



Universal Synaptics

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INTERMITTENT FAULT DETECTION TECHNOLOGY FROM UNIVERSAL SYNAPTICS

BLUF: Sustainment Technology now exists that can Detect and Isolate Electronics Intermittence that can be used across All Commercial Aircraft and Weapons Systems, is a COTS non-platform specific technology, and provides dramatic reductions in AOG and downtime of aircraft and critical weapon systems to greatly improve safety and readiness while reducing costs tied to NFF test results.

- Universal Synaptics is the industry leader in detecting and isolating elusive intermittent faults in compliance with the United States Department of Defense MIL-PRF 32516. The massive digital testing void that exists today with conventional scanning test equipment led to the development of the patented Portable Intermittent Fault Detector™ (PIFD™) and the Intermittent Fault Detection & Isolation System 2.0™ (IFDIS 2.0™) Intermittent Fault Detectors.
- A major cost driver for Department of Defenses (DoD) and Commercial Aviation is the maintenance of electronics and electrical systems that control and operate wide-ranging inventories of weapons, weapon systems, and commercial aircraft. Over \$20 billion a year is spent maintaining electronics and systems across the United States DoD. One of the highest contributing causes to these costs is operationally induced intermittent electronic faults that result in No Fault Found (NFF), Cannot Duplicate (CND), and No Trouble Found (NTF) test results.
- Over the past decade the United States DoD has identified and quantified the operational degradation and high cost of NFF primarily driven by undetected and hence unrepaired intermittent faults across the DoD at over \$3 billion annually, with 278,000 lost operational days per year. In 2010 the Air Transport Association (ATA) estimated that NFF costs commercial aviation \$250k per aircraft per year.
- Several sustainment agencies have participated in focused efforts to identify Electronics Intermittence in Line Replaceable Units (LRUs) and weapons system wiring with confirmed significant results including 3x to 10x improvement in Time on Wing (TOW) with commensurate weapons system operational availability and a 10 to 1 return on investment. Details of these demonstrated instances of exceptional results are available upon request.
- Per the United States DoD Report to Congress on October 5, 2021, Universal Synaptics has the only objectively proven and MIL-PRF certified test technology to detect and reverse the intermittent fault problem across the spectrum of DoD weapons systems with the initial targets being various aircraft, including the F-35, F-16, and F/A-18.
- The Portable Intermittent Fault Detector (PIFD) has Authority to Operate (ATO) on the F-35 global program and is the only approved tester for use on the platform.
- The PIFD is inserted into the Boeing Aircraft Maintenance Manuals (AMM) for all Boeing platforms under COM-20952, Detector - Intermittent Fault, USC-IFD-512.