

# Doppler/GPS navigation set AN/ASN-128B/C

Provides integrated GPS and Doppler navigation/guidance



## Description

The AN/ASN-128B/C Doppler/GPS navigation set provides the complementary advantages of a Global Positioning System (GPS) receiver and a self-contained Doppler navigation system. System installation and aircraft modifications have been minimized by embedding a Trimble one-card GPS receiver into the Signal Data Converter (SDC) unit.

The AN/ASN-128B/C provides continuous velocities, navigation and guidance information. When both Doppler and GPS are available, the GPS accurately initializes and automatically updates Doppler present position. If the GPS is lost, the Doppler continues to provide accurate velocities for hover and navigation. If the Doppler is in memory, the GPS continues to provide accurate present position; in each case navigation continues uninterrupted.



## AN/ASN-128B/C CDU

- Four-line/ 64 alphanumeric character display plus paging provides greatly expanded display and data entry capability
- Displays all navigation GPS data
- Displays UTC, high resolution lat/ long data, GPS test mode status, crypto key status, estimated position error, number of space vehicles being tracked
- New 10 MIPS CPU and expanded memory for greatly increased processing capability

## Features

- Four-line display, 16 characters per line, designed to reduce pilot workload
- Display is night vision goggle (NVG) compatible
- Selection and display of Doppler only, GPS only or combined Doppler/GPS modes (Doppler/GPS is default mode)
- P/Y or C/A code GPS receiver module is standard; C/A code only module can be provided
- Doppler rate-aiding of GPS receiver satellite tracking loops results in improved GPS tracking in a jamming environment and reduced reacquisition time
- GPS receiver includes Receiver Autonomous Integrity Monitoring (RAIM) and Fault Detection and Exclusion (FDE)
- 100 waypoints and satellite almanac data insertable via a data loader
- 47 datums including WGS-84
- Optional MIL-STD-1553B MUX bus interface available (AN/ASN-128C)
- High resolution present position latitude/longitude display (0.01 arc minutes, or 18 meters)
- HAVE QUICK timing interface
- Coordinated universal time (UTC)



Receiver transmitter antenna (RTA)

AN/ASN-128D	Weight		Volume		Power
	kg	lb	cm <sup>2</sup>	in <sup>2</sup>	W
RTA	4.76	10.5	6,268	383	12.0
Hat			1,484	90	
SDC	5.67	13.5	9,296	564	56.6
CDU	3.18	7.0	3,676	224	30.0
<b>Total</b>	<b>13.61</b>	<b>31.0</b>	<b>20,724</b>	<b>1,261</b>	<b>98.6</b>
<b>SHIU</b>	0.91	2.0	1,061	65	15.0
<b>GPS antenna</b>	0.28	0.6	229	14	1.0

**Steering hover indicator unit**  
(optional accessory)

The optional steering hover indicator unit (SHIU) has two modes of operation. In the navigation (NAV) mode, the SHIU provides the pilot with a display of ground speed, distance-to-go, and left/right steering information to the destination selected on the CDU. In the hover (HOV) mode, the three pointers indicate the values of three orthogonal components of aircraft ground velocity (along heading, across heading, and vertical). By flying the aircraft to maintain these displayed values at zero, the pilot can hover the helicopter without visual reference to the ground.

AN/ASN-128D Dimensions	Length		Width		Height	
	cm	in	cm	in	cm	in
RTA	36.98	14.56	34.24	13.48	4.95	1.95
Hat	14.17	5.58	14.17	5.58	7.39	2.91
SDC	24.28	9.56	19.20	7.56	19.94	7.81
CDU	16.51	6.50	14.61	5.75	15.24	6.00
<b>SHIU</b>	15.55	6.12	8.26	3.25	8.26	3.25

Steering hover indicator unit (SHIU) — optional

<b>GPS antenna</b>	10.16	4.00	9.53	3.75	2.36	0.93
GPS antenna	Frequency: L1 & L2					
	Gain (dBic): +6 dB typ (peak)					



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