Complete Self-Protection Systems for all types of aircraft

TERMA NORTH AMERICA
Aircraft Self-Protection Systems

Terma is a leading integrator of Self-Protection Systems for all types of aircraft. Our advanced solutions give complete, intuitive control over any combination of subsystems, reducing aircrew workloads and delivering operationally proven performance and reliability.

We offer service tailored to your needs and focused on delivering against strict budgets and timeframes. Unlike many other suppliers, there are no restrictions on the equipment or systems we can export - or what you can do with them - giving you an exceptional degree of operational flexibility.

**ALQ-213 Electronic Warfare Controllers**

Our latest generation of the proven ALQ-213 EW controller offers versatile and independent EW controller solution for any aircraft or combination of subsystems and come with state-of-the-art mission optimization tools for planning, recording, training, and post-flight analysis.

- Supports international aircraft platforms
- Provides fleet-wide software commonality
- Provides firewall between aircraft avionic interface and sensor suite
- Low system integration and life cycle costs
- Available through U.S. Foreign Military Sales (FMS) and Direct Commercial Sales (DCS)

**Advanced Countermeasures Dispenser System (ACMDS)**

Our trusted ACMDS has been re-engineered to provide advanced operational capabilities and enhanced reliability while retaining our highly competitive prices.

- Form-fit compatible with legacy Terma and AN/ALE-47 dispenser systems (no Group A changes)
- Fully in-country organic reprogrammable
- Compatible with the latest intelligent decoys
- Class-leading operational capabilities

**‘On-the-Fly’ Threat Simulations**

Our Self-Protection Systems include a unique Embedded Training functionality to train aircrew skills during daily missions. Using built-in software, users can simulate threat scenarios at any time during flight, saving test range costs and creating a more realistic training environment.

**Shorter Development Times**

Terma has a proven record of developing, qualifying, and delivering tailored Self-Protection Systems within only 3-6 months. Typically, such a program could take 2-3 years.

**Complete Mission Protection**

For over 30 years, Terma has helped bring aircrews and their aircraft home safely. Today, defense forces and organizations worldwide view our advanced Aircraft Self-Protection Systems as the most effective and affordable solutions on the market.

- **Aircraft Self-Protection Systems** – operationally proven, integrated solutions for managing subsystems through a unique user interface
- **3D-Audio and Active Noise Reduction** – the world’s only operational 3D-Audio system for enhancing situational awareness and reducing fatigue
- **Applied Aerostructures** – podded, pylon, and scab-on solutions that reduce system integration time and costs and quickly bring individual aircraft to mission-ready status.

Today over 2,500 fielded aircraft, including fixed wing and helicopters, are protected by Terma systems worldwide. To date, not one of them has ever been recorded as shot down.

**ACMDS**

Advanced Countermeasures Dispensing System

**AN/ALQ-213 family**

Self-Protection Controller family (AN/ALQ-213)

**ATD**

Advanced Threat Display

**PIBU**

Programmable Interference Blanker Unit

**MONTHS**

3-6
Complete Situational Awareness

When on a mission, the workload is tremendous. The stakes are high, and the pilot needs to stay 100% alert; mitigating all unnecessary disturbances is key to a successful flight performance.

Over Libya, we had a small force but with a huge effect. Besides a pool of very skilled F-16 pilots, the achievement was partly due to the working environment of our F-16s and the 3D-Audio and Active Noise Reduction systems installed in these aircraft.

- Major H.P. Bagger, F-16 pilot, RDAF

Terma is the only supplier of an operational Aircraft Audio Management System (AAMS) including 3D-Audio and Active Noise Reduction (ANR) technology that reduces stress and enhances operational effectiveness through dynamic spatial audio cues that highlight the precise direction of attack.

As a standalone product or part of an integrated Self-Protection Systems suite, the AAMS is compatible with any type of aircraft and includes a range of techniques for improving sound quality and speech intelligibility:

- Digital Intercom – upgrades sound quality for analog systems
- Active Noise Reduction – removes stressful ambient cockpit noise such as from environmental control systems
- Electrical Noise Reduction – eliminates distracting interference from the aircraft’s electrical circuits
- Directional radio separation – reduces workload by helping the aircrew to distinguish between radio sources
- 360° dynamic threat cues – enables the aircrew to locate and react faster to incoming threats.

Fielded for over 5 years by the Danish Air Force, Terma’s 3D-Audio/ANR technology is proven to improve aircrew and aircraft safety through:

- Improved reaction times in threat situations
- Enhanced situational awareness
- Reduced pilot workload
- Less stress and fatigue
- Better speech intelligibility

Mission Adaptability and Role Fit

By integrating various subsystems to individual aircraft, as and when needed, they can be quickly and cost-effectively adapted for specific missions and applications.

- Optimized solutions for the structural integration of subsystems
- Shorter lead times due to modular design
- Cost-effective way to introduce new subsystems, sensors, and countermeasures
- Fast and simple method of making specific aircraft mission-ready
- Qualify and certified for maximum performance and minimum risk
- Operationally proven in hotspots around the world

Complete Operational Flexibility

Applied Aerostructures

Terma is the only systems integrator that also specializes in Applied Aerostructures, enabling the rotation of subsystems across the fleet rather than fixed installations on each aircraft. This ‘mix and match’ approach significantly lowers hardware and system costs, and allows for a higher degree of operational flexibility.

Our pods, pylons, scabs, and fuselage installations can be customized to contain your existing equipment or, better still, pre-integrated with Terma subsystems to avoid integration issues that often arise when using separate suppliers.

- Optimized solutions for the structural integration of subsystems
- Shorter lead times due to modular design
- Cost-effective way to introduce new subsystems, sensors, and countermeasures
- Fast and simple method of making specific aircraft mission-ready
- Qualify and certified for maximum performance and minimum risk
- Operationally proven in hotspots around the world

Minimize Costs and Risks

We are the only supplier to offer ‘one stop shop’ integration of Aerostructures and Self-Protection Systems. This unique approach helps you to reduce development times, lower costs, and improve system reliability.

- By integrating various subsystems to individual aircraft, as and when needed, they can be quickly and cost-effectively adapted for specific missions and applications.

Fuselage Installation

Helicopter fuselage installation with chaff/flare dispensers and missile warning system

 Pods

Transport aircraft pod with chaff/flare dispensers and missile warning system

 Scab-on

Helicopter scab-on with chaff/flare dispensers

 NH90 MASE Pod Installation

Modular Aircraft Survivability Equipment (MASE) Pod mounted on dedicated NH90 Pod carrier.

Pylons

F-16 modified pylons with chaff/flare dispensers and missile warning system

Scab-on

Transport aircraft scab-on with chaff/flare dispensers

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Fuselage Installation

Helicopter fuselage installation with chaff/flare dispensers and missile warning system

 Pods

Transport aircraft pod with chaff/flare dispensers and missile warning system

 Scab-on

Helicopter scab-on with chaff/flare dispensers

NH90 MASE Pod Installation

Modular Aircraft Survivability Equipment (MASE) Pod mounted on dedicated NH90 Pod carrier.

Pylons

F-16 modified pylons with chaff/flare dispensers and missile warning system

Scab-on

Transport aircraft scab-on with chaff/flare dispensers

1 STOP SHOP

Minimize Costs and Risks

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By integrating various subsystems to individual aircraft, as and when needed, they can be quickly and cost-effectively adapted for specific missions and applications.

Fuselage Installation

Helicopter fuselage installation with chaff/flare dispensers and missile warning system

 Pods

Transport aircraft pod with chaff/flare dispensers and missile warning system

 Scab-on

Helicopter scab-on with chaff/flare dispensers

NH90 MASE Pod Installation

Modular Aircraft Survivability Equipment (MASE) Pod mounted on dedicated NH90 Pod carrier.

Pylons

F-16 modified pylons with chaff/flare dispensers and missile warning system

Scab-on

Transport aircraft scab-on with chaff/flare dispensers
**Fighter Platforms**

- F-16
- F-35
- A-10
- Archangel
- Tornado
- F-16 Pylon Integrated Dispensing System (PIDS+)
  - Each pylon contains three UV missile warning sensors and two chaff/flare magazines. Full weapons carrying capability is retained.

**Helicopter Platforms**

- Chinook
- Apache
- NH-90
- EH-101
- AS 550 Fennec
- Chinook Aircraft Survivability Equipment, CHASE
  - Two pods, one on each side of the fuselage, are each equipped with three UV missile warning sensors and one DIRCM unit. This provides 360 deg spherical coverage against incoming IR missiles. Mounting of sensors and DIRCM in the same pod eliminates inaccuracies caused by fuselage torque during maneuvering.

- Fennec Aircraft Survivability Equipment
  - Fully integrated, certified, and ready for deployment within six weeks.

**Transporter Platforms**

- C-130
- P-8A
- Fokker 60
- C-160 Transall

- Modular Aircraft Survivability Pods, MCP-10
  - Each pod contains ten magazines and two ‘scab-on’ mounted units each containing four magazines. The original eight fuselage mounted magazines are retained.

- Modular Countermeasures Pod, MCP-10
  - Two underwing Modular Countermeasures Pods, MCP-10 each contain ten magazines and two ‘scab-on’ mounted units each containing four magazines. The original six fuselage mounted magazines are retained.
## EW Integration Reference List

### CounterMeasures Dispensing System (CMDS)
- ACMDS
- ALE-47

### Radar Warning Receiver (RWR)
- ALR-56M
- ALR-68
- ALR-69 DK(V)2 / C4 / LSIP
- ALR-69 A
- ALR-400
- APR-39B(V)2
- SPS-1000(V)5
- CATS-100
- CARAPACE/KRP
- SEER-300

### Electronic CounterMeasures Jammer (JMR)
- ALQ-119/-184
- ALQ-131
- ALQ-162(V)1/(V)6
- ALQ-176
- ALQ-184(V)9
- EL/L-8222
- EL/L-8212
- ALQ-211 (V) 9

### Towed Decoy System (TDS)
- ALE-50 (integrated via ALQ-184(V)9)
- ALE-50(V)2

### Missile Warning System (MWS) - active
- EL/M-2160

### Missile Warning System (MWS) - passive
- AAR-44
- AAR-47
- AAR-54
- AAR-57
- AAR-60 MILDS
- AAR-60(V)2 MILDS-F
- PAWS-II

### Laser Warning Receiver (LWR)
- ALTAS-2QB
- AVR-2B

### Infra-Red CounterMeasures (IRCM)
- COMET
- ALQ-144A

### Directed Infra-Red CounterMeasures (DIRCM)
- AAQ-24
- ELT/572
Operating in the aerospace, defense, and security sector, Terma supports customers and partners all over the world. With more than 1,400 committed employees globally, we develop and manufacture mission-critical products and solutions that meet rigorous customer requirements.

At Terma, we believe in the premise that creating customer value is not just about strong engineering and manufacturing skills. It is also about being able to apply these skills in the context of our customers’ specific needs. Only through close collaboration and dialog can we deliver a level of partnership and integration unmatched in the industry.

Our business activities, products, and systems include: command and control systems; radar systems; self-protection systems for ships and aircraft; space technology; and advanced aerostructures for the aircraft industry.

Terma has decades of hands-on know-how in supporting and maintaining mission-critical systems in some of the world’s most hostile areas. Terma Support & Services offers Through Life support of all our products to maximize operational availability, enhance platform lifetime, and ensure the best possible cost of ownership.

Headquartered in Aarhus, Denmark, Terma has subsidiaries and operations in the Netherlands, Germany, Belgium, UK, India, UAE, Singapore as well as a wholly-owned U.S. subsidiary, Terma North America Inc. Terma North America Inc. is headquartered in Arlington, in the Washington D.C. area, with other offices in Georgia, Texas, and Virginia.