TARGET COORDINATES. ANYTIME. ANYWHERE.

STERNA

NON-MAGNETIC BASED TARGET ACQUISITION SYSTEM

SAFRAN
Vectronix

STERNA

NON-MAGNETIC BASED TARGET ACQUISITION SYSTEM TYPICALLY A CAT-I SYSTEM AT 1.5 KM

Anytime, anywhere

Vectronix STERNA provides True North capabilities, 24/7, in virtually all terrain and weather conditions. STERNA operates independently and does not require the operator to carry any support resources to directly determine True North. STERNA can operate in a GPS denied environment and will not be disturbed if used right by a heavy armoured vehicle. It will also operate in a hardened concrete environment, such as indoors in a heavy urban terrain.

Excellent accuracy

Based on known or surveyed reference points, the system achieves consistently an accuracy of better than 1 mil [1] at any latitude. If reference points are not usable, the STERNA will use its internal gyroscope to determine the True north. That accuracy is typically of 2 mil, up to ~ 60°, and typically 3 mil at 65°.

Using reference points gives a typical TLE95 [2] of less than 6 m at 1.3 km. **That makes STERNA a CAT-I capable system at that range – with all Vectronix payloads.**

1) Based on trials utilising survey grade reference points with sub meter gird and accuracy.
2) Target Location Error@95 %

Increase the safety and efficiency of your calls for fire

The STERNA built-in capability will help the operator optimize the safety zone and decrease the risks of collateral damage.
In addition, the high degree of precision of the STERNA will help the operator reach out for a higher accuracy when calling for fire, improving the probability of getting the first round on target.

Find more information under
www.vectronix.ch

Lock'n load mechanism

+ No adjustment needed
+ Payload automatic recognition feature
+ Plug'n play

Indication of azimuth accuracy

+ After each north-finding using the gyroscope, STERNA will display the figure of merit of its accuracy at one sigma.

Interface

+ Interface for BMS, FCC or external device
+ Possibility to power the device from an external battery

72 Hours extended mission capability

+ STERNA operational mode supports missions lasting for up to 72 hours with its internal batteries. Its lower power consumption permits the operator to stay away from base for a long period of time.

Ultralight, man-portable system <3 kg (<7 lbs)[3]

+ STERNAs low weight makes it easy to carry and deploy. Physical set up in less than 30 s, quick to orient properly, the system enables the operator to obtain the target coordinates in a very short time.

3) STERNA + PLRF25C configuration

Non magnetic north finding

+ Thanks to its integrated gyroscope, STERNA provide True North capability 24/7, anytime, anywhere.

Safety Package

+ Indication of azimuth accuracy
+ Continuous monitoring of correct leveling and orientation
+ “Dangerous Distance” function to protect the operator and avoid friendly fire
+ Multiple warnings and error messages for accurate system status
+ Built-in test at every start-up or anytime at user’s request
+ A built-in Service Indicator provides a service message to assure continuous operation at optimal capabilities.

Modularity for multi-mission requirements

Whether you need target acquisition capability during the day or at night, STERNA can help you complete your mission with the highest flexibility. Swap your STERNA capable payloads in five seconds, the STERNA will automatically detect it and communicate with it appropriately.

STERNA + PLRF25C
The lightest configuration for the STERNA system (<3 kg/7 lbs). All you need for calling for fire during day time.
Typical application: Close Air Support

STERNA + MOSKITO
Call for fire during day or night OPS with this lightweight configuration (<4 kg/9 lbs).
Typical application: Close Air Support

STERNA + VECTOR Family
The performance upgrade for all missions with the well-proven VECTOR. Brilliant optics and long range join a non-magnetic high precision azimuth.
Typical application: Forward Observer/Forward Air Controller, Joint Tactical Air Controller

STERNA + JIM Family
The extreme lightweight all-rounder. The compact multi-functional thermal imager JIM LR is a congenial partner to the STERNA TNF. Mission accomplished: 24 Hours accurate target location under the worst weather and environmental conditions.
Typical application: Forward Observer/Forward Air Controller, Joint Tactical Air Controller

TECHNICAL DATA

Setting up	STERNA + PLRF25C	STERNA + MOSKITO	STERNA + VECTOR Family	STERNA + JIM Family
Setup time	~30s	~30s	~30s	~30s
Fine leveling	Not required	Not required	Not required	Not required
Rough leveling	± 5°	± 5°	± 5°	± 5°
Typical Target Location Error 95 at 1.3 km				
Using reference points	6m (CAT I)	6m (CAT I)	6m (CAT I)	6m (CAT I)
Using internal gyroscope and GPS	8.2m (CAT II)	8.2m (CAT II)	8.2m (CAT II)	8.2m (CAT II)
Orientation Accuracy (typical, 1σ)				
Using reference points	1mil	1mil	1mil	1mil
Using the internal gyroscope	~2mil 0° to 60° lat NS	~2mil 0° to 60° lat NS	~2mil 0° to 60° lat NS	~2mil 0° to 60° lat NS
Angle Measurement (with payloads)				
Sensor range, horizontal	6,400mil	6,400mil	6,400mil	6,400mil
Sensor range, vertical	+700 to -700mils	+700 to -700mils	+700 to -700mils	+700 to -700mils
Accuracy, horizontal angle (1σ)	1mil	1mil	1mil	1mil
Accuracy, vertical angle (1σ)	3mil	3mil	3mil	4mil
Range (typical)				
Laser Range Capability	5m to 6,000m	5m to 10,000m	5m to 12,000m (V21/V21N) 25 m to 25,000 m (V23)	5m to 10,000m
Laser Range Accuracy < 1.5km	±2m	±2m	±2m	±2m
Laser Range Accuracy beyond 1.5km	±5m	±5m	±5m	±5m
Night Vision				
Night Vision Technology	None	Image Intensifier	Image Intensifier (V21 Nite)	IR Camera
Orientation Time with the Gyroscope				
Excluding set-up time	< 120s	< 120s	< 120s	< 120s
Data Interface				
External Fischer connector	RS232 (+RS422/RS485) and/or USB[4]	RS232 (+RS422/RS485) and/or USB[4]	RS232 (+RS422/RS485) and/or USB[4]	RS232 (+RS422/RS485) and/or USB[4]
GPS protocol (via external Fischer connector)	PLGR/DAGR in-/output NMEA in-/output	PLGR/DAGR in-/output NMEA in-/output MOSKITO GPS module	PLGR/DAGR in-/output NMEA in-/output	PLGR/DAGR in-/output NMEA in-/output JIM GPS module
Power Supply				
Batteries, rechargeable or non-rechargeable[5]	4 x CR123A PLRF25C: 1 x CR123A	4 x CR123A MOSKITO: 2 x CR123A	4 x CR123A VECTOR: 1 x 2CR5	4 x CR123A JIM LR: BT-70651 (EU), BB-2847 (USA) or BT-2590/5590 (with cables)
STERNA Battery capacity (20 °C)	50 orientations 500 measurements	50 orientations 500 measurements	50 orientations 500 measurements	50 orientations 500 measurements
Environmental Specification according to MIL-STD-810G				
Operating temperature (STANAG)[6]	C1 to A1	C1 to A1	C1 to A1	C1 to A1
Storing temperature (STANAG)[6]	C1 to A1	C1 to A2	VECTOR21/23: C1 to A1 VECTOR Nite: C1 to A2	C1 to A1
Physical Data				
Dimensions (L x W x H) (without tripod)	160 x 170 x 320mm	160 x 185 x 330mm	205 x 178 x 345mm	312 x 235 x 400mm
Weight (incl. batteries + small tripod)	< 3kg	< 4kg < 4.8kg (V Nite)	< 4.5kg (V21, V23)	< 6.1kg

4) Requires a specific cable, available in option

5) CR123A and 2CR5 are not rechargeable, BT-70651 and BB2847 are rechargeable. Furthermore, STERNA and JIM can also be powered using a selection of external batteries, with the corresponding cables

6) Minimum temperature range, for detailed information ask Vectronix AG

TESTED TO MIL-STD-810

SWISS QUALITY

Certified Management System SQS ISO 9001 / ISO 14001

Vectronix AG is a wholly owned subsidiary of Sagem (Safran). Vectronix may at any time and without notice, make changes or improvements to the products and services offered and/or cease production or sales. Illustrations, descriptions and technical data are not binding and may be changed. Copyright Vectronix AG, Heerbrugg, Switzerland, 2015 - All rights reserved - EN – 05.2015

VISIONEO

Vectronix AG
Max-Schmidheiny-Strasse 202 - 9435 Heerbrugg - Switzerland
Phone +41 71 726 72 00 - Fax +41 71 726 72 01 - info@vectronix.ch - **www.vectronix.ch**

SAFRAN
Vectronix