

## Binocular Autorefractor



reddot award 2014  
winner



### Short Manual 6

**“Documenting measurement results on paper”**

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This manual is a supplementary short manual. For general information about your Plusoptix device, such as its intended use, basic handling, technical information, maintenance, service, and warranty information, please refer to the user manual that was delivered with your device. This user manual can also be downloaded on our homepage [www.plusoptix.com](http://www.plusoptix.com), under support.

## List of further supplementary short manuals

1. Adjusting settings and setting up WLAN
2. Preparing and performing a measurement
3. Viewing the measurement results
4. Entering, retrieving or deleting patient data
5. Documenting measurement results electronically
6. Documenting measurement results on paper
7. Exporting back-ups and reports (only plusoptiX A12C and A16)
8. Downloading software updates
9. Troubleshooting malfunctions and measuring interruptions

## 1 Documenting the measurement results – an overview

The measurement results can be documented electronically or on paper.

Documenting on paper means that the measurement results can be printed out to attach them to a patient paper record. You can print a self-adhesive label on the wireless infrared label printer “plusoptix P12” or a measurement report (see figure 1) on any printer that is connected to your workplace computer. With the “plusoptiX A12” model, it is also possible to print the screening report directly on a mobile USB printer, without using a workplace computer.

Documenting electronically means that you can save measurement reports on your workplace computer and also attach them manually to your electronic patient records.

If the device is connected to your Electronic Medical Record system for csv data exchange, the measurement report and the measurement values can even be saved automatically to your Electronic Medical Record system.

More information about documenting the measurement results electronically can be found in supplementary short manual 5.

## 2 Documenting the measurement results on paper

Touch the printer (1) button in the navigation bar of a results page to do this.

In the plusoptiX A12C and A16 model, the patient data input screen is then displayed. Enter the patient data (see supplementary short manual 4), which should be displayed on the measurement report and then touch the green checkmark (2) to confirm.

If the measurement results are to be documented anonymously, touch the checkmark (2) in the navigation bar without entering patient data. This will allow you to skip the patient data entry screen. The Plusoptix Binocular Autorefractor then saves the measurement under a consecutive patient ID. This is composed as follows:

<last 4 digits of the serial number>-<consecutive number>-<date>-<time>



**Note:**

The “plusoptiX A12R” model does not have an internal patient database. Touching the printer button after the measurement in the “plusoptiX A12R” model will display a single line to enter individual patient data. This data will be portrayed on the measurement report and on the self-adhesive label. Following explanations are for the “plusoptiX A12C” and “plusoptix A16” model, only.

More information about entering or retrieving patient data can be found in supplementary short manual 4.

As an alternative to manual entry of the patient data, the plusoptiX A12C and A16 can also be connected for a full integration with your EMR system (see supplementary short manual 5 “Documenting measurement results electronically”).



## 3 Printing measurement reports

After confirming the patient data entry or the anonymous, consecutive patient ID (see supplementary short manual 4), a print job for label printing is sent via the infrared interface and a measurement report is saved to the inserted SD card (plusoptiX A12) or USB stick (plusoptiX A16) at the same time.



### Attention:

All print jobs in print spooler are deleted once device is switched off or switches off for power saving automatically. Measurement reports saved to a SD-card or USB stick are not deleted when device is switched off or switches off for power saving.

The measurement report is used to document the measurement values and the last camera image. For an anonymous measurement, the measurement report is only saved to the SD card (plusoptiX A12) or USB stick (plusoptiX A16) after entering or retrieving patient data or confirming the consecutive patient ID number (see supplementary short manual 4).

top.png  
2200 x 570 pixels

Patient information

**Emily**  
First name:

**Smith**  
Family name:

Patient ID:

**24.06.2015**  
Date of birth:

**emily@smith.com**  
Contact information:

**Nuremberg**  
Location:

**24.01.2018**  
Date of measurement:

	OD	Refraction [dpt]	OS
Refraction	-1.50 0.00 n/a*	-1.75 0.00 n/a*	
Gaze asymmetry [°]	6.0		
Pupil diameter [mm]	4.9	5.2	
Pupil distance [mm]	54		

Ver. 7.0.4.0

bottom.png  
2200 x 570 pixels

Figure 1: Example of a measurement report (Letter-sized or DinA4)

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If the patient data has already been entered or retrieved before the measurement in the plusoptiX A12C or A16 model, the measurement report is automatically saved to a SD card as a PDF file at the end of every successful measurement.

To be able to allocate these measurement reports to individual patients, the entered patient information can be found in the file names. In addition to the entered data, a date and time stamp and the measurement result are added.

PDF file name:

Last name\_FirstName-YYYYMMDD-HHMMSS.pdf



**Note:**

If a patient ID has been entered in the Plusoptix Binocular Autorefractor instead of or as well as the patient name, this patient ID will be visible in the file name instead of the patient name



**Attention:**

The measurement report is not stored in the internal patient database, but on the connected SD card (plusoptiX 12) or USB stick (plusoptiX 16). It will not be possible to retrieve measurement reports in the internal patient database at a later stage. If the device has been connected to your EMR software via the device's CSV interface, it will be sent automatically to your EMR software if this selection has been enabled in the settings. In the "plusoptiX A12" model, it is not necessary to insert a SD card for transferring the PDF file.

Saving the measurement report takes a few seconds and depends on the storage medium. If the SD card or USB stick is removed too soon or the URL is accessed too soon, the PDF file will not be saved.

If the SD card or USB stick is removed too soon, it must be plugged back into the Plusoptix Binocular Autorefractor to save the measurement report to the SD card or USB stick. The URL must be called up again if it is accessed too soon the first time.

### 3.1 Adding an individual infographic

An infographic is found on the lower edge of the measurement report. You can design this as you wish. Create your graphic in png format with a size of 2200 x 570 pixels (w x h) and call your graphic either "top" for the infographic on the top edge of the measuring log or "bottom" for the infographic on the lower edge. Copy your graphic into the main directory of a USB stick. As soon as you connect the USB stick to the operational Plusoptix Binocular Autorefractor your graphic will be uploaded automatically. You can find a sample graphic with the correct measurements for the information column in the download area on our homepage ([www.plusoptix.com](http://www.plusoptix.com)).

## 3.2 Printing measurement reports on a network printer

To print a measurement reports on your network printer, you must open the measurement report PDF file from a network computer or smartphone. There are four different access options:

plusoptiX A12C, A12R and A16:

a) Manual connection of the SD card or USB stick to a workplace computer

plusoptiX A12C and A16:

b) Manual network access via LAN / WLAN

c) Automatic network access with the freeware plusoptiXconnect

d) Manual network access via hotspot on your smartphone

Below you will find more detailed explanations.

### a) Manual connection of the SD card or USB stick to a workplace computer

Connect the SD card (plusoptiX 12) or USB stick (plusoptiX 16) to a workplace computer. The storage will be displayed as “removable medium” in your Windows Explorer or Apple Finder.

Open the folder “pdf” and choose the measurement report you want to print. You can print it on any printer that is connected to your network or workplace computer.

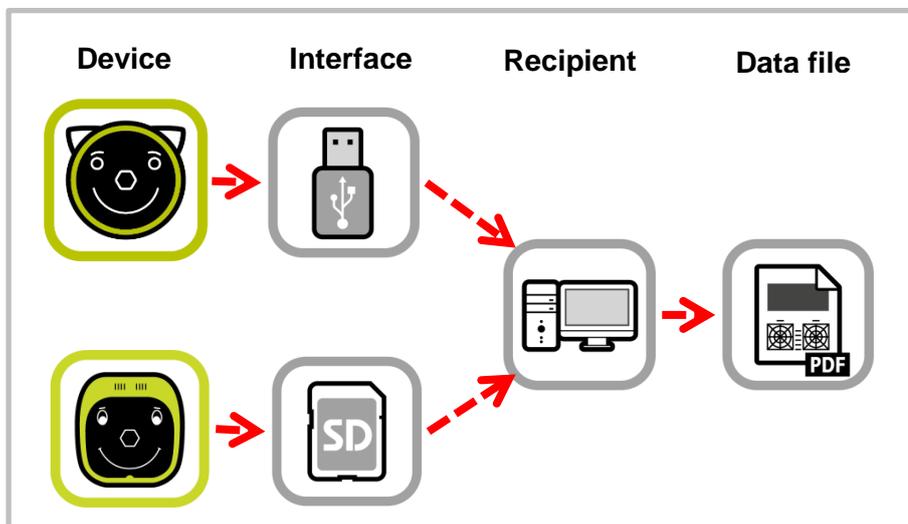


Figure 2: Manual connection of the storage device to a workplace computer

## b) Manual network access via LAN / WLAN

Open your Windows Explorer or Apple Finder. You can access the measurement report at following URLs:

plusoptiX A12C:                    \\px12-xxxx\pdf (Windows Explorer)  
 (WLAN)                                smb://px12-xxxx/pdf (Apple Finder)

plusoptiX A16:                    \\px16-xxxx\pdf (Windows Explorer)  
 (LAN and WLAN)                    smb://px16-xxxx/pdf (Apple Finder)

The “xxx” place marker stands for the last four numbers of the serial number.

Open the folder “pdf” and choose the measurement report you want to print. You can print it on any printer that is connected to your network or workplace computer. If the workplace computer displays the error message “Access denied”, restart Windows Explorer or Apple Finder.

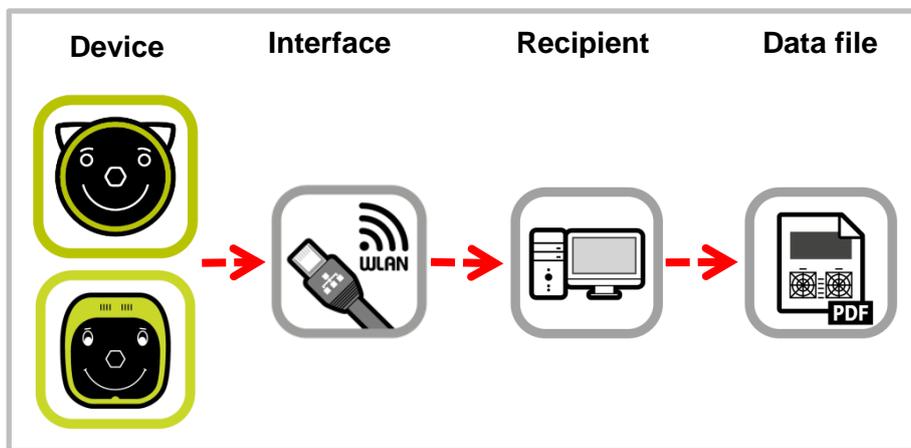


Figure 3: Manual network access

## c) Automated network access with the freeware plusoptiXconnect

“plusoptiXconnect” is a freeware programme for automated connection and printing of measurement reports. The plusoptiX A12C (WLAN) or A16 (LAN and WLAN) must be connected to the network via LAN or WLAN, too. The measurement reports stored on the SD card or USB stick can now be portrayed and printed automatically on your workplace computer.

You can download the freeware and its user manual from our homepage ([www.plusoptix.com](http://www.plusoptix.com)).

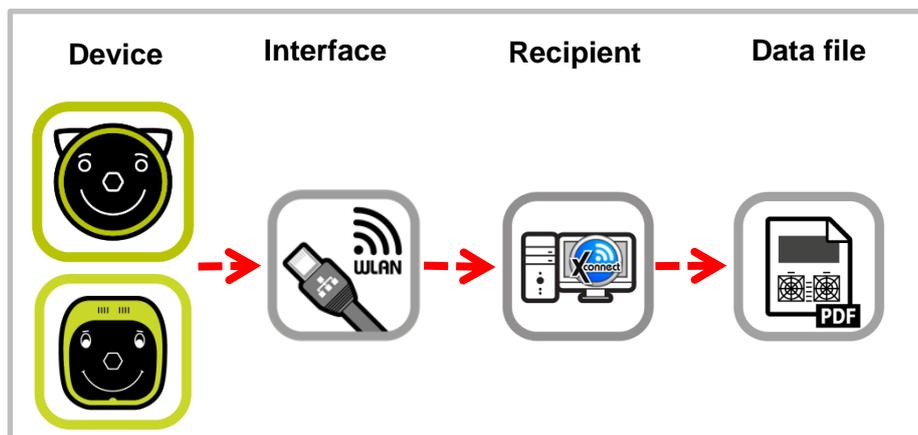


Figure 4: Automated printing with the freeware plusoptiXconnect

## d) Manual connection via a hotspot on your smartphone

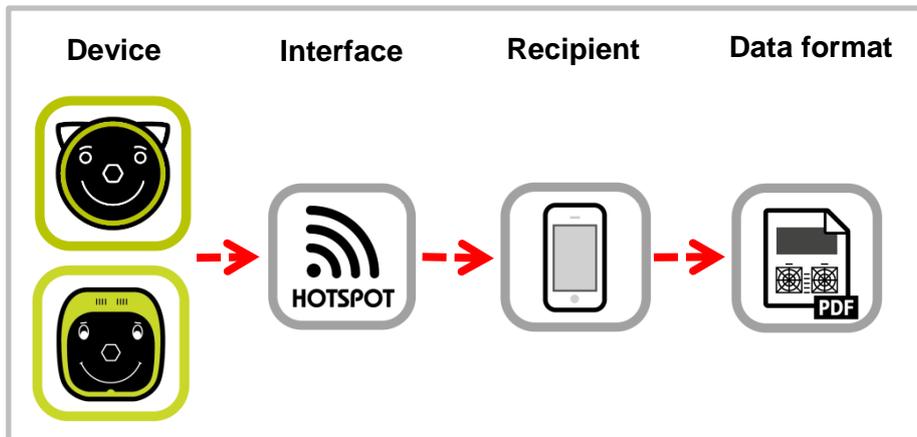


Figure 5: Manual connection via hotspot on your smartphone

- Set up a hotspot on your smartphone
- Check the network name and password of the hotspot
- Connect the Plusoptix device with the established hotspot by selecting the network name and entering the password



Figure 6: Choose "hotspot" as network

- Download an app to manage documents (File Manager). Open the downloaded app and search for connected devices.
- By selecting the appropriate device name (1), you can access the documents stored on the storage of this device.
- Open the "pdf" folder and select the desired measurement report. You can view, save, send, or print the measurement report on a printer that is connected to your smartphone.

1) px12-1234

### 3.3 Printing measurement reports on a mobile USB printer (only plusoptix A12)

If a workplace computer is not available or you want to print measurement reports directly without using a workplace computer, a measurement report on the “plusoptix A12” can also be printed directly on the mobile USB printer “HP OfficeJet 200”.

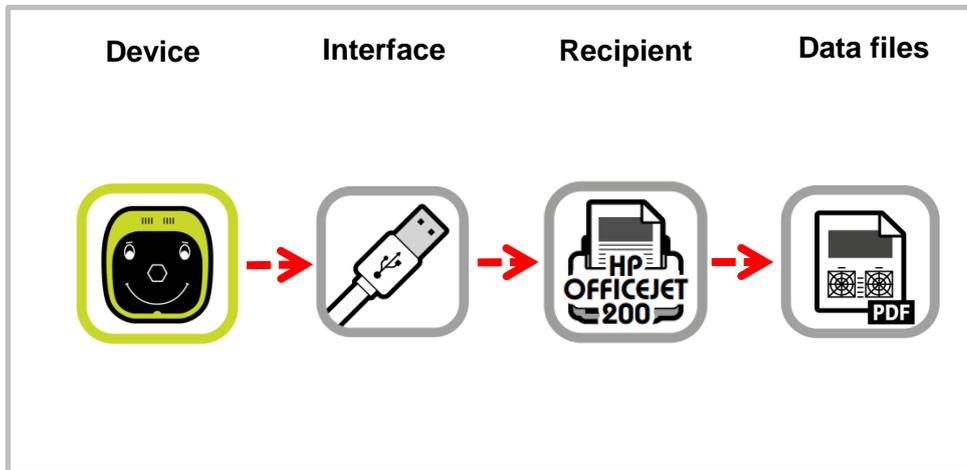


Figure 7: Printing measurement reports via USB connection

To print a measurement report on the mobile USB printer “HP OfficeJet 200”, the mobile printer must be connected to the “plusoptix A12” device via a USB cable. As soon as a measurement report is saved on the SD card, a print job is sent to the mobile USB printer “HP OfficeJet 200” and the measurement report will be printed.



**Attention:**

Do not disconnect the USB cable or switch off until the printer finished printing. If the cable is disconnected or the device switched off too early, the measurement report might not be printed completely.



**Note:**

The USB cable has to be connected in the moment the measurement report is saved on the SD card. When the measurement report is saved on the SD card, it might take some seconds until the USB printer starts printing.

## 4 Printing self-adhesive label with “plusoptiX P12” (optional accessory)

After confirming the entry or the anonymous measurement, a print job for label printing is sent via the infrared interface and a measurement report is saved to the inserted SD card (plusoptiX A12) or USB stick (plusoptiX A16) at the same time.

To print a self-adhesive label, you just need to hold the camera towards the “plusoptiX P12” label printer to print a self-adhesive label. The “plusoptiX P12” prints self-adhesive labels on heat-sensitive paper (i.e. no printer cartridges are required). It is battery-operated and has an infrared interface.

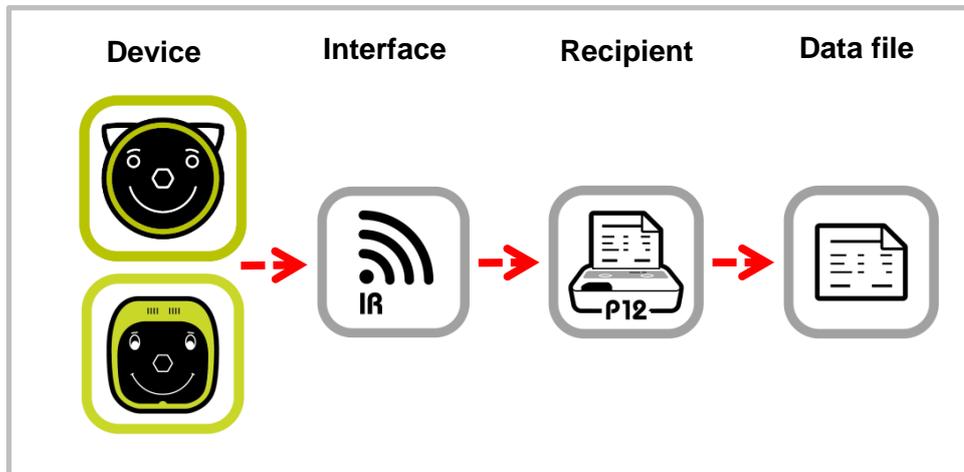


Figure 8: Printing self-adhesive labels



**Note:**

You can find information about operating the “plusoptiX P12” in its user manual. This can be downloaded from our homepage ([www.plusoptix.com](http://www.plusoptix.com)).

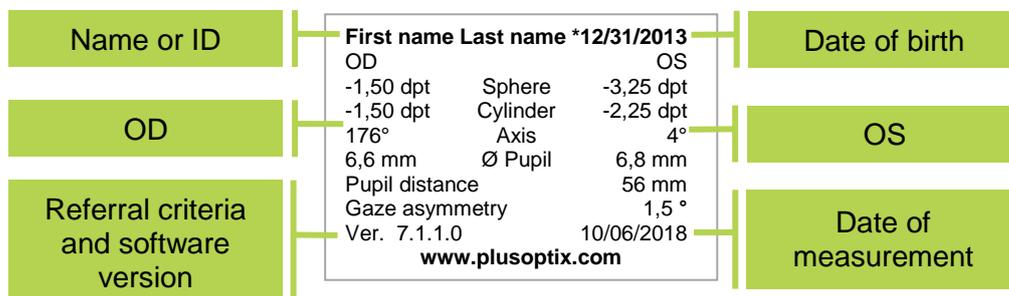


Figure 9: Self-adhesive label (74 mm x 49 mm)