SLB-PC104ADAPT-DOC-v2.0

PC-104 Adapter Documentation

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SpaceLab, Universidade Federal de Santa Catarina, Florianópolis - Brazil

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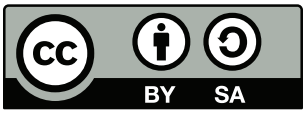

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CHAPTER 1

Introduction

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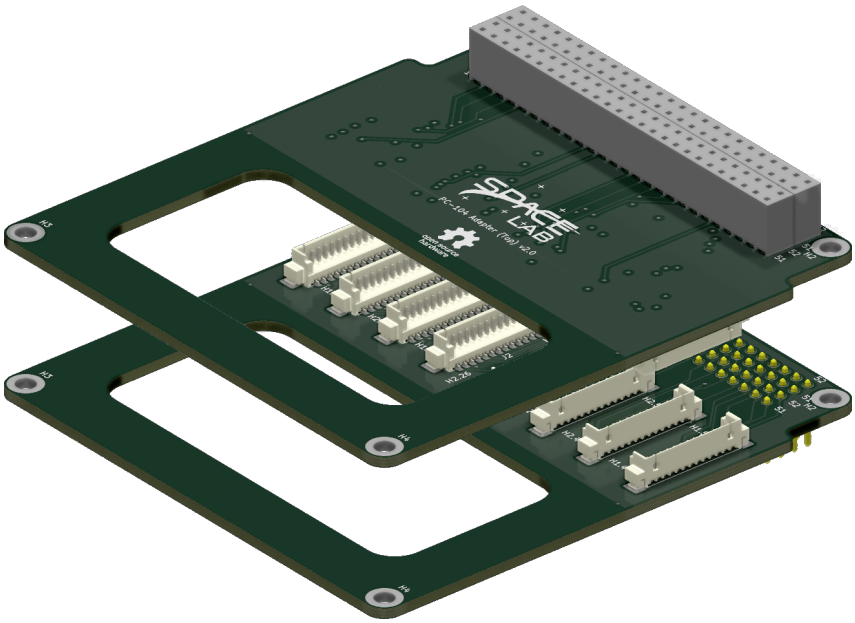

Figure 1.1: PC-104 adapter boards.

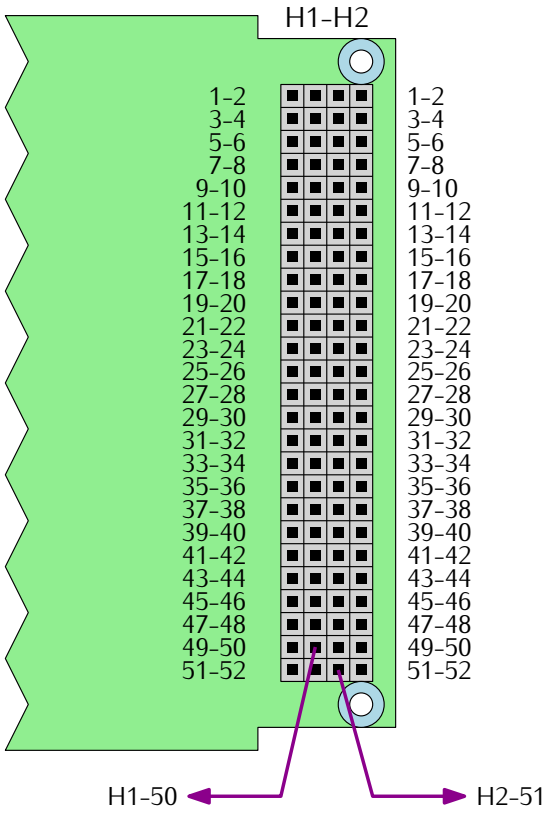

Figure 1.2: PC-104 pinout reference.

CHAPTER 2

Hardware Overview

[3]

2.1 Top Board

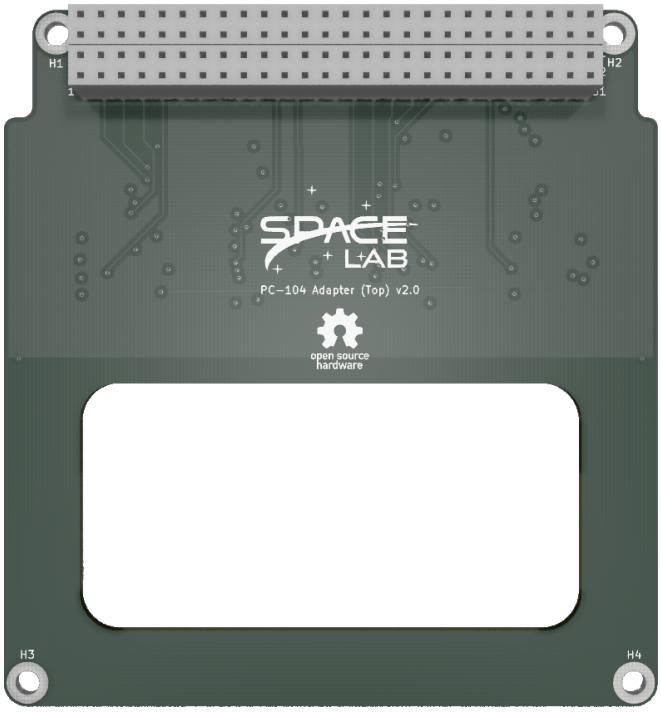

Figure 2.1: Top view of the top board (real size).

2.2 Bottom Board

2.3 Bill of Materials

The Bill of Materials (BOM) of the top and bottom boards are available in Tables 2.1 and 2.2, respectively.

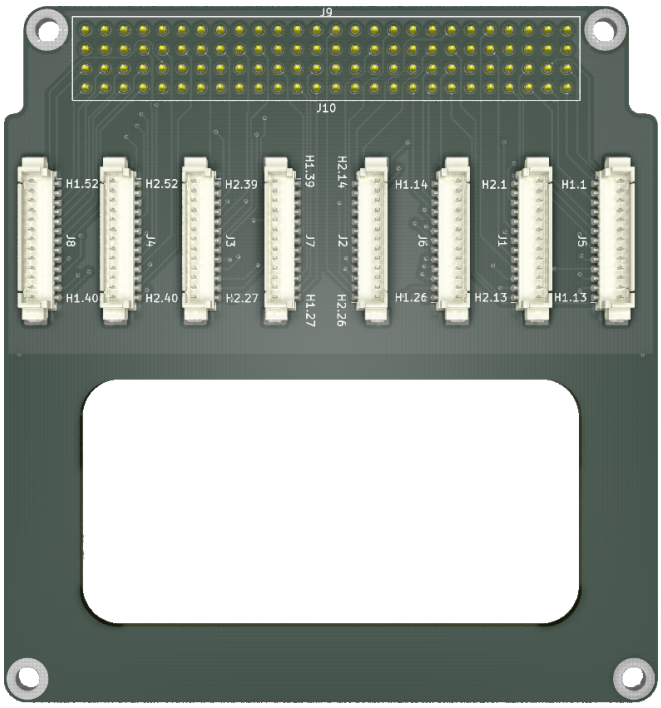

Figure 2.2: Bottom view of the top board (real size).

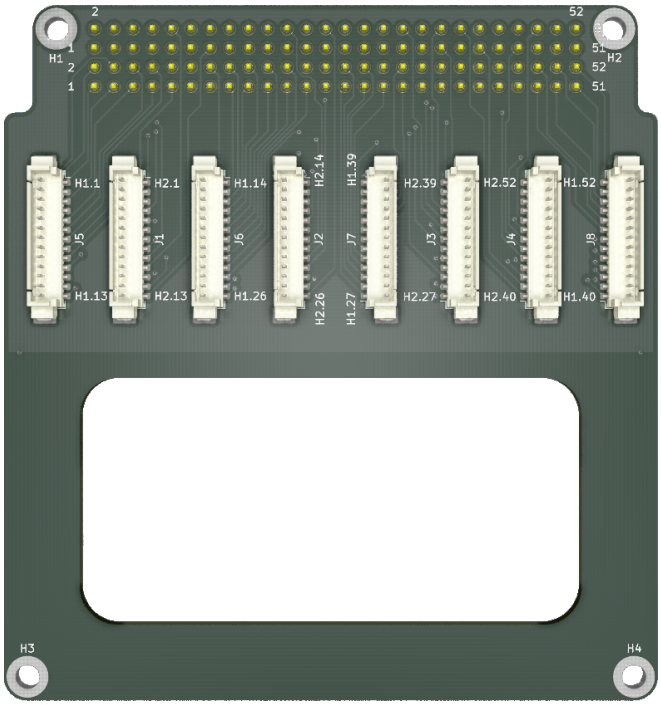

Figure 2.3: Top view of the bottom board (real size).

Item	Designator	Partnumber	Quantity
1	J9, J10	SSW-126-01-G-D	2
2	J1, J2, J3, J4, J5, J6, J7, J8	53398-1371	8

Table 2.1: Bill of Materials (BOM) of the top board.

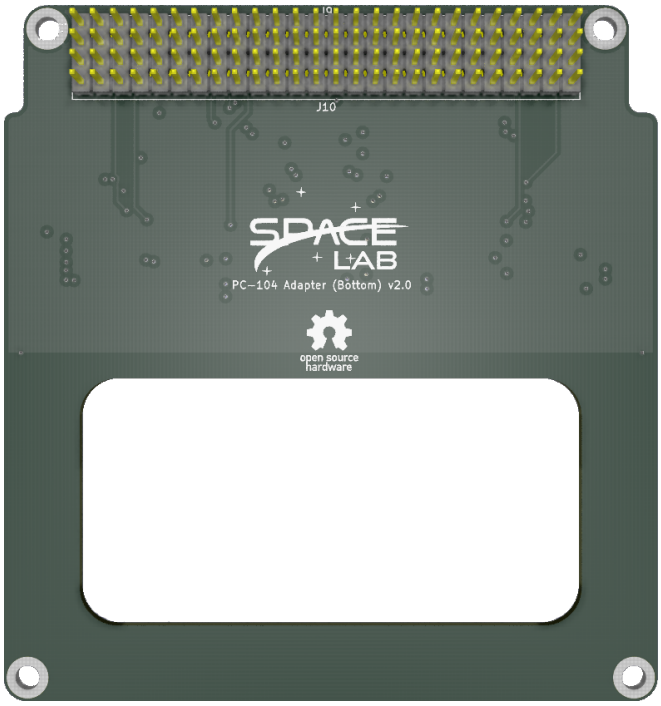

Figure 2.4: Bottom view of the bottom board (real size).

Item	Designator	Partnumber	Quantity
1	J9, J10	TSW-126-07-G-D	2
2	J1, J2, J3, J4, J5, J6, J7, J8	53398-1371	8

Table 2.2: Bill of Materials (BOM) of the bottom board.

CHAPTER 3

Assembly Instructions

This chapter presents the assembly instructions of the two boards and the interconnection cables between the top and bottom boards.

This project does not have sensible components (electrostatic or temperature), and no major care should be taken during the solder process. A recommended temperature of the soldering iron can be 350 °C or lower.

3.1 Top Board

1. Solder the PicoBlade connectors (J1, J2, J3, J4, J5, J6, J7 and J8), beginning with the external connectors and moving to the center of the board, as can be seen in Figure 3.1.

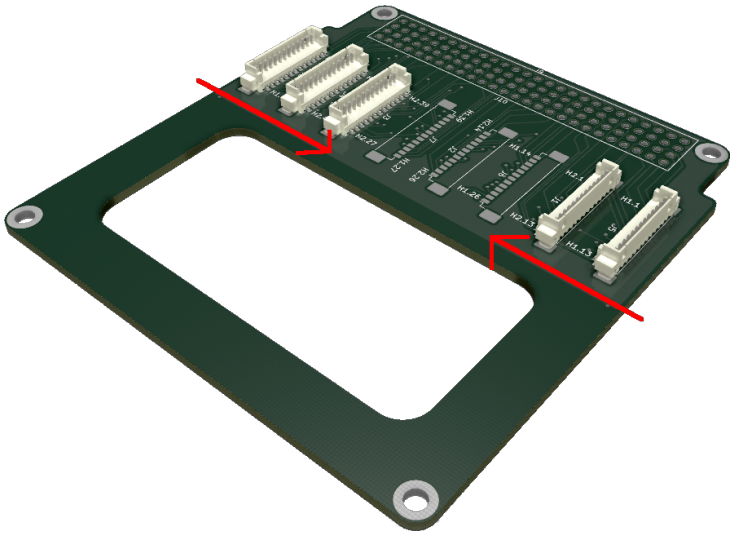

Figure 3.1: Solder sequence of the PicoBlade connectors.

2. Solder the PC-104 connectors (J9 and J10), taking care to keep the alignment of all the pins with the surface of the board, as can be seen in Figure 3.2.

3.2 Bottom Board

The same instructions apply to the bottom board:

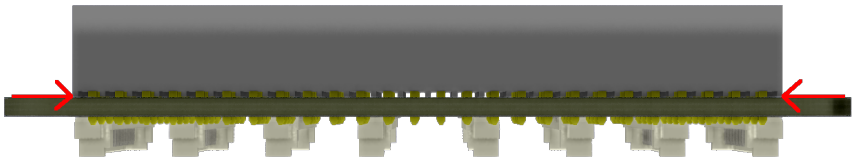

Figure 3.2: Alignment of the PC-104 connectors.

1. Solder the PicoBlade connectors (J1, J2, J3, J4, J5, J6, J7 and J8), beginning with the external connectors and moving to the center of the board, as can be seen in Figure 3.1.
2. Solder the PC-104 connectors (J9 and J10), taking care to keep the alignment of all the pins with the surface of the board, as can be seen in Figure 3.2.

3.3 Cables

1. .

Bibliography

[1] Space Technology Research Laboratory (SpaceLab). *PC-104 Adapter*, 2020. Available at <https://github.com/spacelab-ufsc/pc104-adapter>.

[2] KiCad Developers Team. *KiCad EDA*, 2020. Available at <https://kicad-pcb.org/>.

[3] Molex, LLC. *PicoBlade Connector System*, 2020. Available at <https://www.molex.com/molex/products/family/picoblade>.