12S56 GPS

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Today’s class

• Basics of Handheld GPS
  – Run through typical screens that are available in handheld GPS
  – Navigation screens
  – Tips on using this type of GPS
Garmin Receivers

• This is the brand we will use in our “candy hunt” next week.
• At left is the Garmin V (we will also use a Garmin III).
• Both receivers work either in “portrait” or “landscape” mode
• Set by pressing and holding the page button
Basic Screens

• Start up screen when receivers starts
• The satellite constellation it shows depends on the last almanacs that we downloaded and where it thinks you are located
• Pressing menu allows user to graphically select location
• Height of bars denotes signal strength and solid bars indicate that the satellite can be used for positioning (i.e., the ephemeris for the satellite has been downloaded).
Map screens

- Page and quit cycle through the screens. After the receiver has locked up on satellites and has a position, the map screen appears.
- The menu button allows the features of the map to be changed.
- The screen below is when the receiver is in navigation mode and is given directions on where to go.
- When you get close to a turn, the map changes to a detailed view of the turn. In and Out control the zoom on map.
Map step up screen

• The map setup screens allow of great deal of control of the appearance of the maps.
• The top menu line (moved with the rocker pad) lets different parts of the map be changed.
Position page

• This page displays basic position and motion information.
• The bearing shown is the direction of motion relative to true North. (When not in motion, the bearing has no meaning in this receiver. Other models have a built-in compass which will show a direction that receiver is pointing.
• Magnetic bearings can be calculated (without the compass) using a built-in model for the magnetic field.)
Turn-by-Turn guidance

• This receiver will automatically compute routes between where you are and a selected location.
• These give street names, the distance to the point and the expected time to arrival (times are based on the speed limits on the roads)
Pointer guidance system

• These screens appear when direct path navigation is used (i.e., when roads are not being followed).
• Again directions here are for the motion, not the direction the receiver is facing.
Main Menu/Mark

- The main menu is obtained by pressing menu twice.
- Option below is to mark a waypoint (also appears when the enter button is pressed on the map screen).
Main Menu/Find

• The find screen allows different methods of finding a location
• This screen also appears when goto pressed from the map screen,
Setup menu

• This menu allows main features to be set. If working with paper maps for example, the datum should be set correctly. UTM coordinates can be specified as well for maps.
• There is also the accessories menu
• On and enter at same time shows the test screen
Other inexpensive hand helds

• Garmin emap ($250): This model is less expensive than the GPS IV. It has computer connector and external antenna co-axial cable connector.

Images removed due to copyright considerations.
Magellan receivers

- Low cost
  Magellan receivers

Image removed due to copyright considerations.
Magellan 330 Map

• Magellan also makes GPS units with maps:

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General considerations with handhelds

• With newer models look for WAAS capability. This is FAA wide-area augmentation system which during daytime should improve accuracy of the receivers.
• There are quite a few web sites that review GPS receivers and these can be consulted for guidance
• In general when using hand held receivers try to start in a location with good sky visibility
• Most of the receivers have many features and so working your way through the menu options can take some time.