



SAPHIR X – INTEGRATED THERMAL IMAGER SENSOR

IMPROVE LEOPARD FIRE CONTROL SYSTEM BY RETROFIT THERMAL IMAGER FORM FIT FUNCTION

SAPHIR X INTRODUCTION

Saphir X is a tailored retrofit thermal imager for EMES 15 and EMES 18 Main Sighting Systems. It modernizes Leopard MBT Fire Control System with its cutting-edge technical advantages. It boasts an extended range, allowing Gunners to detect objects such as targets and landscape characteristics at greater distances, enhancing direct fire tasks and orientation.

With enhanced image impression, Saphir X provides crisp and detailed thermal imagery, ensuring clear recognition of objects and potential hazards even in challenging environments. Its front-line recognition capabilities enable quick and accurate identification of targets, enhancing crews confidence and decision-making. Cumulating in superior duel capabilities.

Designed as the ultimate solution for enhanced Fire Control capabilities and situational awareness, this thermal imager is a must-have upgrade for any Leopard 2 or Leopard 1A5 MBT user seeking superior performance and functionality.

MBT INTEGRATION LOCAL UPDATE OF MBT/IFV FLEETS

The basic update kit is designed to be integrated without any modification of Leopard 2 HMI. The Electric Interface Unit provides connectivity to installed cabling without any modification.

Upgrade options and new features can be accessible by modifying the FCS control elements. Even a modern video interface is possible, and allows various growth potential. The optional monitor for gunner allows relaxed view and a more flexible crew workload.

LOCAL UPDATE OF MBT FLEET

The retrofit process for Saphir X is designed to be straightforward, making it accessible for maintenance staff on a workshop level. Maintenance staff can easily follow step-by-step instructions, utilizing common workshop tools to complete the installation efficiently.



TECHNICAL DATA			
Detector	Cooled detector, CMT – FPA (HgCdTe)		
Numbers of detector pixels	1024 x 768		
Wavelength	3–5 μm		
Cooling time	<10 min (@ 23°C), <15 min (@ 71°C)		
NFoV	2.8° x 2.1°		
WFOV	15.0° x 11.3°		
Focus distance (@ 21°C)	10 m to infinity for NFoV, 5 m to infinity for WFOV		
Type of optics	switching optic with 2 FoVs		
FoV change time (@ 21°C)	≤ 1 s		
NETD	<25 mK		
Range performance *)	Identification	>5,310 m	>3,800 m
*) STANAG 4347 $\sigma = 0.2$, $\sigma = 1$	Recognition	>9,450 m	>4,390 m
	Detection	>18,100 m	>5,640 m
Communication	RS422, CAN-Bus		
Video	Digital HD-SDI & Analog		

