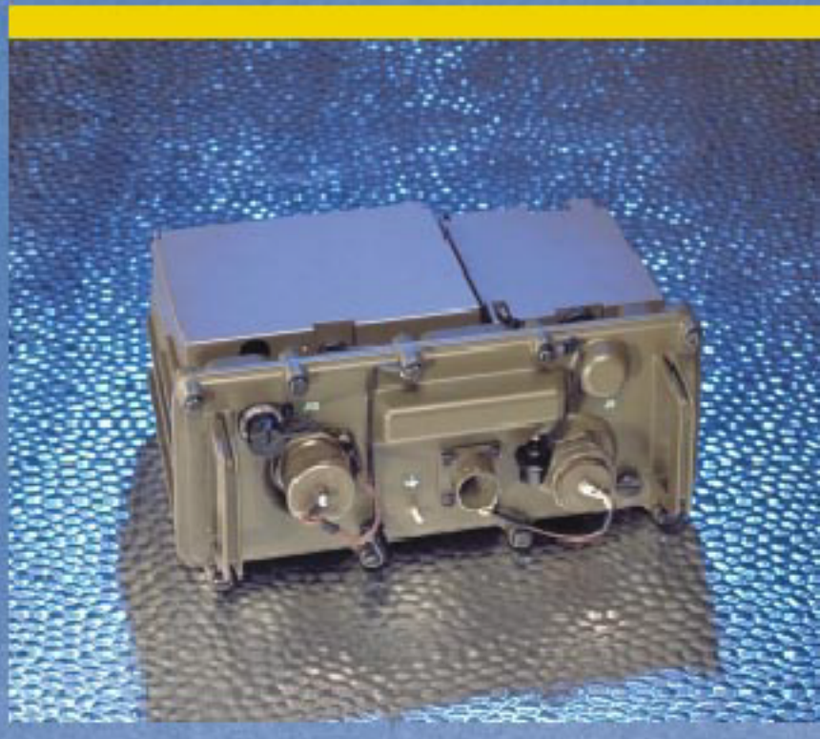
SB 14

Manpads IFF Interrogator

- MK XII / Secure
- Modes 1,2 3/A & 4 / Secure
- 4 days stored codes
- Automatic operation
- Compact, Lightweight, Rugged
- Self Powered
- No COMSEC Computer required
- ISLS / RSLS Beam sharpening
- Qualified on :
  - Mistral
  - Starburst
  - Aspic
  - Eurostinger
  - IGLA



SB 14 Interrogator with yagi antenna

DESCRIPTION

The SB14 IFF interrogator has been designed and developed for stand alone MAN Portable Air Defense Systems (MANPADS) and multi-launcher systems for either stationary or vehicle-mounted applications with a range of up to 20 Km (upon antenna).

The SB14 has already been qualified with Mistral, Atlas, Starburst, Aspic, Eurostinger and Igla systems.

The SB14 is battery operated, compact and of modular construction .It consists of a single unit comprising all the IFF interrogator functions i.e : transmitter, receiver, video processor, coder ,decoder, reply evaluator, memory module and power supply .

Plug-in modules replacement requires no re-tuning at equipment level.

Modes 1,2,3/A and Secure interrogations are stored in a removable memory module, mounted on the side of the interrogator, which eliminates the need for a COMSEC Computer.

Modes 1,2,3/A and Secure Mode replies are processed by means of dedicated built-in decoder and evaluator.

Its small size and weight allows the installation of the SB14 and its Sum/Delta antenna on the missile launcher with minimal impact on the weapon's weight and balance.

Belt carrying is also possible for shoulder launched systems .

Interfacing the SB14 with the weapon requires only one cable.

An SP12 Memory Loading System is required to program the Memory Module with the appropriate interrogation sequence and processing parameters .

The SP12 is also used with Crotale, Blazer, Samantha, Santal weapon systems and AN/UPS 3 Radar.

OPERATION

The SB14 IFF interrogator provides MANPADS and other very short range weapon systems with an autonomous, multi-day, IFF capability.

Aiming and pressing the interrogator switch are the only actions required from the operator.

The SB14 is capable of SIF 1, 2, 3/ A and Secure Modes. Its removable Memory Module can be programmed with either of the following sequences :

- Secure Mode + one SIF
- two SIF Modes

ATLAS Firing unit

ASPIC Firing Unit

The memory capacity provides for up to 4 days of SIF and crypto secure operation, and takes account of code transition period conflicts.

When fitted with a manual control box (optional), the SB14 operator can select specific passive codes .

Prior to firing at a target, the operator initiates the automatic identification process by pressing the on-weapon or remote interrogator switch.

Interrogations are transmitted in the appropriate direction according to the programmed IFF sequences.

Interrogator spatial coverage is properly controlled and matched to the weapon system using ISLS, RSLS and reply gating techniques as well as appropriate antennas.

An IFF sequence consists of a short burst of interrogations . Exposure to ELINT is kept to the minimum since transmission is stopped automatically once the target is confirmed as a Friend.

When selected, Secure Mode challenges are transmitted first. If the target is not confirmed as a Friend or no replies have been received from it, the target is challenged in SIF.This feature minimizes the probability of fratricide.

The operator full confidence in the IFF system is guaranteed by the BITE which performs a complete test during each interrogation.

SB14 status is checked by injecting RF replies at the receivers front end.

BITE and Friend status indications can be displayed in the weapon sight by means of a duration-coded blinking light or provided as beeps or synthesized voice (optional).

MEMORY LOADING SYSTEM

The SP12DM is the Memory Loading System for SB14 or SB16 IFF interrogators. The SP12DM permits to load the codes into a first memory module in less than 2 minutes and repeat the operation every 15 seconds with the following ones . It is controlled by a microprocessor and provides touch screen interface .

This ruggedized equipment , designed for use on the battlefield can be powered within the 115 to 240 V AC range and by 24 V DC.

It includes room and connection for a KIR or miniaturized cryptocomputer .

SP 12 DM Memory Loading System

SB 14

Manpads IFF Interrogator

General characteristics

Transmitter	All Solid State
Frequency	1 030 ± 0.2 MHz
Output Power Sum or Delta	≥ 80 Watts @ 1 % DC
Receiver	Dual channel superheterodyne
3 dB Bandwidth	> 8 MHz @ 1090 ± 0.3 MHz
Minimum Decoding Level (MDL)	≥ - 65 dBm
RSLS, STC	according to application
Decoder / Evaluator	ASIC
Range	up to 20 km (upon antenna)
Time to identify	0.1 Sec. (typical)
Modes	SIF 1, 2, 3/A Secure (memory)
Operation	Automatic (ACC) or Manual
BITE	Automatic operation

Physical

Dimensions	(W x H x D)	254 x 180 x 110.5 mm
Weight		3.5 kg (including battery)
Power requirement		Self Powered (own battery) or Vehicule Battery Adaptor

Environment

Temperature	Operating Storage	- 40 °C to + 71 °C - 46 °C to + 71 °C
Rainfall, Immersion		Weatherproof
Shocks, Vibrations & Drop Testing		Shockproof
EMC		MIL STD 461 C / 462 C

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