FIRE CONTROL DISPLAY UNIT

ASHSYSTEMS

Smart Fire Control for Modern Combat Vehicles

The Fire Control Display Unit (FDU) is the gunner's main interface, combining weapon control, sensor data, and integration with other vehicle systems in a single rugged display built for the harshest battlefield conditions.

It solves a critical challenge in modern warfare: **turning sensor data into accurate firepower**. In high-pressure missions, the gunner must detect, identify, and engage targets within seconds — **the FDU ensures the right data, the right target, and the right fire solution, in real time.**



KEY FEATURES

- Real-time **ballistic computation** for accurate firing solutions.
- Accurate firing with **stabilization and auto-tracking**.
- **Ammo management** and automatic trajectory correction.
- **Dynamic, context-sensitive** user interface for fast target engagement.
- **Ruggedized** for shock, vibration, and extreme battlefield environments.

We build systems that think fast — and act faster.

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TECHNICAL HIGHLIGHTS

Display: 10.4″ (1024×768, 500 nits) or 11.4″ Full HD (1920×1080, 850 nits), resistive touch, EMI filter, AR glass.

Processing: Integrated Fire Control Computer, 21 TOPS AI performance, NVIDIA GPU & CPU.

I/O: HDMI, composite video, Ethernet, RS-422/485/232, digital I/O.

Customization: Connector layout and housing color configurable per customer requirements.

Environment: –32°C to +60°C, 10–95% RH, 30 g shock.

KEY FUNCTIONALITIES

Fire Control

- **6DOF ballistic computer** for highly accurate firing solutions.
- **Fire mode switching** (single, burst, rapid) with instant visual confirmation.
- **Ammunition management** — type, count, manual entry.
- **Zeroing & Hot Fix** for precision corrections.
- **Manual distance entry** when rangefinder data is unreliable.

Modes of Operation

- **Observation (silent) mode** — optics only, turret disabled; reconnaissance, zeroing or maintenance.
- **Slewed (coupled) mode** — line of fire and line of sight aligned for engagement.
- **Unslewed (uncoupled) mode** — turret moves independently of optics; loading or special maneuvers.

User Interface & Video

- **Dynamic function keys** — context-sensitive, with clear on-screen overlays.
- **Direct touch interaction** for fast target selection and command input.
- **Video tracking** — select and lock targets automatically or manually.

Integration & Connectivity

- Can receive data from the **Target Acquisition Computer** — radar targets, coordinates, classification.
- Can receive tasks from the **Battle Management System** — commander-assigned targets.
- **Operates standalone** or integrates with either or both systems, depending on platform requirements.



TECHNICAL SPECIFICATIONS

Fire Control Display Unit

DISPLAY	
Size	10.4″ / 11.4″
Weight	5.2 kg
Resolution	1024×768 / 1920×1080 (Full HD)
Brightness	500 / 850 nits
Touch	5-wire resistive, EMI mesh filter
Glass	AR protection glass

VIDEO INPUTS/OUTPUTS	
Digital video in	Dual HDMI OR Dual HD-SDI up to 1080p60 (SMPTE 292M/424M)
Expansion	2× dual-lane MIPI CSI ports (option)
Analog video in	Composite PAL / NTSC / RS-170
Video codec	ITU-T H.264, ITU-T H.265 — full frame rate, all inputs

COMMUNICATION	
Ethernet	Gigabit, for RTSP/RTP streaming and control
Serial	4× configurable RS-422 / 485 / 232

DIGITAL INPUTS/OUTPUTS	
Inputs	4× Vin = 3–55V DC/AC
Outputs (low side)	8×, Vcc = 60V max, 1A/ch
Outputs (high side)	4×, Vcc = 7–55V, 2A/ch

ENVIRONMENT	
Operating temp.	−32°C to +60°C
Storage temp.	−32°C to +70°C
Vibration	1.60 / 1.96 / 2.18 g RMS, XYZ, 5–500 Hz
Humidity	10–95% RH
Shock	30 g, 18 ms



Configurable to your platform

Connector layout and housing color are adaptable per customer requirement. Speak with our engineering team to configure the FDU for your vehicle and integration needs.