

## MARINE DGPS/WAAS NAVIGATOR

Model GP-37

- Automatic or manual selection of either WAAS or DGPS
- 4.5" Silver Bright LCD display
- Multiple display modes to suit a variety of navigational requirements
- Up to 999 waypoints, 50 routes and 1,000 track points
- One-touch waypoint entry
- Customizable NavData Displays
- Track Back feature stores waypoints at user defined intervals for early trace-back cruise
- Waypoint & Route upload/download through RS-232C port



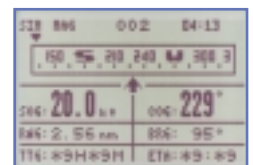
The GP-37 is an advanced GPS navigator designed for coastal ships, fishing boats and pleasure craft. It is equipped with a WAAS receiver and a DGPS receiver as standard supply. The powerful processor performs high-speed processing, position fixing and augmentation. It utilizes both WAAS and differential radio beacon correction methods.

This compact and cost-effective unit offers extremely accurate position fixes - 10 m for the basic GPS, 3 m where a WAAS service is available and 5 m with DGPS. It should be noted that DGPS is more reliable and accurate, as the WAAS system is still currently under development. There is no guarantee of accuracy, integrity, continuity or availability of the WAAS signal. For that reason, the GP-37 runs with DGPS as the default setting in auto selection mode. In this mode, if the DGPS signal can not be received for any reason, the WAAS mode is automatically selected. Manual setting is also available.

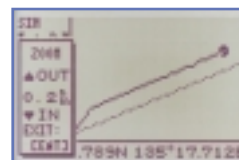
The Display modes include Plotter, two Customizable displays, Steering, Highway and Speedometer Mode. The Steering Display mode provides an intuitive indication of course to steer and cross-track-error (XTE). The Customizable display allows you to select the display layout so the navigation data you are interested in is displayed in large characters.



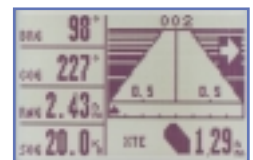
Speedometer



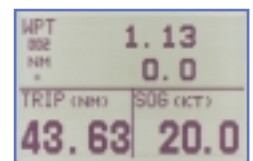
Steering



Plotter



Highway



Customizable display

### WAAS (Wide Area Augmentation System)

WAAS is a GPS navigation system with a differential correction by means of geostationary satellites. The US FAA has been testing this system and expect more field tests in 2003. Similar systems, using Satellite-Based Augmentation Systems (SBAS), are under development in Japan (MSAS: MSAT Satellite-based Augmentation System) and Europe (EGNOS: European Geostationary Navigation Overlay System). They are said to be fully interoperable and compatible. MSAS and EGNOS are expected to become fully operated in 2004 or after. As the WAAS utilizes the same frequency as the GPS, a single antenna can receive GPS and WAAS signals. Currently two Inmarsat GEO satellites are available, i.e., AOR-W and POR. Major contributors of an error in a single frequency GPS system is receiver clock drift and signal delays by refraction. The WAAS reference stations on the earth monitor the GPS constellation and route GPS error data to the satellites via the master earth station. The Inmarsat or communication satellite broadcasts the differential corrections to marine or aviation users.



For more info, visit the FAA web at <http://gps.faa.gov>



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Catalogue No. N-851

TRADE MARK REGISTERED  
MARCA REGISTRADA

# SPECIFICATIONS OF GP-37

## GPS/WAAS

**Receiver Type** GPS: Twelve discrete channels, C/A code, all-in-view. WAAS receiver: standard fitted in Display Unit L1 (1575.42 MHz)  
**Receive Frequency** 12 seconds typical (Warm start)  
**Time to First Fix** 999 knots  
**Tracking Velocity** WGS-84 (and others)  
**Geodetic Systems**

## DGPS

**Reference Stations** Automatic or manual selection (All DGPS stations in the world are in memory)  
**Frequency Range** 283.5 - 325.0 kHz (all ITU regions), 0.5 kHz steps  
**Coverage** 200 km approx from a reference station  
**Modulation and format** Minimum Shift Keying (MSK) in RTCM SC104 format

## Accuracy

GPS: 10 m (95%)  
 DGPS: 5 m (95%)  
 WAAS: 3 m (95%)

## Display

4.5" diagonal 95(W) x 60(H) mm LCD, 120 x 64 pixels

## Display Modes

Plotter, Highway, Steering Display, Nav Data Display and 2 Customizable Display Modes

## Memory Capacity

1,000 ship's track points, 999 waypoints with comments  
 50 routes, 30 waypoints/route

## Alarms

Arrival, Anchor watch, XTE, Speed, WAAS/DGPS, Time, Trip, Odometer

## Language

English, Spanish, French, German, Dutch, Italian, Portuguese, Vietnamese, Japanese

## Interface

**Output (NMEA 0183 ver 1.5/2.0):**  
 AAM, APB, BOD, BWC, GGA, GLL, GTD, RMA, RMB, RMC, VTG, XTE, ZDA

**Input:**  
 YMWPL (YEOMAN wpt data in NMEA 0183)  
 DGPS data in RTCM SC104 ver 2.1

## ENVIRONMENT (IEC 60945 test method)

Temperature Display unit: -15°C to +55°C  
 Antenna unit: -25°C to +70°C

Waterproofing Display unit: IPX5 (IEC 60529), CFR46 (USCG)  
 Antenna unit: IPX6 (IEC 60529)

## POWER SUPPLY

12-24 VDC, 0.34 - 0.17 A

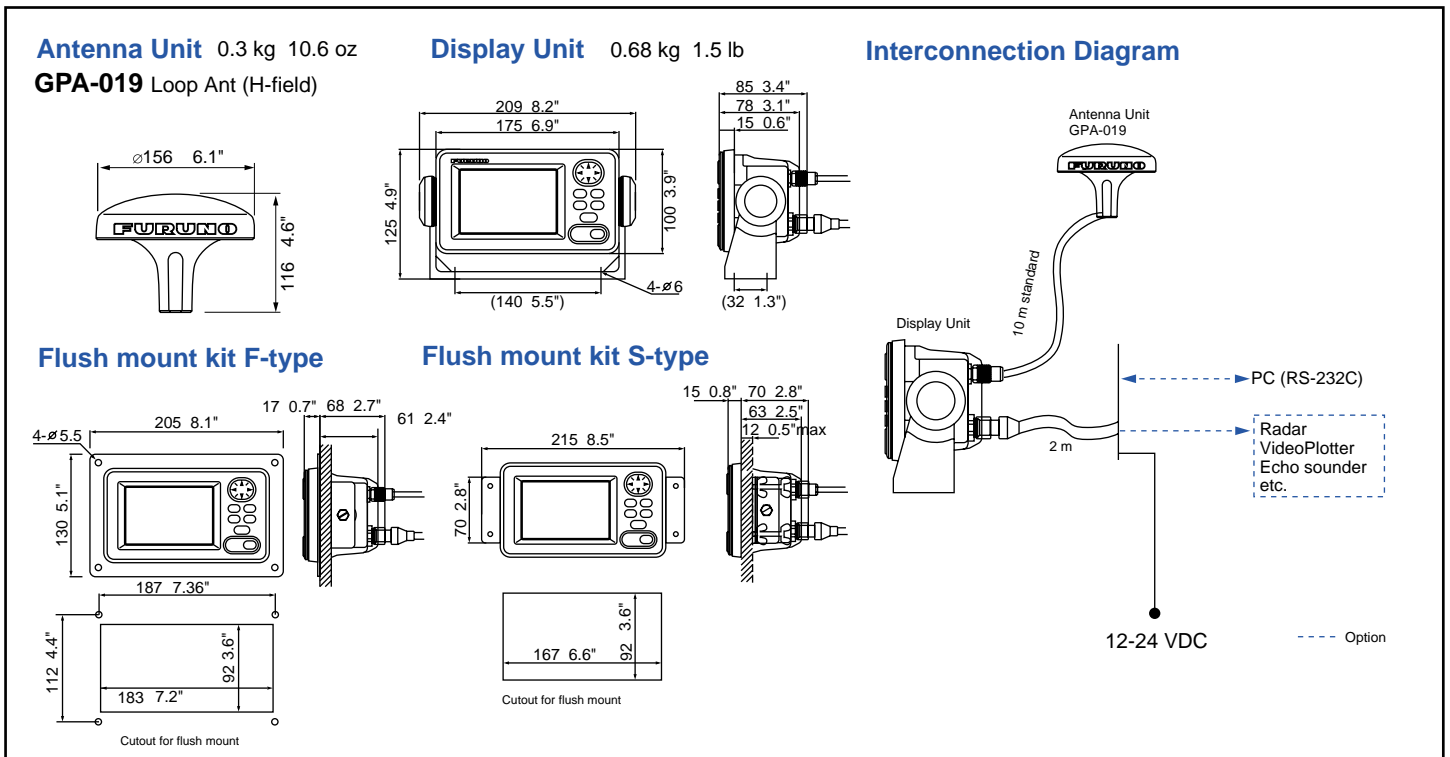
## EQUIPMENT LIST

### Standard

- |   |        |
|---|--------|
| 1. Display unit                                   | 1 unit |
| 2. GPA-019 Loop antenna (H-field) with 10 m cable | 1 set  |
| 3. Installation Materials and Spare Parts         | 1 set  |

### Option

- Antenna base  
 CP20-01111 (Pipe mount), No. 13-QA330 (Deck mount),  
 No. 13-QA310 (Offset bracket), No. 13-RC5160 (Handrail mount)
- Flush mount kit F type (OP20-18/29) or S type (OP20-17)



SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

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