

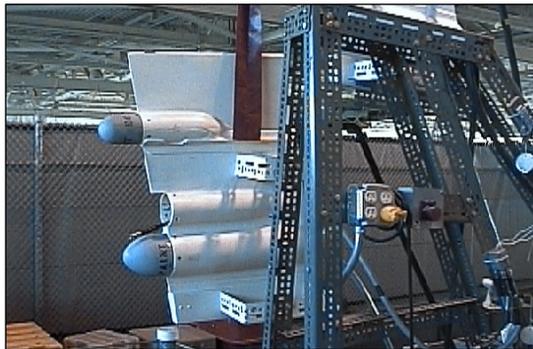
Mission. Designed to replicate aircraft electronic warfare (EW) systems, specifically for end-to-end systems testing and full path line sweeps by using organizational EW test program sets (OEWTPS) in conjunction with the AN/USM-670 or AN/USM-713 test sets.

Unique Features. Iron Crow is a “one-of-a-kind” facility established in 1982 equipped with a full sized “hot mock-up” of various Navy aircraft with their associated EW systems and RF transmission subsystems. The software support activity (SSA) personnel use this facility for developing and updating AN/USM-670 OEWTPS and AN/USM-713 signal generator test set software and hardware.

Combat / Direct Fleet Support. When a warfighter flies into hostile territory, it is imperative that the aircraft Radar Warning Receiver (RWR) and electronic countermeasures (ECM) are fully operational. The effects of reduced threat detection or diminished countermeasure capabilities caused by transmission faults, degraded receiver sensitivity, or low power transmissions can be lethal. The Iron Crow is a valuable tool ensuring successful detection. In addition, to keep the Fleet informed, a quarterly newsletter is sent out that provides technical and logistical support for the AN/USM-670 and AN/USM-713.



The SSA supports 30+ currently fielded AN/USM-670 test program sets and 60+ AN/USM-713 test programs supporting all USN and USMC aircraft. All warfighter user inquiries are processed through the SSA Center (SSAC) so that all concerns are tracked and recorded to ensure prompt and efficient service. The SSAC has supported field actions and inquires ranging from simple technical information assists over the phone to overseas temporary duty (TDY) technical assists. The SSAC support includes the following:



- Warfighter trouble call “Hotline” covering AN/USM-670 and associated test program sets
- Onsite fleet introduction of hardware and software
- Software problem detection, analysis, and resolution
- Real-time solutions, newsletter, users conference support
- Dedicated engineering staff (telephone, fax, e-mail)
- Trend analysis of software discrepancies and hardware / part discrepancies
- Identify degraders and conduct risk analysis
- Software support for core test set support
- Performance based logistics for hardware sustainment
- Configuration / data management support

Cost / Time Savings. Warfighter user inquiries to the SSAC have resulted in the mitigation of problems before they become widespread. The Iron Crow plays a critical role in troubleshooting problems that arise in the field by recreating those conditions in a laboratory environment. This results in time and cost savings for Warfighters and fleet support team personnel. The Iron Crow upgrade to the F/A-18E/F RWR configuration and ongoing upgrade to the F/A-18E/F ECM configuration will result in significant capability improvements required for OEWTPS development and sustainment.

RDT&E. Over the years, platforms supported included the A-4, A-7, EA-6B, F-4, and F-14 aircraft in their various configurations. Current platforms include the AV-8B and F/A-18A/B/C/D/E/F.

Although the built-in-test (BIT) of the EW systems has greatly improved over the years, BIT typically does not cover the transmission lines and components that connect the EW systems to the antennas. In addition, since BIT does not fully detect all weapons replaceable assembly faults, there is also a need to detect these faults. The AN/USM-670 Joint Services Electronic Combat System Tester performs all these critical functions. The OEWTPS software and hardware that provides the interface between the AN/USM-670 and the unit under test is developed at the Iron Crow laboratory.

Size / Description / Scope. 7,200 SF. The structure is 51 feet long, 29 feet wide, and 15 feet high. **Annual Test Events:** 16. **Year Opened:** 1982. **Plant Value:** \$25M+.

Equipment / Instrumentation. The white devices attached to the Iron Crow test fixture frame are “mock-ups.” Yellow antenna couplers are attached to these devices and are the interface for system testing and line sweep testing during software design and development and for any required follow-on maintenance code software development. Other uses for the Iron Crow include verifying updates to operational flight programs (OFPs) and user data files (UDFs), performing engineering investigations, foreign military sales (FMS) applications, and supporting technical evaluations of AN/USM-670 operating system upgrades.

Recognition / Awards. The team has received numerous accolades over the years including the “Warfighter Support Award” given for superior service.

Future Plans. The Iron Crow test fixture is being upgraded to develop F/A-18E/F OEWTSP software to perform laboratory testing of the advanced EW systems. This upgrade is a capability improvement required by our foreign military partners and the Navy in order to support the latest EW systems and platforms.

