Lenovo Thinkpad Ultra Dock AJ40 Disassembly

Instructions for opening the device and locating the screws, as well as information on parts inside the device.

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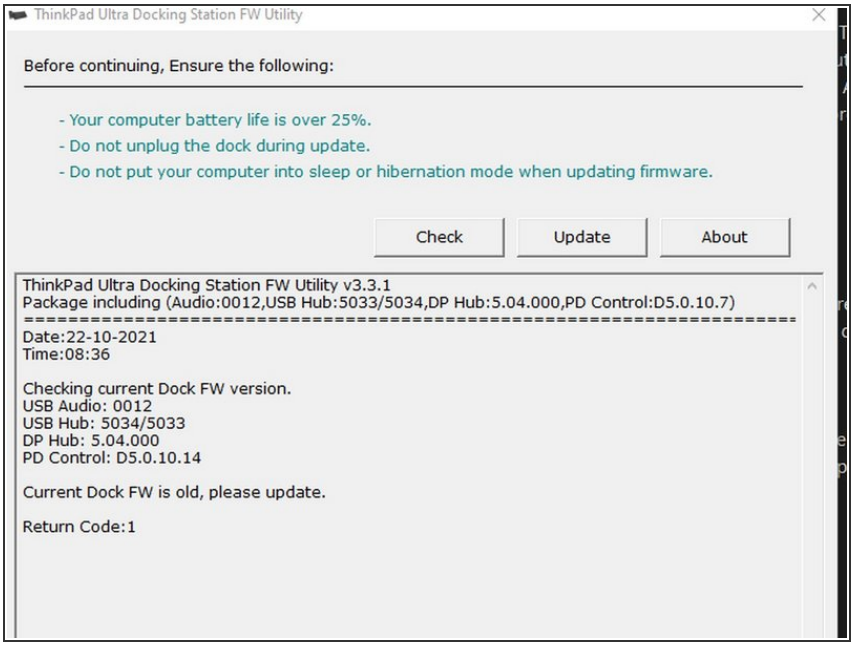
This document was generated on 2022-08-17 03:59:44 PM (MST).

Step 1 — Overview

- Docking via 3 pcs. connectors sliding sideways into the laptop.
- Power connector used is the square type.
- Keep track of where the screws are located, because there are many.
- Be careful on disassembly. The dock is partly mechanical, and it relies on springs and flexing of mechanical parts to function.

Step 2 — Firmware Check



- Check if the firmware is updated. In this case, the repair may not be needed. The dock needs to be

powered and laptop docked when running the update tool.

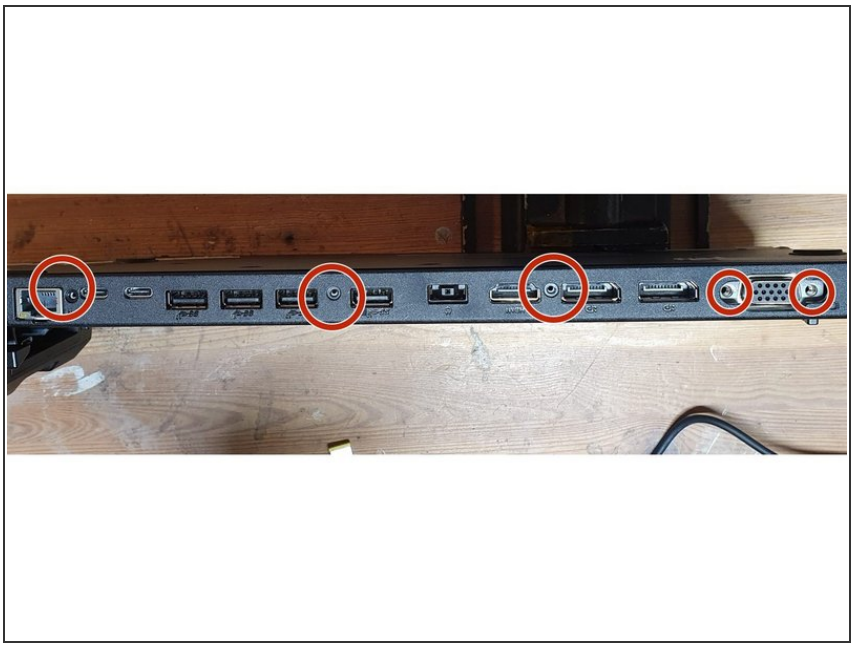
Firmware update tool : Firmware for ThinkPad Ultra/Pro/Basic Docking Station V3.3.1

https://pcsupport.lenovo.com/dk/da/produ...

Step 3 — Bottom Screws

- Remove the 8 bottom screws circled in red.

Step 4 — Side screw removal



- Remove the 5 screws circled in red from the side of the dock.

Step 5 — Hidden screw + Lock

- Use plastic picks or a metal spudger to pry off the top left corner of the shown cover. Remove the hidden screw.
- Lock engaged (LED on). The switch is located inside the button assembly.(when the slider is moved right).
- Laptop connected/detected: LED on.
- Screw for removing the key-lock. No need for removal if the whole button assembly is to be removed together.

Step 6 — More hidden screws

- Hidden screw under the ThinkPad logo.

I recommend peeling off only part of the logo as needed so reassembly of the logo is easy.

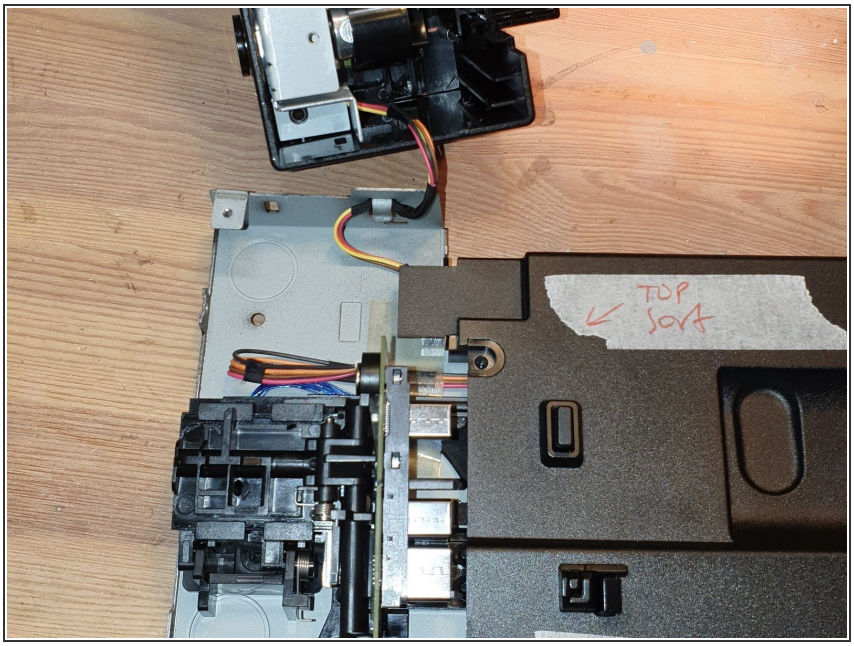
Step 7 — Bezel

- Pry off the bezel around the key-lock. Remove the screw that connects the button assembly and the bottom assembly.

Step 8 — Top Covers

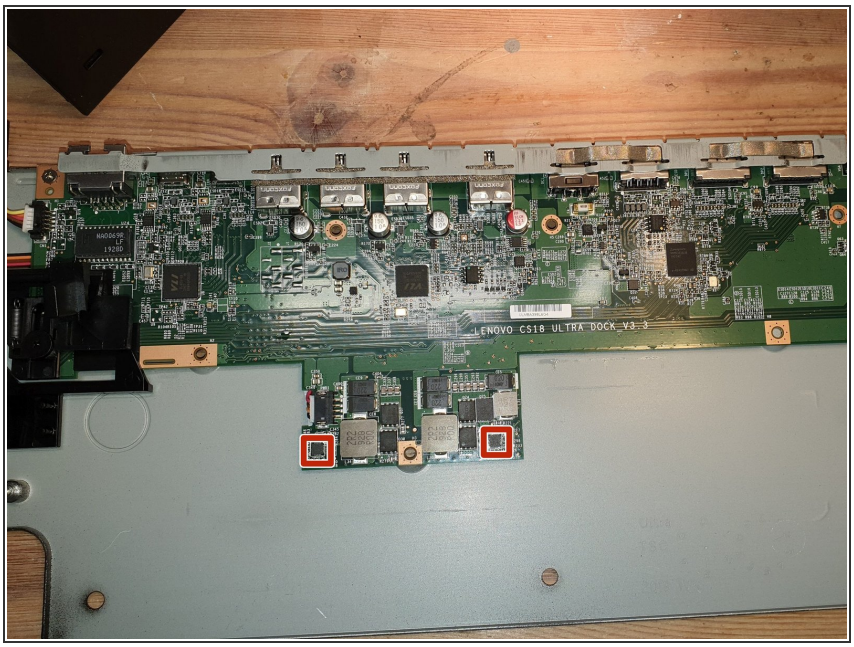
- Use plastic picks or a metal spudger to pry off the top covers of the two screws on the top side.

Step 9 — Docking connectors



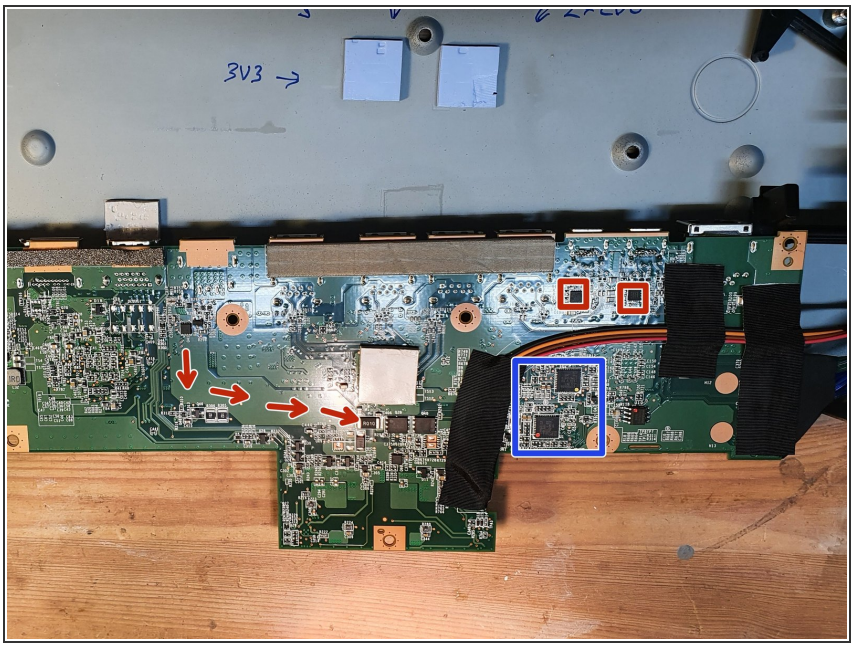
- Button assembly separated. The docking connectors are visible.

Step 10 — PCB top side



- PCB top side
- Red boxes : Dual Synchronous, Step-Down Controller with 5-V and 3.3-V LDOs. Texas instruments: TPS51225
- Left step down produce 5V
- Right step down: produce 3V3 and 5V
- There are three Eeprom on board : winbond: 25x10CLNIG , 8 pin, U4 and U10 (1M-bit SPI)
- VLI marked IC: Via labs Usb port controllers VL820. https://www.via-labs.com/product_show.ph...
- Synaptics VMM5322.Have features for HDMI and 2xDisplay port out.

Step 11 — PCB bottom side



- PCB bottom side
- Red boxes : usb-c controller ICs. Via Labs inc, : VP225 - USB Type-C DFP CC Controller
- Blue box: 2 pcs. cypress CYP3123 USB type C port controller. https://www.cypress.com/part/cypd3123-40...
- Red arows: 20V path to the laptop usb-c charge power.

To reassemble your device, follow these instructions in reverse order.