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Foundation Series Software

What is the new library format being used by Foundation 1.4, and are there any issues involved?

The Foundation 1.4 Library Manager allows you to use long names (up to 255 characters) for library objects. Foundation 1.3 and earlier versions allowed names up to 24 characters only. Thus, the library format has been changed from version 4.0 in Foundation 1.3 to 5.0 in Foundation 1.4

When you open a project which was created in pre-F1.4 software, the Project Manager will ask you if you wish to convert the library to the new 5.0 format. If you answer **yes**, the library will be converted and you will be able to make changes to it in F1.4. If you answer **no**, the 4.0 format will be preserved, and the library will be read-only in F1.4.

Libraries in the 4.0 format can be converted to the 5.0 format to enable using them in access modes other than **R/O**. To convert a 4.0 library to the new 5.0 format:

1. Go to the Library Manager. (This is done by selecting **File > Project Libraries...** and then double clicking on the **Lib Manager** button, or by selecting **Tools > Library Manager**.)

2. Select the library you want to convert.

3. Select **Convert to version 5.0** from the Library menu.

The original 4.0 format library will be saved in the **BAK_24** folder, which will be created under the **<project_name>\Lib** directory. The conversion affects two library files (DIR and SYN). If it is necessary to revert back to the 4.0 format library, simply copy the contents of the **BAK_24** directory into the **LIB** directory.

NOTE: During the start of the Foundation Series suite, the system checks the format of all libraries. If it finds the 4.0 library, then the library access mode is automatically changed to **R/O**. Conversion to the 5.0 format is run automatically when you change the library access mode to **R/W** or **R/A**. The **R/S** access mode of system libraries is not changed.

5.0 format libraries cannot be used with older tool sets (F1.3 and earlier). F1.4 does not contain a conversion tool that converts from 5.0 to 4.0 format. To revert back to 4.0 format, you must copy the backed-up library, as described above.

How do I simulate bi-directional signals in the Foundation Logic Simulator?

Use the **Chip Controlled** (CC) mode when simulating bi-directional signals. This will allow a chip (symbol) output to override the test vector.

Suppose you are simulating a bi-directional pin **BIDIR**, and have applied a stimulator to **BIDIR**. You want this stimulus to appear on **BIDIR** when the 3-state buffer is disabled. Now, when the 3-state buffer is enabled, you want to view its output on **BIDIR**, but the input test vector is overriding the output. Using **CC** mode on the **BIDIR** stimulator will allow the output of the 3-state buffer to override the stimulus.

To apply the **CC** mode to a stimulator, select the signal in the Waveform Viewer, and either click on the **CC** button in the **Stimulator Selection** Window, or select **Stimulator > Chip Controlled Mode**. Stimulators that are in **Override** (**OV**) mode are displayed in red in the **Waveform Viewer**. Stimulators that are in **CC** mode are displayed in black.

If you are using a **CMD** (script) file, use the **release (r)** command to release the bi-directional pin, as shown below:

```
h DATA    #assigns input stimulus
 to bidi pin DATA

l EN      #tri-states output enable

sim

h EN      #enables output so that
 data is driven OUT onto DATA

r DATA    #releases bidi pin DATA
 so that data may be driven out

sim
```