



USAGE GUIDE (PLEASE READ)

These are general hints to use this PCB file. They are aimed specially at those who want to use this PCB file for general and to whoever wishes to use this project.

(I) If you want to check or reroute a specific trace, it is recommended to use the "High Contrast Mode". Turn it on at View > Contrast mode > Check "High Contrast Mode".

(II) It is recommended that the user has some knowledge in Git usage to be able to use the Acheron Project.

(III) All footprints are available either through KiCad's native libraries (http://github.com/Gondolindrim/AcheronLibrary). To facilitate the process, the AcheronLibrary is generally added at the \${KIPRJMOD} folder as a Git submodule. To use it, run:

```
$ git submodule init --update
```

To update the submodules.

(IV) For detailed information, check the Acheron Docs page for the Acheron Project: <http://gondolindrim.github.io/AcheronDocs/arctic/intro.html>

MINIMUM VALUES

TRACE WIDTH: 6 thou (approx. 0.15 mm)
MINIMUM CLEARANCE: 6 thou
VIA HOLE SIZE: 12 thou (approx. 0.3mm)
VIA DIAMETER: 20 thou (approx. 0.5mm)
VIA-TO-VIA AND VIA-TO-TRACE CLEARANCE: 6 thou
SILKSCREEN CHARACTER HEIGHT: 25 thou (see General Observation)
SILKSCREEN CHARACTER TRACE WIDTH: 6 thou
TRACE-TO-EDGE AND VIA-TO-EDGE DISTANCE: 8 thou

RECOMMENDED VALUES

These values were the default values used when possible.

TRACE WIDTH: 10 thou
MINIMUM CLEARANCE: 8 thou
VIA HOLE SIZE: 16 thou (approx. 0.4mm)
VIA DIAMETER: 32 thou (approx. 0.8mm)
VIA-TO-VIA AND VIA-TO-TRACE CLEARANCE: 8 thou
SILKSCREEN CHARACTER HEIGHT: 32 thou
SILKSCREEN CHARACTER TRACE WIDTH: 8 thou
TRACE-TO-EDGE AND VIA-TO-EDGE DISTANCE: 8 thou

GENERAL OBSERVATIONS

(i) The grid unit (1U) value used was 3/4" = 19.05mm

(ii) The PCB was designed to fit the standards of the PCBWay manufacturer. Be aware that capabilities may vary among manufacturers, so be sure to check with your parts supplier if they have all the capabilities they support the minimum values used.

(iii) All parts were quoted on the LCSC supplier (<https://lcsc.com>). Also be sure to check with your parts supplier if they have all the capabilities they support the minimum values used.

(iv) You can always contact Gondolindrim through:

- ArcticPCB's GitHub page: <http://github.com/Gondolindrim/ArcticPCB>
- E-mail: alvaro.augusto.volpato@gmail.com
- Discord: [Gondolindrim#9738](#)
- Reddit: [/u/gondolindrim](#)

(v) Most manufacturers list minimum character height as 0.8mm, below that will be undiscernable or unreadable. I have found that 0.8mm is the minimum character height that can be used, although at that level a really close look is needed. In the future, a character height of 1.0mm will be used, which characters are easily readable is 0.8mm