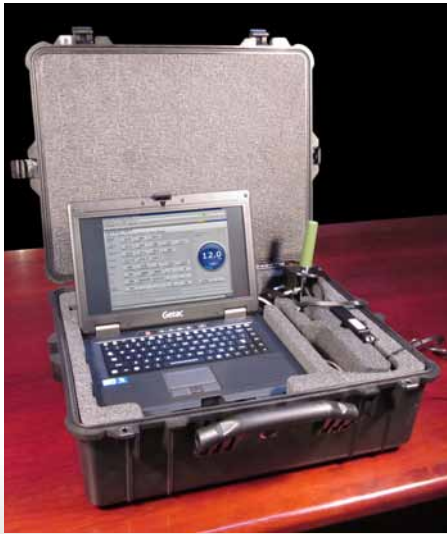


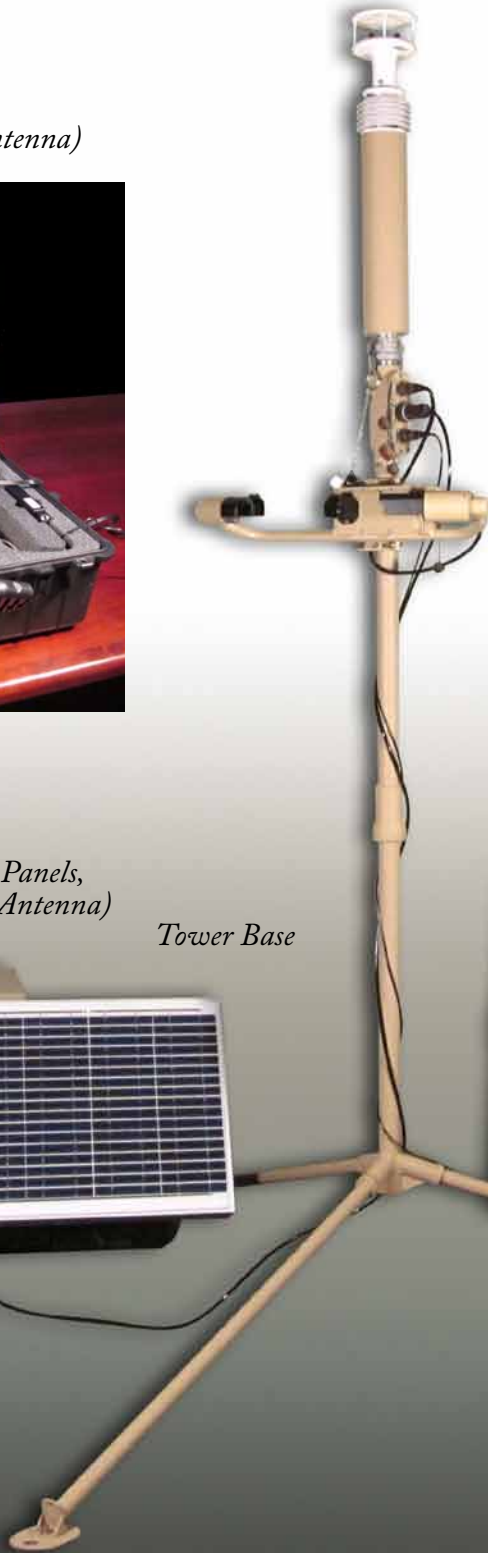
This is a generic overview of a portable WEATHERPAK® 3 meter tripod set-up. Your system may not include all of the components listed, or may have different components. Please refer to the assembly documentation provided with your system or contact Coastal for assistance.

*Laptop Case
(Laptop, Radio and Antenna)*



*Main Case (2 Solar Panels,
Lightning Sensor and Antenna)*

Tower Base



Wind Sensor

WEATHERPAK®

KamLock Connector

Junction Box

Visibility Sensor

Tower Top

4 Solar Panels Case



Rain Gauge

*Cloud Height Sensor
(Ceilometer)*

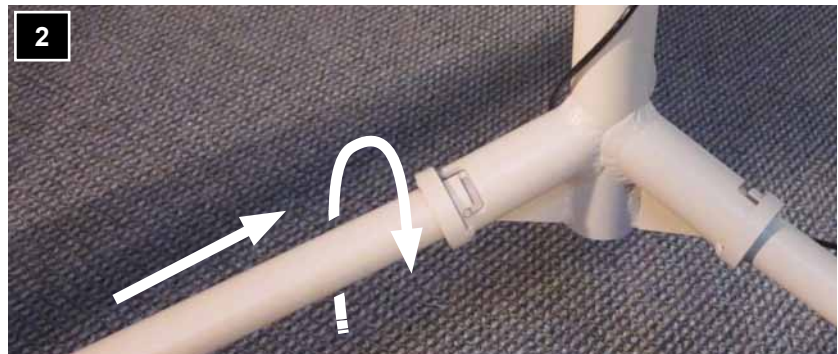
SYSTEM CASES



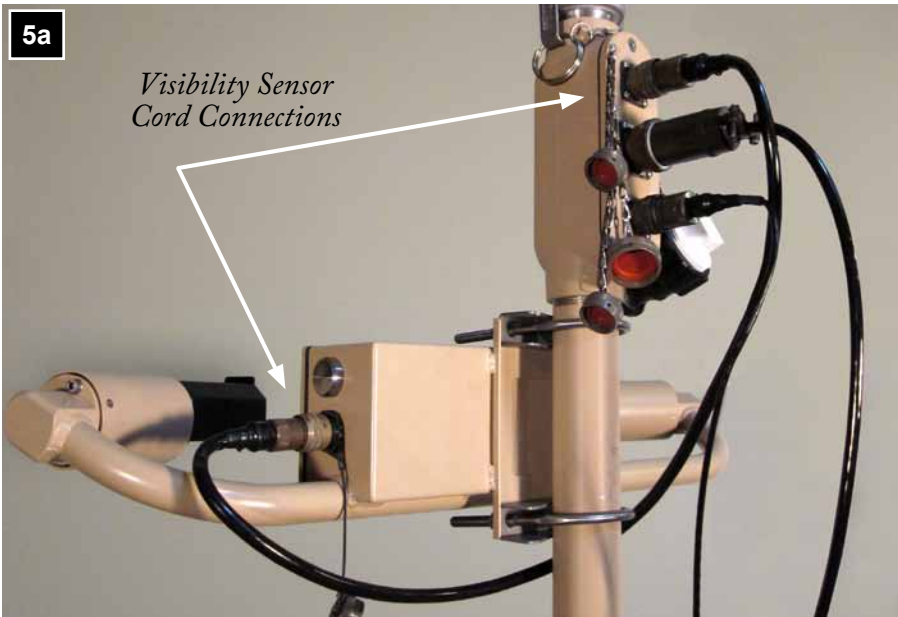
Tower Set-Up

1. Select a level piece of ground about 4 meters in diameter. To avoid compass error, place the **WEATHERPAK®** at least 30 meters, laterally, from any mass of steel (trucks, buildings, etc). In other words, mounting on top of a van is OK, but right next to it is not an ideal location.

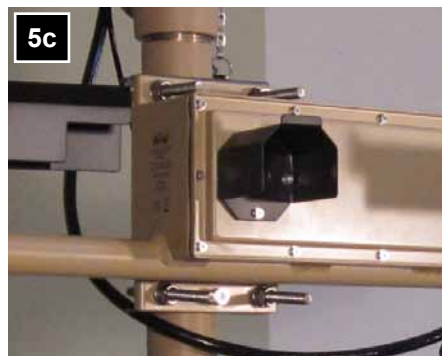
2. Assemble the **lower tower section**: Insert the three legs into the tower base and secure with a turn clockwise, forming a tripod. Place the tripod in the center of the 4-meter diameter area.



3. Carefully remove the **WEATHERPAK®** from its case by lifting only from the base of the wind sensor. To secure the **WEATHERPAK®** to the **tower top**, first remove the cap from the top of the KamLock connector. Line up the slot on the WEATHERPAK® bottom connector with the pin slot in the KamLock connector. Carefully, but firmly, seat the **WEATHERPAK®** into the KamLock (the fit is precision-machined and may require an extra push). Push the arms of the KamLock clamp down to assure proper installation.
4. Place the entire unit (upper tower section and **WEATHERPAK®**) onto the tripod and turn clockwise to secure.



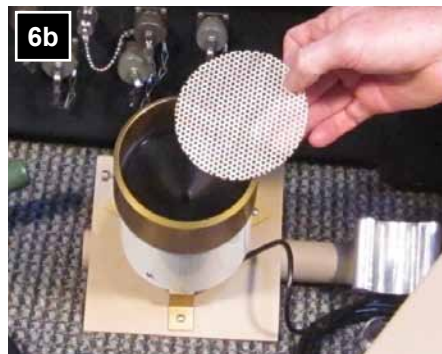
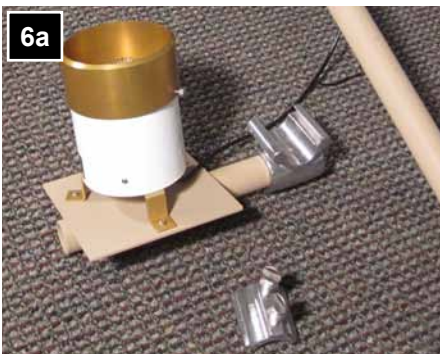
5. Using a 1/2" wrench, mount the **Visibility Sensor (located in the Main Case)** to the top tower section, just below the junction box. Connect the cord to the side and the top connector in the junction box.



- 6a. Mount the **Rain Gauge and support (located in the Main Case)** to a tower leg as follows:

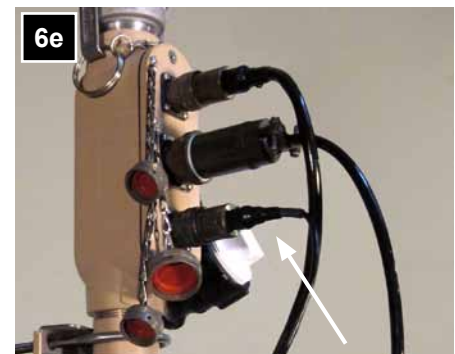
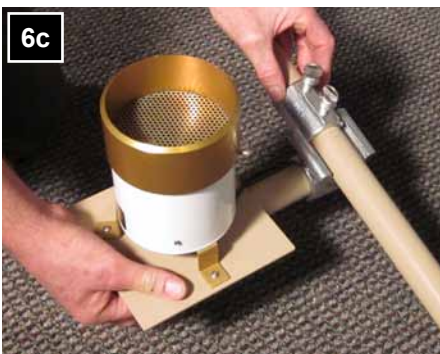
- 6b. Remove the top funnel from the sensor and verify that the tipping mechanism is able to move freely. Remove anything used to hold the tipping mechanism in place during shipping. Put the screen in if it fell out during shipping.

- 6c. Hold the Rain Gauge/bottom bracket under the tower leg; slide the top bracket with screws into the bottom. (The slot is tapered and can only be inserted one way.)



- 6d. Hand tighten the screws. After mounting, the bottom plate of the Rain Gauge should be parallel with the ground. Make sure nothing is blocking the top of the Rain Gauge.

- 6e. Wrap the cord around the tripod leg, up the tower and connect to the bottom connector in the junction box.

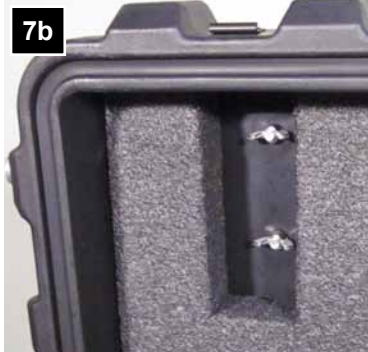




Main Case Set-Up



7a
Remove wing nuts from both screws in pole bracket with antenna mount. Line up bracket screws with pre-drilled holes in plate attached to case lid (left front). Push in.



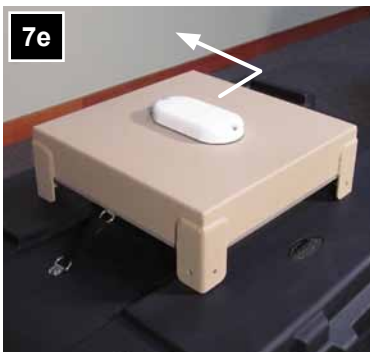
7b
From the inside of the case lid, replace wing nuts over both screws and hand tighten.



7c
Repeat 7a through 7b for the other side.



7d
Insert the antenna through the back of the antenna mount until the end of the pole is flush with the end of the mounting bracket. Make sure the antenna is vertical and hand tighten the screw.



7e
Center the lightning sensor on the top of the case lid. The white arrow on the top of the sensor should point to the back of the case. On each side attach a Velcro strap from the sensor to the case lid. Attach the sensor cord to the bottom row, far right connector on the front of the case.



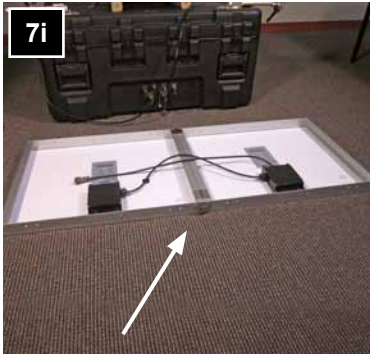
7f Left Right
Attach the "right" end bracket with the black lever.



7g
Position the "right" end bracket (with the black lever) over the end of the rod extending from the front right of the case lid.



7h
Push in as far as possible and swivel black lever to the right to tighten. For now, do not attach the "left" bracket.



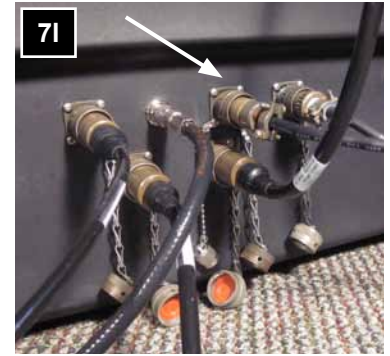
Open up the solar panels as shown above. Lock the two panels by turning the attached screw.



Raise the 2 solar panels and line up the pins from the end bracket with the holes on the side of the solar panels. Push the solar panels until the pins are inserted into the holes as far as they go.



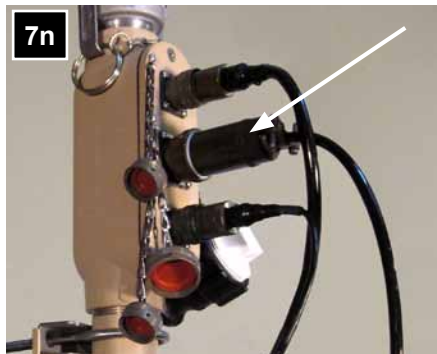
Repeat 7g, 7h and 7j to finish installing the other side of the solar panels. Adjust the solar panels to the proper angle for your location.*



Attach the cord from the back of the solar panels to the connector (second from right, top row) at the bottom front of the case.



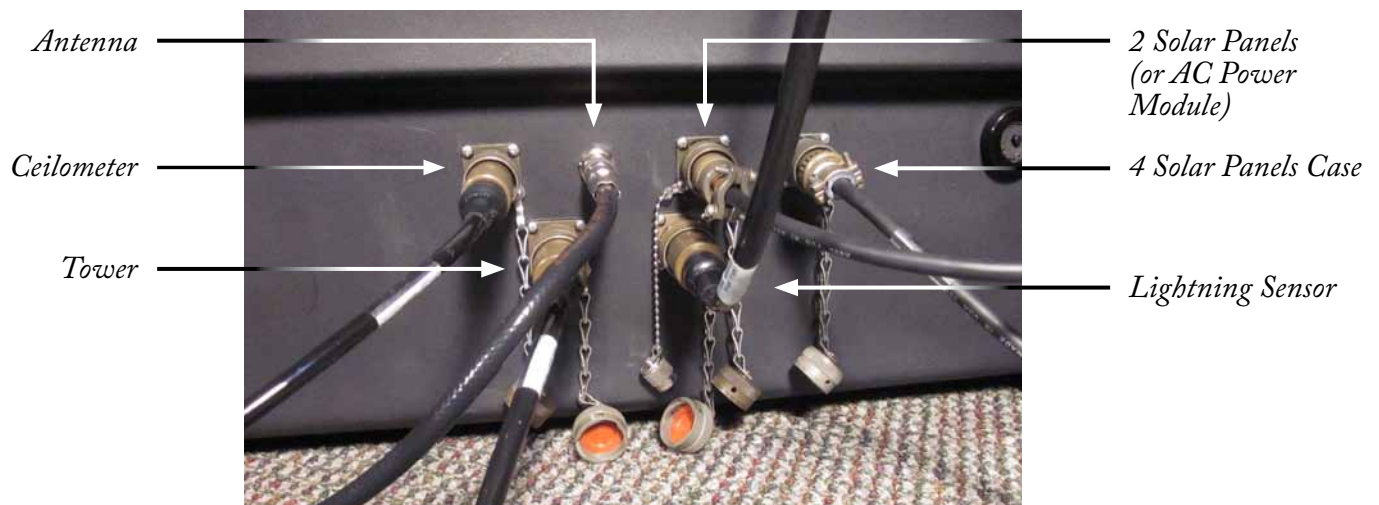
Place the ceilometer on level ground near the main case; attach the cord to the bottom right connector on the sensor, and to the connector on the top left of the main case.



Attach the tower to main case cord to the center connector of the tower's junction box and to the main case's lower row left connector.

*Solar Panel Tilt Angle From Horizontal		
Latitude	Summer Angle	Winter Angle
25°	2.3	41.1
30°	6.9	45.5
35°	11.6	49.8
40°	16.2	54.2
45°	20.9	58.6
50°	25.5	63.0

MAIN CASE WIRING





4 SOLAR PANELS CASE

4 Solar Panels

2 Pole Brackets,
2 End Brackets

4 Solar Panels Case Set-Up



Remove wing nuts from both screws in bracket. Line up bracket screws with pre-drilled holes in plate attached to case lid.



Push in.



From the inside of the case lid, replace wing nuts over both screws and hand tighten.



Repeat 8a through 8c for the other side.



Attach the "left" small bracket with the black lever.



Position the "left" bracket over the end of the rod extending from the front left of the case lid.



Push in as far as possible and swivel black lever to the right.



For now, do not attach the "right" end bracket.



Open up the solar panels as shown above.



Lock each set of two panels.



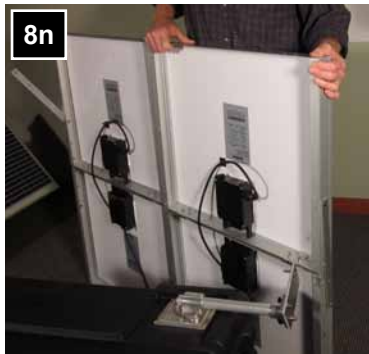
Open all four panels...



until they form a flat plane.



Rotate the long flat metal bracket on the side of the solar panels down...



until the holes in the bracket match the holes in the panel.



Raise the 4 solar panels and line up the pins from the end bracket with the holes on the side of the solar panels.



Push the solar panels until the pins are inserted into the holes as far as they go.



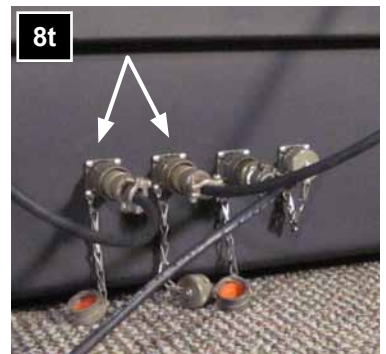
Repeat 8f and 8g to install the "right" end bracket for the other side; then repeat 8m through 8p to finish installing the other side of the solar panels.



Adjust the solar panels...



to the proper angle for your location. *page 5



Insert the two cords from the back of the solar panels into the two left connectors at the bottom front of the case; use either of the right connectors to attach the cord from this case to the main case.

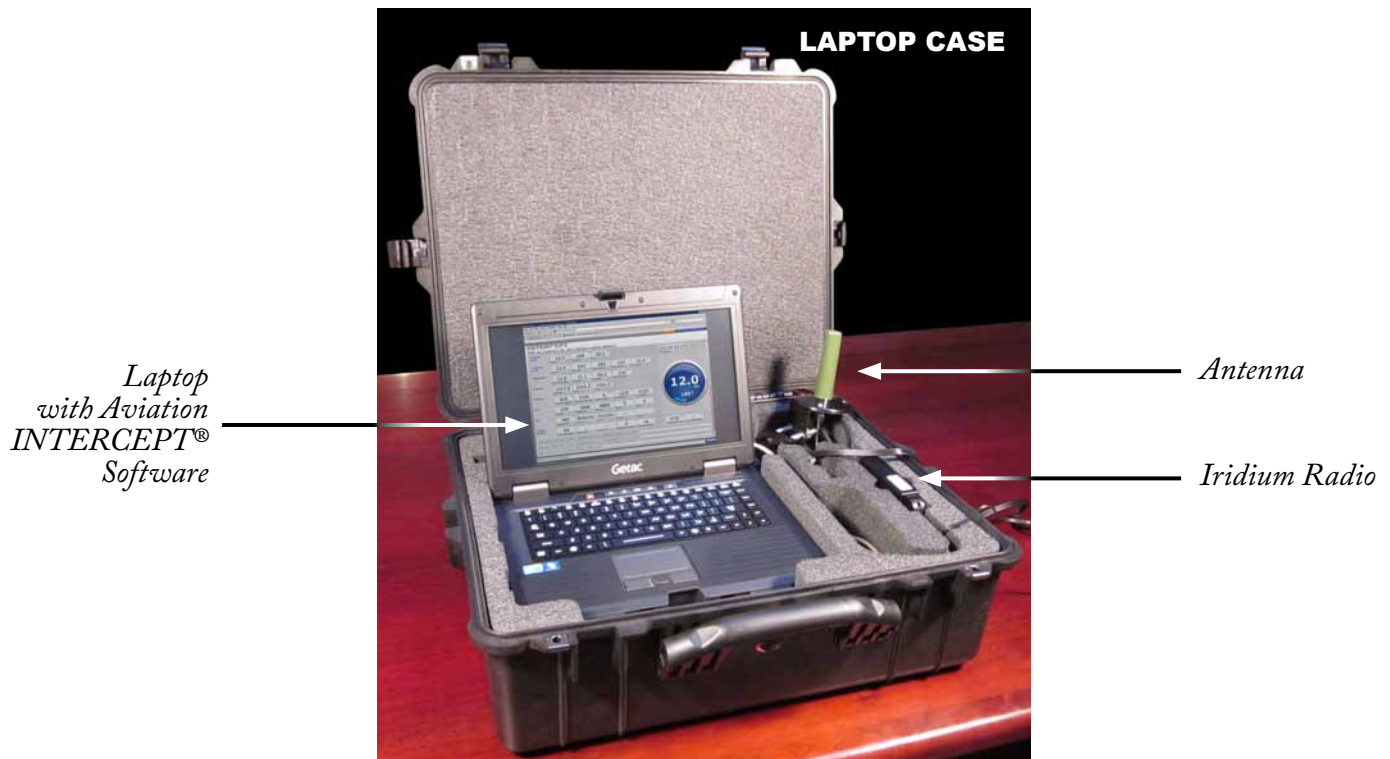
Using the AC Power Module (instead of Solar Panels)

9. Disconnect the cords from the main case to the 4 solar panels case, and to the two solar panels.

The AC power module has three connected cords. Plug one cord into the main case connector where the solar panel cord was plugged in (second from right, top row). Plug another AC power module cord into a 110-120V AC (50-60 Hz) outlet.

The AC power module also has a 110-120V AC (50-60 Hz) power cord to power the heaters on the cloud height sensor (ceilometer).

The AC power module can be used to charge the batteries in both the main case and the 4 solar panels case. Solar panels must be disconnected before the AC power module is connected. The batteries should be charged when placed into storage and every 6 months when in storage.



Laptop Case Set-Up

10. In the laptop case, the antenna is already connected to the radio. Mount the antenna so the green element points upward. Plug the laptop and radio power cords into 110-120V AC (50-60 Hz) power.

Laptop & Software Procedures

11.1 Laptop Power on Procedure

- a. Open the laptop and power it on.
- b. If asked for a User Name and/or Password, the laptop was shipped with the following Windows default account used at startup:

User Name: admin

Password: Coastal1

- c. **(Windows 7 Users: Change Default Sleep Setting)**

When running INTERCEPT[®] on Windows 7, the default sleep settings must be changed. If the computer is allowed to automatically sleep, INTERCEPT[®] stops logging data at that time.

Change Sleep Setting

- a. Right click on the desktop and select **Personalize**.
- b. The Personalization page will open. On the lower right, click on **Screen Saver**.
- c. The Screen Saver Settings page opens. Click on **Change Power Settings**.
- d. The Power options page opens. On the left side, click on **Change when the computer sleeps**.
- e. The Edit Plan settings page opens. Using the dropdown button next to **put the computer to sleep**, change the option to **Never**.
- f. Click on **Save Changes**.

11.2 Launching INTERCEPT[®]

- a. Double click on the desktop icon called "INTERCEPT".
- b. When prompted for a User Name and Password, use the following:

User Name: admin

Password: coastal

11.3 Changing System Settings Using Laptop

- a. Close INTERCEPT[®].
- b. Stop the INTERCEPT[®] Service by double-clicking the desktop icon called "**Services**" (the location of Services is Start/Control Panel/System and Security/Administrative Tools/Services). When the services page opens, locate the Service called "**CES INTERCEPT**". Right click on "**CES INTERCEPT**" and select "**Stop**".
- c. Double click the desktop icon labeled **connect**. This terminal emulator called **ucon** has been set up to use **Com 1, 9600** bits per second, **8** data bits, **No Parity, 1 Stop** bit, **No Flow Control**.
- d. Modem power should be on. Type **ATDT00xxxxxxxxxxxx** followed by the ENTER key, where **xxxxxxxxxxxx** is the telephone number of the remote system. Please refer to each remote system's laptop label for the telephone number.
- e. Wait for "**CONNECT**" to appear.
- f. The terminal window will open and data may be seen scrolling on the screen. Type **cmd**.
- g. Wait for the prompt "**1>**" to appear.
- h. To set the barometer elevation, type **setcfg NV.BE xxxx** where **xxxx** is the elevation in feet followed by the **ENTER** key twice.
- i. To set the field elevation, type **setcfg NV.FE xxxx** where **xxxx** is the elevation in feet followed by the **ENTER** key twice.

- j. To set the magnetic declination/deviation of the system location, type **setcfg NV.MAGDEV xxxx** where **xxxx** is the declination/deviation in whole degrees followed by the **ENTER** key twice.
- k. After settings have been changed. Type **restart** followed by **ENTER** key twice.
- l. Type **+++**, wait for **"OK"**, then type **ATH0** followed by the **ENTER** key. The modem should respond with **"OK"** once the call has been terminated, if not, cycle power to modem.
- m. Start the INTERCEPT[®] Service by double-clicking the desktop icon called **"Services"** (the location of Services is Start/Control Panel/System and Security/Administrative Tools/Services). When the services page opens, locate the Service called **"CES INTERCEPT"**. Right click on **"CES INTERCEPT"** and select **"Start"**.

11.4 Changing System Time Using Laptop

- a. Close INTERCEPT[®].
- b. Stop the INTERCEPT[®] Service by double-clicking the desktop icon called **"Services"** (the location of Services is Start/Control Panel/System and Security/Administrative Tools/Services). When the services page opens, locate the Service called **"CES INTERCEPT"**. Right click on **"CES INTERCEPT"** and select **"Stop"**.
- c. Double click the desktop icon labeled **connect**. This terminal emulator called **ucon** has been set up to use **Com 1, 9600** bits per second, **8 data bits, No Parity, 1 Stop bit, No Flow Control**.
- d. Modem power should be on. Type **ATDT00xxxxxxxxxxxx** followed by the **ENTER** key, where **xxxxxxxxxxxx** is the telephone number of the remote system.
- e. Wait for **"CONNECT"** to appear.
- f. The terminal window will open and data may be seen scrolling on the screen. Type **cmd**.
- g. Wait for the prompt **"1>"** to appear.
- h. Type **setdate** followed by the **ENTER** key twice. You will see this:

```
> setdate YYYY/MM/DD hh:mm:ss
```

"YYYY/MM/DD hh:mm:ss" will be filled with the current system time (ie. 2012/12/11 18:09:12). Use the back space key to edit the time displayed with the time you wish to set, then press the **ENTER** key twice.
- i. Type **q** followed by the **ENTER** key twice.
- j. Type **+++**, wait for **"OK"**, then type **ATH0** followed by **ENTER** key. The modem should respond with **"OK"** once the call has been terminated, if not, cycle power to modem.
- k. Start the INTERCEPT[®] Service by double-clicking the desktop icon called **"Services"** (the location of Services is Start/Control Panel/System and Security/Administrative Tools/Services). When the services page opens, locate the Service called **"CES INTERCEPT"**. Right click on **"CES INTERCEPT"** and select **"Start"**.