Skywire Miner

Assembly Manual

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Introduction

Skywire Miner is groundbreaking technology that redirects the control of large Internet service providers (ISPs) and helps individuals leverage that power. The Skywire Miner peer-to-peer model promotes net neutrality and content sharing, without imposing any blocking, performance decrease, or censorship. Skywire Miner is built with an open-access network that ensures privacy and encourages free speech. Our mission in creating Skywire is to shape the future of the Internet for the better.

Our revolutionary networking protocol is already changing the Internet as we know it. The protocol is based on Multi-Protocol Label Switching (MPLS), which includes benefits of higher performance, better quality of service, more reliability, and greater security. Skywire Miner goes well beyond these standards to deliver an even faster network that is optimized for high performance and maximum privacy. A user can bypass the ISPs and maintain control of their Internet access experience — effectively operating as an independent ISP.

Warranty

Thank you for your interest and trust in the Skywire Miner.

In using the product, you are obliged to install and operate the Skywire Miner according to the safety instructions, warnings, specification sheet, and assembly manual — as well as common sense. Otherwise, the Skycoin team won’t be responsible for any property losses or personal injuries caused by failure to understand the proper use of the product.

Since this is the first version of the Skywire Miner — built especially for early-adopter customers — you may face an unexpected situation. We appreciate your patience in dealing with such scenarios. The Skycoin team stands ready to help, and remains willing to offer the most appropriate solution to address any product defect. This includes a warranty that covers, as necessary, free repair, replacement of parts*, or replacement of the entire product.

Warranty terms: This manufacturer warranty covers any defects in material or workmanship that may occur under normal use within a period of one (1) year from the purchase date. When you discover any defects with the Skywire Miner, stop all operation and contact the Skycoin team immediately to obtain warranty coverage. You may reach the Skycoin team here at: https://store.skycoin.net/pages/support

Exclusions: There is absolutely no coverage for accidents, fire, or water damage, acts of nature or external forces, or damage caused by repairs, unauthorized upgrade attempts, or removal of components. This warranty does not cover cosmetic damage. This warranty does not apply to products that have been lost, altered, broken or damaged by misuse or
failure to follow instructions provided with the product. Also, there is no warranty against normal wear.

Remedy terms: At its discretion, Skycoin will make remedy through replacement or repair of defects—in either materials and or workmanship. Return shipping costs are the responsibility of the original purchaser.

Warranty period: All warranty claims must be reported to the manufacturer during the one year warranty period from the date of purchase to be eligible for coverage.

Safety
It’s important that you assemble and operate this product and all components in strict accordance with the instructions in this manual.

Handling circuit boards — Exercise extreme caution while handling printed circuit boards (PCBs) to avoid mechanical or electrical damage. Only handle the PCBs by the edges, to minimize the risk of electrostatic discharge damage.

Proper voltage — Before connecting the power cord, ensure that you switch to the correct input range on the power supply unit that corresponds to the voltage that your electrical outlet provides.

Firm connections — Before powering up the Skywire Miner, ensure that all connections are secure for all components, and confirm that there are no loose screws or loose components anywhere within the Skywire Miner unit. Do not connect any devices to the Skywire Miner that are not included in this package.

Precautions — take time to consider situations that may be dangerous or cause damage:
• During operation, do not expose Skywire Miner to water or moisture.
• Do not expose Skywire Miner to heat from any source. This appliance is designed for reliable operation at normal ambient room temperatures.
• Do not tug in the middle of the power supply cable to unplug the unit. Unplug the Skywire Miner from the end of the cable, where the plug inserts into the socket.
• Place Skywire Miner where the power cord has adequate slack to safely connect the Skywire Miner to the power supply socket.
• Place the power cord in such a way that people cannot step on it. Do not place anything over the power cord.
If any of the following situations occur, stop using the Skywire Miner immediately and contact support to make arrangements to check your unit:

- Liquid has penetrated into the Skywire Miner.
- The Skywire Miner has been exposed to moisture or heat.
- The Skywire Miner does not work well, or it does not function according to the content in the user guide.
- The Skywire Miner has been dropped and damaged.
- The Skywire Miner has obvious breakage.

**Warning!**

- Always unplug the power cord from the power outlet before installing any component into this appliance or removing anything from this appliance.
- When the power is on, do not contact any conductive objects with any Skywire Miner components.
- Do not touch the Skywire Miner with any wet part of your body, and do not operate the Skywire Miner while barefoot.
- The Skywire Miner is not intended for use by children. Nor is it intended for use by persons that exhibit any physical, sensory, or mental impairment, or persons lacking experience and knowledge of the Skywire Miner—unless supervised or previously instructed in its use by those responsible for their safety.
## Specification Sheet of Skywire Miner

### Build 2.0

### Physical

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Net Weight</td>
<td>4 kg (9 lbs)</td>
</tr>
<tr>
<td>Chassis Dimensions (LxWxH)</td>
<td>235x235x275 mm (9.5x9.5x11 inch)</td>
</tr>
<tr>
<td>Shipping Weight</td>
<td>4.5kg (10 lbs)</td>
</tr>
<tr>
<td>Shipping Dimensions (LxWxH)</td>
<td>320x320x190 mm (12.5x12.5x7.5 inch)</td>
</tr>
<tr>
<td>Structure Materials</td>
<td>Aluminum Alloy &amp; Acrylic</td>
</tr>
<tr>
<td>Computing Unit Quantity</td>
<td>8</td>
</tr>
</tbody>
</table>

### Computing

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>CPU Model</td>
<td>ARM Cortex™-A53</td>
</tr>
<tr>
<td>Computing Core Quantity</td>
<td>32</td>
</tr>
<tr>
<td>GPU Model</td>
<td>Hexa-core Mali450</td>
</tr>
<tr>
<td>RAM (Shared with G-RAM)</td>
<td>16GB (32 x 512MB DDR3)</td>
</tr>
<tr>
<td>Storage</td>
<td>8 x 16GB Class-10 A1 Micro SD</td>
</tr>
</tbody>
</table>

### Network

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>LAN Bandwidth</td>
<td>8 x 100Mbps</td>
</tr>
<tr>
<td>LAN Ethernet Cable Type</td>
<td>CAT-6</td>
</tr>
</tbody>
</table>

### Electrical

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>AC Input Voltage</td>
<td>85<del>132V / 170</del>264V</td>
</tr>
<tr>
<td>AC Input Frequency</td>
<td>47~63Hz</td>
</tr>
<tr>
<td>Max Input Current</td>
<td>2.4A @115V AC / 1.2A @ 230V AC</td>
</tr>
<tr>
<td>Max Inrush Current</td>
<td>30A @115V AC / 60A @230V AC</td>
</tr>
<tr>
<td>Fuse Current</td>
<td>3A</td>
</tr>
<tr>
<td>Backup Fuse</td>
<td>Included</td>
</tr>
<tr>
<td>Input Plug Type</td>
<td>IEC 60320 C14</td>
</tr>
<tr>
<td>Power Cord Standard</td>
<td>GB/T 5023.3-2008</td>
</tr>
<tr>
<td>Power Connector Type</td>
<td>NEMA 5-15 or GB1002-2008 1-Phase 2-Pole Earthed</td>
</tr>
</tbody>
</table>

### Environmental

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Working Temperature</td>
<td>-10°C<del>40°C (14°F</del>104°F)</td>
</tr>
<tr>
<td>Working Humidity</td>
<td>20%~90% RH</td>
</tr>
<tr>
<td>Storage Temperature</td>
<td>-20°C<del>60°C (-4°F</del>140°F)</td>
</tr>
<tr>
<td>Storage Humidity</td>
<td>10%~95% RH</td>
</tr>
</tbody>
</table>
STEP 01

FRAME ASSEMBLY

1194  Shorter Aluminum Profile
0508  M5x8mm Hex Screw
0502  M5 T-Nut
1028  Corner Bracket

![Diagram of frame assembly with parts indicated](image-url)
STEP 02

FRAME ASSEMBLY

1234  Longer Aluminum Profile
0508  M5x8mm Hex Screw
0502  M5 T-Nut

![Diagram of frame assembly with parts labeled 1234, 0508, and 0502.]

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STEP 03

FRAME ASSEMBLY

1234  Longer Aluminum Profile
0508  M5x8mm Hex Screw
0502  M5 T-Nut
1028  Corner Bracket
STEP 04

2002  Acrylic Inner Panel
0310  M3x10mm Hex Screw
0320  20mm F-F Spacer

Strip the protective film before using acrylic panels.
STEP 05

5011  Power Supply Unit
0310  M3x10mm Hex Screw
0303  M3 Nylon Spacer

Switch the power supply unit to proper voltage range before mounting.

Mind the direction of power supply unit, connector side down.

If some of the screws can’t grab the holes, use 0312 instead.

Mind the direction of power supply unit, connector side down.
STEP 06

ELECTRONIC ASSEMBLY

4100  Orange Pi Prime
0336  30mm F-M Spacer

⚠️ It is suggested to flash and insert Micro SD before mounting the Orange Pi Prime.
STEP 07

2003  Acrylic Outer Panel
4100  Orange Pi Prime
0310  M3x10mm Hex Screw
0326  20mm F-M Spacer
STEP 08

ELECTRONIC ASSEMBLY

2001 Acrylic Back Panel
5001 Power Socket
0312 M3x12mm Hex Screw
0302 M3 Nut

Ensure the switch is off, and DO NOT plug the power cord.
STEP 09

ELECTRONIC ASSEMBLY

5020  Power Distribution Board
0312  M3x12mm Hex Screw
0510  M5x10mm Hex Screw
0303  M3 Nylon Spacer
0302  M3 Nut
0502  M5 T-Nut
STEP 10

CABLE CONNECTION

Check the cable codes carefully.

Leave the leftmost tab on the power socket UNUSED (in green circle).

Cable 7011, 7012, 7013, 7014 should be crimped onto the PCB with pliers for solid connection.
STEP 11

ELECTRONIC ASSEMBLY
STEP 12

0510  M5x10mm Hex Screw
0502  M5 T-Nut
STEP 13

Put the nuts into the slot for later use.

M5 T-Nut

0502
STEP 14

FINAL ASSEMBLY
STEP 15

FINAL ASSEMBLY

0510  M5x10mm Hex Screw

⚠️ Shake carefully to align the nuts to the holes.

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STEP 16

FINAL ASSEMBLY

3000  Router
0406  M4x6mm Hex Screw
0402  M4 T-Nut

4x
STEP 17

0508  M5x8mm Hex Screw
0502  M5 T-Nut
1028  Corner Bracket

This step is based on the structure indicated on page 9.
STEP 18

Loose and re-tighten all the screws on the vertical pillars, helping release the stress in the structure.
STEP 19

0510  M5x10mm Hex Screw
Check the cable codes carefully.
STEP 21

CABLE CONNECTION

6020 Ethernet Cable
6025 Ethernet Cable
7033 DC Cable
STEP 22

CABLE CONNECTION

7010 DC Cable