

Installation details

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<https://simfit.uk>

<https://simfit.org.uk>

<https://simfit.silverfrost.com>

From Version 8.0.8 only the 64-bit version of SIMFIT is distributed.

From Version 8.0.9 the simplified version sv_simfit is also installed.

Both are available from a desktop shortcut to

C:\Program Files\simfit\bin\x64_simfit.exe.

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1 Advice before downloading

It is possible for malware to infect your computer when you open any file, especially *.exe or *.zip files. So, after downloading such files, make sure Windows Defender or your antivirus program scans the file and does not find anything suspicious before opening the file. Of course this advice applies to any file you download from the internet.

From SIMFIT version 8_1_3.exe onwards the installer files will be digitally signed and, if you get a UAC message that the file is from an unknown publishers, then do not open it but report it because it may be infected.

2 Introduction

- The SIMFIT package is designed for end-users who just want to do statistics, simulation, curve-fitting, and graphics. It is completely self-contained and runs out of the box, requiring no programming skills. The simplified version sv_simfit.exe has

fewer options and can be opened from `x64_simfit.exe`. It has been designed for inexperienced users to practise with before using the full package.

- The `SIMDEM` package is intended for programmers who want to use the `SIMFIT` GUI to create true Windows programs instead of DOS-type console applications. It comes with a stand-alone driver program and documentation illustrating how to create messages, menus, tables, and graphics
- `SIMFIT` and `SIMDEM` are Open Source and free of charge to all users.
- The 32-bit versions of `SIMDEM` will run on either 32-bit or 64-bit operating systems, but `SIMFIT` will only run on 64-bit operating systems.
- `SIMFIT` and `SIMDEM` do not use the registry: all configuration relies on the same set of ASCII text files (*.cfg) and, if any such configuration file is deleted, `SIMFIT` or `SIMDEM` will create a default copy.
- `SIMFIT` no longer requires the installation of GhostScript, GSview, or a specified PDF reader but retains all previous options for *.eps and *.pdf files. Windows users who want to make the best use of `SIMFIT` graphics should save SVG or PNG files directly or, for better quality and greater versatility, archive EPS files. These can be transformed into PNG, PDF or other types of graphics files for importing into documents as required, using the `SIMFIT` interface to the GhostScript DLLs.

3 Installing the Simfit package

There is only one version of `SIMFIT`: the Academic version which is free-standing and requires no other libraries. However the program `x64_change_simfit_version.exe` can allow `SIMFIT` to use the NAG library DLLs if you have an operational copy of the NAG library DLLs, from Mark 20 onwards.

Note: only 64-bit versions of `SIMFIT` are distributed.

The 64-bit `SIMFIT` driver program is called `x64_simfit.exe`.

- (a) The `SIMFIT` setup programs will install `SIMFIT` in MS Windows, and also in Linux where Wine is installed, or in Mac with Crossover.

You should uninstall previous versions of `SIMFIT` using the Windows Program Manager. However, if you decide to over-write an existing `SIMFIT` with the same version numbers, make sure that the existing `SIMFIT` files do not have the read-only attribute, otherwise you could end up with inconsistent binaries and test files. Existing *.cfg files and files you make are never over-written by the installation program.

- (b) Download the setup files from one of the `SIMFIT` websites:

<https://simfit.uk>, <https://simfit.org.uk>, simfit.silverfrost.com

The setup file for version 8 is `x64_simfit_setup8_x_y.exe` ... the complete 64-bit `SIMFIT` package.

The subscripts `_x_y` are the release numbers.

- (c) In Windows, install using `x64_simfit_setup8_x_y.exe` after using your virus checker by double-clicking from Windows Disc Explorer and, unless there is some very compelling reason to the contrary, choose to install in the default top-level folder.

The 64-bit installation program will create the default folders:

```
C:\Program Files\simfit\bin...(binaries)
C:\Program Files\simfit\doc...(documentation)
C:\Program Files\simfit\dem...(demonstration data)
```

and also personal folders in the hidden folder `C:\ProgramData` which you can make visible using Windows Explorer.

- (d) Non-default installations. The installation will create sub-folders under your chosen top-level folder, and in your `\ProgramData\Simfit` folder but this is not recommended as some `SIMFIT` programs may not work.

- (e) In Linux, copy `w_simfit.exe` into the Wine C: equivalent, e.g.

`/home/user-name/.wine/drive_c`

In new installations you will now create the two files

```
l_simfit.cfg
w_simfit.cfg
```

If you mistakenly install the Windows configuration it will not run properly in Linux, and you will have to delete these two files and let `SIMFIT` create a default configuration. As root, run using wine, i.e. `wine w_simfit.exe`, or run from the appropriate Wine or KDE start menu. Further details will be found on the `SIMFIT` website and in `linux.txt`.

- (f) The `SIMFIT` package is run from the program manager program `x64_simfit.exe`, and you do not need to run any other `SIMFIT` programs.

Make a shortcut from your desktop to the `SIMFIT` program manager

`C:\Program Files\simfit\bin\x64_simfit.exe`).

Run this shortcut and read any warning messages. Finally, press the [Configure] button, then the [Check] button to correct the paths if necessary, and finally the [Apply] button to complete the configuration.

- (g) If you decide not to use the default folders, that is allowed as long as the installation folder ends like this `...\Simfit`. You can install any binaries you like as auxiliaries, as long as the fully qualified path is provided using the [Configure] option.

- (h) Run `w_simfit.exe` (or `x64_simfit.exe`) at least once from the installation folder with all flags switched on to check for missing or obsolete files.

When a good configuration has been set up, you should switch off the options to check for missing files, etc. to speed up the start up and prevent errors arising from impatient double clicking.

- (i) Where `SIMFIT` is for group use, the test files `*.tf?` could be made read-only, or refreshed regularly, to prevent accidental editing leading to corrupt test files.
- (j) Print or browse the `SIMFIT` manual `w_manual.pdf` using your default PDF-viewer. This can be done from the [Manual] button on the `x64_simfit.exe` main page if `SIMFIT` is configured properly.
- (k) Common errors include inconsistent `.exe` or `.dll` files, failing to configure `SIMFIT` correctly so it cannot use an auxiliary program, or not allowing `SIMFIT` write permission to create configuration and results files.

4 Using Simfit with the NAG library DLLs

`SIMFIT` was originally developed as a front end to use the NAG library on mainframes. Subsequently an alternative free Open Source library was developed to replace the NAG library on the PC using DOS, then Salford Software DBOS, and then Windows.

With the release of the NAG library DLLs for Windows, two programs have been developed so that `SIMFIT` users can switch at will between using the `SIMFIT` library or the NAG library for numerical calculations.

If a user has a valid licensed version of the NAG library DLLs available there are some advantages in making the swap. In particular, some of the MKL NAG routines, e.g. those using LaPack and BLAS, will execute faster than the `SIMFIT` academic ones, and there are a number of additional options available, particularly when using the NAG differential equation solving and optimization routines.

To switch between the academic and NAG libraries the following technique must be used.

1. Make sure that `SIMFIT` is switched off so that no DLLs are linked in.
2. Use Windows explorer to move into the `SIMFIT` binary folder which will be something like
C:\Program Files (x86)\Simfit\bin for the 32-bit version, or
C:\Program Files\Simfit\bin for the 64-bit version.
3. As administrator execute the program
`x64_change_simfit_version.exe` for the 64-bit version.
4. If you try to swap to the NAG version you may encounter one of two problems.

- The utility may not be able to find the alternative interface DLLs.
- The NAG version created may not run because it cannot locate the NAG DLLs on the path.
- The NAG version created may report that there is no valid license.

If this happens then correct the mistake or restore the academic version.

5 Installing the Simdem package

This is a subset of the SIMFIT package designed to allow Fortran programmers to use subroutines from either `w_menus.dll` and `w_graphics.dll`, or `x64_menus.dll` and `x64_graphics.dll` to create stand-alone executables that will run in MS Windows, Linux under Wine, or Mac under crossover.

It comes with a help program called `simdem.chm`, source codes for the driver, 70 example programs, and compiled versions of `simdem.exe` and `x64_simdem.exe`.

The 32-bit `SIMDEM` driver program is called `simdem.exe`.

The 64-bit `SIMDEM` driver program is called `x64_simdem.exe`.

There is only one installation file which installs both the 32-bit and 64-bit binaries, but there are several alternative forms as follows.

- (A) Silverfrost FTN95 in 32-bit CDECL mode, and also in 64-bit mode. These are the versions bundled with the FTN95 compiler and can link to either 32-bit CDECL DLLs, or 64-bit DLLs.
- (B) The gFortran 64-bit version. This is for linking to executables made using 64-bit gFortran.
- (C) The NAGfor 32-bit version using the `-compatible` switch (which invokes `STDCALL` mode) and the NAGfor 64-bit version. Both of these use the Silverfrost Clearwin+ interface to the Windows API. These are the versions bundled with the NAG builder.

The default configuration is

```
C:\Program Files\Simdem\bin    ...(binaries)
C:\Program Files\Simdem\f95    ...(free format codes)
C:\Program Files\Simdem\for    ...(fixed format codes)
C:\Program Files\Simdem\doc    ...(txt,html,pdf files)
C:\Program Files\Simdem\dem    ...(demonstration data)
```

The `SIMDEM` run time system depends on the compiler version as follows.

- Silverfrost FTN95

The 32-bit dll is `simdem32.dll` (CDECL) and the 64-bit version is `simdem64.dll`.

- NAGfor

The 32-bit dlls are `w_clearwin.dll`, `w_graphics.dll`, and `w_clearwin.dll` (STD-CALL) and the 64-bit ones are `x64_clearwin.dll`, `x64_graphics.dll`, and `x64_clearwin.dll`.

- gFortran

The 64-bit dlls are `x64_clearwin.dll`, `x64_graphics.dll`, and `w_menus.dll`.

6 EPS and SVG graphics

The best and most versatile vector graphics format for archiving and printing professional high quality scientific graphs is PostScript and `SIMFIT` creates such `*.eps` encapsulated PostScript files. However it only displays a low resolution bit-map representation of the graph on screen, using Windows graphics so `SIMFIT` provides the option to generate a `*.pdf` file to pass on to your default PDF reader. Also `SIMFIT` can create scalable vector `*.svg` files for internet use.

Note that PDF, JPG, and PNG files created indirectly this way from `SIMFIT` EPS files will be of higher quality than the same types of files created by Windows.

The GhostScript DLL will be in the `... \simfit \bin` folder.

The 64-bit Ghostscript DLL is called `gsdll64.dll`