

MNT Research GmbH Fehlerstr. 8, 12161 Berlin WEEE: DE 33315564 https://mntre.com

2025-01-30

# **MNT Pocket Reform DIY Assembly Manual**

Dear MNT Customer,

Thank you for purchasing MNT Pocket Reform, our open hardware 7" mini laptop, as a DIY kit. This manual will guide you through the whole assembly. The only extra tool you need is a Phillips screwdriver.



## **Before You Assemble the Kit**

Be very gentle while tightening the screws. If you feel too much resistance, don't force in the screw. It might break and stay stuck inside of the screw hole. Instead use a shorter screw from the provided extra screw bag.

Take your time to analyze the pictures and read each step of the manual fully before taking action.

Note that it's normal for the plastic bags to degrade a bit over time because they are made from PLA bioplastic. Also, to reduce waste, we try to reuse bubble wraps and antistatic bag material for packaging the components, so this is why the packaging material doesn't have a uniform look.

#### **Package contents**

- 1 Top Half
- 2 Bottom Half
- 3 Top Back Cover
- 4 Bottom Back Cover
- 5 Keyboard Frame
- 6 Display Frame
- 7 Display Frame Gasket
- 8 Port Covers (left and right)
- 9 Motherboard (with preinstalled CPU module)
- 10 Keyboard (with mounted trackball cup and sensor)
- 11 Keyboard Cables (2x)
- 12 Trackball Sphere
- 13 OLED Display
- 14 OLED Display Cable
- 15 Charger Board
- 16 Charger Board Cables (green and black)
- 17 Battery Holders (2x + 2x)
- 18 Batteries (2x)
- 19 Foam Stickers (8x)
- 20 Display
- 21 Display Cable
- 22 Display Cable Adapter
- 23 Speaker
- 24 Headphone/Switch Board
- 25 Headphone/Switch Board Cables (headset and standby power switch)
- 26 Hinges (left and right)
- 27 Magnets (8x)
- 28 Thermal Pad
- 29 Wi-Fi Card (optional)
- 30 Wi-Fi Antenna (optional)
- 31 SSD (optional)
- 32 Bags of Screws (contains some extra screws)

#### **Types of Screws**

- 14x) T M2 × 4mm cheese head (14x)
- $\Im$  M2 × 5mm countersunk head (45x)
- ✓ M2 × 3mm countersunk head (2x)

#### **Case Parts**



## **Electronic Parts and Components**



## **Assembly Steps**

1. Remove the edge rails from the **Headset/Switch Board (24)** by carefully breaking them off. Connect the **Headset/Switch Board Cables (25)**.



2. Mount the **Speaker (23)** and the **Headset/Switch Board (24)** to the **Top Half (1)** using M2  $\times$  4mm cheese head screws (4x).



3. Connect the **Charger Board Cables (16)** to the the **Charger Board (15)**. Make sure that the green and black cables are connected the right way as shown in the picture.



4. First mount the **Battery Holders (17)** and then the **Charger Board (15)** to the **Bottom Half (2)** using M2  $\times$  4mm cheese head screws (10x). Be careful not to overtighten the **Battery Holders (17)**. Pull the **Charger Board cables (16)** through to the other side of the **Bottom Half (2)** like shown in the picture.



5. Connect the OLED Display Cable (21) to the OLED Display (20).



6. Connect the Keyboard Cables (11) and OLED display (20) to the Keyboard (10).



7. Mount the **Keyboard (10)** and **OLED Display (13)** to the **Bottom Half (2)** using M2  $\times$  5 mm countersunk head screws (8x). Remove protective film from the **OLED Display (13)**. Shape the **Keyboard Cables (11)** and **Charger Board Cables (16)** as shown in the picture.



8. Mount the lower part of the **Hinges (26)** to the **Bottom Half (2)** using M2  $\times$  5 mm countersunk head screws (8x) while making sure that the cables are inside of the hinge.





9. Mount the top part of the **Hinges (26)** to the **Top Half (1)** using M4  $\times$  6mm countersunk head screws (6x) while making sure that the cables are inside of the hinge.

If the **Top Half (1)** and **Bottom Half (2)** are slightly misaligned when the laptop is closed (look at the front edge of the laptop from the top) you can make small adjustments: open the laptop flat. Loosen the big hinge screws on one side. Then push (or pull) very gently that side of the laptop together/apart and tighten the screws while doing it. Do the same with the other side if needed. After every adjustment close the laptop to see if you achieved the desired result. Do this only if necessary. The goal is an even gap on both sides, not a totally flat front edge.





10. Insert 4 of the **Magnets (27)** into the **Bottom Half (2)**. Make sure that the polarities of all magnets face the same direction (magnets are connected in a string, so all facing the same direction). Insert one end of the string into the first magnet hole and hold that first magnet in place with a finger while breaking off the rest of the magnet string to the side, so that you can disconnect it from the placed magnet. Do the same thing with the next magnet hole nearby (and don't flip the string), while holding the first placed magnet in place. Release your fingers only after placing both neighboring magnets and removing the rest of the magnet string, so that the magnets won't jump out. Put the string of magnets aside and remember the direction you used to break off the magnets.





11. Place the **Trackball Sphere (12)** in to the trackball cup that is located in the front of the **Keyboard (10)**.



12. Mount the **Keyboard Frame (5)** to the **Bottom Half (2)** using M2  $\times$  5mm countersunk head screws (4x). Be aware that the magnets will attract the screws and the screw driver.

		4 5	6	7	8	9	0	
TAB Q	WE	RT	Y	U		0	P	
CTL A	SD	FG	H	J	K	L	1 11	₽
ि ₹	x	УВ	N	M	~ ~	. >		AGR
	ALT			C	1?			
· · · · · · · · · · · · · · · · · · ·								

13. Remove the protective film from the four white strips of stickers on the **Top Half (1)**. These are needed to hold the **Display (20)** in place. Pull out the cables coming out of the hinges to the back side of the **Top Half (1)** if they are still in the front, as shown in the picture.



14. Connect the **Display Cable (21)** to the **Display Cable Adapter (22)** and then to the **Display (20)**.



15. Place the **Display (20)** on the four stickers. It has a bit of space around it. Align it to the bottom and the left side. Make sure that the **Display Cable (21)** is not squeezed and goes to the other side of the **Top Half (1)** as shown in the second picture.



16. Insert the remaining 4 **Magnets (27)** into the magnet slots of the **Top Half (1)**. Use the same technique as described in step 10. Just make sure that the magnets are placed in the holes in the opposite way. If you get confused, just take the string and hover it (vertically) above the **Magnets (27)** that are already secured in the **Bottom Half (2)**. When the strip is pulled towards the casing, then you know that the opposite side of the string has to go to into the holes—so that the two halves of the case can attract each other when it's closed.





17. Remove the protective film from the **Display (20)** and place the **Display Frame Gasket (7)**.



18. Mount the **Display Frame (6)** with M2  $\times$  5mm countersunk head screws (6x). Hold it in place without touching it with bare hands (to avoid fingerprints) and be careful with the **Magnets (27)**. They will attract the screws and the screwdriver.



19. Be careful not to damage any components on the **Motherboard (9)** during this step. Especially the *PROG* switch that is near the pins sticking out of the motherboard. Take the **Motherboard (9)** and connect all of the cables: **Display Cable (21)**, both **Headphone/Switch Board Cables (25)**, 2x **Keyboard Cables (11)**, **Speaker** cable **(23)** and both green and black **Charger Board Cables (16)**.



20. Mount the **Motherboard (9)** to the **Top Half (1)** starting from the side with the ports, using  $M2 \times 5mm$  countersunk head screws (2x). For the other side of the **Motherboard (9)** use  $M2 \times 3mm$  countersunk head screws (2x). Rarely, one or both of the short screws don't hold. If this happens, leave them out. Make sure none of the cables are squeezed. Try to arrange them like shown in the picture.



21. Mount the **Port Covers (8)** to their respective sides using M2  $\times$  5mm countersunk head screws (4x).





22. Place the **Thermal Pad (28)** on the big chip of the processor module that is plugged in to the **Motherboard (9)** (module and the thickness of the pad can differ from the picture). Make sure to remove both of the protective films.



23. *Optional:* Insert the **Wi-Fi Card (29)** into the short M.2 slot on the **Motherboard (9)**. Mount it using an M2 × 3mm M.2 mounting screw. Connect the **Wi-Fi Antenna (30)** by gently pushing while turning it on the connector on the **Wi-Fi Card (29)**. Remove the protective film and stick it to the **Headphone/Switch Board (24)**. Make sure that the **Wi-Fi Antenna (30)** and **Display Cable (21)** are not crossing each other.



24. *Optional:* Insert the SSD (31) into the long M.2 slot on the **Motherboard (9)** and secure it using an M2 × 3mm M.2 mounting screw.



25. Mount the **Top Back Cover (3)** to the **Top Half (1)** using M2  $\times$  5mm countersunk head screws (7x). Make sure that all cables are positioned well under the cover and nothing is squeezed.



26. Place four of the **Foam Stickers (19)** on the inside of the **Battery Holders (17)**. Plug the **Batteries (18)** in to the connectors of the **Charger Board (15)**. Insert the **Batteries (18)** and shape the cables according to the photo. The cables should be going along the inner side of the batteries to avoid squeezing them. Stick two of the **Foam Stickers (19)** on each battery.



27. Mount the **Bottom Back Cover (4)** to the **Bottom Half (2)** using  $M2 \times 5mm$  countersunk head screws (6x).



28. All done — congratulations on your MNT Pocket Reform assembly! Check out the quickstart manual on the following page to get started.





MNT Research GmbH Fehlerstr. 8, 12161 Berlin WEEE: DE 33315564 https://mntre.com

## MNT Pocket Reform

Dear MNT Customer,

Thank you for purchasing Pocket Reform, our fully open hardware 7" mini laptop. We hope you'll enjoy your new device.

## Quickstart

1. The batteries are connected by default. There is a small Standby Power Switch located on the left hand side of the upper case part. Turn it on using a pointed object such as a SIM ejector.



2. Connect Pocket Reform to a USB-C PD Power Supply.



3. To turn on Pocket Reform, hold HYPER + ENTER for more than 2 seconds.



4. On first boot, the Setup Wizard will walk you through the configuration process.

## Trackball Buttons



#### Shortcuts

Ŋ	<b>NNT</b> 1	Decrease Screen Brightness
ಧ	<b>NNT</b> 2	Increase Screen Brightness
л		Change keyboard backlight

oard backlight brightness (roll vertically)



ಬ

Change keyboard backlight hue (roll horizontally)

Adjust keyboard backlight saturation (roll to any side)

#### Contents

쇼

- **MNT Pocket Reform**
- **Quickstart and Safety Sheet**
- Hyper model only:
  - **Piñatex Vegan Leather Sleeve** •
  - **Operator Handbook** •
  - Art Print
  - 1 TB SSD (preinstalled) •
- Power supply not included

## Software and Sources

Find more information on documentation on our website at https://mntre.com/

#### docs-pocket-reform.html

Get updates and source code at: mntre.com

Need help? Join community.mnt.re or write to support@mntre.com

Join our IRC channel #mnt-reform

#### 





MNT Research GmbH Fehlerstr. 8, 12161 Berlin, Germany HRB 136605 B VAT ID: DE278908891 WEEE: DE 33315564 Contact: support@mntre.com

Product: MNT Pocket Reform

## **Important Safety Information**

#### Caution! Fire and Explosion Hazard:

Device contains 2x Lithium-ion pouch cells in the bottom of the lower half, which are exposed when opening the bottom panel.

Unplug and remove battery cells before servicing the device. Disconnect power supply before servicing the device.

While Lithium-ion batteries are usually safe and unlikely to fail, they might cause a fire or explosion when damaged, recharged or used improperly. These hazards can occur immediately or over a period of time, from physical impact like crushing or puncturing, exposure to certain temperatures, and/ or improper charging. To extinguish small battery fires use ABC dry chemical extinguishers, Class D fire extinguishers (for lithium-metal), dirt, or sand.

Opening or servicing the device is at your own risk. The manufacturer cannot be held liable for any damage, injury or death resulting from improper handling.

Long-term Storage: Remove batteries and put them in a lithium battery safety pouch. Store only in dry, cool locations with no direct sunlight. If batteries are damaged, remove them from service, place them in fireresistant container (e.g., metal drum) with sand or other extinguishing agent, and dispose in accordance with local, state, and federal regulations. Contact a local battery recycling center for disposal instructions.

**CAUTION! Injury Hazard**: Device contains strong neodymium magnets that hold together the two halves when closing. Risk of injury if body parts are caught between the halves of the device.

## Warranty

MNT Research covers the warranty to the extent required by law for the unmodified product and following the safety instructions. Warranty does not cover any modifications made to the product.

The product complies with the requirements of the European Directives and DIN standards:



IEC/EN 62368-1:2020 IEC/EN 63000:2018 ETSI EN 300 328 V2.2.2 ETSI EN 301 893 V2.1.1 ETSI EN 300 440 V2.2.1