

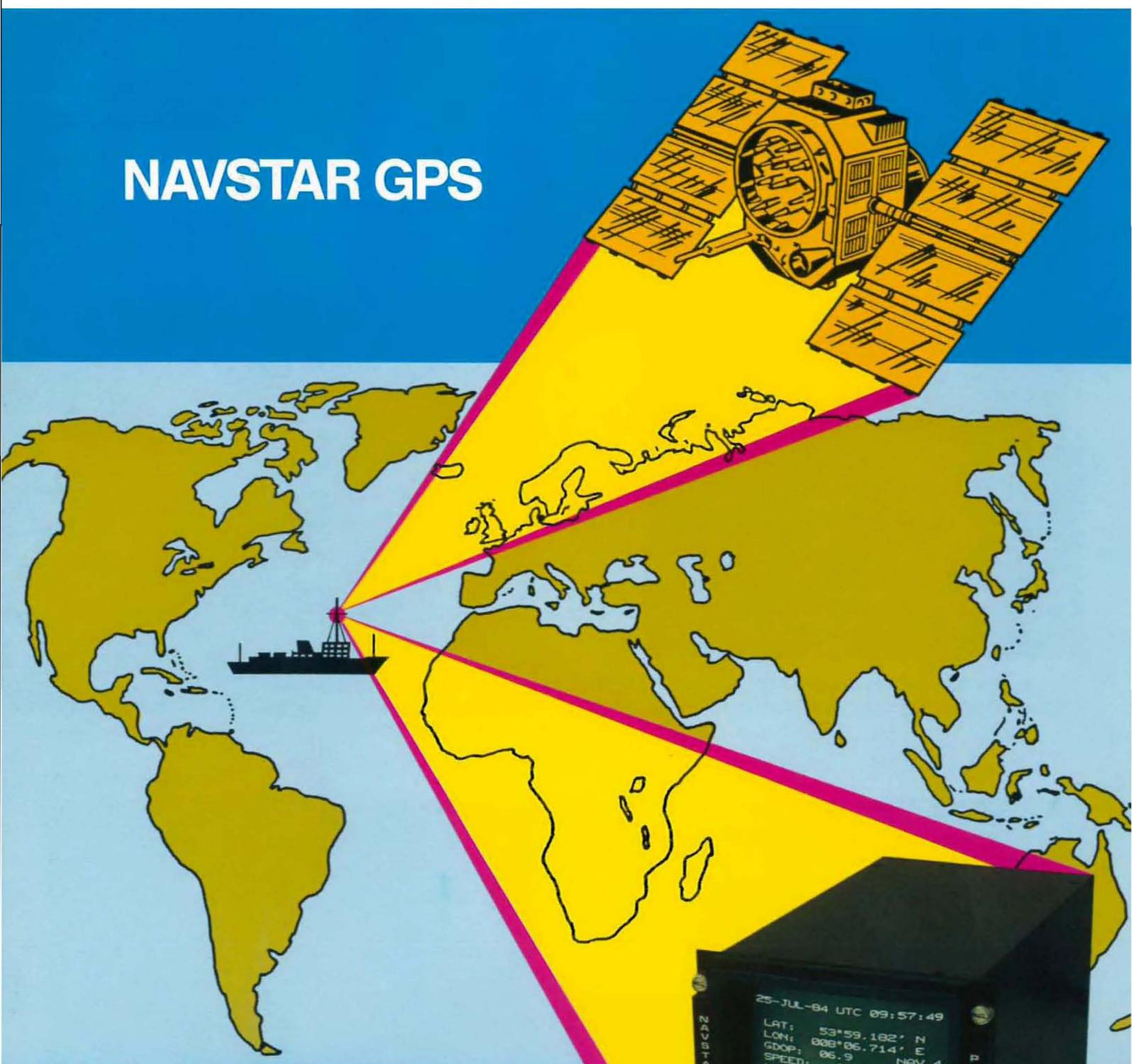
PRAKLA-SEISMOS GMBH

NAVSTAR GPS

Navigation and Positioning



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PRAKLA-SEISMOS GPS-SET: PS 8400

Consists of:

- small, light-weight, easy to mount antenna-unit incl. preamplifier
- navigation-receiver-unit as 19"-rackmount or standalone installation
- control-display-unit: small sophisticated device for system's communication and display

SYSTEM SET-UP

Under normal conditions no user-action required, parameters stored in RAM for more than a month. Choose any of the function-oriented menus and the system asks for necessary inputs so that the operator will be familiar with the system within a few minutes.



```
25-JUL-84 UTC 09:58:48

LAT: 53°59.180' N
LON: 008°06.555' E
GDOP: 06.9 NAV 4

-----INPUT MODE-----
PRESS CODE-NUMBER: X
1-INIT. 6-R&B
2-HEIGHT 7-GEO.DATUM
3-SPEED 8-CALC.MODE
4-HEADING 9-PROTOCOL
5-WAYPTS 0-SELFTST
```

```
25-JUL-84 UTC 09:57:49

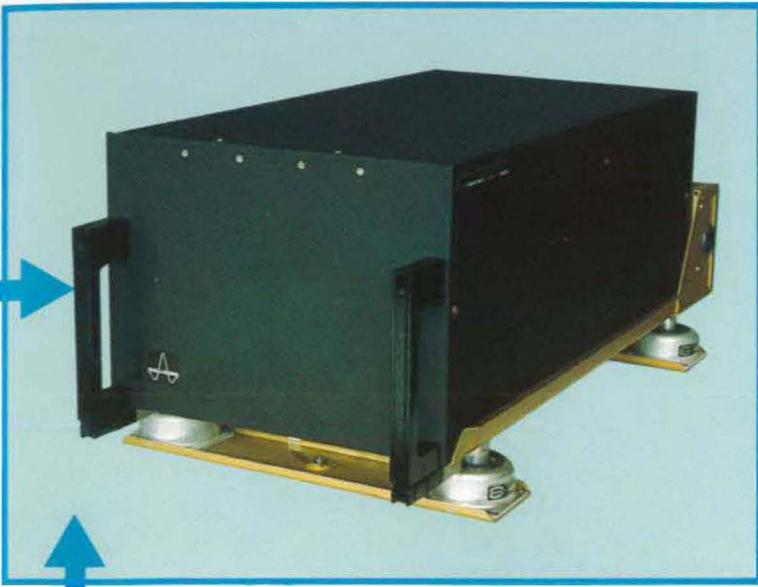
LAT: 53°59.182' N
LON: 008°06.714' E
GDOP: 06.9 NAV 4
SPEED: C 08.2 kts
HEADING: C 086.6 °
--- WAYPOINT 8 → 9 ---
OFF TRACK: S 0003 m
COURSE: (GC) 086.5 °
DISTANCE: 0007.2 nm
TIME TO GO: 000:53 h
```

NAVIGATION

See the standard display for navigation mode: all important data and the system's condition at a glance – including GDOP, the "Geometric Dilution of Precision", as an indicator for confidence. The number of satellites in use for calculation is shown, also the vessel guidance data from waypoint-routine, via the great circle or rhumb line course.

SERVICE-ROUTINES

Service-routines are callable – without interrupting the nav-calculation – as range & bearing, geodetic datum shift, choice of computed, automatic or manual speed and heading, etc.



POSITIONING

The function mode for the stationary user: e.g. positioning a rig or a remote station. The user defines the number of positions to be calculated to a precise mean position.

The upper half of the display shows the momentary calculated position, while the lower gives the mean value plus CEP (Circular Error Probable).



DIFFERENTIAL SOLUTION FOR NAVIGATION AND POSITIONING

For both function modes it is possible to go into the "Differential Mode": either one can input the correction values manually or automatically by means of a communication link from a reference system ashore.

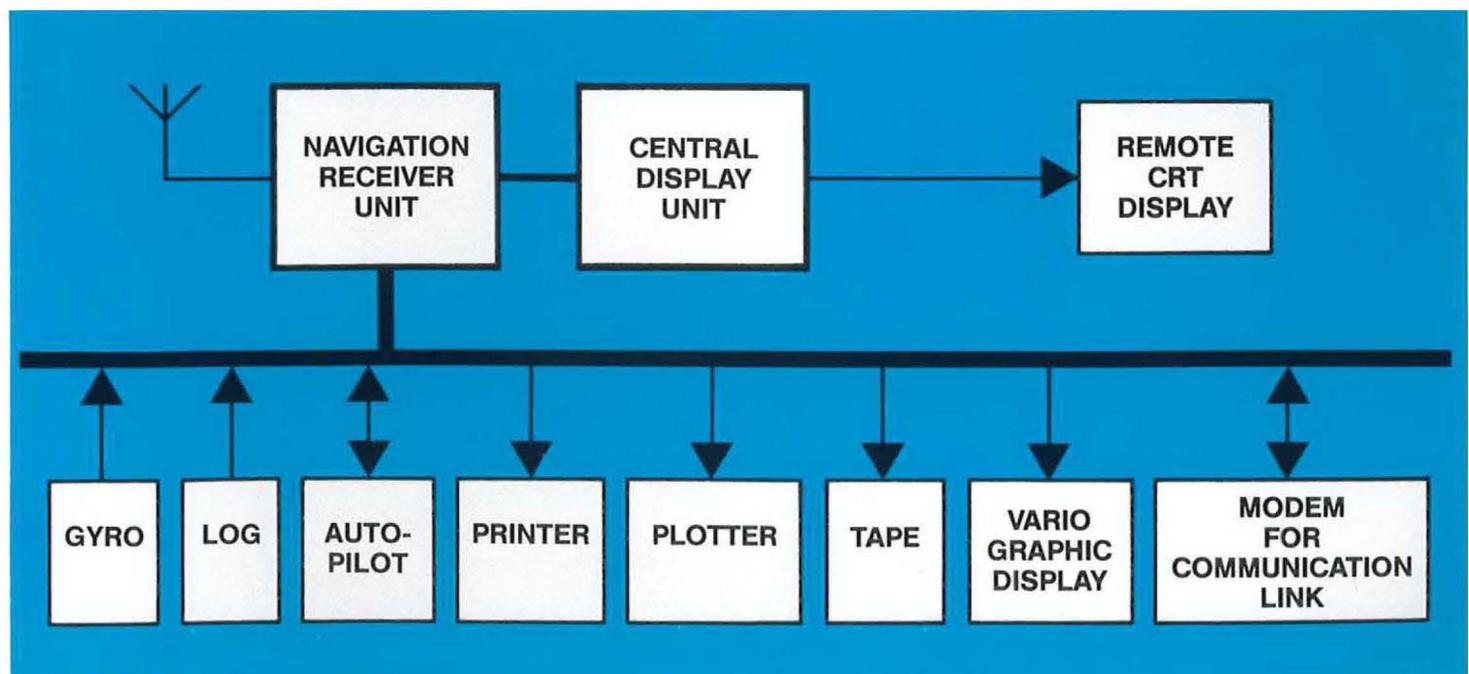
PROTOCOL

For documentation or post-processing purposes various outputs are available: printer adaptation for the stored way-point-list or time-interval oriented output in nav-mode or number of fixes oriented in pos-mode.

MAINTENANCE

Plausibility checks of all incoming data and self-test of the system's overall function upon user's request assure confidential operation. Non-crucial malfunctions are reported by the message-line. Error-statements indicate defect modules which can be easily removed to reduce the cost of maintenance.

ADAPTABILITY



SPECIFICATIONS

The receiver operates on civilian C/A-code-transmissions in single channel multiplex mode. Tracking and processing of 4 or 3 satellites.

ANTENNA/PREAMPLIFIER-UNIT

Diameter: 200 mm
Height: 400 mm
Weight (approx.): 4 kp (40 N)
Operating Temperature: -20°C to $+70^{\circ}\text{C}$

NAVIGATION-RECEIVER-UNIT

Length: 493 mm
Width: 259 mm
Height: 271 mm
Option: 19"-rackmount
Weight (approx.): 25 kp (250 N)
Input Voltage: +24 V DC

RAM-Battery for holding parameters more than 30 days.

Operating Temperature: 0°C to $+55^{\circ}\text{C}$

CONTROL-DISPLAY-UNIT

Length: 250 mm
Width: 146 mm
Height: 181 mm

Dimensions conform to MILSTD MS 25212.

Standard delivery with table-top or bulkhead-mount
(not included in size)

Weight: 8 kp (80 N)
Input Voltage: +12 V DC, supplied from NAV-REC-UNIT
via interface-cable

Operating Temperature: 0°C to $+55^{\circ}\text{C}$

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