

StationPi SMT

Fully finished backplan adapter

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A. Introduction

StationPi SMT adapter PCB KIT was designed for RaspberryPi based audio applications to make them integrated better with RaspberryPi or other digital music sources. It can optimize the DIY DAC or digital transport to be more closed to a final product. The whole performance can also be improved as a consequence of the lower EMI noise.

B. Highlighted Features

- Two stacks configuration.
- Independent power supplies directly to the GPIO of each stack.
- Double ground plates to shield the RaspberryPi EMI noise.
- Much easier to mount the whole setup into a case.
- Audio HATs can be installed in two different originations to fit the case.
- Comes with a full set of connectors and screws and standoffs.
- Fully finished, without needing any additional soldering jobs.
- Works for FifoPi Ma, FifoPi Q3 and Q7
- Works for both master mode and SYNC mode audio HATs
- Great to build DAC or digital transport projects.

C. KIT includes

- Two shield plates attached and two spacer sticks
- Two DIP jumpers
- 6 of 6+4mm, M3 standoffs
- 6 of M3 screws
- 6 of M3 nuts
- 8 of 11+6mm, M2.5 standoffs
- 8 of M2.5 screws
- 8 of M2.5 nuts
- 2 of 2PIN DC power input terminal connectors

E. Getting start

1. (Optional) Solder the two shield plates PCB to the reserved positions between two stacks. Start from one of the feet at top to make them vertical to the StationPi SMT PCB and parallel to each other. Then the rest feet at bottom side. Put the spacer sticks in between to keep the proper space.
2. Assemble the standoffs and screws.
3. Mount the StationPi SMT PCB into a case if required.
4. Install a RaspberryPi (face down) into the GPIO J1.
5. Install the rest of audio HATs, such as FifoPi, into the GPIO J2 or J7 according to the required orientation.
6. Connect analog ground of the system or the ground of FifoPi clean side to the EARTH of StationPi SMT by a grounding wire. It can be connected either to the TP1, TP2 or to the screw footprint marked EARTH.
7. Connect a DC 5V input to J3 as RaspberryPi power. Connect another DC 5V input to J5 as Audio GPIO power.
8. Now, it's ready to build the rest of your system with StationPi SMT.

F. Q & A

1. If a FifoPi is installed to the J2/J4 or J7, how to power the FifoPi Pi side?

You can power FifoPi Pi side either from J5 of the StationPi SMT (recommended) or from J3 of the FifoPi.

2. Can I share only one DC 5V power supply with both RPi and FifoPi Pi side?

Yes, you can. You need Short 1-2 and 3-4 of S1 with two DIP jumpers. In this case, you just need to power J3 with a 5V/2.5A power supply. And at the same time, leave J5 and J3 of FifoPi unconnected.

3. If a FifoPi is installed, do I still need power the FifoPi clean side?

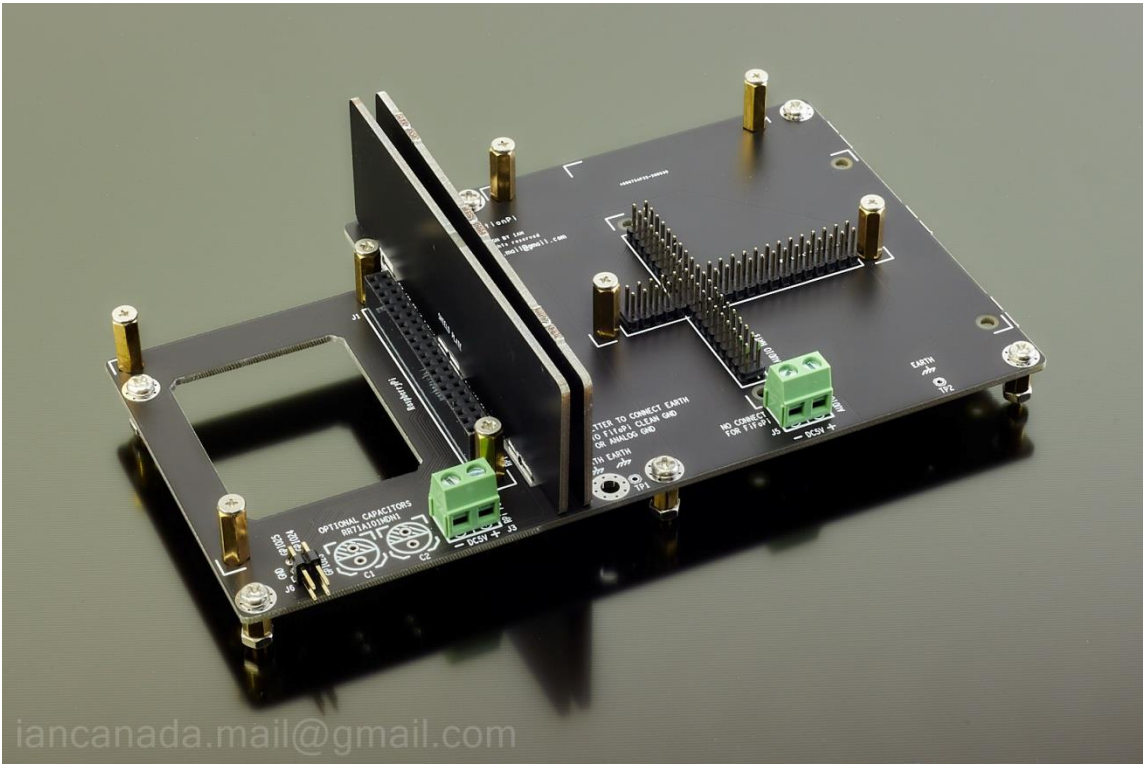
Yes. FifoPi clean side is isolated from StationPi SMT, you will need a very high quality independent 3.3V power supply to power the J5 of a FifoPi.

4. What's the J6 for?

J6 is optional for potential use of some RaspberryPi GPIO pins.

H. Pictures

- 1. StationPi SMT assembled



- 2. RaspberryPi and FifoPi installed to StationPi SMT



3. RaspberryPi and FifoPi installed to StationPi SMT (in different orientation)



I. History of revising

Oct 23, 2020 V0.9b released

Nov 23, 2022 V1.0 released

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