

Smart Weapons Controller – SWC-I7



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Features



CDU



SWC-I7



General Features:

- Smart 6.5" Multi-Function Display
- DSP and FPGA Design
- RTOS for Critical Military SWC-T7
- 18 Backlit Keys for SWC-T7
- MIL-STD-810F Qualified
- MIL-C-38999 Connectors
- MIL-STD-704E Power Supply

COLOR AMLCD: 6.5" Color Thin Film Transistor (TFT) Liquid Crystal Display (LCD)

Maintains inventory for release sequencing, weapons types, quantities, location, status and Built-in Test for Readiness when it is needed most.

Firmware can be upgraded in the field, and non-volatile memory records all faults for ease of maintenance.

OPERATIONAL READINESS ASSESSMENT: Provides assesment for each weapon, launcher and weapon system.

ACTIVATION: Activates weapons, targeting, sequencing, arming and release. Safely deactivates weapons in response to situational needs.

BIT: Provides 98% self-test and built-in test capabilities for weapons and launcher equipment

COMPLIANCE: Qualified to MIL-STD-461E and MIL-STD-810F (EMI/EMC, Thermal, Shock, Vibration, Rapid Decompression, Humidity, and Altitude).

Applications:

- 28V Civil / Military Aircraft Cockpit Weapons Controller
- Display of Weapons Inventory, Weapons Type, System Health
- Mission Processing Platform
- Command, Control including Video (C2-V)

The SWC-T7 Smart Weapons Controller (SWC) is a digital, lightweight surface to surface and air to surface defense controller designed for high operational effectiveness. The solution is based on proven rugged COTS computer subsystems from Parvus Corporation fitted with versatile software from Iode Engineering Design and Development team.

With high flexibility, the controller allows for a variety of weapons to be controlled, fuzed and fired without significant changes to the software or hardware. The SWC unit interfaces with a Control Display Unit (CDU) over several communication buses, including MIL-STD-1553, 10/100/1000 Ethernet or RS-422. The SWC-T7 is equipped with up to 7 modules (CPU, DSP, FPGA, Power supply, Conditioning, Relay, Drivers) designed to reduce supportability cost today and tomorrow.

The rugged COTS hardware is qualified to MIL-STD-810F, MIL-STD-704E and MIL-STD-461E standards and offers exceptional low-temperature operation with resistance to shock and vibration profiles experienced by jet and rotary aircraft.

This document does not contain technical data as defined in the International Traffic of Arm Regulation (22 CFR 120.10) or the Export administration regulations (15 CFR Part 772) Definitions of Terms and Supplement No. 2774 General Technology and software notes. And is not subject to US Export Control. Contact : Carlos Medina, Phone 813-732-9571, cmedina@spaciode.com

Specifications / Compatible Weapons Types

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|     <p style="color: blue; margin-top: 5px;">Hellfire</p> <p style="color: blue; margin-top: 5px;">Photo: U.S. Army</p> | CDU – CONTROL DISPLAY UNIT | <ul style="list-style-type: none"> • 6.5" (16.6cm) Diagonal a-SI TFT LCD with LED Backlight • Viewable Area (W x H): 5.2" (132.5mm) x 3.9" (99.4mm) • Acrylic Front Protective Window • Anti-Reflective Coated (MIL-C-14806 Compliant) • ITO Coated for Glare and EMI Control |
| | SWC – SMART WEAPONS CONTROLLER | Lightweight, stackable, FPGA, DSP to handle the NEXT generation of weapons. SMART (Smart Munition/Advanced Rocket) which provide a digital interface that includes select firing, and Fuzing options in flight. The SWC-T7 can provide target Acquisition, Digital interface provides Video feed, Release, control, Fuzing Options, Firing sequence, Inventory, Self-test |
| | STINGER | <ul style="list-style-type: none"> • FIM-92A, Basic, RMP Block I versions and Avenger • 4 per SWC unit • Helicopter – Air to Air defense |
| | ROCKETS and Machine Guns | <ul style="list-style-type: none"> • APKWS I and II – Advanced Precision Kill Weapon System • 2.75" (70mm) FFAR or Wrap around type Fin • MK66 (Hydra 70 rocket) with all these warheads: M151, M156, M229, M247, M255, M257, M259, M261, M264, M267, M274, M278, MK 67 Mod 0,1 and WDU-4A/A, • M260 7 or 19 rockets per pod per SWC station • Air to ground attack by fixed or rotary wing aircraft • Ground to Ground by towed or vehicle mounted or vessels used by special forces • Supports M299 Launcher, M134 machine guns, GAU-19 Gatling Machine Guns • Fuze and Fire Response Time: 99ms (typ) |
| | HELLFIRE I and II SIDEWINDER | <ul style="list-style-type: none"> • AGM-114A, 114B, 114C, 114F, 114K Laser and RF version – four per station • AIM 9/LM version • One per station |
| | SIDEARM | <ul style="list-style-type: none"> • AGM-122, 122A, 122B One per station |
| | COMMUNICATIONS | <ul style="list-style-type: none"> • 10/100 Ethernet, 2x RS-422 Serial, x2 MIL-STD-1553 |
| | MODULARITY | <ul style="list-style-type: none"> • Two Open PC/104 Card Slots (in Card Cage) – CDU • User-Defined 79-pin MIL-C-38999 Expansion Connector Pre-wired to Internal Breakout Board for Integration of Add-on Cards • Modular Embedded PC Architecture Supports Perpetual Upgrades and Retrofits |
| | OPERATING SYSTEM | <ul style="list-style-type: none"> • Field programmable OFP for easy upgrades • Real-Time Operating System and can be DO-178B Level D |
| | POWER | <ul style="list-style-type: none"> • 28VDC Filtered Input (9-32 VDC), • MIL-STD-704E Compliant; Reverse, Over Voltage, Surge Protected |
| | TEMPERATURE | Qualified to MIL-STD-810F: <ul style="list-style-type: none"> • Operating Temperature: -20°C to +60°C (-4°F to +140°F) • Storage Temperature: -55°C to +71°C (-67°F to +160°F) • Cooling: Forced Air Cooling (CDU); Conduction Cooled (SWC) |
| | ALTITUDE | Qualified to MIL-STD-810F, Method 500.4, Proc. 2: <ul style="list-style-type: none"> • Sea level to 41,000 feet (12,497 meters) @ 4°C to 50°C |
| | SHOCK/VIBRATION | Qualified to MIL-STD-810F (Jet & Helicopter Test Profiles): <ul style="list-style-type: none"> • Operating Shock: 15g, 11ms, ½ Sine Wave, 3 Positive/Negative per Axis • Random Vibration: 0.022-G²/10-Hz to 0.0026-G²/2000-Hz |
| HUMIDITY | Qualified to Meet MIL-STD-810F <ul style="list-style-type: none"> • Operating: Up to 95% RH • Non-Operating: 6 to 100% RH | |
| EMI/EMC | Qualified to MIL-STD-461E: <ul style="list-style-type: none"> • CE101, Conducted Emissions, Power Leads, 30 Hz to 10 kHz • CE102, Conducted Emissions, Power Leads, 10 kHz to 10 MHz • CS114, Conducted Susceptibility, Bulk Cable Injection, 10 kHz to 200 MHz • RE101, Radiated Emissions, Magnetic Field, 30 Hz to 100 kHz • RE102, Radiated Emissions, Electric Field, 10kHz to 18 GHz • RS103, Radiated Susceptibility, Electric Field, 2 MHz to 40 GHz | |

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