

TECHNICAL REFERENCE

Updating Ashtech GPS Receiver DG14 Firmware in MRG113

PUBLISHED BY

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CHAPTER 1

GENERAL INFORMATION

This manual provides information for updating Ashtech GPS Receiver DG14 firmware in plug-in unit MRG113 in Sounding Processing Subsystem SPS311.

The update consists of three tasks, performed in the order listed below:

- Installing Universal Program Loader. See Chapter 2 Installing Universal Program Loader on page 4.
- Connecting RS-232 serial cable. See Chapter 3 Connecting RS-232 Cable on page 9.
- Updating firmware. See Chapter 4 Updating Firmware on page 10.

About This Manual

Version Information

Table 1 Manual Revisions

Manual Code	Description
M211812EN-A	June 2015. First version of this manual.

Documentation Conventions

Throughout the manual, notes are highlighted as follows:



Note highlights important information on using the product.

Software License

This product contains software developed by Vaisala. Use of the software is governed by license terms and conditions included in the applicable supply contract or, in the absence of separate license terms and conditions, by the General License Conditions of Vaisala Group.

This product may contain open source software (OSS) components. In the event this product contains OSS components, then such OSS is governed by the terms and conditions of the applicable OSS licenses, and you are bound by the terms and conditions of such licenses in connection with your use and distribution of the OSS in this product. Applicable OSS licenses are included in the product itself or provided to you on any other applicable media, depending on each individual product and the product items delivered to you.

Warranty

Visit our Internet pages for standard warranty terms and conditions:
www.vaisala.com/warranty.

Please observe that any such warranty may not be valid in case of damage due to normal wear and tear, exceptional operating conditions, negligent handling or installation, or unauthorized modifications. Please see the applicable supply contract or Conditions of Sale for details of the warranty for each product.

CHAPTER 2

INSTALLING UNIVERSAL PROGRAM LOADER

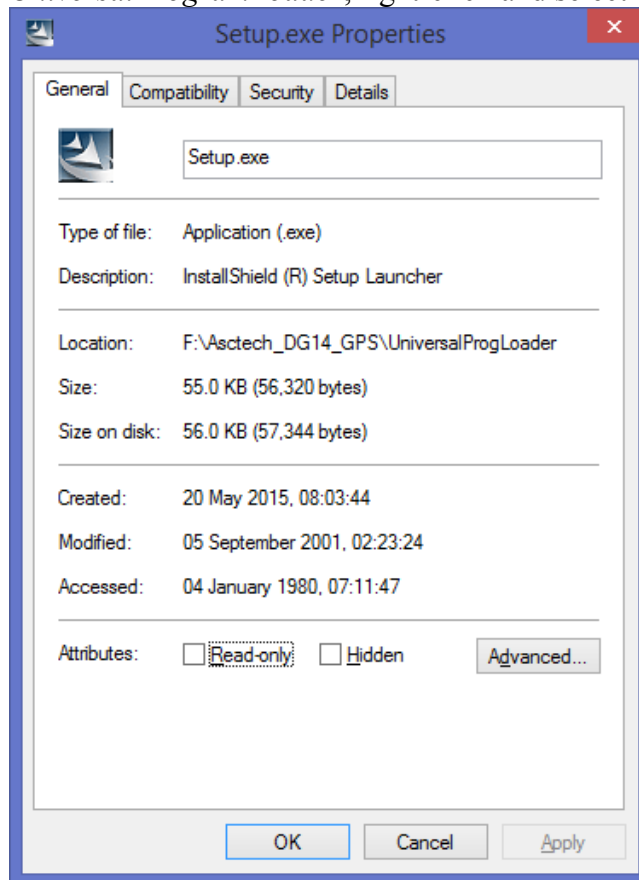
DG14 firmware is updated using Universal Program Loader. To update the DG14 firmware, you must first install the Universal Program Loader on your computer.

1. Extract the contents of *Ashtech_DG14_GPSReceiver.zip*. The extracted directory *Ashtech_DG14_GPSReceiver* contains a subdirectory from which you can start installing the Universal Program Loader.



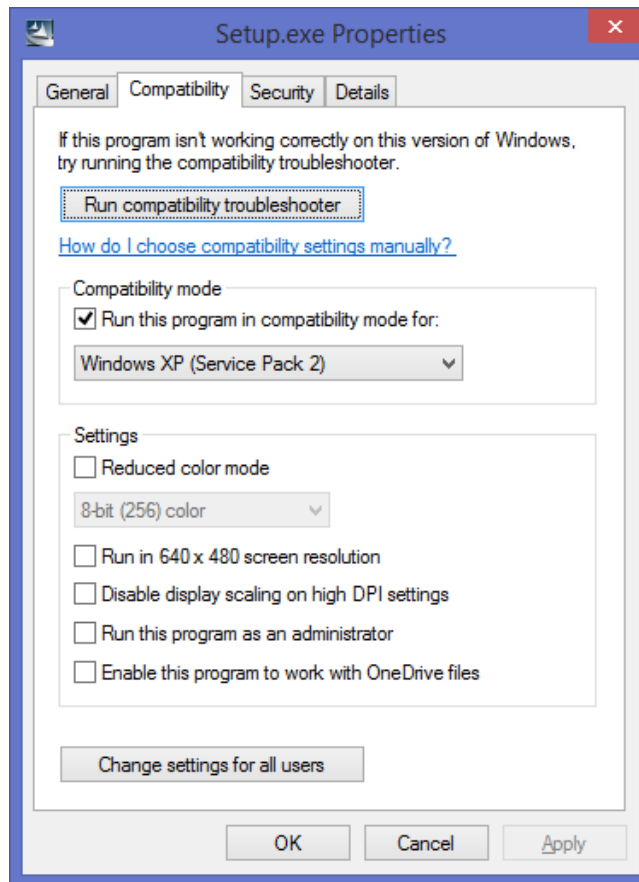
If you are using Microsoft Windows XP Operating System, you can skip steps 2 – 4 and proceed to step 5. You do not have to set the compatibility mode in Windows XP.

2. Select the **Setup.exe** file from the directory *UniversalProgramLoader*, right-click and select **Properties**.

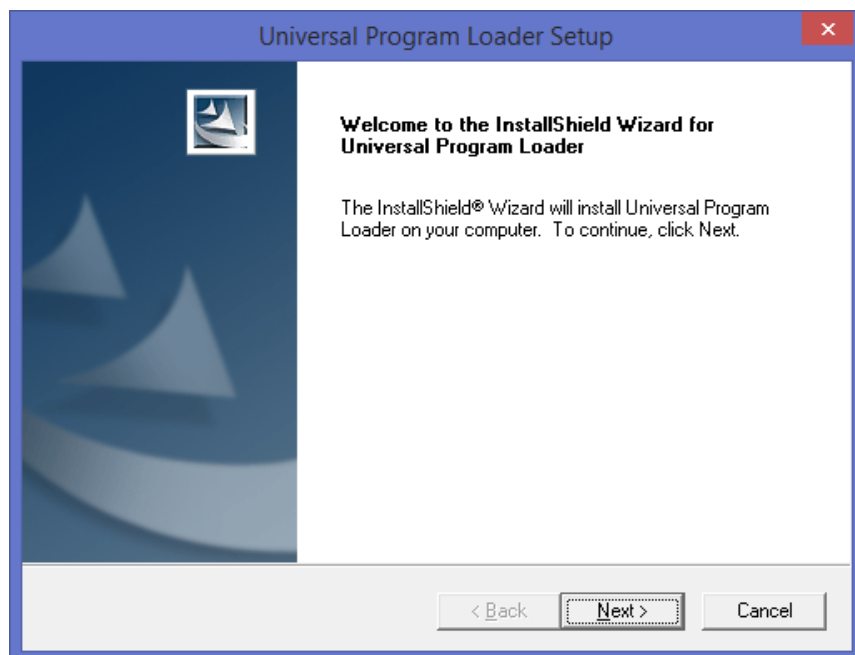


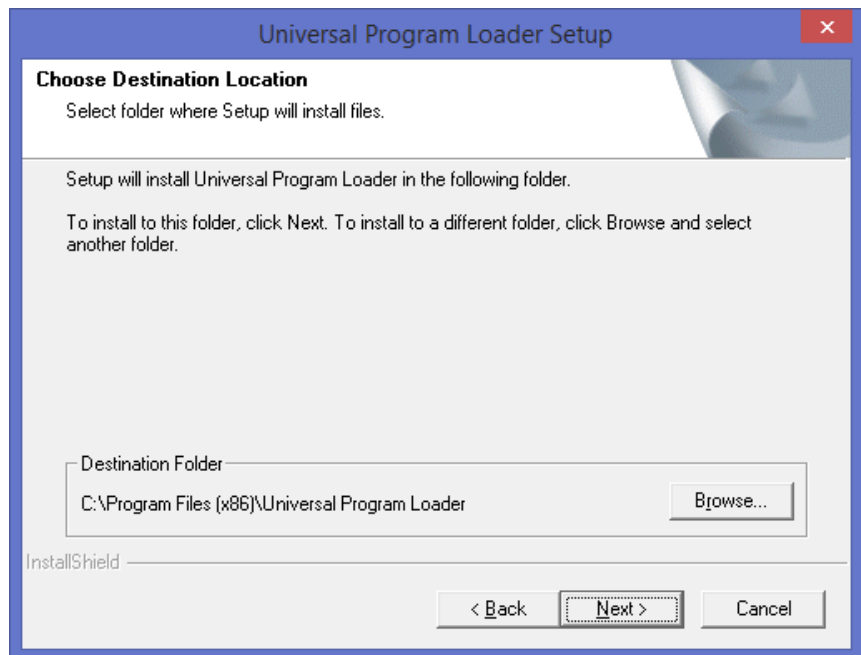
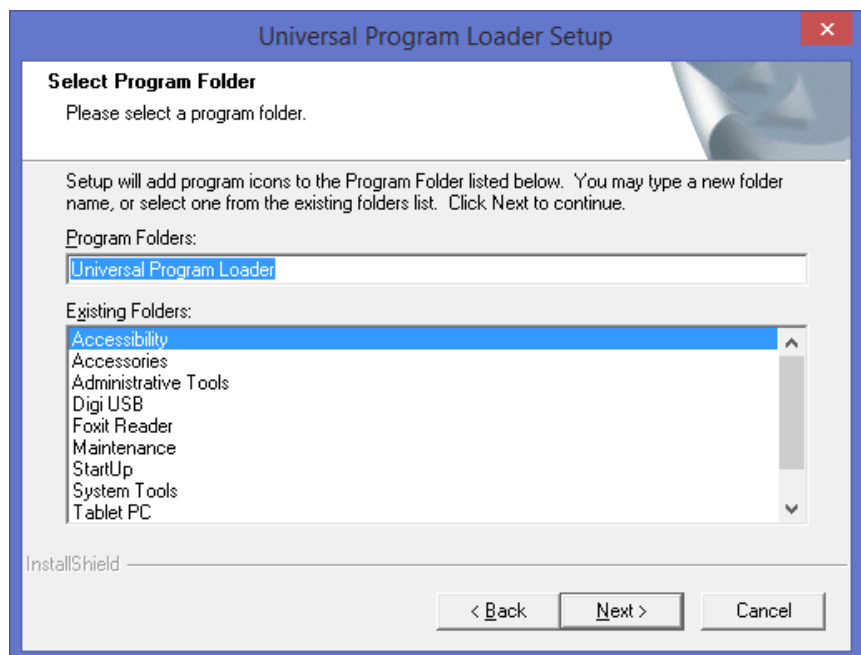
3. Select the **Compatibility** tab.

4. In the **Compatibility mode** field, select **Run this program in compatibility mode for** and **Windows XP (Service Pack 2)**. Click **OK**.

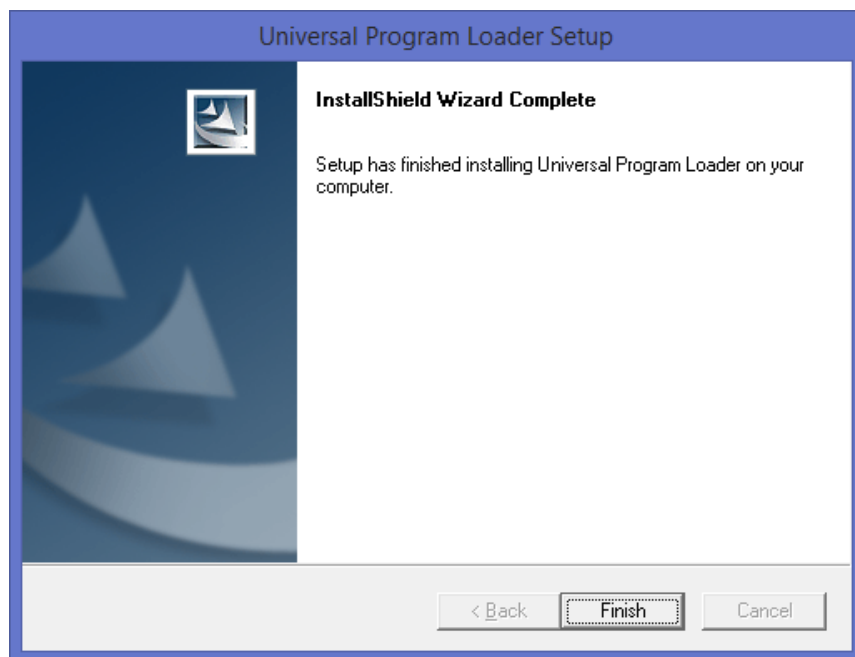


5. Start the **Setup.exe** file from the *UniversalProgramLoader* directory and click **Next**.



4. Click **Next**.5. Click **Next**.

6. Click **Next**.



7. Click **Finish**. The Universal Program Loader is now installed on your computer.

CHAPTER 3

CONNECTING RS-232 CABLE

Before the firmware update, you must connect a serial cable from the computer to MRG113. The serial cable has either been provided to you with MW31 sounding system (code MW45042), or it can be provided by Vaisala (code 242885). You can also purchase one yourself, see the requirements below.

Cable Requirements

The serial cable must be equipped with DB9 female connectors, crossed pinning 2 - 3 and pins 3 - 2 (TXD and RXD), straight pinning 5 ground. Other signal connections are not needed for pins 1, 4, 6, 7, 8, and 9. This type of commercial cable is called a null-modem cable and it is commonly used.

Connecting the Cable

Connect the serial cable from the computer's COMx port to MRG113's COM1 port. If your computer has a genuine COM port, use it. Otherwise use a USB/RS-232 to serial converter port.

CHAPTER 4

UPDATING FIRMWARE

The firmware is updated using Universal Program Loader. Instructions for installing the program are in Chapter 2 Installing Universal Program Loader on page 4.

Opening Universal Program Loader

To open the Universal Program Loader in Windows Vista or Windows 7:

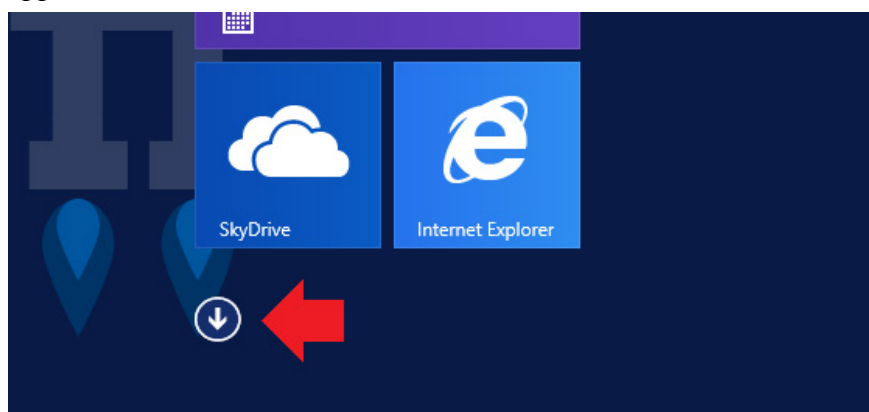
- Click **Start > All Programs > Universal Program Loader > Universal Program Loader**.

To open the Universal Program Loader in Windows XP:

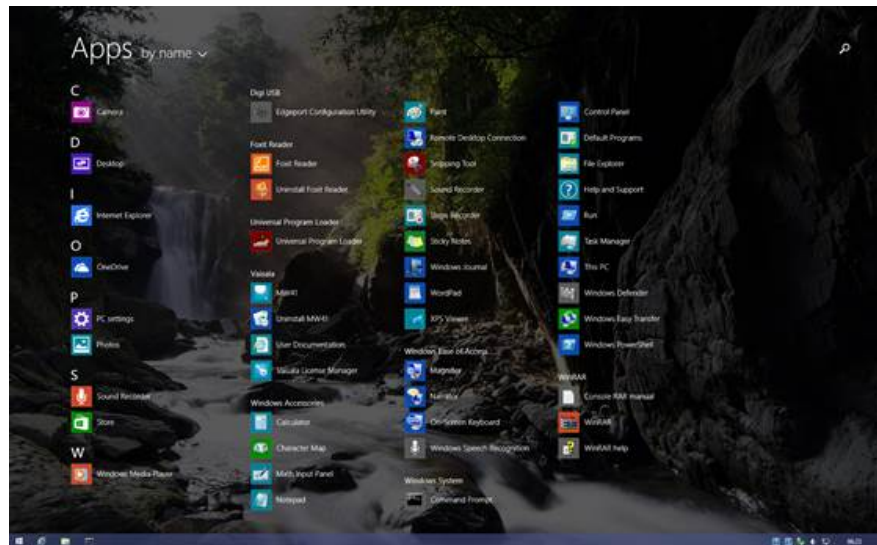
- Click **Start > Programs > Universal Program Loader > Universal Program Loader**.

To open the Universal Program Loader in Windows 8:

- Access the **Apps** view behind the Start screen: Point to the lower left corner of the Start screen and click the down arrow that appears.



- The **Apps** view appears. Click **Universal Program Loader**.

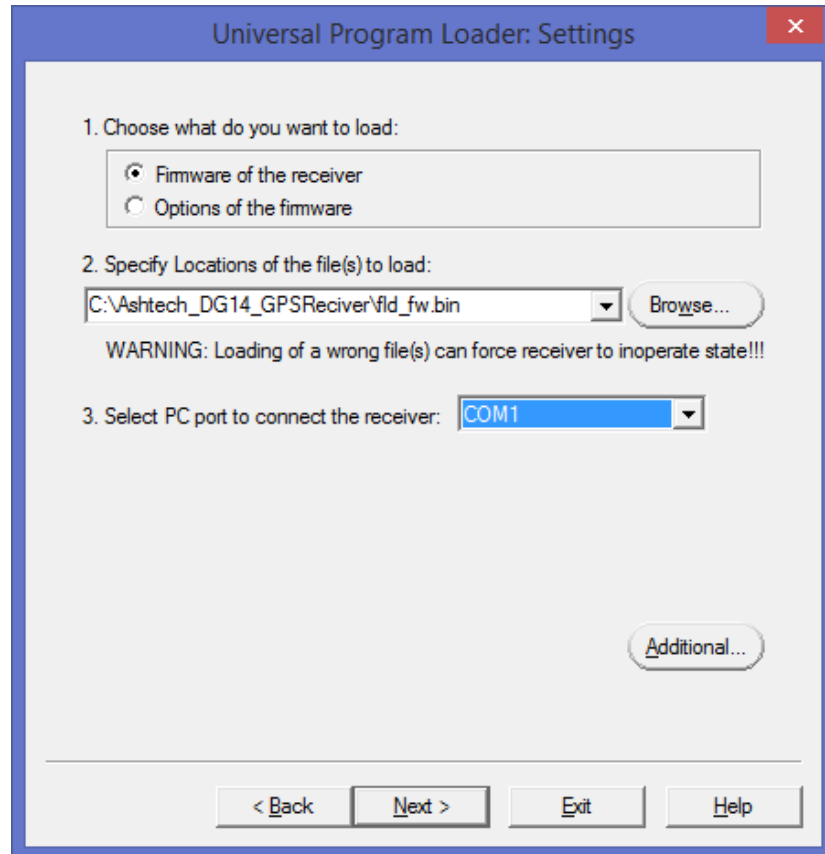


Updating Firmware with Universal Program Loader

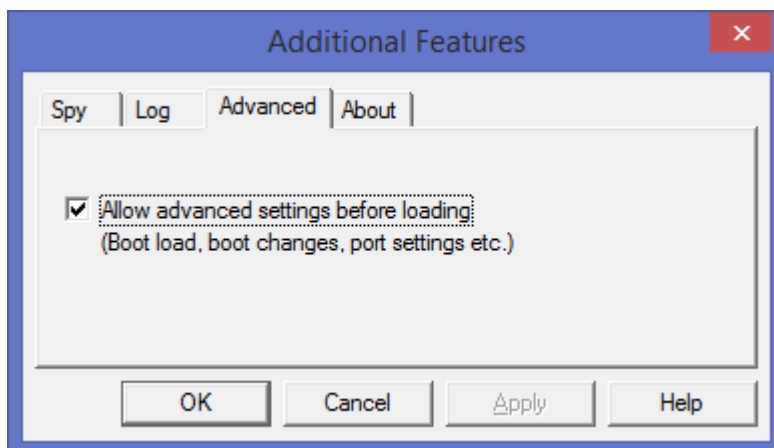
1. Click **Start** in the **Universal Program Loader** window.



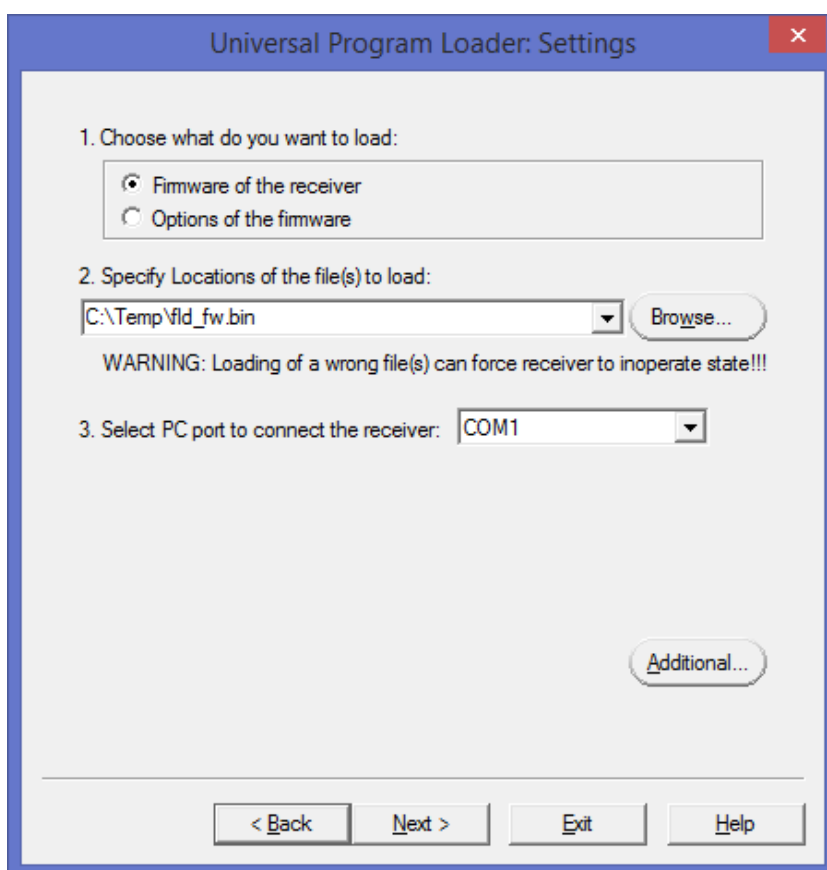
2. The **Settings** window opens. Make the following selections:
 - Select **Firmware of the receiver**.
 - Click **Browse** and locate the file *fld_fw.bin*
 - Select PC port **COMx** (COMx means the port where you have connected the RS-232 cable).
 - Click **Additional** and select the **Advanced** tab.



3. Select **Allow advanced settings before loading** and click **OK**.

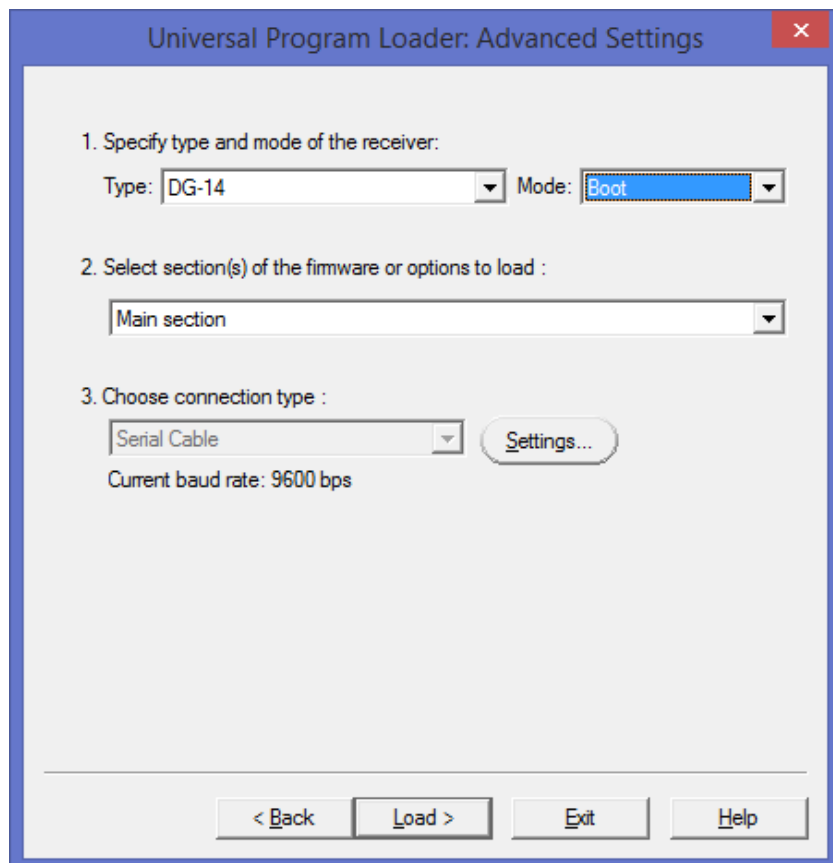


4. Click **Next**.

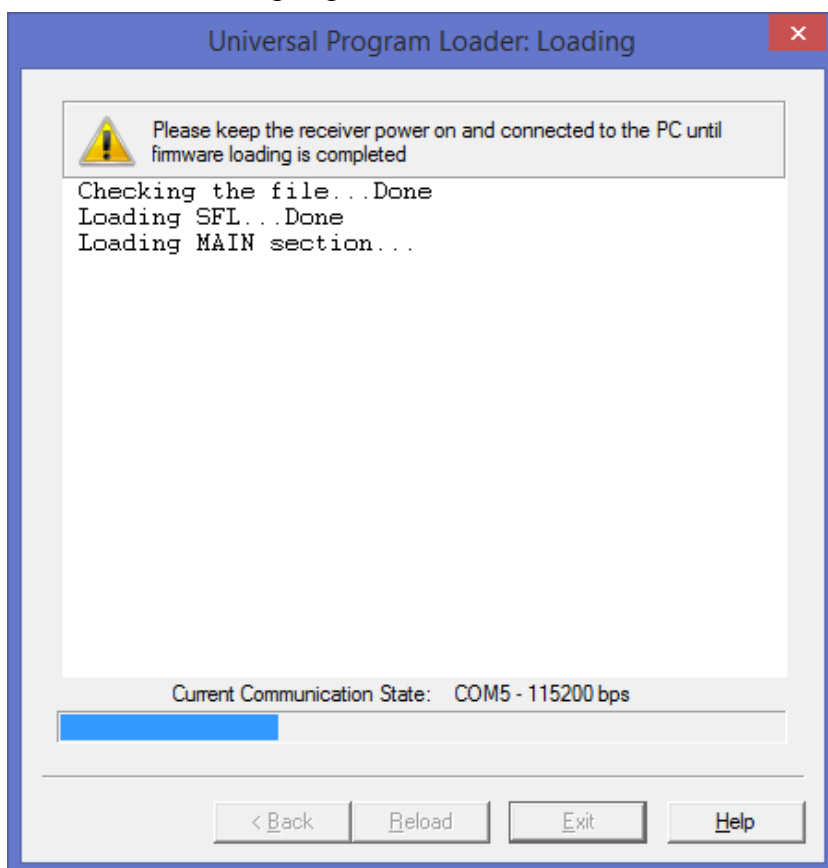


5. The **Advanced Settings** window opens. Make the following selections:
 - Type: **DG-14**
 - Mode: **Boot**
 - Section(s) of the firmware or options to load: **Main section**

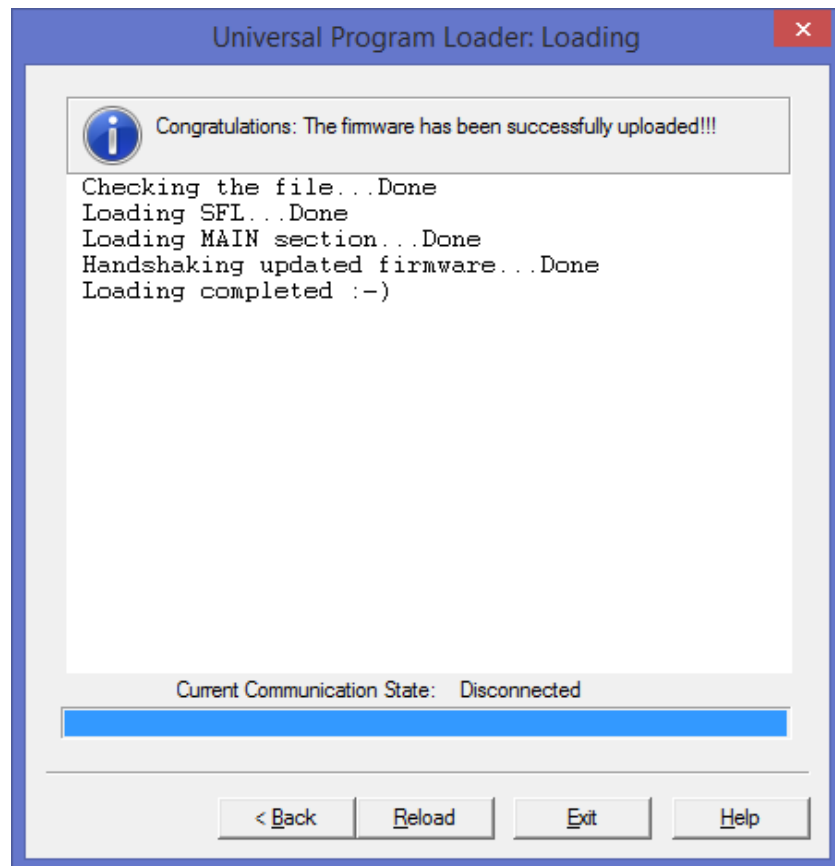
Click **Load**.



6. The firmware loading begins.



7. When the firmware has been successfully updated, click **Exit**.



8. Disconnect the DB9 RS-232 cable and switch SPS311 power off, then back on.

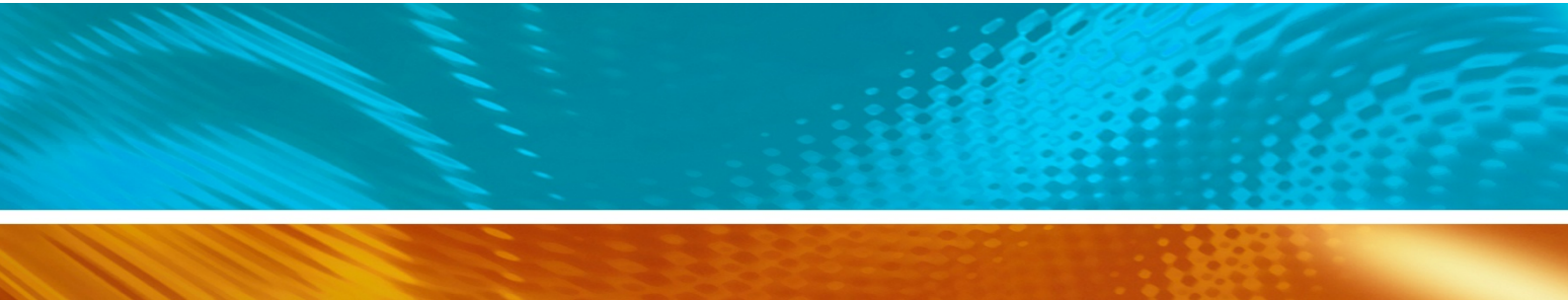
CHAPTER 5

TECHNICAL SUPPORT

For technical questions, contact the Vaisala technical support at helpdesk@vaisala.com. Provide at least the following supporting information:

- Name and model of the product in question
- Serial number of the product
- Name and location of the installation site
- Name and contact information of a technical person who can provide further information on the problem.

For Vaisala Service Center contact information, see www.vaisala.com/servicecenters.



www.vaisala.com

