

C-NavTM

C-Nav7000[®] Quick Start Guide

Revision 2

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Release Notice

This is the March 2018 release of the C-Nav7000 Quick Start Guide.

Revision History

2	3/29/2018	Changed logos to OI standards	L.C
1	1/31/2014	Initial Review	J. Hauschildt
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FCC Notice

This device complies with Part 15 Subpart B Class B of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference, and
2. This device must accept any interference received, including interference that may cause undesired operation.

The GNSS sensor has been tested in accordance with FCC regulations for electromagnetic interference. This does not guarantee non-interference with other equipment. Additionally, the GNSS sensor may be adversely affected by nearby sources of electromagnetic radiation.

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Use of this Document

This Quick Start Guide is intended to be used by someone familiar with the concepts of GNSS Sensor hardware installation and rack mounted equipment in a marine environment. Revisions to this Quick Start Guide can be obtained on our website www.oceaneering.com/cnav or by contacting C-Nav Support: cnavsupport@oceaneering.com

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Manual Organization

This section describes how the manual is laid out. It gives one or two sentence descriptions about each major section.

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

[Section 2 – Installation](#) (Page 10) provides guidance on how the C-Nav7000 works.

[Section 3 - Operation](#) (Page 11) provides guidance on operating the C-Nav7000.

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.



This symbol is used for warnings in which failure to take heed may cause severe injury or death.



This symbol is used to caution the user that the improper installation and use of this product may damage this product and/or other devices connected to it.

Important notes are displayed in shaded text boxes

Please note:

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

Section 1 - Overview

Introduction

This Quick Start Guide is intended to familiarize the user with the basic setup of the C-Nav7000 only. The supplied C-Nav7000 USB Thumb Drive (P/N 7CNG002-0) includes the C-Nav7000 User Guide (P/N CNV7000CMANUAL). This C-Nav7000 consists of supplied equipment (Table 1) and optional equipment (Tables 2 - 4), depending on the customer's preferences.

Supplied Equipment

1	C-Nav3050 GNSS Sensor (P/N CNV92_310413_3002)
2	C-Nav3050 Y-cable, 9-Pin to RJ45 & DB9 (P/N CNV94-310272-3006)
3	C-Nav3050 Y-Cable, 9-Pin to USB & DB9S (P/N CNV94-310273-3006)
4	C-Nav3050 Power & 1PPS Cable w/filter (P/N CNV94-310274-3010)
5	USB Thumb Drive (P/N 7CNG002-0)
6	C-Nav GNSS Antenna (P/N CNV82-001020-3001)
7	12" Antenna Pole (P/N CNVWES534610)
8	Antenna Mounting Adaptor (P/N CNV3250005-0)
9	C-Nav3050 Quick Start Guide (P/N CNV96-310033-3001)
10	C-Nav7000 Base Unit (P/N CNV7000-Enclosure)
11	C-Nav7000 Quick Start Guide (P/N CNV7000-QS)
12	C-Nav7000 User Guide

	(P/N CNV7000MANUAL)
13	DC Power Supply Cable (P/N CNVPSC001-1)
14	6' Standard Serial Cable (P/N QVSCC317-06) (3ea.)

Table 1: The C-Nav7000 (P/N BUNDLE_C-NAV7000) Supplied Equipment

Optional Equipment

1	SBX-4 Beacon Module (P/N CNVHEM940-4013-000)
2	12" Antenna Pole (P/N CNVWES534610)
3	Internal RF Cable for IALA Mod (P/N CNVFCI-INT-RF-IALA)
4	A31 Antenna, GPS L1 & Beacon (P/N CNVHEM940-2088-000)

Table 2: IALA OPTION (CNV7000-IALA-MOD-K)

1	ADL RXO UHF Module 430-470MHZ (P/N CNVPACK01147)
2	Base Antenna, 440-470Mhz, 7dBi (P/N CNVKAT721388 TNC)
3	Internal RF Cable for UHF OPT #1 (P/N CNVFCI-INT-RF-UHF1)

Table 3: UHF OPTION #1 (CNV7000-UHF-OMOD1-K)

1	ADL RXO UHF Module 430-470MHZ (P/N CNVPACK01147)
2	Base Antenna, 440-470Mhz, 7dBi (P/N CNVKAT721388 TNC)
3	Internal RF Cable for UHF OPT #2 (P/N CNVFCI-INT-RF-UHF2)

Table 4: UHF OPTION #2 (CNV7000-UHF-OMOD2-K)

1	12V DC Desktop Power Supply (P/N CNVGS90A12-PIM)
2	Neutrik XLR Connector- Plug (P/N CNVNEUNC3MXX-B)
3	Cord, Power, IEC320-C13 (US) (P/N CNV4000001-110)

Table 5: The Nav7000 Power Supply Option Kit (CNV7000-PSU-12V-K)

Section 2 – Installation

This section provides guidance on hardware installation. [Figure 1](#) (Page 10) shows the rear panel of the C-Nav7000 and its connections.

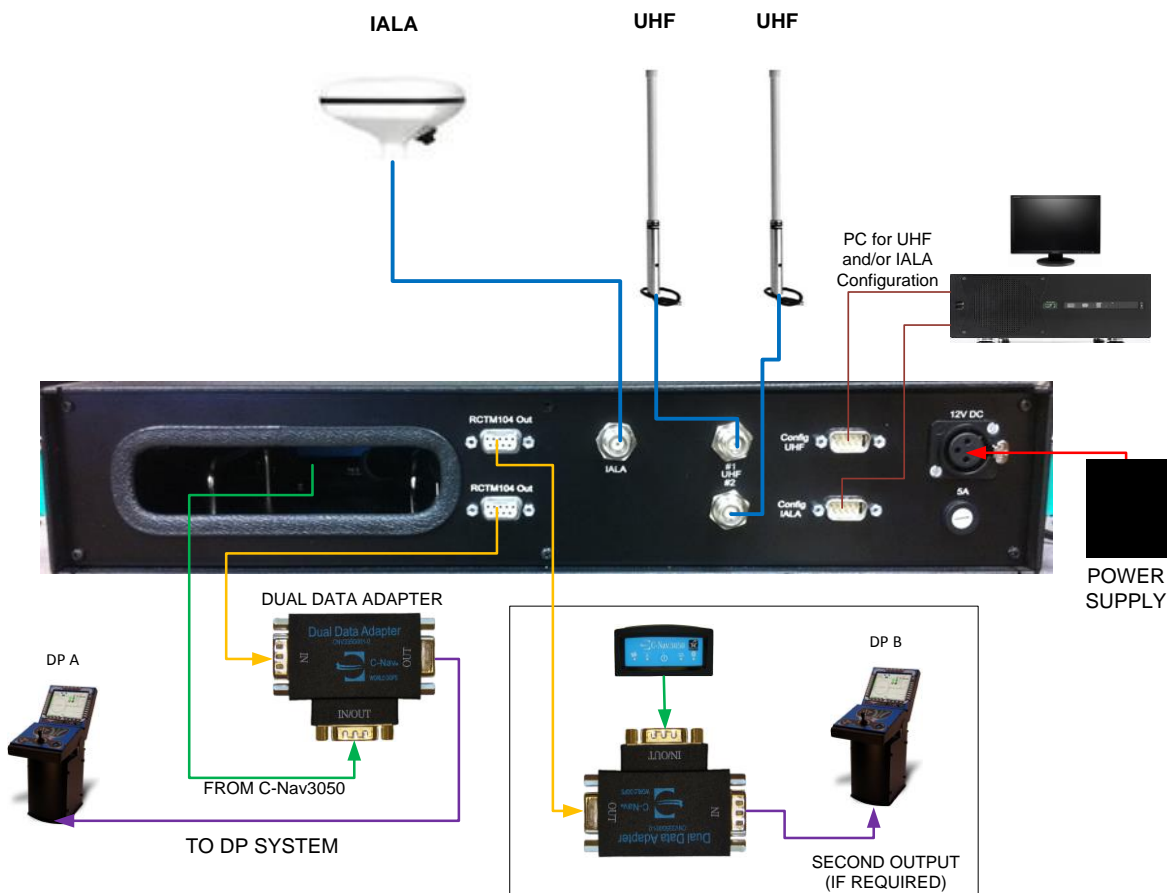


Figure 1: C-Nav7000 Interconnection Diagram

Section 3 - Operation

This section provides guidance on operating the C-Nav7000. [Figure 2](#) (Page 11) shows the front panel of the C-Nav7000 with its buttons, switches and indicators.



Figure 2: C-Nav7000 Front Panel

Refer to [Figure 2](#) (Page 11) for the following from left to right:

- 1) **ON/OFF** Pushing this button turns the UHF and IALA receiver modules on; this button will illuminate green. Pushing this button again turns the UHF and IALA receiver modules off; the lamp is extinguished.

Please Note:

The **ON/OFF** function on the C-Nav3050 will already be powered up upon connecting to the 12V DC receptacle from a 12V DC source.

- 2) **Select UHF Receiver #1 and #2:** This switch selects which UHF Receiver the user wants to receive the corrections data from. In order to receive data on the selected receiver, the appropriate channel must be selected on the **Screen Key** that the UHF Receiver is selected to. The **Screen Key** must be illuminated green in order to receive any data.
- 3) **Channel Select Screen Keys:** These allow the user to select the appropriate channel for each of the two UHF receivers. When the proper UHF Receiver is selected, the user can either advance to a known channel or scan to a receiving channel. Channel selection is performed by:
 - a. Press the **Screen Key** in ½ second intervals to advance the channel manually (channel numbers only increase). An amber background on the **Screen Key** denotes that the channel is in a manual change state.
 - b. To scan a channel, press and hold the **Screen Key** for 5 seconds and release. The receiver will search for the channel that is receiving data by

- staying at that channel for 5 seconds before moving up to next channel if no data has been received.
- c. If a channel is receiving data, the background of the **Screen Key** will illuminate green as seen in [Figure 3](#) (Page 12).



Figure 3: Receiving Data

- d. If a channel is not receiving data, the background of the **Screen Key** will illuminate red as seen in [Figure 4](#) (Page 12).



Figure 4: Not Receiving Data

- e. The C-Nav7000 controller saves channel frequencies displayed on both Screen Keys into memory after it has been left untouched for 5 minutes.
- 4) **IALA Data LED:** This LED is lit green when IALA data is being received; off when it is not.
- 5) **Fallback Control LEDs:** The **UHF LED** is lit green when data is being received; off when it is not. The **IALA LED** is lit red when **UHF** selected is not receiving data; off when data is received to the selected **UHF**.

- 6) **C-Nav3050:** The **LEDs** on the C-Nav3050 show GNSS, satellite corrections, data, and Bluetooth status. For further information, please refer to [C-Nav3050 User Guide](#).