ARI® SIMULATION
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being there...

ACTION SPEED TACTICAL TRAINER (ASTT)

The Action Speed Tactical Trainer (ASTT) is a simulation-based system designed for immersive and realistic naval operations training. The primary purpose of the ASTT system is for the command teams of ships, submarines, and aircraft to exercise in a realistic training scenario and rehearse the tactics, techniques and procedure normally exercised at sea or to evaluate new tactics and procedures.

IMMERSIVE SIMULATION ENVIRONMENT

Provides a realistic, multi-threat simulated environment for training in tactical scenarios, including:

- Anti-Submarine Warfare (ASW)
- Anti-Air Warfare (AAW)
- Mine Warfare
- Amphibious Warfare
- Electronic Warfare (EW)
- Data Communication
- Voice Communications
- Air Operations from Ship. Carrier and Land based
- Sonobuoy laying and monitoring
- AIS / ADS / IFF monitoring
- Replenishment & Logistics

Simulates real-time combat situations, including situation assessment, search, information analysis, command decision-making, and reporting, closely mimicking actual naval operations.

Realistic maritime environment including:

- Authentic depiction of coastline, and depth contour
- Identification of depth below keel based on chart and grounding detection
- Intercept, Low Frequency Analysis and Ranging (LOFAR) and DEMON and Optronics
- Realistic platform dynamics
- Sensor modelling based on environment, physics, radar and sonar equations (Radar, Sonar, Electronic Support Measures (ESM), Communication intercept, Sonobuoy, Variable Depth Sonar (VDS), Magnetic Anomaly Detection (MAD) and Visual
- Dedicated sensor display for Radar, ESM, Sonar (Active, Passive)
- Environmental and hydrological conditions modelling
- Damage Assessment implementation
- Weapons (Torpedo, Air to Air Missile, Surface to Air Missile, Surface to Surface Missile, Air to Surface Missile, Gun, Depth charge, Bomb) Modelling
- ECM and Decoys (Chaff & Jamming) modelling
- Visual detection based on time of day
- Logistics simulation of replenishment
- Data (including plot transfer) and Voice Communications replicating realistic communications
- Automation at the platform level including dropping of mine, sonobuoys, following of a route / search pattern
- Battle damage assessment based on self defence capability and survivability index
- Comprehensive brief and de-brief facilities

CONFIGURABLE WORKSTATIONS

Consists of a network of computers configured as player workstations and game control stations.

Workstations can simulate various platforms, such as ships, submarines, aircraft, or shore-based sites.

Student cubicles are equipped with:

- Sensor Control
- Weapon Control
- Communication systems
- Platform Control
- Dedicated Sensor Display
- ECDIS Features

FLEXIBLE SCENARIO CREATION

Game control stations allow instructors to define complex scenarios, including:

- Gaming area
- Atmospheric and oceanographic conditions
- Composition of friendly and enemy forces
- Sensor and weapon inventories
- Initial positions
- Mission objectives
- Constraints
- Multiple forces including Neutrals

Supports multi-dimensional training with the ability to run multiple simultaneous exercises.

SIMULATION SPEED RECORD AND REPLAY

- The simulations can be run at user controllable speeds to cater for lull in operational activity or to skip to a more desirable scenario
- The session can be saved at any point during its progress and can be replayed from a saved point
- Session can be replayed for Debriefing

WEB-BASED ARCHITECTURE

- No software required on client console
- Can be played on WAN or LAN
- Flexibility of operating System at Client end

REALISTIC COMBAT SYSTEM INTEGRATION

Models internal data flow between operators, replicating real shipboard combat management systems to highlight pressure points and tailor training to specific team roles.

Supports integration with Multi-Function Control Consoles (MFCC) and Multifunction Operator Consoles (MOC) for command and firing control training.

TRAINING FOR MULTIPLE SPECIALTIES

Facilitates integrated training for six key naval specialties:

- Steering
- Radar surveillance
- Sonar
- Electronic warfare
- Guidance
- Weaponry
- Command and Control

Enhances command team communication and tactical doctrine application in realistic scenarios encountered at sea.

INTEROPERABILITY WITH OTHER SYSTEMS

Can be extended to, allow integration with other training systems like bridge simulators or command team trainers, whether locally or remotely.

SCALABLE AND COST-EFFECTIVE

Runs on standard Commercial Off-The-Shelf (COTS) PC equipment, reducing costs and risks.

Customizable to meet specific user requirements, with options for bespoke console designs.

REAL-TIME PERFORMANCE AND EVALUATION

Processes all functions in real-time to simulate combat-like environments.

Game control consoles provide intuitive interfaces for instructors to monitor, evaluate, and debrief exercises, enhancing training effectiveness.

MULTI-PLATFORM AND MULTI-LEVEL TRAINING

Supports training from individual Combat Information Center teams to entire ship command teams, covering various warship classes.

Enables training in complex, 21st-century naval environments with modern anti-ship threats requiring rapid tactical responses.

These features make the ASTT a versatile and powerful tool for preparing naval crews for real-world operations, emphasizing realism, flexibility, and team coordination.

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