

C-NavTM

C-NaviGator Software Update Installation Procedure

Revision 4

Revision Date: March 20, 2018

C-Nav Positioning Solutions
730 E. Kaliste Saloom Road
Lafayette, LA 70508 U.S.A.
oceanengineering.com/cnav



Release Notice

This is the March 2018 release of the C-NaviGator Software Update Installation Procedure.

Revision History

| 4 | 03/20/2018 | Updated for new domain | C. Thompson |
|----------|------------|-----------------------------------|-------------|
| 3 | 03/21/2016 | Update for OII standards | C. Thompson |
| 2 | 06/23/2015 | Added C-NaviGator II instructions | C. Thompson |
| 1 | 02/20/2013 | Initial document creation | C. Thompson |
| Revision | Date | Description | Author |

Trademarks

The Oceaneering logo is a trademark of Oceaneering International, Inc. C-Nav is a trademark of Oceaneering International, Inc. All other brand names are trademarks of their respective holders.

Disclaimer of Warranty

EXCEPT AS INDICATED IN "LIMITED WARRANTY" HEREIN, OCEANEERING INTERNATIONAL, INC. SOFTWARE, FIRMWARE AND DOCUMENTATION ARE PROVIDED "AS IS" AND WITHOUT EXPRESSED OR LIMITED WARRANTY OF ANY KIND BY EITHER OCEANEERING INTERNATIONAL, INC., OR ANYONE WHO HAS BEEN INVOLVED IN ITS CREATION, PRODUCTION, OR DISTRIBUTION INCLUDING BUT NOT LIMITED TO THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK, AS TO THE QUALITY AND PERFORMANCE OF THE OCEANEERING INTERNATIONAL, INC. HARDWARE, SOFTWARE, FIRMWARE AND DOCUMENTATION, IS WITH YOU. SOME STATES DO NOT ALLOW THE EXCLUSION OF IMPLIED WARRANTIES, SO THE ABOVE EXCLUSION MAY NOT APPLY TO YOU.

Limitation of Liability

IN NO EVENT WILL OCEANEERING INTERNATIONAL, INC., OR ANY PERSON INVOLVED IN THE CREATION, PRODUCTION, OR DISTRIBUTION OF THE OCEANEERING INTERNATIONAL, INC. SOFTWARE, HARDWARE, FIRMWARE AND DOCUMENTATION BE LIABLE TO YOU ON ACCOUNT OF ANY CLAIM FOR ANY DAMAGES, INCLUDING ANY LOST PROFITS, LOST SAVINGS, OR OTHER SPECIAL, INCIDENTAL, CONSEQUENTIAL, OR EXEMPLARY DAMAGES, INCLUDING BUT NOT LIMITED TO ANY DAMAGES ASSESSED AGAINST OR PAID BY YOU TO ANY THIRD PARTY, ARISING OUT OF THE USE, LIABILITY TO USE, QUALITY OR PERFORMANCE OF SUCH OCEANEERING INTERNATIONAL, INC. SOFTWARE, HARDWARE, AND DOCUMENTATION, EVEN IF OCEANEERING INTERNATIONAL, INC., OR ANY SUCH PERSON OR ENTITY HAS BEEN ADVISED OF THE POSSIBILITY OF DAMAGES, OR FOR ANY CLAIM BY ANY OTHER PARTY. SOME STATES DO NOT ALLOW THE LIMITATION OR EXCLUSION OF LIABILITY FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES SO, THE ABOVE LIMITATIONS MAY NOT APPLY TO YOU.

Table of Contents

| | |
|-----------------------------------|----|
| Trademarks | 3 |
| Disclaimer of Warranty | 3 |
| Limitation of Liability | 3 |
| Table of Contents..... | 4 |
| Manual Organization | 5 |
| Manual Conventions..... | 6 |
| Section 1 - Overview..... | 7 |
| Introduction | 7 |
| Section 2 - Required Items | 8 |
| Software Update..... | 8 |
| Rescue Install..... | 8 |
| Section 3 - Software Update | 9 |
| Section 4 - Rescue Install | 10 |

Manual Organization

The purpose of this document is to provide instruction on the installation of software updates for the C-NaviGator touch-screen Control and Display Unit (CDU) using a USB Drive. Sections are organized in a manner that facilitates quick operator orientation.

[Section 1 - Overview](#) (Page 7) gives a brief overview of the purpose of this document.

[Section 2 - Required Items](#) (Page 8) lists the items required to perform both a software update and a rescue install.

[Section 3 - Software Update](#) (Page 9) describes a normal software update procedure.

[Section 4 - Rescue Install](#) (Page 10) describes the procedure to use the rescue installer to recover a corrupt software installation.

Manual Conventions

Arial font is used for plain text in this document.

Arial italic font is used for settings names.

“Arial quoted” font is used for settings values.

Arial Bold font is used for button names.

Arial Bold Italic font is used for menu items.

[Arial Blue](#) font is used for cross-references.

[Arial Blue Underline](#) font is used for hyperlinks.

Arial red italic is used for typed commands.

Arial Bold font size 10 is used for captions.

ARIAL BLACK ALL-CAPS font is used for port connection names.



This symbol means Reader Be Careful. It indicates a caution, care, and/or safety situation. The user might do something that could result in equipment damage or loss of data.



This symbol means Danger. You are in a situation that could cause bodily injury. Before you work on any equipment, be aware of the hazards involved with electrical and RF circuitry and be familiar with standard practices for preventing accidents.

Important notes are displayed in shaded text boxes.

Please note:

Such note boxes display important information that should not be ignored.

Simple file content is displayed in Courier New Black font in a text box.

```
#Sample File  
Version 0.1
```

Section 1 - Overview

Introduction

The purpose of this document is to provide instructions on the installation of software updates for the C-NaviGator touch-screen Control and Display Unit (CDU) using a USB Drive. To obtain copies of C-Nav software updates, contact C-Nav Support at cnavsupport@oceanengineering.com or visit oceanengineering.com/cnav.

Section 2 - Required Items

Software Update

- C-NaviGator CDU
- USB drive (>100 MB) formatted as FAT (not NTFS)
- Software Update cng or cng3 file, available by contacting C-Nav Support at cnavsupport@oceanengineering.com or by visiting oceanengineering.com/positioning-solutions/customer-access-and-resources/
- A Windows PC

Rescue Install

- C-NaviGator CDU
- USB drive (>100 MB) formatted as FAT (not NTFS)
- USB keyboard to connect to the C-NaviGator
- Software Update zip file, available by contacting C-Nav Support at cnavsupport@oceanengineering.com or by visiting oceanengineering.com/positioning-solutions/customer-access-and-resources/
- A Windows PC and WinZip or equivalent file extraction software

Section 3 - Software Update

1. Contact C-Nav Support at cnavsupport@oceanengineering.com or visit oceanengineering.com/positioning-solutions/customer-access-and-resources/ to obtain the latest software update for the C-NaviGator. Download the firmware file to the top-level folder of the USB.
 - A. For the C-NaviGator II, the firmware file will be a .cng file.
 - B. For the C-NaviGator III, the firmware file will be a .cng3 file.
2. Attach a USB drive to the Windows PC.
3. Ensure the computer has finished writing to the USB drive (use the Safely Remove Hardware tray icon if necessary) then remove the USB drive from the computer.
4. Reboot the C-NaviGator.
5. When the boot menu appears, press the **Update Software** button.
6. Connect the USB drive to the C-NaviGator.
7. Press the **Scan USB** button to scan for the software update file.
8. In the *C-NaviGator Software Update* table, select the firmware with a *Status* of “compatible”.
9. Press **Start Update**.

Warning:

DO NOT disconnect the USB drive during the installation process.

10. When the installation is complete, press **Restart** to continue.
11. The C-NaviGator software update is now complete.

Section 4 - Rescue Install

The C-NaviGator CDU rescue installation is a procedure to recover a corrupt software installation. This should only be used as a last resort if regular a software update cannot be completed.

1. Contact C-Nav Support at cnavsupport@oceanengineering.com or visit oceanengineering.com/positioning-solutions/customer-access-and-resources/ to obtain the latest rescue installer for the C-NaviGator. Download the zipped file to the local drive of the Windows PC.
2. Attach a USB drive to the Windows PC.
3. Using WinZip or equivalent Windows file extraction software, extract the zipped file into the top-level folder of the USB drive. This will create a folder called **syslinux** when complete.
4. Install the rescue installer onto the USB drive. The steps are different depending on what version of Windows the PC is running.
 - A. Windows XP:
 - I. Open the USB drive on the Windows PC via **My Computer** and navigate into the **syslinux** folder.
 - II. Double-click on the file called install.bat. A command prompt window will pop up to show the results. Press **Enter** to continue.
 - B. Windows 7
 - I. Click on the **Start Menu** button.
 - II. In the Search bar, type **cmd**, then press **Ctrl+Shift+Enter** (all at the same time). This will open a command prompt window with Administrator rights.
 - III. Type **DRIVE_LETTER:** and press **Enter**. Where DRIVE_LETTER is the drive letter of the USB drive.

- IV. Type *cd syslinux* and press **Enter**.
 - V. Type *install.bat* and press **Enter**.
 - VI. Once finished, press **Enter** and close the command prompt window.
5. Ensure the computer has finished writing to the USB drive (use the Safely Remove Hardware tray icon if necessary) then remove the USB drive from the computer.
 6. Power off the C-NaviGator via the front panel On/Off switch.
 7. Connect the USB keyboard to the C-NaviGator and disconnect all other USB devices from the C-NaviGator.
 8. Connect the USB drive to the C-NaviGator.
 9. Turn on the C-NaviGator.
 10. The next step is to boot the C-NaviGator CDU off of the USB drive. The steps are different depending on which type of C-NaviGator CDU.
 - A. C-NaviGator II:
 - I. When the blue C-Nav logo screen appears, hit **Delete** on the keyboard. This will open C-NaviGator CDU's BIOS configuration screen. If the BIOS configuration screen does not appear, power off the C-NaviGator and try again.
 - II. At the main BIOS configuration screen, select *Advanced BIOS Features*. Within that screen, set *First Boot Device* to "USB-ZIP". All other boot devices should be set to "Disabled". Press **F10** to save and exit the BIOS screen.
 - B. C-NaviGator III:
 - I. When the screen appears, press **F11** on the keyboard. Continue to press **F11** until the boot-device menu appears.

II. Select the device that starts with USB and press **Enter**.

11. The C-NaviGator will now boot off of the USB drive. Messages will print on the C-NaviGator screen from the installation program; it will take a few seconds for the installation program to locate the appropriate files on the USB drive. When complete, press **Enter** to begin the installation.

Warning:

DO NOT disconnect the USB drive during the installation process.

12. When the installation is complete, press **Enter** or touch the screen anywhere to continue.

13. At this point the C-NaviGator will prompt the user to turn off the unit. Do so via the front panel On/Off switch and disconnect the USB drive.

14. The following step applies only to the C-NaviGator II.

A. When the blue C-Nav logo screen appears, hit **Delete** on the keyboard. This will open C-NaviGator CDU's BIOS configuration screen. If the BIOS configuration screen does not appear, power off the C-NaviGator and try again.

B. As before, select *Advanced BIOS Features*. Within that screen, set *First Boot Device* to "Hard Disk". Leave the other boot devices as "Disabled". Press **F10** to save and exit the BIOS screen.

15. The C-NaviGator rescue installation is now complete.