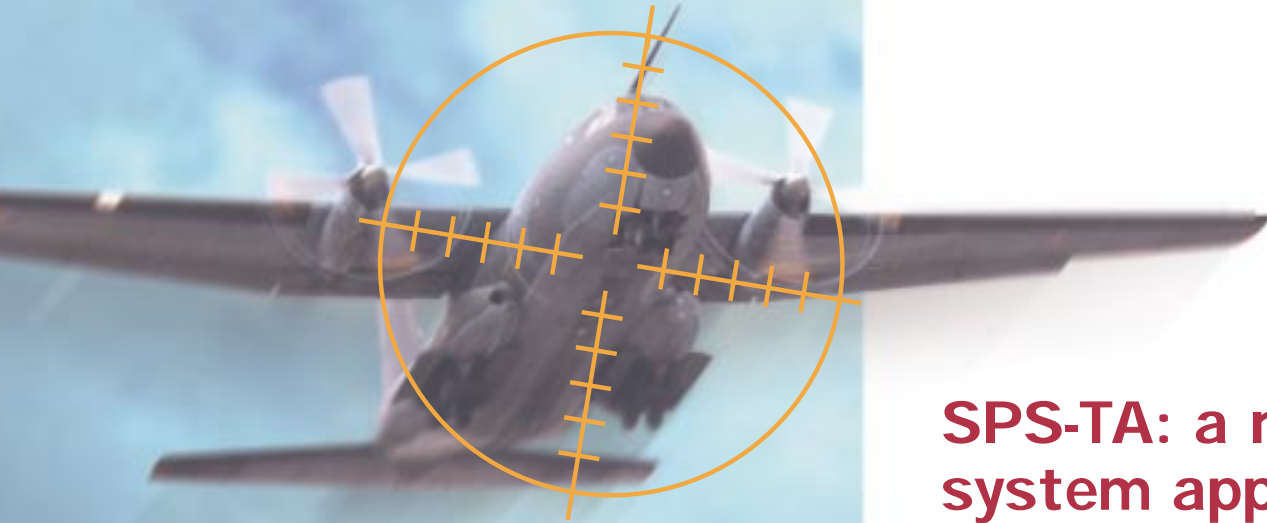


SPS-TA

INTEGRATED SELF-PROTECTION SYSTEM
FOR TRANSPORT AND WIDE-BODY AIRCRAFT



SPS-TA is a complete system offer to provide transport aircraft with dependable self-protection:

- because peace keeping and tactical transport missions occur in a great variety of hostile or unknown environments,
- because widely spread Surface-to-Air Missiles (SAM) are the major threat.

A dedicated self-protection system is essential for survivability of transport aircraft:

the system ensures early detection of threats and provides the crew with full EW situation awareness, to avoid hostile weapons sites.

SPS-TA: a robust system approach

Individual assets integrated through high-speed digital links:

- maximum flexibility,
- faster reaction-time,
- minimum interface with other avionics equipment,
- back-up modes (individual assets can still operate independently).

Programmable central computer for complete EW system management:

- threat data fusion (radar, missile and possibly laser),
- smart link to countermeasures (automatic, semi-automatic and manual modes),
- security and reflex decoy ejection available,
- electromagnetic compatibility functions,
- full capability for interfacing with a multiplex bus (ARINC or RS links, 1553B...).

User self-sufficiency for software control:

- Operational Flight Program (OFP) clearly separated from the threat library,
- quick reprogramming of mission threat library,
- software documentation and support tools.

Easy maintenance:

- high reliability and full Built-In-Test (BIT),
- integrated maintenance policy,
- low Life-Cycle Cost (LCC).

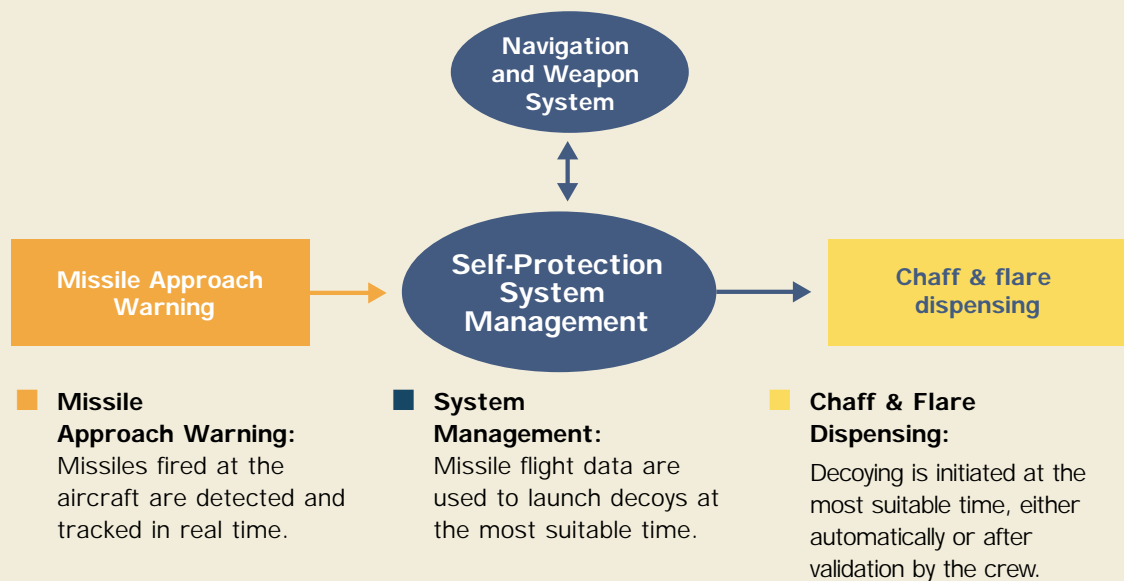


Acting as a “switch-on and forget system”, the SPS-TA V1 requires no crew action thus reducing its stress and workload. Operating in all adverse conditions, the SPS-TA V1 features an extremely low false alarm rate and has demonstrated high-level performance through extensive tests, showing its ability to perform overall self-protection against missiles.

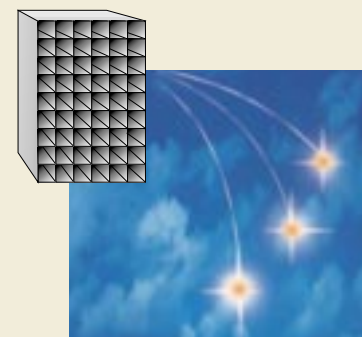
Protecting the aircraft against missiles

V1

PRINCIPLES OF OPERATION



MWS-20 TA Missile Approach Warner and Self-Protection System Management



Decoy Dispenser

Several types of Chaff & Flare Dispensers can be integrated upon customer's choice.



Protecting the helicopter and providing situational awareness

SPS-TA V2 is a comprehensive system to provide enhanced EW situational awareness and self-protection. The SPS-TA V2 is a complete turnkey solution to protect aircraft against both active and passive threats in modern warfare environment. In all operating conditions, threat is detected, tracked and countered using minimum chaff and flare load. Full EW situational awareness is provided by the SPS processing which combines the data issued from the various sensors.



Radar Warning Receiver and Self-Protection System Management TDS-TA

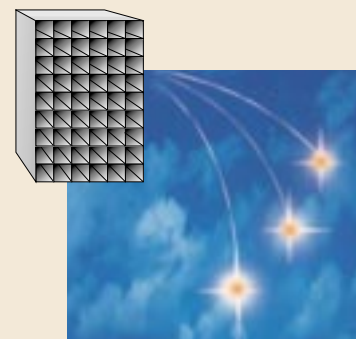
Missile Approach Warner MWS-20 ta

Core system:

- SPS system processing.
- TDS-TA Radar Warning Receiver.
- Latest generation MWS-20 TA Missile Approach Warner.
- Chaff & Flares Dispensers.

Optional equipment:

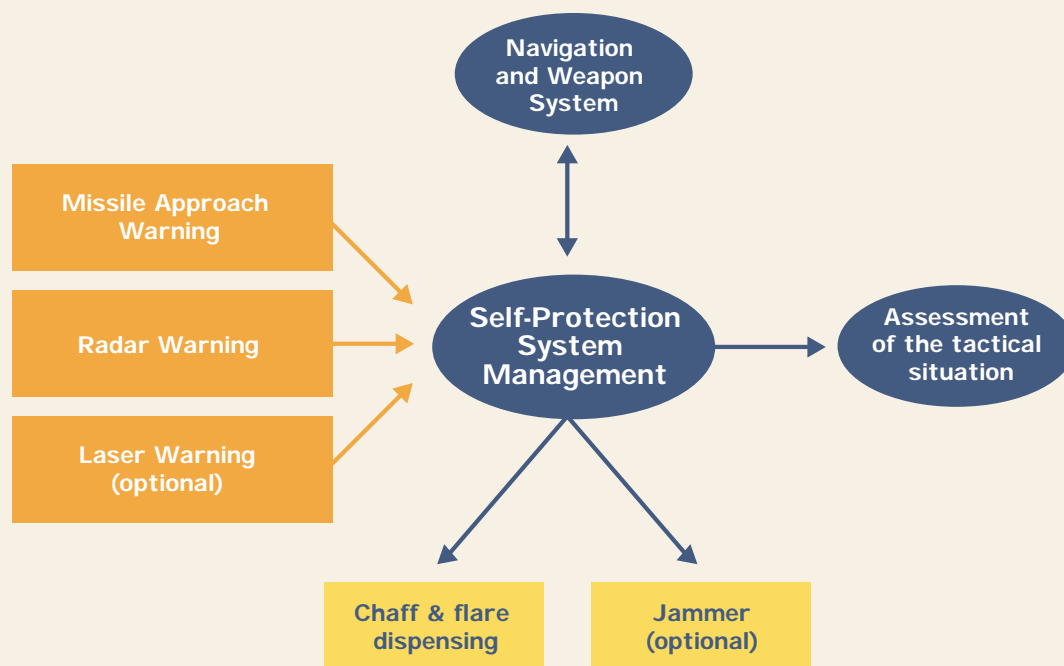
- Various types of Laser Warning Receivers.
- Interface for optional Infra-Red and/or Radio-Frequency Jammer.



Decoy Dispenser

Several types of Chaff & Flare Dispensers can be integrated upon customer's choice.

PRINCIPLES OF OPERATION



■ **Detection and identification of emitters and missile approach warning:**

- Emitters in the environment are detected and identified.
- Missiles fired at the aircraft are detected and tracked in real-time.

■ **Data fusion and EW situation assessment:**

- Parameters relevant to the missile approach data (including speed and Time-To-Impact) are correlated with those related to detected emitters and compared to the EW system library data.
- The complete situation (including identification, status and lethality of the various threats) is presented to the pilot and crew.

■ **A complete EW situation assessment:**

- EW system dedicated display unit (night vision goggle compatible).
- Audio warning issued to the crew via the Inter-communication Control System.

- Fully user programmable.
- Weapon system symbols positioned according to direction and lethality.



- Missile symbols indicating Direction-Of-Arrival and Time-To-Impact.
- Indication of associations between missiles and weapon systems.
- Display of on-going countermeasure actions.

■ **Chaff & Flare Dispenser management:**

- for a given threat, the most appropriate decoy sequence is selected.
- decoying is initiated at the most suitable time, either automatically or after validation by the crew.

Thales Airborne Systems know-how in EW systems

A unique experience in aircraft self-protection:

- acquired over 40 years of activity in this domain,
- illustrated by a comprehensive line of advanced equipment.

The ability to conduct EW system integration programs:

- proven during numerous domestic and international programs,
- as per ISO 9001 quality standards,
- from system specification to aircraft qualification.

An extensive record of co-operation with other EW equipment manufacturers:

- resulting in the capability to offer alternative solutions.

An unmatched expertise in EW:

- enabling to provide customers with comparative data related to various solutions,
- guaranteeing first class technical assistance throughout all program phases.



THALES