

6100 and Garmin: Dispatch and Navigation

The Contigo 6100 provides a fleet management interface to Garmin™ Personal Navigation Devices (PNDs) including the nüvi® 255/255W and nüvi 350/360. The 6100 may be connected to Garmin PNDs via a custom wiring harness that supports Dispatch and Navigation in addition to all existing Contigo functions. From the Contigo web application, Dispatchers may send jobs and messages to vehicles, and monitor the status of jobs as drivers accept their jobs on the PND. Drivers may navigate to the destination and complete these jobs.

This document is an addendum to the 6100 Installation Guide, and describes the additional steps to install the Garmin unit and connect its related wiring to the 6100 and vehicle.

1. Before You Begin

Prerequisites

- › Ensure you have all the equipment, tools and supplies indicated in this document.
- › Ensure that the 6100 beacon has been upgraded to the correct firmware revision (52) to support the Garmin Fleet Management Interface. Contact Contigo for more information.
- › Have the standard 6100 Installation Guide on hand as a reference for installing the beacon and making standard connections to the vehicle (including un-switched power, ground, ignition sense, auxiliary inputs and outputs).
- › Have the appropriate 6100/Garmin wiring harness for the PND you are installing (nüvi 255/255W or nüvi 350/360).

6100 to nüvi 350/360: Part Number: 6100-PWR-SPC340

6100 to nüvi 255/255W: Part Number: 6100-PWR-NUVI255

- › Understand and be familiar with the Contigo web-based software portal, including beacon provisioning, beacon management, and Dispatch functions including sending a message. Alternatively, ensure someone is available to support you during the installation who has access to this information and to the portal.

IMPORTANT NOTE

- › If the Contigo 6100 is already installed in the vehicle:
 - The beacon's firmware must be v52. This may be verified through the Contigo portal's Beacon Manager. Firmware may not be upgraded in the field. You must swap the beacon for one with firmware v52.
 - The existing harness must be replaced. Contact your Contigo representative for more information.
- › Some Garmin models are not interchangeable from vehicle to vehicle as their wiring harnesses may be different.



Requirements

- › 6100 / Garmin Wiring harness for the appropriate PND model
- › v52 firmware upgrade for 6100 beacon
- › Garmin PND and mounting bracket (nüvi 255/255W, 350/360)
- › (nüvi 350/360 only) Cigarette Lighter Power Adapter

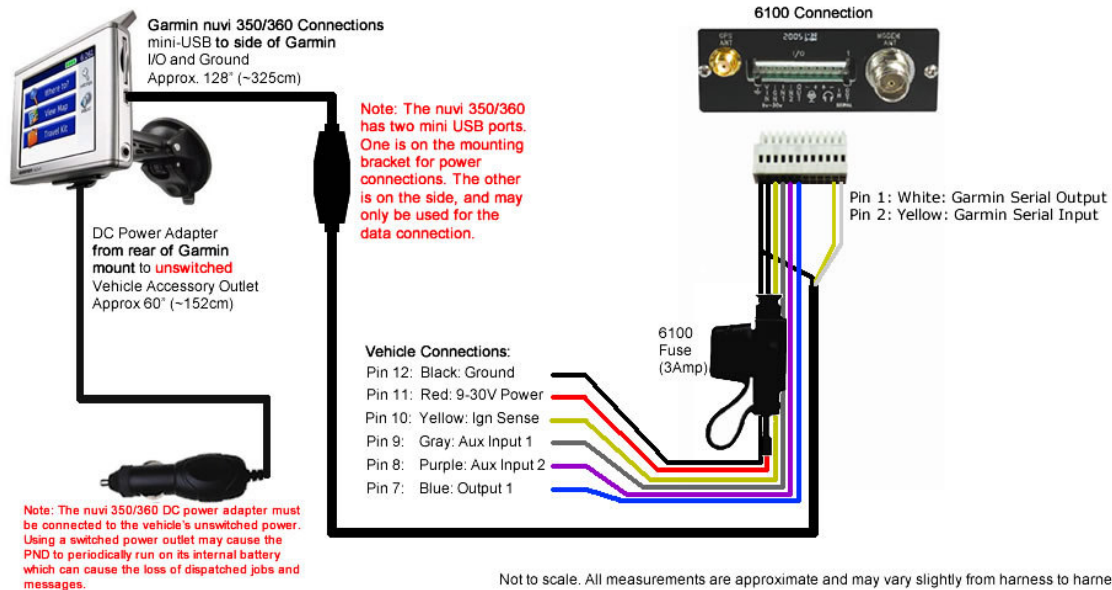
Tools and Supplies

- › All those required for 6100 installation (see 6100 Installation Guide)
- › Electrical tape
- › Plastic cable ties
- › Screw drivers, mounting screws
- › Wrenches, sockets
- › Optional: Vehicle Accessory extension cable

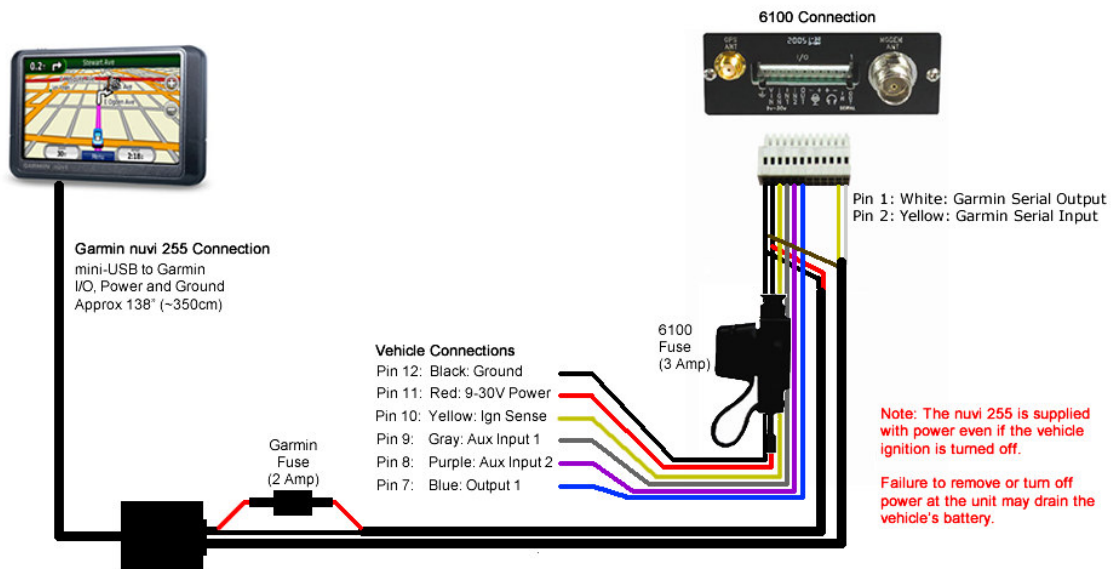
Wiring Harness Diagrams

The following diagrams illustrate the connections between the 6100 beacon and the Garmin units currently supported. Familiarize yourself with the appropriate wiring harness for your installation.

Garmin nüvi 350/360 to 6100



Garmin nüvi 255W to 6100



Select a Suitable PND Installation Position

Garmin PNDs are shipped with portable/removable mounting brackets. These are typically designed to adhere to the inside of the windshield glass (which usually provides the clearest line-of-sight to the sky). Alternatively, you may choose to permanently mount the bracket using your own fasteners or adhesive.

- › Locate all the mounting hardware provided in the Garmin PND packaging to ensure the kit is complete.
- › Determine the best location for the PND, and ensure there is a smooth, clean area of glass to affix the mounting bracket, or other suitable mounting location.
- › Ensure the PND is in clear line of sight to the sky and that it is able to acquire GPS satellite signal.
- › Ensure the placement of the Garmin PND and its mounting hardware will not obscure the driver's vision or prevent normal operation of the vehicle and its controls. The PND should be placed within reach of the driver for easy access to the Garmin navigation and dispatch controls.
- › Ensure that the mini-USB cable can reach from the planned 6100 beacon location to the PND.

The mini-USB data cable carries data from the 6100 beacon to the PND. It also provides the grounding point for the PND.

For certain models, (e.g. nüvi 255, nüvi 255W) the mini-USB cable also provides the power source for the PND.

The mini-USB data cable must be routed up to the PND from the rest of the harness. Take note of the size and shape of the mini-USB connector to ensure your routing accommodates it.

IMPORTANT NOTE

(nüvi 350/360 only): Ensure that an **un-switched vehicle accessory power outlet** is located within suitable distance of the PND location. While they are equipped with internal batteries, **PNDs must be operated on un-switched external power. Power should remain to the PND even when the ignition is switched off. Operating the PND on its internal battery will prevent Jobs and Messages being properly delivered to the PND.**

You may choose to source a vehicle accessory extension cable (not provided by Contigo) that allows you to source vehicle power at the same point as the 6100 beacon.

2. Install the 6100 Beacon

Install the 6100 beacon, Antenna and Wiring Harness

- › Following the instructions in the 6100 Installation Guide, install the 6100 beacon and antenna: Using the 6100/Garmin wiring harness, make the standard wiring connections (power, ground, ignition sense) and optional connections if desired (auxiliary inputs and outputs).

Test the 6100 Beacon

- › Perform an end-to-end system test by locating the beacon via the Contigo portal.

Configure the 6100 Beacon for PND Use

- › In the Contigo portal, configure the 6100 as having a PND attached. See the Dispatch Administration and Configuration Guide for more information.

3. Install the PND

Mount the PND

- › Install the mounting bracket securely in the position selected, following the manufacturer's instructions.
- › Mount the PND to the bracket and verify that the PND is held firmly in position.
- › (350/360 only) Route the power cable to the nearest un-switched vehicle accessory outlet. An extension cord may be used if required (sourced separately). Connect the power cable to the PND and to the vehicle.

IMPORTANT NOTE

Some Garmin units use a mini USB connector for both power and data cables. **These must be connected to separate mini USB ports on the unit.** Follow the manufacturer's instructions for connecting the power cable to the correct mini USB port.

Example: The nuvi 350/360 requires the power cable to be connected to the rear of the mounting bracket, while the data cable is connected to the mini USB port on the side of the PND.

Connect PND to 6100

- › Route the mini-USB data cable from the 6100 wiring harness to the PND mounting location.
- › Connect the mini-USB cable to the PND's data port.

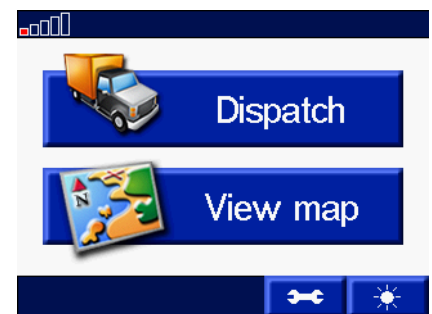
Test the PND

- › Remove the PND screen protector.
- › Press the Power button, ensure that the Garmin screen illuminates and the unit appears to be operating correctly. Refer to the user documentation as provided by Garmin.
- › Ensure the PND is in clear line of sight to the sky and that it is able to acquire GPS satellite signal.

- › **IMPORTANT: BEFORE SENDING ANY MESSAGES OR JOBS TO THE VEHICLE,** verify that the fleet management interface has been enabled on the PND. The **Dispatch option** will appear in the menu screen as shown in the image to the right.

If the Dispatch option does not appear, the beacon may not be enabled for PND connectivity on the Contigo portal. Please have the Contigo portal administrator refer to the Administration and Configuration guide for complete instructions. See Troubleshooting options in section 4 below.

- › From the Contigo portal, you may then use the Dispatch interface to send a text message to the Vehicle. Verify that it is received by the PND.



IMPORTANT NOTE

Once installed, do not intentionally swap PNDs between vehicles. Always use the same PND in the same vehicle.

Should you be forced to move a PND from one vehicle to another:

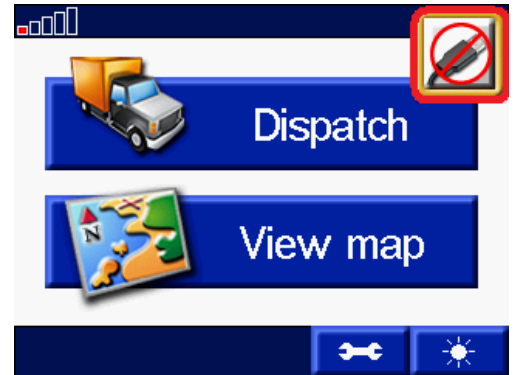
- › All Jobs and Messages will be automatically deleted from the PND
- › Jobs and Messages assigned to the current vehicle in the Contigo Dispatch interface will be re-sent to the PND

4. Troubleshooting the 6100/Garmin Connection

The Garmin shows that the data cable is disconnected.

The Garmin screen may display a **data disconnection icon**, even when the cable appears to be connected correctly.

First:



1. Verify that the disconnection icon is not displayed in error by attempting to send a message from the PND (Menu > Dispatch > Messages > Create Message). Verify on the Contigo portal that the message is or is not received. If the message is received, the icon can be disregarded and may clear itself after some time. If not, proceed to the next step.
2. Ensure the data cable is firmly inserted into the mini USB data port (usually on the side of the unit).
3. Ensure the data cable is still connected to the 6100 harness. If not, a replacement harness may be required.
4. Ensure the 6100 harness connector is correctly inserted into the rear of the 6100 unit.
5. Ensure the 6100 unit has power (PWR/GPS light is illuminated). Ensure that the PND has power and is not operating on its internal battery.
6. For Garmin units powered through the mounting bracket: ensure the PND is firmly seated in its mounting bracket. Ensure that the power connection is connected to an un-switched power source (provides power even when the vehicle ignition is turned off.) The unit must not be operating on its internal battery.
7. Power off the Garmin unit. If the Garmin PND is powered via a vehicle accessory DC power cable, disconnect this from the unit and/or its mounting bracket.
8. Disconnect the data cable from the Garmin PND.
9. **Wait a minimum of 30 seconds.**
10. Connect vehicle accessory DC power cable to unit and/or its mounting bracket.
11. Reconnect the data cable to the Garmin PND.
12. Turn on the Garmin PND.

If this does not resolve the condition, contact your Contigo support representative.

The Garmin PND appears to be connected and the 6100 is locatable, but PND is not sending/receiving Jobs or Messages.

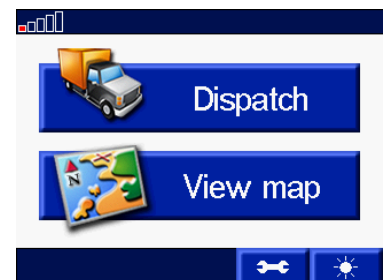
The Garmin may be unable to send or receive jobs or messages even when the data cable is confirmed to be connected correctly, and even when no disconnection icon appears on the screen.

There are a few conditions that may cause this behavior:

- The PND may be operating on internal battery. In this state, the communication link between the PND and the Beacon is broken, and Jobs and Messages will be lost.
- The Garmin Fleet Management Interface (GFMI) protocol has not been correctly enabled on the PND.
- Messages were sent from the Contigo Dispatch portal **before** GFMI was correctly enabled on the PND.
- If the 6100 beacon lost power while Jobs or Messages were being sent, communications may have been disrupted. Even if the 6100 is now correctly powered, Jobs or Messages may have been blocked temporarily. Usually, resending Jobs or Messages should resolve this issue.

Once you have confirmed that the 6100 beacon and PND are connected correctly, both have power (and the PND is not running off its internal battery), proceed with the steps below. **(Ensure that the Dispatcher is not attempting to send Jobs or Messages to the PND until notified to do so).**

1. Ensure that the PND is not operating on its internal battery. The PND must be connected to an active source of external power.
2. Ensure that the 6100 beacon may be located or tracked. If not, it may not have a GPRS wireless data connection.
3. Verify that the **Dispatch option** appears on the Garmin menu screen as shown in the image to the right. If this does not appear, then initial configuration of the 6100 beacon for Dispatch may not have been completed correctly on the Contigo portal. Contact the Contigo system administrator who must follow the instructions in the Dispatch and Navigation Administration and Configuration Guide to correctly configure the beacon for PND connectivity.
4. Send a message from the PND to the Dispatcher. (Menu > Dispatch > Messages > Create Message). Confirm that this message is received correctly. If not, proceed to the next step.
5. Request the Dispatcher send a Job from the Contigo portal to the PND. Confirm that this job is received correctly. If not, proceed to the next step.
6. Power cycle the 6100 beacon (turn off, and turn back on). Once this has been completed, verify that the beacon may be located or tracked from the Contigo portal.



7. Have the Dispatcher attempt to send a Job or Message to the PND. Verify that this is received correctly on the PND.

If this does not resolve the condition, contact your Contigo support representative.

The Dispatch option does not appear on the PND

The Garmin screen may not display the Dispatch option even though Dispatch has been correctly enabled on the Contigo portal (see the Administration and Configuration Guide).

1. Power off the PND unit.
2. Disconnect the 6100 harness connector from the rear of the 6100 unit. Wait 30 seconds and reconnect. Verify that the Beacon may be located.
3. Power on the PND unit and attempt to send a Job from the Contigo portal to the PND.

If this does not resolve the condition, contact your Contigo support representative.