipment

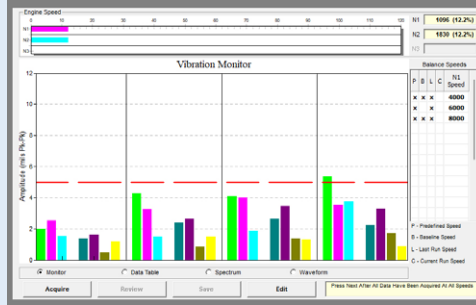
MILITARY & AEROSPACE



Our PBS System Is Recommended in More Airline & Military Manuals Than Any Other System

Easier Training

- Intuitive Trim Wizard graphic software
- Simple touch screen
- Standard APIs



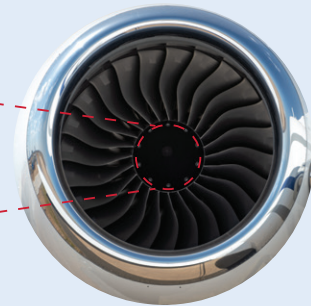
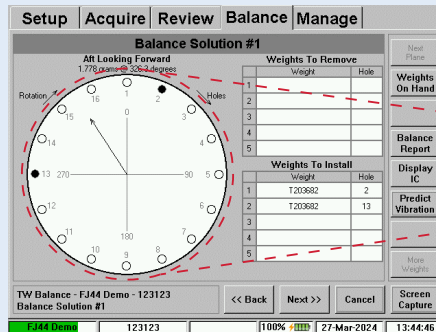
Faster Setups

- Several pre-programmed engine configurations
- ARINC-compatible interfaces for safe integration (PBS 4100 only)
- Configurations for top manufacturers (shown on right)



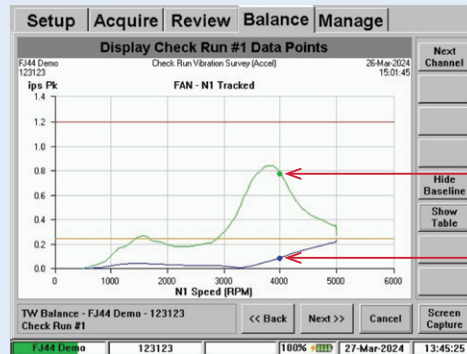
Unique "One Shot" Engine Balancing

- Identify counter-weight placement in the first test run



Easy First and Second Run Comparisons

- Compare results visually
- Support up to 4 vibration and 3 speed channels



Initial Run
2nd Run after Balancing

Our PBS products are supported by precision charge amplifiers designed for optimal turbine balancing, along with portable signal generators that produce sine, square, sawtooth, and triangle waveforms across two channels to simulate tachometer output pulses and replicate the phase shifts encountered in jet engines.



mti instruments

Reduce MRO and Fuel Costs with Precision Engine Balancing

MTI Instruments, a Vitrek brand, offers turbine vibration analysis and balancing products trusted by military and commercial operators alike. World renowned for their ability to reduce the engine cycles needed to pinpoint and fix the cause of engine vibrations, they can deliver double digit fuel savings and reduce MRO costs.

The graphic interfaces simplify training and operation. The software guides the workflow. And the systems are pre-programmed with the most popular engine parameters. So almost no preparation is needed—making it easier to deploy new technicians and further reduce engine downtime. If needed, 2-3 day customizable training is available.

ON-WING, PORTABLE SYSTEMS

RACKMOUNT SYSTEMS

Large-Frame Commercial and Military Jets

PBS 4100+

Fourth-generation PBS-4100+ sets the standard in turbine engine vibration analysis and one-shot balancing for fast, field-ready performance on-wing.



PBS 4100R+

Purpose-built for test cell environments, the PBS-4100R+ combines full-spectrum vibration analysis and one-shot balancing capability in one powerful, rack-mounted solution.



Mid-size Regional, Business and Turbo Prop Planes

PBS eXpress

Built on PBS-4100+ DNA, the PBS eXpress brings industry-leading balancing performance to corporate aviation in a lighter, more intuitive, and accessible package.



PBS eXpressR+

PBS eXpressR+ delivers trusted PBS vibration analysis and balancing in a compact, easy-to-deploy solution for test cell environments.



Precision Charge Amplifiers

41CA

The compact dual-channel 41CA field amplifier converts accelerometer charge signals into voltage signals for the PBS systems, reducing noise interference and improving accuracy and signal reliability.



CA1800 and 55CA

Rackmounted CA1800 supports turbine balancing with up to eight channels of amplification and independent gain settings. The standalone 55CA, by contrast, provides single-channel charge amplification with buffered acceleration and integrated velocity outputs for compact balancing.



TSC-4800A Tachometer Signal Conditioner System

Optimize Signal Integrity Across Engine Types

The TSC-4800A captures accurate, reliable engine speed signals for PBS systems across commercial and military platforms. It resolves long- and short-tooth N1 signals, legacy high-voltage tach generators, and offset tooth designs while optimizing signal integrity. Conditioning up to three signals and generating normalized outputs, it reduces unnecessary engine removals. Rapid setup and upgradeable software ensure a mission-ready, future-proof solution.



1510A and 1520 Portable Signal Generators

Increase Reliability with Complex Engine Simulations

Rugged, handheld MTI signal generators support on-wing turbine balancing by verifying and calibrating the measurement chain before engine runs. By emulating piezoelectric accelerometers, they validate amplifier gains, filters, and analyzer scaling without spinning the engine—improving safety and eliminating unnecessary tests. Delivering lab-grade calibration in field or test cell environments, the 1510A pairs effectively with the 41CA.



GaGe delivers high-speed digitizers and data acquisition solutions that capture and analyze wideband RF/IF signals with precision for mission-critical aerospace and defense applications. GaGe enables accurate, high-throughput signal insight across demanding test and operational environments.

High-Speed Digitizers

Ensure Mission-Readiness with Real-Time Digital Intelligence

GaGe digitizer cards deliver precision signal capture for radar, electronic warfare, anti-jamming, and advanced avionics. Converting wideband RF/IF signals into high-resolution digital data in real time, they meet strict fidelity and throughput demands. High ENOB, deep memory, 6 GB/s streaming, and FPGA-based DSP ensure accurate, actionable data, while integrated software and SDKs support rapid deployment.



Vitretek provides high-performance test and measurement systems spanning high-voltage, power analysis, signal conditioning, and high-speed data acquisition. Together with GaGe and MTI Instruments, Vitrek supports precision validation across aerospace, defense, and industrial platforms.

Vitretek products supports the following global standards and certifications:

- MIL-STD-2223 Cable & Wire Harness Testing
- MIL-STD-202G Test Method Standard Electronic & Electrical Component Parts
- AS4373F Testing Aerospace Cables
- Electrical Connector Standards including MIL-DTL-26482, MIL-DTL-32139 and other Electrical Connector Standards

PA920, PA910, PA900 Power Analyzers

Drive Performance with Deep Power Insights

Vitretek Power Analyzers deliver precision measurement with accuracy up to 0.024%, enabling reliable analysis of complex AC and DC systems. High-speed sampling, harmonic analysis, and advanced waveform compensation ensure stable readings across low power factor loads. Modular multi-channel configurations and diagnostic views provide deep power insights into avionics and power systems, supporting high performance in demanding environments.



DL Series DC Electronic Load

Push Power to its Limits Before Field Deployment

The DL Series delivers high-speed transient and non-linear loading to replicate real-world field conditions in avionics, battery systems, power supplies and mission electronics. With 0.035% accuracy, wide dynamic range, and integrated metering, oscilloscope, and data logging, it consolidates comprehensive power validation into a single compact, lab-to-depot instrument.



4700 Series High Voltage Meters

Validate Components for Harsh Conditions—Without Dividers

The 4700 Series provides direct, lab-grade AC and DC measurement up to 10 kV without external dividers and up to 150 kV with SmartProbe™ expansion. Advanced DSP delivers high accuracy, stability, and noise rejection, while a color touchscreen interface and real-time charting simplify operation. Rugged, portable, and automation-ready, it ensures precise high-voltage validation in lab, depot, and production settings.



V7X Series Hipot and Ground Bond Testers

Get Six Testing Capabilities in a Single Affordable Package

The V7X Series delivers high-voltage compliance testing in a compact, rugged platform for military and aerospace environments. Combining AC/DC hipot, insulation resistance, ground bond, continuity, and switching, it reduces equipment load while maintaining precision and safety. Advanced DSP control, 100 nA leakage resolution, fast safety shutdown, and automation-ready interfaces provide premium performance at exceptional value.



95X Series High Voltage Switching System

Handle Demanding Applications with Power and Speed

The 95X Series delivers the power, speed, and precision required for high-capacitance military and aerospace systems. With up to 500 VA output, 15 kV DC / 10 kV AC capability (optional 30 kV AC), and high DC current, it rapidly charges and tests demanding DUTs. Advanced DSP, picoamp leakage measurement, tera-ohm resistance, and up to 40 A ground bond ensure complete performance.



V10X Advanced Hipot Tester

Combine Automation, Performance, and a Modern Interface

The V10X Series advances high-voltage safety testing with automation-ready architecture for Industry 4.0 environments. Delivering up to 30 kV AC, picoamp leakage resolution, and integrated ground bond and low-ohms testing, it consolidates full verification in one platform. A modern touchscreen supports sequencing, real-time charting, and reporting, while SCPI control, barcode integration, and switching up to 1,600 channels ensure traceable, high-speed testing.



98X Terohmmeter/ IR Tester

Extend High-Resistance
Measurement with Confidence

In military and aerospace systems, insulation integrity directly impacts safety and mission readiness—and conventional IR testers often can't measure reliably. The 98X Series is engineered for high-resistance applications, delivering stable readings up to 15 teraohms with picoamp resolution. It detects subtle insulation degradation before faults become failures, ensuring confident performance in demanding environments.



964i High Voltage Switching System

Eliminate Cabling and Operator
Errors with Multi-Point Automation

The 964i automates multi-point hipot testing by multiplexing up to 64 test points, eliminating manual switching errors and reducing high-voltage exposure. Designed for seamless integration with Vitrek testers and QT Insite software, it enables rapid, repeatable testing with stored profiles, serialized data tracking, and audit-ready traceability—improving safety, accuracy, and throughput in demanding aerospace and defense environments.



QT Insite Testing Software

Drive Increased Compliance
Assurance and Efficiency

QT Insite transforms manual hipot and IR testing into a fast, consistent, and fully traceable process. Supporting V7X, 95X, 98X, and 964i systems, it enables barcode-driven sequencing, guided workflows, and centralized test profiles. Serialized data capture, permission controls, and secure record retention ensure audit-ready compliance while increasing throughput and eliminating variation across operators and sites.





Field-Proven Solutions for Commercial and Military Jets

For more than 35 years, the Vitrek family of brands has delivered trusted solutions for the world's most demanding defense and aerospace applications—supporting organizations including Boeing, the U.S. Department of Defense, and leading aircraft OEMs.

To schedule a free product or application review, e-mail Info@Vitrek.com or call (815) 838-0005

