CERN Open Hardware Licence Version 2 - Strongly Reciprocal User Guide

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1 Introduction

This document contains guidelines on how to apply the CERN-OHL-S v2 to a given hardware design, and on the use of hardware designs licensed under CERN-OHL-S v2. This means we will be talking to you sometimes as a licensor, and other times as a licensee.

As a licensor, there are many ways in which you can make it clear to your licensees that you are sharing your designs under the licence. These guidelines are only to be taken as advice, illustrating some ways in which we think this can be done efficiently.

To help you distinguish between requirements imposed by the licence (mostly as a licensee) and our suggestions to you (mostly as a licensor), we will use the word 'rule' for the former and the word 'suggestion' for the latter. Any perceived contradiction between these guidelines and the licence text should of course be resolved in favour of the licence text.

2 How to apply CERN-OHL-S v2 to a hardware design

2.1 Pre-requisite

Authorship/ownership of the design must be clear and undisputed. Only the legal owner of the rights in the hardware design may decide under what conditions to make it available. Generally, if ownership is vested in more than one person/entity, there must be an agreement among the owners (or a chain of compatible licences from each of them) to release the hardware design as open hardware, and under the CERN-OHL-S v2 in particular.

2.2 Your sources

Nowadays, most designers who intend to share their work do so by hosting their design files (sources) in a publicly-accessible repository using version control systems such as git. The sites hosting these repositories usually provide users

with the convenience of downloading a whole repository as a compressed (e.g. zip) file. Using these platforms is a very effective way of working: it makes it easier for you to receive feedback, shows your users the complete history of the project and allows them to easily start using it and contributing improvements.

2.2.1 Suggestion: try to host your design in a publicly-accessible repository using version control. If that is not possible, compress your whole directory structure into one file and publish that file, so users get your whole project in one go.

If your goal is to share, it makes sense to provide enough information to users about the contents of the design package they download, and to make it easy for them to browse that information. For example, if you have designed your hardware using proprietary tools, people who download the design files may not have access to the tools you used. Sometimes you can also provide exported versions of those files which, although not as useful for modification as the originals, will make life easier for people who want to understand your designs. For example, PCB schematics and layout can be exported as pdf files, and 3D mechanical designs can be exported to the STEP format.

2.2.2 Suggestion: include in your design sources versions of the files exported to formats everybody can read. It would be helpful to specify the tools you used, and, if they are publicly available under free and open source licences, provide information about where the recipient can find them.

It can also be good to let people know that you are following this guide, so they see why you are doing things in this or that way.

2.2.3 Suggestion: include a copy of this user guide, in pdf or plain text format, in your sources.

Of course, although not strictly necessary, you should also include a copy of the licence text (CERN-OHL-S v2 in this case) in pdf or plain text form. Your design files will anyway be identified as licensed under that licence, with a URL pointing to the licence text, but it does not hurt to include the licence text in the source package for the convenience of the user and to make it very visible that the whole design is open source.

2.2.4 Suggestion: include a copy of the CERN-OHL-S v2 licence text, in pdf or plain text format, in your sources, and failing that, provide a link to the licence at https://ohwr.org/cern_ohl_s_v2.txt .

One of the requirements for licensees who make modifications to the design and publish those modifications is to make them explicit in a dedicated text file. As a licensor, you can make this obligation more easy for licensees to see and bear in mind by including a placeholder file called CHANGES.txt in your sources.

2.2.5 Suggestion: include an empty CHANGES.txt file in your sources. You may write a few lines in the beginning of the file stating that anyone modifying the design should provide brief information about the modifications, including the date they were made, and stating that information about

the design should be added but never removed from that file. It could also state that, according to section 3.3.b of the licence, licensees should provide a brief entry with a date and the nature of the modification for each design change. For example '26 April 2020: AC/DC power converter circuit removed as AC input no longer necessary'.

Now, as you have seen, as the initial licensor, relatively few rules apply to you. We are going to assume that it is your intent to license your design under CERN-OHL-S v2 though, and in that sense the minimal requirements are going to be described as 'rules' below.

Some files can easily include a header or a text box with copyright and licensing information which will be easily visible to whoever opens them. For file types which do not easily grant that possibility, consider using a separate text file taking as its name the name of the original file with '.license'[1] appended to it. So if you have e.g. a file called 'my_3d_design.FCStd', you can add another file in the same directory called 'my_3d_design.FCStd.license' which is a text file containing copyright and licensing information. If the number of files in your project is large and the '.license' method is deemed too cumbersome, you can centralise all your licensing information in a single text file following the Debian DEP5 specification. Both the '.license' and the DEP5 methods are suggested in the REUSE guidelines. See https://reuse.software/ for details.

2.2.6 Rule: include for each source file, either embedded in the file itself or in a separate text file which refers to it:

(a) a copyright notice reflecting actual ownership;

(b) a notice that the hardware design source is licensed under the CERN-OHL-S v2, possibly with a link to https://ohwr.org/cern_ohl_s_v2.txt:

  i. "Licensed under CERN-OHL-S v2 or any later version" or

  ii. "Licensed under CERN-OHL-S v2";

(c) a disclaimer of warranties;

(d) a Source Location if you wish to specify one;

(e) optionally, a Notice specifying that you wish the Source Location to remain visible on the Product (or its packaging, or in its documentation) even after modifications.

[1] Here we exceptionally use US spelling for the word 'licence' in order to be coherent with the REUSE project.

Here is an example for a hypothetical designer called Sam Smith hosting a design called Gizmo at https://example_url:

> Copyright Sam Smith 2020.
> This source describes Open Hardware and is licensed under the CERN-OHL-S v2.
> You may redistribute and modify this source and make products using it under the terms of the CERN-OHL-S v2
> (https://ohwr.org/cern_ohl_s_v2.txt).
> This source is distributed WITHOUT ANY EXPRESS OR IMPLIED WARRANTY, INCLUDING OF MERCHANTABILITY, SATISFACTORY QUALITY AND FITNESS FOR A PARTICULAR PURPOSE. Please see the CERN-OHL-S v2 for applicable conditions.
> Source location: https://example_url
> As per CERN-OHL-S v2 section 4, should You produce hardware based on this source, You must where practicable maintain the Source Location visible on the external case of the Gizmo or other products you make using this source.

The first three lines in the example above, containing copyright and licence type, can be substituted by a valid SPDX header, like this:
SPDX-FileCopyrightText: 2020 Sam Smith <sam@example.com>
SPDX-License-Identifier: CERN-OHL-S-2.0

or, in case the 'or any later version' option is preferred:
SPDX-FileCopyrightText: 2020 Sam Smith <sam@example.com>
SPDX-License-Identifier: CERN-OHL-S-2.0+

2.2.7 Suggestion: use standard SPDX headers whenever possible so that your choice of licence is easy to understand by humans and computers alike.

Why would you license your design under 'CERN-OHL-S v2 or any later version'? Imagine we discovered a shortcoming of the licence which made us write a new version, let's say version 3.0, to fix it. Let us further imagine that we decided to make v3 incompatible with v2 (this actually happened with the GPL). If you licensed your design under 'v2 only' that means it could not be combined with new designs licensed under v3. If, on the other hand, you license your design under 'v2 or any later version', you give future licensees the option of interpreting the design as licensed under the hypothetical v3, and there would be no compatibility issues. This is quite an important decision to take when you use a reciprocal licence, so we thought we'd mention it in this guide. You have to make your own judgment as to whether you believe that CERN can be trusted to ensure that future versions of the CERN-OHL will be similar in spirit and effect to this version.

2.2.8 Suggestion: give some thought to the 'or any later version' option before publishing your design under CERN-OHL-S v2.

We are going to assume that you, as a licensor, want people who receive a product based on your design to know that it is Open Hardware and where they can find the design files for that product, hence:

2.2.9 Rule: include in a part of the Source corresponding to a visible part of the Product (e.g. silkscreen or top copper for a printed circuit board):

(a) the licence notice: "Licensed under CERN-OHL-S v2";

(b) the Source Location.

2.2.10 Suggestion: You can optionally include a copyright notice to be printed on the Product (remember you must keep intact any Notices in the source, though). If you do, and your design includes part of other designs, you should at least acknowledge the work is not all your own by using e.g. Copyright © 2020 Sam Smith and others. In any case, do *not* include the CERN logo.

2.3 A Note on Components

If your design is modular, consider licensing each of the components you have designed separately, and then having an overarching design, also licensed under an appropriate variant of CERN-OHL which contains each of the sub-components as an Available Component. This will make life easier for licensees who only want to make use of one component of your design.

3 How to deal with hardware designs licensed under CERN-OHL-S v2

Generally speaking, you must comply with the requirements applying to a particular design detailed in the accompanying licence. If you receive hardware designs licensed under the CERN-OHL-S v2, the requirements are to:

3.1 Rule: keep intact all the copyright, acknowledgement and trademark notices and Source Location notices that are on the hardware design sources.

3.2 Rule: keep intact the references to the CERN-OHL-S v2.

3.3 Rule: keep intact the disclaimer of warranties.

3.1 Design modifications and publication

If you modify a hardware design licensed by someone else under CERN-OHL-S v2, and you want to publish your modified design, or you need to publish it e.g. as a result of the obligations attached to the production and distribution of products, you must:

3.1.1 Rule: keep intact all the notices referred to above, although you may remove notices that are no longer relevant to your design (for example, if the design you are using contains a power supply and a processor board, and you are only using the processor board in your own design, you can remove the notices relating to the power supply, so long as you are sure they only relate to the power supply).

3.1.2 Rule: include notices stating that you have modified the hardware designs, giving a date and information about the modifications you have made (e.g. in a CHANGES.txt file).

3.1.3 Rule: add the appropriate copyright notice and Source Location to the modifications that were made.

3.1.4 Rule: license the modifications under the 'CERN-OHL-S v2' (or 'CERN-OHL-S v2 or any later version' if permitted by the original licensor, and all other components of the design allow you to license with the 'or any later version' option).

3.1.5 Rule: if your design is a modification of someone else's design, or incorporates parts of another's design, and in each case the other's design is released under CERN-OHL[2], CERN-OHL-W or CERN-OHL-S you must (if your tools allow this) include in your design sources versions of the files exported to formats everybody can read using tools available under a free or open source software licence.

3.2 Hardware production and distribution

If, as a licensee, you want to produce hardware based on a design licensed under CERN-OHL-S v2 and/or distribute that hardware, you need to:

3.2.1 Rule: either provide each recipient with a copy of the Complete Source or ensure that each recipient is notified of the Source Location of the Complete Source.

By Complete Source, we mean all files needed to make the hardware. Please see the licence text for details. You also need to respect, if applicable, the will expressed by the licensor to have a clear visual indication of the Source Location on the hardware:

3.2.2 Rule: if specified in a Notice by the licensor, the Product must visibly and securely display the Source Location on it or its packaging or documentation in the manner specified in that Notice.

4 Asking for help

If there is something unclear in this guide, or you have any question on how to apply the licence, the best place to ask is the CERN OHL forum at https://forums.ohwr.org/c/cernohl. You may also find useful information in the FAQs at https://www.ohwr.org/project/cernohl/wikis/faq.

[2]By CERN-OHL we mean any of the earlier versions of the licence, prior to v2.0.