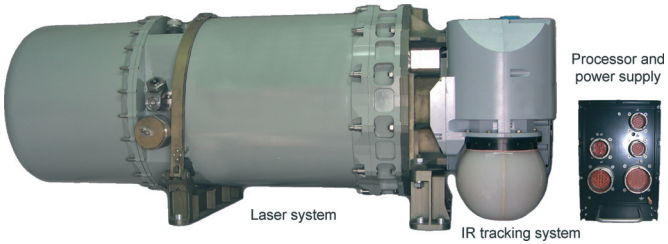
MANTA

MANPADS
Threat Avoidance
Laser based
airborne DIRCM
system

MANTA,
a joint product
with Rosoboronexport



Key operational issues
Defeats 1st, 2nd generation and image based seekers
Effective against all types of IR missiles
Highest jamming success probability
High performance against multi-missile attacks
Classification "IR/not IR missile" before countermeasuring
Defeats incoming missiles from hundreds of meters
Operation in closed loop

Key technical issues
Simultaneous laser emission of several spectral lines in both IR bands
Avoids seeker's CCM protection
Common optical path for tracking and jamming, maximizing the effectiveness of the countermeasure
Effectiveness against IR seekers based on reticules and based on images
Adaptable to all types of aircraft communication interfaces e.g. MIL-STD 1553-B, RS422
Protects any airborne platform
Instantaneous assessment of the effectiveness of the countermeasure

ISO 9001:2000

Indra

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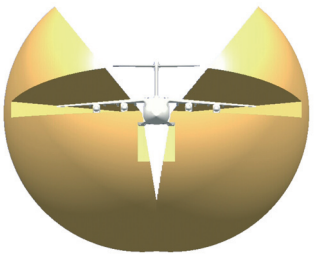
Effective against all InfraRed guided missiles

The concept

IR guided missile pose a major threat against aircrafts in conflict areas. They are highly effective against all types of aircrafts. Losses due to MANPADS often represent losing the aircraft and the crew, as well as the load in the case of carriers.

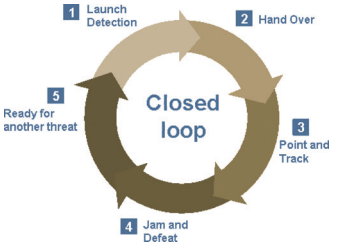
At present, the only way to reliably protect an aircraft is to count on an effective countermeasure against all types of potential incoming IR missiles, from reticule seekers to the most modern complex IR/multispectral imagers.

MANTA provides aircrafts with effective protection against all types of incoming IR missiles. Its high energy multi-band laser is able to defeat all types of IR seekers.



The operation

MANTA operates integrated in a self-protection suite. It is automatically triggered on a MWS threat declaration. It then operates fully automatically.

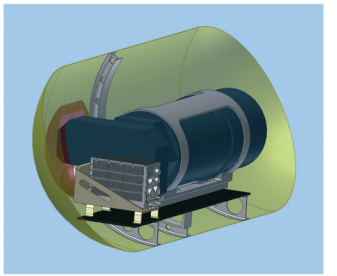


MANTA works on a closed-loop. Its operation starts when the MWS provides MANTA with the angular data of the detected signal. MANTA then positions its optical block to the missile and emits its laser. The laser reflected indicates if the incoming missile is IR or not. In case of an IR missile, MANTA keeps pointing its laser to jam it until it is defeated. It is then ready to countermeasure another threat.

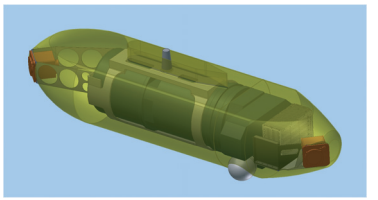
MANTA provides the highest efficiency, allows threat assessment, multi-threat capability and the fastest response.

Installation issues

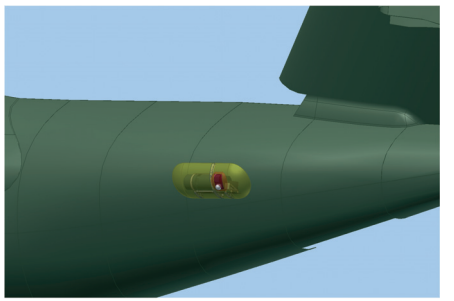
MANTA offers a number of installation solutions including pod and container configurations as well as installation inside the aircraft. There are no moving parts outside the aircraft regardless of the installation configuration.



Installation inside aircraft



Pod configuration



Container configuration on aircraft side

Advantages	Source of advantage
Effective against all types of IR missiles	Unique high energy multi-band laser
Multi-threat capability	Fastest response Feedback and defeat assessment (closed loop)
Highest effectiveness	Single channel for tracking and jamming Very accurate aiming
Autonomous	Fully automatic operation
Easy maintenance	Same maintenance schedule as aircraft