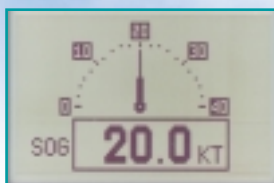


# MARINE GPS/WAAS NAVIGATOR

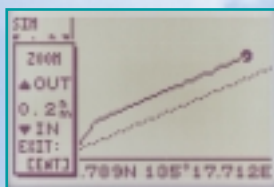
with VideoPlotter function

Model GP-32

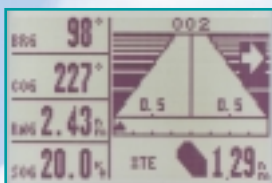
- Improved accuracy with built-in WAAS receiver
- 4.5" Silver Bright LCD display
- Multiple display modes to suit a variety of navigational requirements
- Up to 999 waypoints, 50 routes and 1,000 track points
- One-touch waypoint entry
- Customizable NavData screens
- Track Back feature stores waypoints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



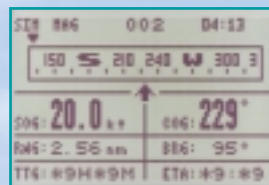
Speedometer



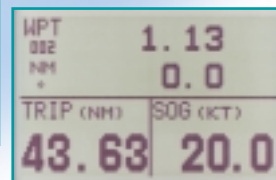
Plotter



Highway



Steering



Customizable display

The GP-32 is an advanced GPS navigator with a WAAS receiver designed for coastal ships, fishing boats and pleasure craft. The powerful processor performs high-speed processing of position fixing and augmentation using WAAS correction. It comes with an easy to use track plotter which stores up to 1,000 track points.

This compact and cost-effective unit offers extremely accurate position fixes. It is accurate to 10 meters, and with WAAS mode activated, it's accurate to within 3 meters.

The Display modes include Plotter, Nav Data, Steering, Highway, Speedometer and two customizable mode. The Steering Display provides an intuitive indication of course to steer and cross-track-error (XTE). The Highway mode is useful when you are heading for your fishing ground or following a series of waypoints along a planned route.

The user-friendly design permits easy and straightforward operation with minimum key strokes. The system has various alarm functions to warn of arrival to or departure from a predefined area (arrival/anchor watch), XTE exceeding a preset limit, Alarm Clock and more.

## WAAS, Wide Area Augmentation System

is a GPS navigation system which applies correction data by means of geostationary satellites. The US FAA has been testing this system and others using Satellite-Based Augmentation Systems (SBAS); they expect more field tests in 2003. As the WAAS utilizes the same frequency as the GPS, a single antenna can receive GPS and WAAS signals. At the moment two Inmarsat GEOs are available, i.e., AOR-W and POR. Similar systems are under development in Japan (MSAS: MTSAT Satellite-based Augmentation System) and Europe (EGNOS: European Geostationary Navigation Overlay System). They are said to be fully interoperable and compatible. Major contributors of an error in a single frequency GPS system is a 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 WAAS satellite via the master earth station. The Inmarsat or communication satellite broadcasts the differential corrections to users.



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

# SPECIFICATIONS OF GP-32

## GPS/WAAS

**Receiver Type** GPS: Twelve discrete channels, C/A code, all-in-view. WAAS receiver: standard fitted in Display Unit

**Receive Frequency** L1 (1575.42 MHz)

**Time to First Fix** 12 seconds typical (Warm start)

**Tracking Velocity** 999 knots

**Geodetic Systems** WGS-84 (and others)

## DGPS

**Reference Stations** Automatic or manual selection

**Frequency Range** 283.5 - 325.0 kHz (all ITU regions), 0.5 kHz steps

## 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, Speedometer, Nav Data and 2 pages Customizable display

## 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

## DGPS Capability

RTCM SC104 v.2.1 format in RS232C from FURUNO GR-80 DGPS Beacon Receiver

## 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, 240-120 mA

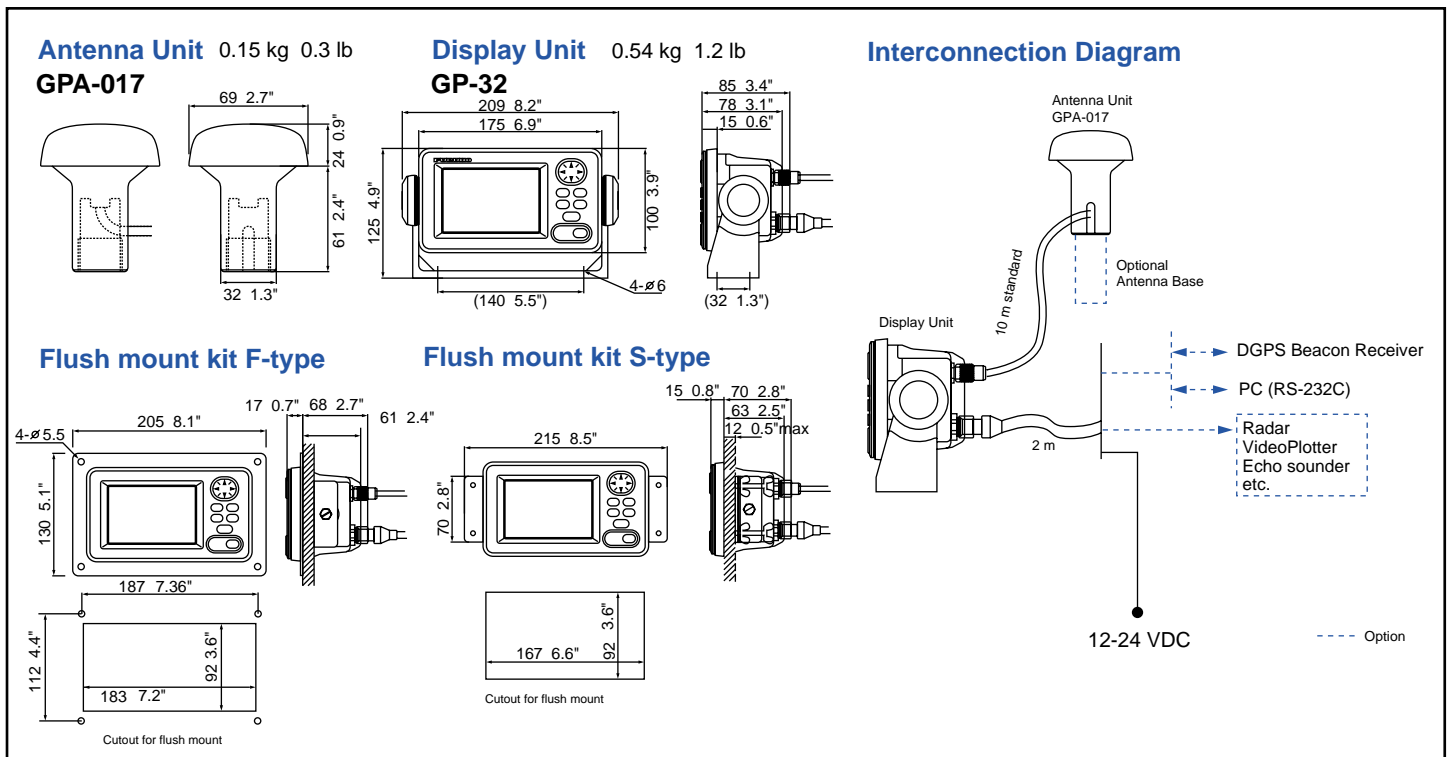
## EQUIPMENT LIST

### Standard

1. Display unit accommodating WAAS receiver 1 unit
2. Antenna unit GPA-017 with 10 m cable 1 set
3. Installation materials and spare parts 1 set

### Option

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



SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

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