

DIRSIG 4

Installation and Upgrade Instructions for Windows

The DIRSIG4 software is released on the Windows platform as a traditional Windows “installer”. Simply double-click the installer file and follow the standard directions to install the software. DIRSIG4 is built on Windows XP and has been tested on Windows XP, Windows 2000, Windows Vista and Windows 7 (both 32-bit and 64-bit).

1 Before You Upgrade

The default install folder for DIRSIG is `\Program Files\DIRSIG 4`. Any updates to previous releases will upgrade the files by *replacing* them with newer versions. Therefore, you should make a copy of the installed files if you have made modifications to them **before** updating with a new release.

1.1 Save Your MODTRAN Configuration

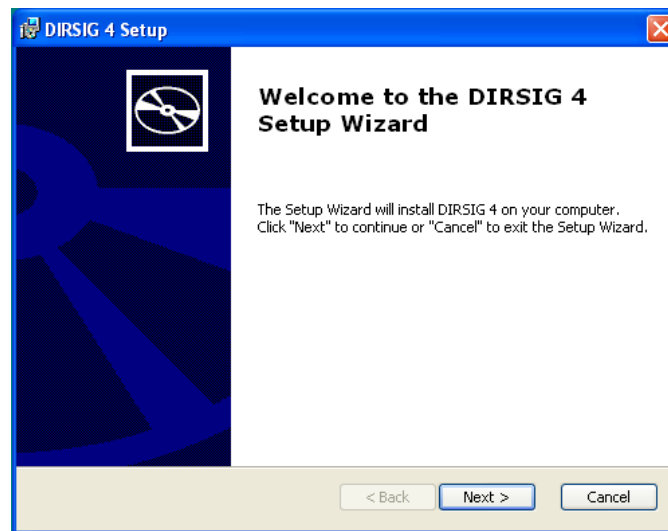
If you have a previous version of DIRSIG installed, make a copy of the `make_adb` configuration file containing the paths to MODTRAN (see Section 4.2 for more details). The installer currently overwrites this file, so make a copy and then place it back into `$DIRSIG_HOME\config` when the installation (upgrade) has completed.

1.2 Upgrading from 32-bit to 64-bit

If you have installed the 32-bit version of DIRSIG (any release before 4.4.1 and including the 64-bit 4.4.1 Release Candidate) and want to install the 64-bit version, then you should uninstall the previous version prior to installing the 64-bit version.

2 Installation

Simply run the graphical installer like any other Windows software installation process. When



completed, the installer will have added a **DIRSIG 4** sub-menu to the Windows **Start** menu. Please read the remaining sections on setup for additional instructions.

3 Command Line Setup

Since the 4.2 release, DIRSIG has been distributed with a graphical user interface that allows the user to configure and run a DIRSIG simulation without using any command line tools. However, there are still many reasons you might want to run a DIRSIG simulation from the command line.

If you want to run DIRSIG from the command line (e.g. from the `cmd` command prompt, etc.) you to have the path to the DIRSIG executables configured and the `DIRSIG_HOME` environment variable set. The installer should automatically add the `DIRSIG_HOME` environment variable and the DIRSIG executables directory to the `PATH` environment variable. This can be verified in the **Environment Variables** dialog available from the **System** control pane. The following descriptions of these two configuration elements are provided below for clarity.

- The `DIRSIG_HOME` environment variable must be set to point to the top of the installation directory. On Windows, the default installation directory is **\Program Files\DIRSIG 4**.
- The DIRSIG executables directory must be in your path. The directory containing the DIRSIG executables is **\Program Files\DIRSIG 4\bin**.

The main graphical user interface is in **\Program Files\DIRSIG 4\bin** as **dirsig_edit**. The command line version of the model is in the same directory as **dirsig**.

4 MODTRAN Setup

4.1 Installing MODTRAN

Just like every other DIRSIG operating system platform, you need to have MODTRAN and installed. Explaining how to compile and install MODTRAN is beyond the scope of this DIRSIG installation guide. New MODTRAN users are encouraged to read the documentation supplied with MODTRAN. If you have acquired MODTRAN through the traditional channels, the release CDROM usually comes with a version of MODTRAN pre-compiled for Windows.

4.2 DIRSIG Configuration

In order for DIRSIG to use MODTRAN, DIRSIG must know where MODTRAN is installed. This is described to DIRSIG and supporting programs via the configuration file for the `make_adb` program (the primary tool that interacts with MODTRAN). This configuration file can be found in the `config` subdirectory under the DIRSIG installation directory. On the Windows platform, that file is `$DIRSIG_HOME\config\make_adb`. This file can be edited using TextEdit, WordPad, etc., however

make sure that the file is saved back as a plain text file with the same name. The contents of this file are shown below:

```
MAKE_ADB_CFG = 1.0
```

```
MODTRAN {  
    MODTRAN_EXE = C:\Mod4v3r1\Mod4v3r1.exe  
    MODTRAN_DATA_DIR = C:\Mod4v3r1\DATA\  
    MODTRAN_MIN_DELTA = 1.0  
}
```

```
BACKGROUND_RADIANCE_FILE = C:\Program Files\DIRSIG 4\lib\data\misc\star_light.dat
```

The key items to setup that might vary from installation to installation are the MODTRAN related items inside the MODTRAN section. In this example file, MODTRAN was compiled and installed into the C:\Mod4v3r1 directory, where Mod4v3r1 refers to MODTRAN4, version 3, release 1. However, MODTRAN can be compiled and installed in any directory.

The MODTRAN_EXE variable contains the path to the MODTRAN executable. The MODTRAN_DATA_DIR variable contains the path to the MODTRAN “data” directory that contains all the band model files, etc. The MODTRAN_MIN_DELTA variable contains the maximum spectral for this version of MODTRAN. The resolution limit for MODTRAN4 is 1 wavenumber (cm^{-1}) and for MODTRAN5 it is 0.1 wavenumber (cm^{-1}).