

# Diamond

## Revolutionizing Situational Awareness Platform for Armored Fighting Vehicles

Diamond is a situational awareness platform designed to equip AFV crews with a comprehensive, 360-degree view of their surroundings. It uses AI to detect and respond to dismounted threats with unprecedented precision.

### Key Features

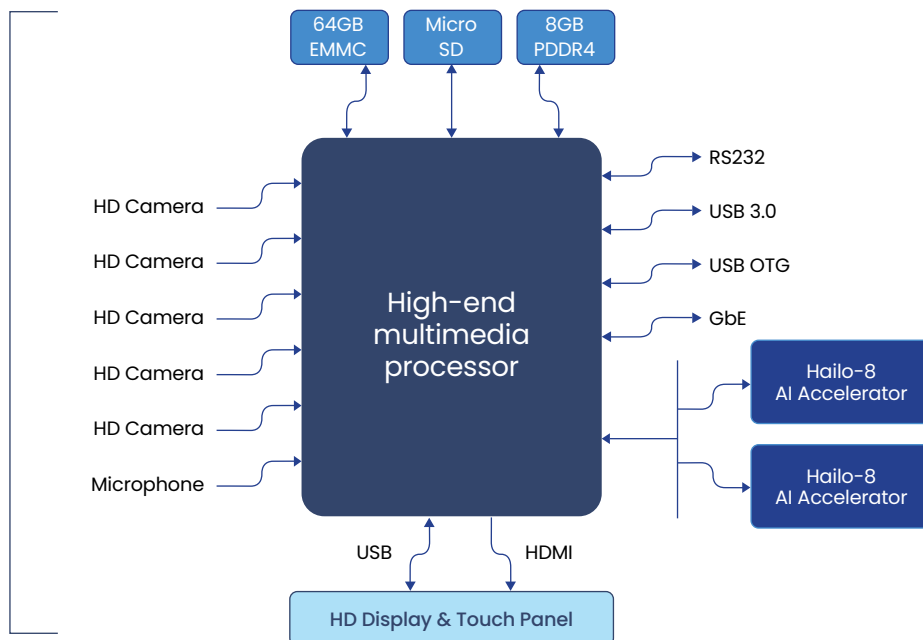
- **Multi-Camera System Integration:** Offers complete 360-degree coverage, ensuring no blind spots remain for enemy combatants to exploit
- **Threat Assessment:** Automatically assesses and characterizes potential threats, providing crews with crucial real-time data.
- **Continuous Recording:** Enables post-event debriefings and continuous improvement of the AI model through real-world data.
- **Powerful AI Technology:** Identifies and alerts crews to dismounted enemy combatants within a 50-100 meter range, depending on camera resolution.
- **Powerful Alerts:** Delivers visual and auditory warnings to inform crew members of incoming dangers swiftly.
- **Ease of Use:** Features a user-friendly interface with intuitive touchscreen controls for rapid comprehension and response.

### Functionality

An advanced AI-based Situational Awareness solution:

- Maris Uranus-AI based platform
- Octa ARM core platform and ~60 tops AI acceleration
- Provides 360° surround situational awareness using up to 5 HD cameras
- Activates AI-based threat detection and classification on each camera
- Simultaneously displays all 5 cameras in a variety configurations on HD display or a single camera in full resolution
- Generates visual and voice alerts upon threat detection
- Records operational activity for debriefing and AI deep learning
- Controlled via GUI based on HD display and touch panel

### Block Diagram



## AFVs in Urban Combat

The effectiveness of Armored Fighting Vehicles (AFVs) is unparalleled in urban combat, especially when operating in synergy with infantry and other military forces. However, navigating such treacherous terrains comes with its unique set of challenges. AFV crews are constantly at risk from dismounted enemy combatants employing shoulder-mounted missiles, executing ambushes, launching attacks from elevated positions, and deploying improvised explosive devices (IEDs) in blind spots.

These threats underscore the critical need for advanced situational awareness technologies that can empower AFV crews to detect and respond with unmatched efficiency.

## The Need for Enhanced Protection



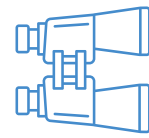
### Vehicle Vulnerability

AFVs have numerous vulnerable points such as tracks, hatches, and engine compartments, susceptible to targeted attacks.



### Restricted Maneuverability

The narrow streets, tight corners, and densely built-up areas typical of urban combat zones severely limit an AFV's maneuvering capabilities.



### Limited Visibility

Buildings and debris obstruct lines of sight, making it challenging for crews to identify and engage enemy threats effectively.

## Versatility Across Platforms

Diamond's technology is adaptable and can be integrated into a wide array of AFV platforms, including:

**Main Battle Tanks (MBTs)**

**Armored Personnel Carriers (APCs)**

**Engineering Vehicles**

**Infantry Fighting Vehicles (IFVs)**