

BOS Software
Operation Checklist
03oct2017

```
# ////////////////////////////////////  
# Log in as bosadmin  
# ////////////////////////////////////
```

bos1\bosadmin:bosadmin

```
# ////////////////////////////////////  
# Start Advanced Serial Data Logger  
# (ASDL)  
# ////////////////////////////////////
```

- Use desktop icon or start menu
- Should be three windows:
 - ASDL main window
 - GPS custom buttons (small window w/ 6 buttons)
 - HMR heading sensor custom buttons (small window w/ 2 buttons)

```
# ////////////////////////////////////  
# Check/adjust heading sensor  
# output rate  
# !!! Do this whenever heading  
# sensor power is cycled  
# ////////////////////////////////////
```

- Select Heading channel from ASDL dropdown box (ASDL main window, upper left)
 - if the output is streaming (≥ 1 Hz), use the custom heading sensor
- Toggle HMR button to stop streaming.

```
# ////////////////////////////////////  
# Check/change GPS sentences  
# ////////////////////////////////////
```

- Select garmin19x channel from ASDL dropdown box (ASDL main window, upper left)
- Typically, we log GPGLA and GPRMC messages; if other messages are being sent, they can be changed.
- To change the messages, use the GPS custom buttons (GPS custom button window)
 - ALL_DIS: disable all GPS messages
 - DFLT: use GPS factory default messages (GPRMC, GPGLA, GPGLV)
 - GPRMC_en/GPRMC_di : enable/disable GPRMC message only
 - GPGLA_en/GPGLA_di : enable/disable GPGLA message only

```
# ////////////////////////////////////  
# Start PuTTY annotation  
# terminal session  
# ////////////////////////////////////
```

- Start PuTTY using the desktop icon or start menu
- Open the pre-configured session called bos-annotation
- Recommended:
 - write a test message (date, cruise, e.g.) in the putty window and hit enter
 - verify that the message received by ASDL

```
# ////////////////////////////////////  
# Check data logging  
# ////////////////////////////////////
```

- Open a file browser to data: Desktop >> bos-sys >> data
- Verify that files exist and have recent timestamps for all sensors:
[Tip: CSV files should be associated with Notepad, rather than Excel]

- rbrYYYYMMDD.CSV : RBR TD
 - sample data:

2017-09-06T15:48:06.699Z, 107867, 22.1943, 19.103, 15.10

- hmrYYYYMMDD.CSV : HMR heading
 - sample data:

2017-09-06T15:48:06.699Z, 134.76, 0.46, -0.10

- plcYYYYMMDD.CSV : PLC Events
 - sample data:

2017-09-06T15:48:06.699Z,

- annotationYYYYMMDD.CSV : Annotation (write a test message in the putty window and hit enter)
 - sample data:

2017-09-06T15:48:06.699Z, this is a message

- garmin19xYYMMDD.CSV : Surface GPS (optional)
 - sample data:

2017-09-06T15:45:52.010Z,\$GPRMC,154553,A,3648.1541,N,
12147.2847,W,000.1,069.7,060917,013.2,E*67

- Files should be written every few seconds after most recent data

so timestamps other than annotation should be ~ current time

```
# //////////////////////////////////  
# Check Web server output  
# (optional)  
# //////////////////////////////////
```

- ASDL must be running
- The WiFi router must be on and connected to the BOS network
- If using a mobile device, connect to the BOS wifi network
- Open a web browser to <http://192.168.1.99>
- Tip: The Chrome browser on the laptop has a bookmark

```
# //////////////////////////////////  
# Start the BOS sensor panel  
# (optional)  
# //////////////////////////////////
```

The BOS sensor panel provides a graphical display of depth, heading, pitch, and roll sensors

For BOS, there are two version of the BOS sensor dash:

- an HTML page, compatible with Internet Explorer (as-is) and Chrome (browser extension required)
- an Excel spreadsheet

To view the sensor display:

- Start ASDL
- Start one of the panels

Excel version:

open shortcut bos-opc-display.xlsm on the desktop of the BOS laptop

HTML version:

open Internet Explorer (IE)
use the shortcut to BOS Dashboard
OR
open <http://localhost/bospanel.html>
OR
right click C:\Users\bosadmin\Desktop\bos-sys\opc\bospanel.html >> Open With...>> IE

- It takes a long time for the panel to start up (~3 min)

The panel consists of several ActiveX software components that connect to OPC (Open Platform Communications) data streams exported by

ASDL.

The software components may be configured as dials, bar graphs and text boxes,
and may be embedded into web pages or various Microsoft files,
e.g. Word, Excel, etc.

Notes:

- Opening the spreadsheet/web-page first (before starting ASDL) will automatically open ASDL
*** and will close ASDL when the spreadsheet/web-page is closed ***

- Lat/Lon are displayed in decimal degrees

- The ActiveX controls and OPC Data Spy were obtained here:
<http://www.iconics.com/Home/Products/OPC-Connectivity/Free-OPC-Tools.aspx#.WdQHE90GP0A>

- More about OPC at the OPC Foundation
<http://www.opcfoundation.org>

```
# ////////////////////////////////////  
# Stop the BOS data display  
# ////////////////////////////////////
```

- Close the display spreadsheet/web page
- If it is not already running, (re)start ASDL

```
# ////////////////////////////////////  
# To disable the ASDL OPC  
# data connection  
# [ Should not need to do this, except for diagnostic purposes]  
# ////////////////////////////////////
```

- Save the current ASDL configuration
- Disable OPC data export for the heading, RBR and garmin19x channels in OPC
- For each ASDL channel (select using channel dropdown, upper left of ASDL window)
 - Select data export options
 - uncheck the OPC server data export module (must be done separately for each channel)

- NOTE: this will be saved as the default when ASDL is stopped

```
# ////////////////////////////////////  
# Troubleshooting  
# ////////////////////////////////////
```

>> I minimized the ASDL window...now where is it?

- Tiny system tray icon, lower right of desktop

>> Where is/are...

- Data logs

>> Desktop/bos-sys/data

- Saved ASDL configurations

>> Desktop/bos-sys/config

- Network configuration spreadsheet

>> Desktop/bos-sys/BOS-net-config-v?.xlsx (shortcut on desktop)

- The HTML file served by the ASDL web server is located in the ASDL web root

C:\Program Files\Advanced Serial Data Logger\Plugins\webserver
\Web\Root\bospanel.html

or

C:\Program Files(x86)\Advanced Serial Data Logger\Plugins
\webserver\Web\Root\bospanel.html

A copy is also located in the bos-sys directory:

C:\Users\bosadmin\Desktop\bos-sys\opc\bospanel.html

>> Data not written to files

- check ASDL error messages (dropdown box, top center of ASDL window).

- Check network and serial connections

- Do serial loopback test (e.g. using PuTTY)

- Use Digi device discovery (Desktop/digi) to find devices on network

>> ASDL can't open port

- Check virtual serial ports

- Windows Control Panel >> Device Manager >> Ports (COM & LPT)

- All Digi ports should be enumerated and working

- Ping IP addresses to make sure all the network devices are connected

- Digi : subsurface TS4, surface TS4, surface TS1 (in BOS control box)

- PLC : surface, subsurface
- Router
- Check router, network and serial connections
- Do serial loopback test (e.g. using PuTTY)
- Use Digi device discovery (Desktop/digi) to find devices on network
- Stop and restart ASDL

>> The cursor is jumping around on the screen, may be clicking and selecting

- Sometimes serial devices are enumerated as mice; should only happen if laptop is rebooted while serial devices are transmitting data.
- This has been addressed on BOS1 laptop (via registry key)
- Windows Control Panel >> Device Manager >> Mice and other pointing devices
- Disable devices that should not be mice
- To disable serial mouse detection
 - open regedit
 - backup your registry
 - navigate to key HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\sermouse
 - change subkey start value from 3 to 4

>> The BOS sensor panel isn't working

- Wait...it can take ~3 min for the controls to connect to their data streams
- Make sure that ASDL is running and that all data streams are being received
- If you're using the HTML version, check to see if a dialog box is requesting permission to run the control content
- Use OPC Data Spy application (Start Menu >> ICONICS folder) to monitor the OPC data streams needed for the panel:
 - asdlog.Instance.1\DEPTH_F
 - asdlog.Instance.1\HX_ADJ
 - asdlog.Instance.1\HY
 - asdlog.Instance.1\HZ
 - asdlog.Instance.1\DEPTH_EST
 - asdlog.Instance.1\LATDD
 - asdlog.Instance.1\LONDD

- Try closing/reopening the panel spreadsheet or web page
- Try close the panel then restart ASDL