# **Pulse Test Procedure**

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| --- | --- | --- | --- |
| Date | Rev | Initial | Desc |
| 09/17/2012 | A | RC | Initial test |
| 10/23/2012 | A1 | RC | Add additional test |
| 01/22/2013 | A2 | RC | Added additional test |
| 02/06/2013 | A3 | RC | Added test for No SubsystemConfig and no tblOption on import. |

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These are test that currently cannot be done with a unit test. They should all be run before a committing to the TRUNK and releasing the version.

# Set AdcpOptions to Null in tblProject database

* 1. tblProjects->AdcpOptions->AdcpSerialOptions->Port = null
  2. should still be able to use the serial port
  3. verify the serial port will output data from the ADCP

# ADCP is giving data with 30 bins and playback data with 50 bins

* 1. Pulse should handle seeing bin sizes vary between playback and realtime

# Install software as Admin

* 1. Install and run for Admin and normal users on WinXp and Win7

# Install software as User

* 1. Able to install
  2. Install and run for Admin and normal users on WinXp and Win7
     1. May not have admin rights to create and modify files in c:\ProgramData

# Verify files are stored correctly after install

* 1. Pulse Database and ErrorLog in C:\ProgramData
  2. Different user settings may make this folder vary
     1. Make sure the application still runs

# Installer on Win7 32Bit and 64Bit

# Installer on Win7 with and w/o .NET 4.0

1. Verify the installer will install .NET 4.0

# View Live data with no project selected

1. Verify the Data, Plot and Settings views are created

# Delete a project and make sure Pulse can display live data

* 1. Make sure the serial port works and data is outputting
  2. Serial port should be properly closed and opened again

# Load a Project while receiving live data

1. Verify the project settings are used and not the live data
   1. Choose a project that contains the same SubsystemConfiguration as the live data
      1. 300Khz Project with a 1200Khz pinging
         1. Verify the Text and Plot view are created
         2. Verify the Configurations (Settings, Avg, Screen) match the project
   2. Choose a project that contains a different SubsystemConfiguration as the live data
      1. 1200Khz Project with a 1200Khz pinging
         1. Verify the Text and Plot view are created
         2. Verify the Configurations (Settings, Avg, Screen) match the project

# Create a Project and use the Serial Number Generator

1. Use the serial number generator to create a serial number
2. Add the project
3. Verify the serial number is in the list of projects
4. Verify the settings page shows the correct settings for the serial number
5. Verify the Post Processing is correct for the serial number
6. Verify the Text and Plot page are correct for the serial number

# Create a project with an Empty Serial Number and Ping data for Serial Number

1. Ensure the serial number is set in the project page when the pinged data is received
2. Verify all the pages are displayed based off the serial number found from the ADCP

# Import a project from a Binary file and verify the serial number is set

1. Import a binary file and verify the serial number is set

# Import a project from a Database file and verify the serial number is Set

1. Import a database file and verify the serial number is set.

# Create a Project while receiving live data

1. Project Created
2. Views Created
   1. Plot
   2. Data
   3. Settings
   4. Avg/Screen
   5. Report

# Play with Screening and Averaging Settings

# Modify the settings to a project and verify the settings are saved

1. Close the application and open the application and verify the settings are correct
2. Change projects and verify going back to the original project, the settings are correct

# Create a Project and modify its settings, verify the settings are saved

(Different from above because it is a newly created project and may not save correctly on creation)

* 1. Change projects then reselect the original project, verify the settings are correct
  2. Close the application, then reopen the application and verify the settings are correct

# Create Project and Verify Settings Load Automatically

1. Create an Empty Project
2. Start pinging the ADCP
3. Go to Settings->ADCP Settings
   1. Verify there are configurations loaded
   2. Verify the CEPO command is set

# Create Project and Get ADCP Configuration

1. Ensure the ADCP is not pinging.
2. Create an Empty Project.
3. Go to Settings-> ADCP Settings.
4. Click the button “Get ADCP Config”.
5. Verify the configurations were loaded from the ADCP.
6. Verify the CEPO command was set.
7. Verify the Memory Card Capacity was set under Deployment.

# Import a Binary and DB file and get an error

1. Select a DB and BIN/ENS file to import
2. Get an error message stating this is not possible

# Import a Binary file

Test Data: Import Ensembles post Firmware 2.13

Verify the number of ensembles in the binary file match

1. Import the binary file
2. Verify the project has 300 ensembles shown in the navigation view.
3. Playback the data
4. Load the project in the Report page
5. Verify the settings are loaded
6. Verify the Plot and Data pages are loaded

# Import a DB file

Test Data: Import Ensembles post Firmware 2.13

Settings should be saved that match the DB file given

1. Import the DB file.
2. Go to Settings-> ADCP Settings.
3. Verify the project settings has 1 configurations.
   1. Configuration 1 Settings
      1. CEPO = 2
      2. CWPBN = 50
      3. CWPBS = 0.1
      4. Deployment Duration = 20
      5. Battery Type = Lithium\_7DD
      6. Installed Batteries = 4
      7. Depth to Bottom = 120

Verify the number of ensembles match the DB file given

1. Import the DB file.
2. Verify the project has 300 ensembles shown in the navigation view.
3. Press play and verify data is displayed to the Plot and Data view.

# Import Binary file with no SubsystemConfig in Ensemble

Test Data: Import No SubsystemConfig

1. Import the binary file.
2. Verify the file can be successfully imported
   1. This file does not contain any SubsystemConfig so the SubsystemConfig will be manually set to 0.
3. Verify the Project was created with 203 ensembles.
4. Verify Plot, Text, and TimeSeries contain a configuration for a 600kHz 20Deg system.
5. Verify Settings created a configuration for a 600kHz 20Deg system.

# Test German Virtual Machine

**Test Data**: Win German 64bit (.NET 4.0 and Pulse Installed) virtual machine

Verify the ADCP Commands do not have commas instead of decimal points

1. Open the application.
2. Load a project with settings.
3. Go to Settings->ADCP Settings.
4. Click on the Button “Review Configuration”.
5. Verify no decimal points are not replaced with commas.

Installs correctly

German translations are used (Future)

# Load old ADCP data

These ensembles have the SubsystemIndex changed to the SubsystemCode for the firmware value.

**Test Data**: Import Ensembles pre Firmware 2.13

Playback the data and Verify data can be seen in Data and Plot view.

1. Import the ENS file
2. Verify 156 Ensembles were loaded
3. Playback the data and view in Data and Plot view
4. Load project Report

# Validation Test Page – Test the “Configure ADCP”

1. The validation test page sends commands to ADCP using an event, verify the “Configure ADCP”, “Start Ping” and “Stop Ping” properly send the command to the ADCP and work.

# Create ADCP Subsystem Configuration

1. Go to “Adcp Setup” and expand the “Ensemble” section
2. Click the plus sign on the CEPO
   1. Verify the CEPO value changed
   2. Verify the ADCP Settings added a new Subsystem Configuration section
   3. Verify NOT in Plots added a new Subsystem Configuration. These created from ensembles.
   4. Verify NOT in Text added a new Subsystem Configuration. These created from ensembles.
   5. Verify Average added a new Subsystem Configuration
   6. Verify Screen added a new Subsystem Configuration

# Add Subsystem Configuration Then Remove

1. Verify Subsystem Configuration is removed
2. Verify Average Subsystem Configuration is removed
3. Verify Screen Subsystem Configuration is removed

# Run System Test on ADCP

1. Verify all the test pass

# Run Compass Cal on ADCP

1. Verify a compass cal can be completed

# Download Files

1. Download Files with Parsing Turned OFF
   1. Verify all the files are download
   2. Set the Baud Rate to 921600 and download all the files
   3. Set the Baud Rate to 115200 and verify all the files are download
      1. Use an extra-large file that will cause the Timeout to occur and move to next file before the download can be completed
2. Download File with Parsing Turn ON
   1. Verify all the files are download
   2. Set the Baud Rate to 921600 and download all the files
   3. Set the Baud Rate to 115200 and verify all the files are download
      1. Use an extra-large file that will cause the Timeout to occur and move to next file before the download can be completed
3. Start a Download Then Cancel the Download
   1. Verify everything still functions
      1. Click the BREAK button on the Serial port and verify a banner appears
      2. Click CSHOW and verify data is output
   2. Click Download again and verify files will be download
4. Start a download with Overwrite Turned Off
   1. Verify the files will not be overwritten if they exist already
5. Format the SD card using the Format button
   1. Verify CSHOW still work
   2. Reboot the system and verify it comes up

# Upload Files

1. Upload a file to the ADCP
   1. Verify the file is is seen with DSDIR
   * Verify the file is seen with Populate on the Download section
   * Download the file and verify it matches with a DIFF
   * Format the SD card

# Send Configuration to ADCP

1. Create a Project
2. Click “Get ADCP Config” to get the configuration
3. Modify the CEPO
   1. Modifying CEPO set default values, so verify after changing CEPO that values are not default
4. Modify the CEI 00:00:00.25
5. Modify CWPBN to 50
6. Modify CWPBS 1.5
7. Click “Configure ADCP”
8. Verify Commands are being sent in the Serial Port.
9. Click CSHOW button to verify commands are correct on the ADCP
10. Click the “Get ADCP Config” button and verify all the modify values are correct.

# Verify User Guide is up to date from Installer

1. Use installer to install the Pulse software
2. Verify the latest version of the Pulse User Guide is installed on the computer

# Verify Validation Test

1. Turn on Calculate DMG and Play back some data
   1. Verify Date/Time is updating
   2. Verify Heading, Pitch and Roll is updating
   3. Verify GPS and Status are updating if available
   4. Verify plots are updating
   5. Verify DMG calculations are updating if GPS is available
2. Turn Off Calculate DMG and playback data
   1. Verify Date/Time is updating
   2. Verify Heading, Pitch and Roll is updating
   3. Verify GPS and Status are updating if available
   4. Verify plots are updating
   5. Verify DMG calculations are updating if GPS is available
3. Turn On/Off Filter Data
   1. Verify the data is being filter
      1. Bottom Track should have no peaks

# Screen Data

* Playback data
* Turn on Mark Bad Below Bottom
  + Verify all data below the bottom is not displayed on the Plot Contour
* Turn on Error Velocity Threshold
  + Verify in TimeSeries that no values is above the threshold
* Turn on Vertical Velocity Threshold
  + Verify in TimeSeries that no values is above the threshold

# Average Data

1. Playback data
2. Set Average Samples to 5
3. Turn on Reference Layer Average Data
   1. Verify every 5th ensemble is displayed
4. Turn on Running Average
   1. Verify every ensemble is displayed after the first 5