



Acer Windows Mixed Reality Headset Developer Edition Teardown

Complete teardown of Acer MR Headset

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INTRODUCTION

This teardown illustrates how to deconstruct the Acer MR Headset (DE). This teardown also identifies some of the components within the HMD, and is open to any edits or suggestions for unidentified elements.



TOOLS:

- [Spudger](#) (1)
 - [iFixit Opening Tools](#) (1)
 - [Phillips #1 Screwdriver](#) (1)
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Step 1 — Overview



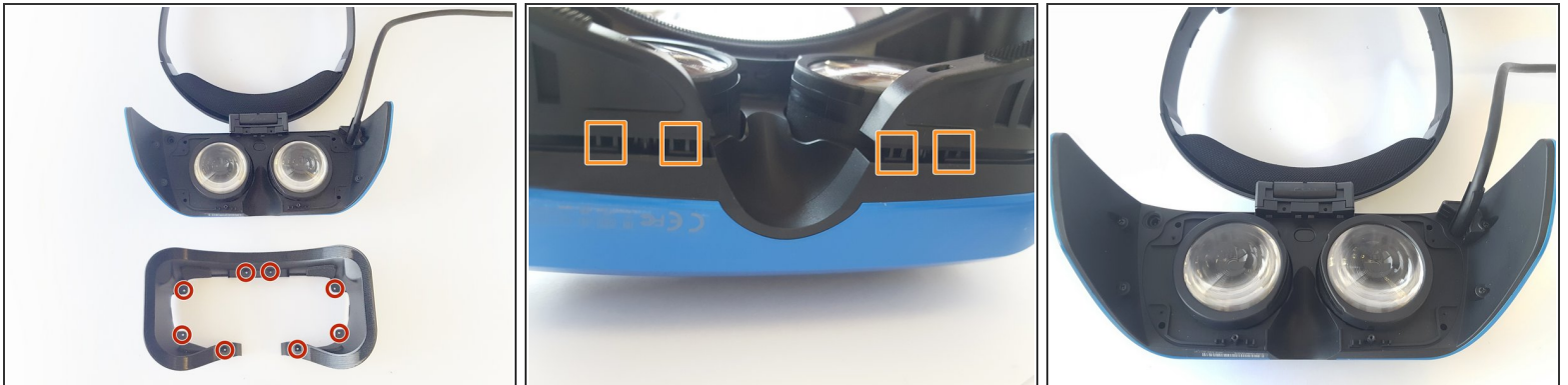
- Acer Windows Mixed Reality Headset Developer Edition Specs:
 - Two high-resolution liquid crystal displays at 1440 x 1440
 - 2.89" diagonal display size (x2)
 - Front hinged display
 - 4.00m cable
 - Built-in audio out and microphone support through 3.5mm jack
 - Single cable with HDMI 2.0 (display) and USB 3.0 (data) for connectivity

Step 2 — Remove Nose Clip and Foam



- Remove nose clip
- Pull the foam from the velcro on the headset

Step 3 — Remove Face Mold



- Remove the 8 Screws holding the mold to the headset
- Pop 4 clips on the bottom of the headset with the spudger and begin to spread the mold from the headset.
- 4 more clips are on the top side to fully pull off the mold

Step 4 — Remove Headband



- Pop the top clips up with the plastic spreader.
- there are two clips along the front edge
- There is one more clip in the back corner near the lenses

Step 5 — Lens Caps



- Release the clip along the bottom edge with the spudger. There is an opening in the side of the wall of the clip that allows room for the spudger to help separate the lens cap from the carriage

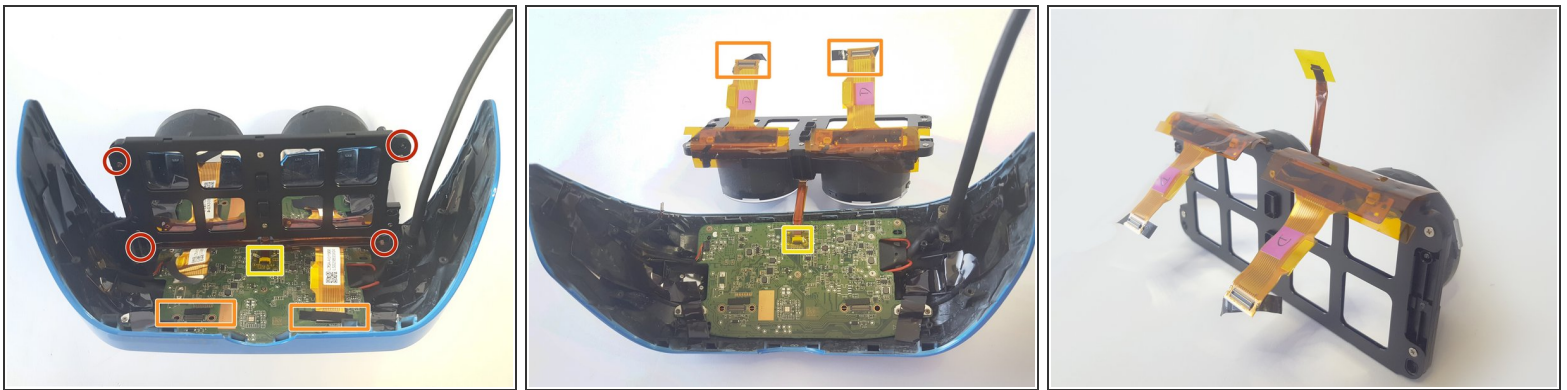
Step 6 — Removing Back Cover



i It was easier splitting the cover on the side arms open with the spudger and work your way towards the front

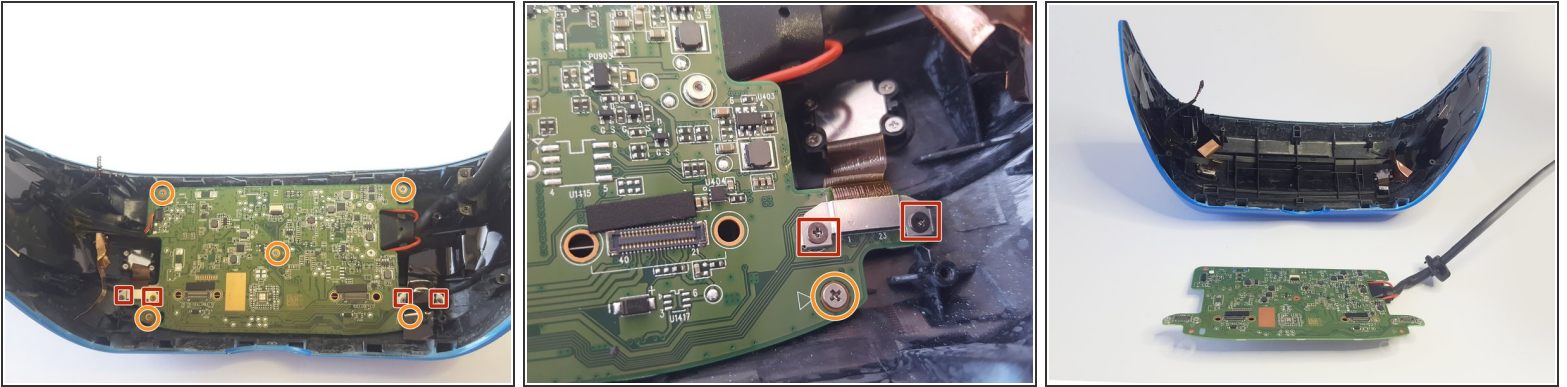
- Pop the nine clips on the top of the headset
- Release the bottom five clips on the headset

Step 7 — Removing the Lens



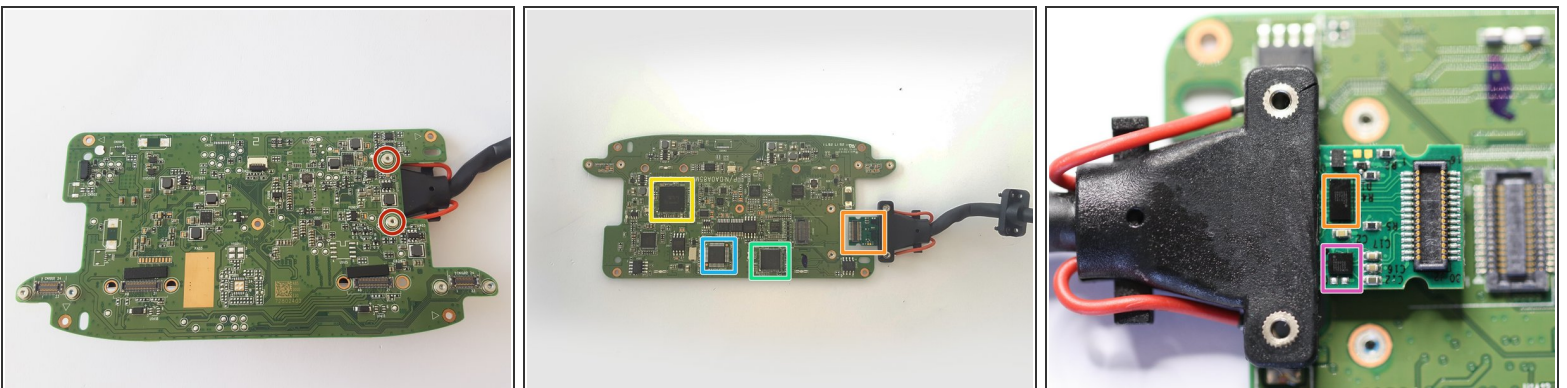
- Remove the four screws in the corners of the lens
- Remove tape connecting the ribbon cables to the PCB
- Unplug the lens from the PCB

Step 8 — Removing the PCB



- Remove the four screws for the camera cable connector
- Remove the five screws on the PCB

Step 9 — PCB



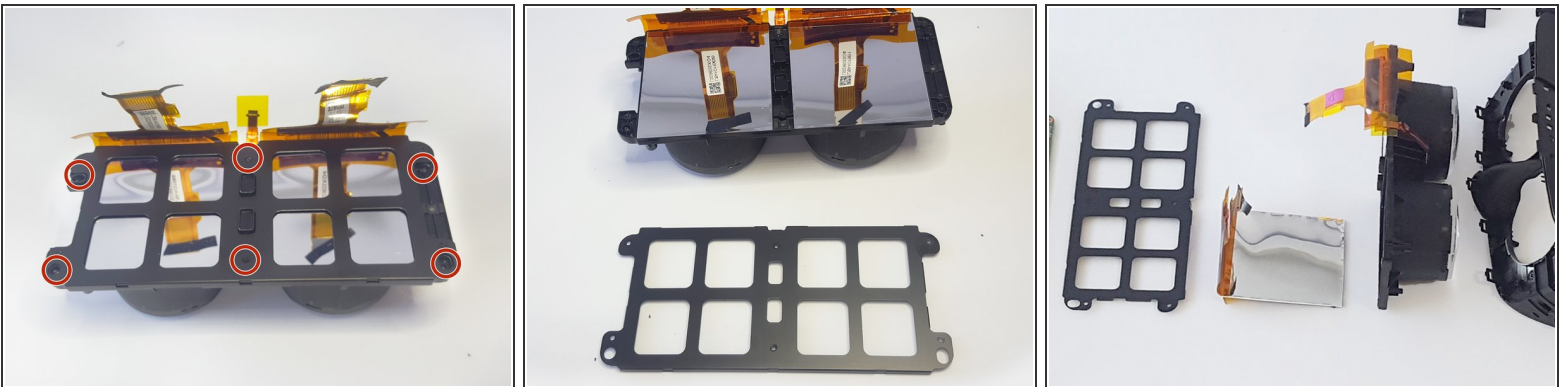
- Unscrew the two screws connecting the cable to the PCB
- Cypress [CYUSB3064-BZXC](#) SuperSpeed USB Bridge Controller
- Cypress [CYUSB3304-68LTXI](#) HX3 USB 3.0 Hub
- STMicroelectronics medium-density [STM32F103C8](#) performance line microcontroller.
- [Spectra7](#) VR8050 USB 3.0 Cable Equalizer
- [Spectra7](#) HT8181 HDMI 2.0 Cable Equalizer

Step 10 — Removing the Front Cameras



- Unscrew the 8 camera screws in the corners
- Cameras were not easily identifiable, however, they looked identical to the cameras we found in our HP MR HMD teardown. Also had similar part numbers to the the Microsoft Surface 3 rear camera.

Step 11 — Inside the Lens



- Remove 6 screws
 - Peel tape on the top of the films and pull back the films
 - You can then remove the 2 high-resolution 1440x1440 liquid crystal displays.
- i** Lenses: The lenses appear to be fresnel on the inside but smooth on the outside.