

BOS Software
Operation Checklist
21aug18

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

bos1\bosadmin:bosadmin

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

- Use desktop icon or start menu
- Should be several windows associated with ASDL:
 - ASDL main window
 - GPS custom buttons
 - HMR platform heading sensor custom buttons
 - HMR surface heading sensor custom buttons
 - Turns counter custom 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 GPGGA 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, GPGGA, GPGSV)
 - GPRMC_en/GPRMC_di : enable/disable GPRMC message only
 - GPGGA_en/GPGGA_di : enable/disable GPGGA 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 and is logged

```
# //////////////////////////////////////  
# 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]

-valeportYYYYMMDD.CSV : Valeport altimeter/depth
- sample data:

2017-09-06T15:48:06.699Z, \$PRVAT, xx.xxx,M, xxxx.xxx, dBar*hh

- 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 OPC SCADA Viewer
# (optional)
# //////////////////////////////////////
```

The OPC SCADA Viewer provides a graphical display of

- lat/lon
- heading
- depth/altitude
- turns count

ASDL should be started before OPC Viewer.
Start OPC SCADA Viewer using the desktop icon.

The turns counter must be initialized and put in run mode.
This is done using the ASDL custom buttons for the turns compass:

- click the ASDL custom button "Init"
- click the ASDL custom button "Reset"
- click the ASDL custom button "Run"

When the buttons are clicked, the operation should be reflected in the ASDL turns compass (HMR) output.

The turns counter should be reset when the platform touches down.

```
# //////////////////////////////////////
# 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

```
# //////////////////////////////////////
# Using OpenOffice Database (Base)
# //////////////////////////////////////
```

OpenOffice Base (a database application similar to MS Access) may be used to find and examine data of interest (e.g. camera start/stop events and attendant sensor data).

The fundamental operations include:

- running queries via forms
- appending data to existing tables

Advanced operations include:

- creating data tables from CSV files
- writing queries to find events
- writing queries to use event data to find related data
- design DB query front-end/form(s) (right click query > Form Wizard...)
- save forms as .odt (and configure data source) to make them standalone

<https://forum.openoffice.org/en/forum/viewtopic.php?t=40493>

Begin by saving your current database Forms as standalone Writer documents:

- (1) In Base right-click each Form to Edit, then Save Copy as... > ODF Text Document (.odt).
- (2) Open each new (.odt) Writer Form and select View > Toolbars > Form Design.
- (3) Turn "on" Design Mode using the Form Design toolbar (second icon from the left).
- (4) Turn "on" Form Navigator (fifth icon from the left).
- (5) In the popup 'Form Navigator' window, right-click each Form (MainForms and SubForms) and click Properties. [1]
- (6) In the popup 'Form Properties' window, select the Data tab, and then proceed to select a Data source, Content type, and Content for each MainForm and SubForm in your Form Navigator window. [2,3]
- (7) Turn "off" Design Mode using the Form Design toolbar (second icon from the left) and test your Form for proper function.
- (8) When you're satisfied with each standalone Writer Form, click File > Save [4]

Notes:

[1] The Form Navigator window reveals the 'Forms' structure which may include any number of "MainForms" and their associated "SubForms." Each MainForm and SubForm can be linked to a separate Data source (.odb file registered within 00o/Lib0), Content type (Table, Query, or SQL command), and Content (selected by Table/Query name or by manual SQL entry).

[2] You can register your Base files (.odb) in 00o/Lib0 by clicking: Tools > Options... > Base > Databases

[3] don't miss Villeroy's sub-steps (6-1 thru 6-3) in the next post below which will save you some time and frustration when re-establishing the Data source when your Content consists of an existing SQL command. In fact, you'll want to use the SQL-command option over the Query option because SQL-commands are uniquely saved in the Form which enhances the portability of standalone Forms. There's also a nice tip for utilizing un-registered databases (Base .odb files), but it's generally better to utilize database registration in 00o/Lib0 because Data source links are hard-coded (non-relative links) in all cases (not good programming), so it's probably easier to manage the link centrally rather than for each MainForm/SubForm, as Villeroy also points-out.

[4] there's no need to save each Form "read-only" when using a Push Button to open the Form due to the associated "read-only" option of the URL. However, this option still allows the user to enter 'Design Mode' using the appropriate toolbar, so it may be best to save a more permanent "read-only" version. File > Save As... > Save with password (checkbox) > More Options... (button) > Open file read-only (checkbox). Do not specify a password. To regain the ability to edit the Writer-Form document after saving "read-only" simply Save As... another copy without the "read-only" attribute.

```
# //////////////////////////////////////  
# 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/<deployment>

- Network configuration spreadsheet
 - >> Desktop/bos-sys/BOS-net-config-<version>.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