

Instructions for use for the technicians testing this device

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## Rea 2D Augmented Reality Headset



Language version(s):

**EN**

REA 2D AR Headset

The REA 2D Headset designed for replicating/mirroring the screen of your PC. It can be used view diagnostic reports, X-rays and other images remotely and help to plan further course of action.

## [Foreword and important information]

The power unit is the source of power for ARSpectra Headset. It is charged via a wall adapter.

**WARNING!** Incorrect handling and improper use can pose hazards and cause damage. We therefore ask you to carefully read these instructions for use and follow them meticulously. Always keep them close at hand. Please observe the safety instructions to avoid personal injury and damage to property.

Please contact us [or your distributor] if you have any questions regarding these instructions for use or the use of the device.

Your ARSpectra – Team

## Version of the instructions for use

Date	Version Number	Revision history
2022-10-03	1.0	First created

## Scope

Not applicable for this device

## Contact details of the manufacturer



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## 1 Information on how to use these instructions for use

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### 1.1 Explanation of the warnings in these instructions for use

Signal Word	Description
<b>DANGER!</b>	An immediate hazardous situation exists, and serious harm or death is possible
<b>WARNING!</b>	Potential hazard that could lead to serious harm or death
<b>CAUTION!</b>	Potential hazard that could lead to slight or medium harm
<b>NOTE</b>	Errors committed by the operator can cause damage to the device

### 1.2 Copyright, disclaimer, license terms, warranty, miscellaneous

This information and any attachments to it are confidential and are intended solely for the individual(s) and/or organization(s) to which they are formally addressed. If received by error, immediately notify ARSpectra Sarl and destroy all electronic and hard copies, including attachments.

### 1.3 [Feedback on instructions for use]

Not applicable

## 2 Important safety notes

**IMPORTANT! Read all safety notes carefully before using the device. Follow the safety notes to avoid injuries and life-threatening situations.**

### 3.1 General

- Please read this manual thoroughly before operating the AR-Spectra Headset.
- This device is strictly for the usage by trained electrical technicians

### 3.2 Electrical Safety

- Please do not use the device if the packaging or the headset is not intact or damaged.
- Do not damage or drop the device
- Always handle the device with dry hands
- Always use parts and accessories provided by the manufacturer. Using unauthorised accessories can damage the headset leading to potential harms like battery damage, shocks and other related injuries to the user.
- Keep the AR-Headset away from hot surfaces.
- Beware of electrocution. Ensure no liquid is spilled on the AR-Headset.
- Always perform maintenance and cleaning tasks when the AR-Headset is turned off.

### 2.1 Reporting of incidents

Report all serious-incidents (harm, injury, infection, etc.) that have occurred in connection with the device to the manufacturer.

### 2.2 Qualification requirements for user groups

Qualified electrical technicians should conduct the test protocols for this device

### 2.3 Personal protective equipment

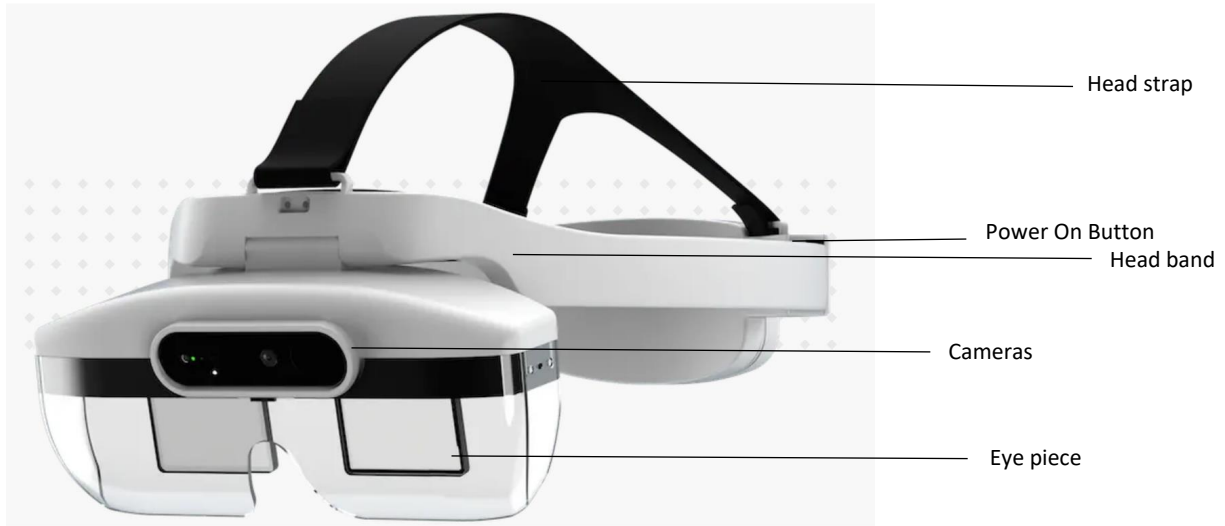
Appropriate safety equipment should be worn at all times while handling this device

## 3 Product Description

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### 3.1 Operating principle and process overview

### 3.2 Device overview



*Figure 1: Device overview 1*

### 3.3 Signals and displays

Not applicable. For details on battery signals refer to the Power Unit's User Manual.

### 3.4 Modifications

Please follow the instructions mentioned in this document. **Please do not modify any of the components of this device.**

## 4 Device use

### 4.1 Perform testing of all the sensors on the headset in Stand-alone mode

#### 4.1.1 Introduction

The objective of this task is:

- to test all the sensors on the headset

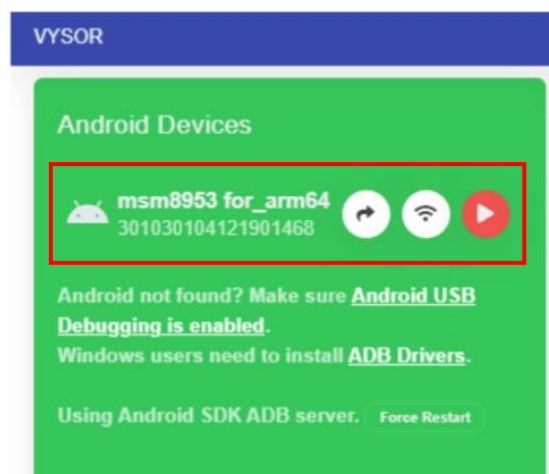
In the stand-alone mode, the headset turns on all the sensor capabilities and performs a systematic test of all its features. No user intervention is required. In this mode, the headset does not enable any Wireless capability.

However, if it is required to run this mode while connected to a Wi-Fi network, please follow the management software Mode before running this mode.

#### Management Software Mode

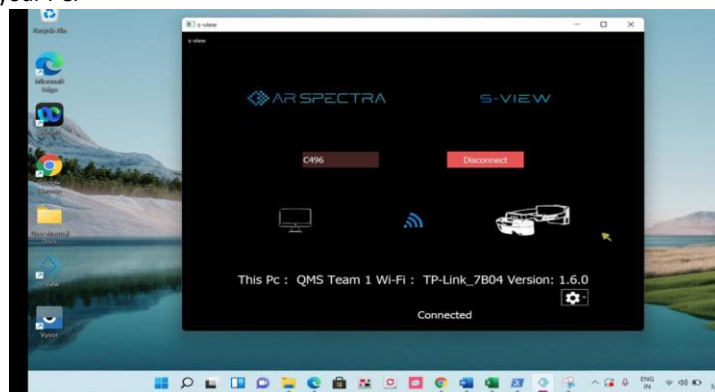
This mode is used to configure setting on the headset. It is recommended to run this mode in order to connect to a desired Wi-Fi network and/or Bluetooth device. Follow these steps to run in the Management Software Mode:

1. Connect the headset using a compatible USB cable to any PC running Windows, Linux, or Mac OS.
2. Install the software Vysor [<https://www.vysor.io/download/>] on the PC.
3. After successful installation, the headset will be listed as a device on the Vysor screen as shown in the figure



**Figure 1: Headset listed on Vysor**

4. Click on the play button to obtain a mirror of what the headsets are displaying. You can navigate the main menu using the mouse of your PC.



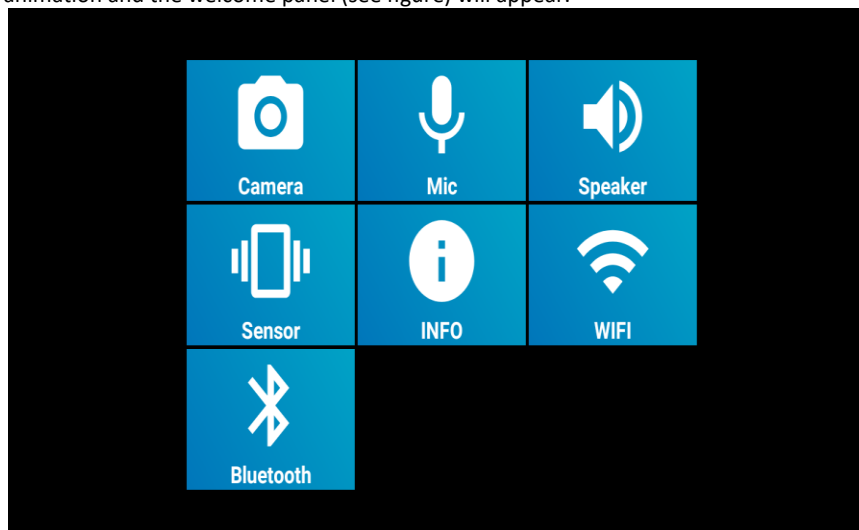
**Figure 2: Headset mirrored on PC**

5. Click on the setting button of the main menu.

6. Choose the desired Wi-Fi network to connect, insert the password and press ok.
  7. After this confirmation of Wi-Fi connection, unplug the USB Cable and plug it back to the ARSpectra authorized power unit.
  8. The device will run now in stand-alone mode with wireless capabilities.
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**Run this mode after running in Management Software Mode in case of running the headset on Wi-Fi**

1. Connect the authorized ARSpectra's power unit to the back USB C port using the provided cable.
2. Wait approximately 3 seconds until the amber/red back LED blinks three times and the front torch LED blinks once.
3. Wear the headset fitting the head strap and head band according to your preferences (see recommended wearing mode below).
4. The ARSpectra logo will appear on the right-eye display indicating the booting process of the device has started. Following, the Android boot animation and the welcome panel (see figure) will appear.



*Figure 3: Welcome Pane*

5. Wait until the display shows the message "Starting functional routines". The headset automatically will start its normal functioning modes. No user intervention is required.

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**Turning off the device**

To power-off the device, press the back button for 5 seconds. Once you see the "Shutting Down" Message on the screen, release the button and disconnect immediately the USB cable. The device will shut down completely.

**Note(s):**

1. **Make sure you disconnect the USB cable; this device is configured to start when a USB power is detected in the USB port. If the device turns on again, repeat XX without connecting the Power Unit.**
  2. **Low Battery indication: Generally, the headset must be used together with the Power Unit showing at least 50 % of battery level (refer to Power Unit's User Manual). In case the headset is not used with the Power Unit, low battery is indicated by fast blinking the back amber/red back LED. In this case, connect immediately a Power Unit or turn off the device as described in XX.**
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**Result:**



## 7. Device specifications

### 4.2 Hardware Specifications

<b>Processor</b>	
Platform/Processor	SP626
RAM memory	2GB + 4GB Swap
OS	Android 10
Storage	16 Gb
<b>Display</b>	
Waveguides	Bi/mono 40
Resolution	1280x720 (x2)
Frame rate	up to 120 Hz
<b>Cameras</b>	
Main camera - IMX376	20 Mp, 77 Fov
Zoom camera - IMX219	8 Mp, 37 Fov
<b>Audio</b>	
Speakers	2x 2 Watts out power
Microphones	1 voice + 4 Noise
Noise cancelling	Native Android / Dedicated TLV320
<b>Illumination</b>	
Torch	Built-in 6500 K, 164 Lumens (Max), No lens
Power Led	Accessory 5700K, 366 Lumens (Max), Lens
<b>Sensors</b>	
	Accelerometer
	Gyroscope
	Magnetometer
	Environmental temperature
	Ambient light sensor
<b>Indicator Leads and User I/O</b>	
Boot up indicator	Back amber/white
Recording	Front white
Low battery / alert	Front red
User GPIO	Front x2
User programable	Front green
<b>Connectivity</b>	
Wired	USB 3.0 OTG on USB-C receptable
Bluetooth	4.2 + BLE
Wi-Fi	2.4 /5 Ghz 802.11a/b/g/n/ac
<b>Power</b>	
Battery	Built-in 1100 mAh
Charging	USB-C input 2 Amps quick charger

### 4.3 Measurement accuracy

Not applicable for this device

### 4.4 Device dimensions

Not applicable for this device

FCC Caution:

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

The device has been evaluated to meet general RF exposure requirement. The device can be used in portable exposure condition without restriction.