



FlySight and Aitech Systems to resolve modern situational awareness challenges in SWaP-constrained environments

Aitech Systems' Rugged Computer

Aitech A172 is a small form factor (SFF) mission computer weighing below 2.25KG, designed for applications requiring high-performance data and video processing in a SWaP (Size, Weight and Power) constrained environment. Based on Intel's 11-generation Tiger Lake UP3 CPU SoC, it provides an excellent performance-to-power ratio, while supporting a strong integrated Intel Iris Xe GPU with 96 Execution Units (EUs). The A172 is built on a modular architecture and allows fast upgrades to next-generation Intel CPUs and integration of additional functionality, I/Os and storage (e.g. analog or digital frame grabbers).

A172 Features and Benefits

- High performance - Intel Core i7-1185GRE CPU, up to 64GB RAM, 512GB internal storage
- Modular architecture with Mini PCIe expansion slots
- Optional frame grabber
- Optional field replaceable SSD, up to 1TB
- SWaP optimized, below 2.25kg weight
- Variety of I/Os (DVI, Ethernet, USB, Serial, CAN bus)
- Wide input voltage range with optional 50ms hold-up
- Ruggedized per VITA 47 and MIL-STD-810F



OPENSIGHT

OPENSIGHT Mission Console is specifically designed to support payload operators in airborne scenarios, with the aim to conduct the mission more smoothly and efficiently.

An Augmented Reality engine, capable of handling multiple high resolution video flows, improves the geospatial situational awareness of the operator by the superposition of multiple synthetic information layers.

No need to switch to the moving map anymore: all the information is displayed directly over the video for a better mission effectiveness.

- Video processing algorithms for image enhancement (equalization, expansion, saturation, dehazing, fog suppression, super resolution)
- Augmented Reality engine for real-time vector overlay superimposition (works with custom user data)
- 3D Moving map with multiple layers support and real-time video-over-map projection
- Geodatabase functionality for direct and inverse geocoding
- Full touchscreen HMI for quick and effective interaction with the operator
- Automatic target detection and classification (Artificial Intelligence networks specialized for maritime and airborne threats)



The common mission

Improved autonomy, situation control, intelligence and assurance to make optimal decision.

OPENSIGHT-mc, the real-time Augmented Reality engine with AI has been successfully integrated in Aitech A172, a small, lightweight embedded computer with top-level performance in model recognition, event reasoning, decision making, adaptive learning and autonomous tasking for aircraft critical missions.

A very high-performance, ruggedized and secure SWAP-constrained mission computer system achieves further enhancement of the human cognitive capability. The integration can be customizable in every aspect and extensible for the specific applications in any possible scenario.

Aitech Systems is excited to improve advanced situational awareness and to reduce customers' integration efforts by collaborating with FlySight to integrate OPENSIGHT into Aitech's A172 – Rugged Compact Embedded Computer. We are constantly looking to deliver more comprehensive, integrated solutions with our partners while rising to meet the modern challenges of Size, Weight, Power and Cost optimization for our customers.

Pratish Shah, VP, Global Marketing,
Aitech Defense Systems, Inc.

New scenarios and new challenges are constantly emerging to achieve ever-improved situational awareness in real time. OPENSIGHT was conceived and developed from the beginning open to these challenges, as independent platforms and ready to integrate even in systems already in use, to further improve the decision-making capacity of the operator. The Paris Airshow will be a perfect showcase to share with the international community of aircraft the potential that this integration can achieve.

Andrea Masini, CTO
FlySight Srl





About Aitech Systems

With 40 years of experience, Aitech is a global digital electronics product manufacturer with expertise in providing reliable, rugged embedded systems for the harshest, most unforgiving environments in military, aerospace and space applications. We enable the world's leading companies to expand their most revolutionary explorations and push the boundaries of innovation across sea, land, air and space.

We provide COTS products based on multiple open standard architectures, including SOSA, FACE, VPX, CompactPCI, etc., such as single board computers, I/O, memory and graphics boards, PMC/XMCs and sub-system enclosures, with over 100,000 boards and custom integrated systems delivered to take on the most challenging projects in the harshest environments and succeed. As a pioneer in space applications, Aitech offers a proven space pedigree with trillions of miles flown in a variety of space missions without a single failure.

At Aitech, we stand behind our product and our customer to secure a better tomorrow.

www.aitechsystems.com



About FlySight

FlySight provides solutions for design and development of state-of-the-art C4ISR systems (Command, Control, Computer, Communication for Intelligence Surveillance and Reconnaissance). The solutions proposed are based on AI (Artificial Intelligence) approaches exploiting the latest cognitive signal processing and adaptive data fusion algorithms. Our applications are researched and targeted for avionics, naval and underwater sectors, providing geospatial situational awareness both for the on-ground and the on-board segments.

Real time PED (Processing Exploitation and Dissemination) is allowed by the integration of our products in already existing architectures thanks to the interoperability of our systems with STANAG and OGC (Open Geospatial Consortium) standards.

Moreover, the adoption of Deep Learning methodologies coupled to Augmented Reality enables the definition of disruptive ISTAR (Intelligence Surveillance Target Acquisition and Reconnaissance) system.

www.flysight.it | marketing@flysight.it



About E4

E4 Computer Engineering is an internationally recognised Solution Provider in the fields of HPC, High Performance Data Analytics, AI and Cloud Native Solutions.

The Aerospace & Defence division aims to accelerate the adoption of commercial and dual-use technologies with high TRL to resolve operative problems quickly, efficiently and on a large scale.

E4 Computer Engineering is partner of Aitech Systems in Italy and the DACH region and provides aerospace & defence companies with integrated computing solutions used from airborne systems to ground support equipment.

www.e4company.com

Meet with our team at Paris Air Show

- > FlySight at Pav. Italian, Hall1 Booth F335
- > Aitech Systems at Hall 4 Booth BC85



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 FlySight



FlySight is certified according to
ISO 9001:2015 and EN 9100:2018 Quality management system standards.

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