

## Binocular Autorefractor



reddot award 2014  
winner



### Short Manual 5

**“Documenting measurement results electronically”**

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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 electronically means that you can save measurement reports (see figure 1) 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.

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 on any printer that is connected to your workplace computer. With the plusoptiX A12 model, it is also possible to print the measurement report directly on a mobile USB printer, without using a workplace computer. More information about documenting the measurement results on paper can be found in supplementary short manual 6.

## 2 Documenting the measurement results electronically

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 chapter 3 “Full integration with your EMR system (only A12C and A16)”).



## 2.1 Saving 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.



### Note:

The label can be printed on the wireless label printer “plusoptix P12” and the measurement report can be printed manually or automatically on any printer that is connected to your network or workplace computer. More information about documenting the measurement results on paper can be found in supplementary short manual 6.



### 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 the “plusoptix A12” 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

	OD	OS
Refraction [dpt]	-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	

bottom.png  
2200 x 570 pixels

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

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 (plusoptiX A12C) or USB stick (plusoptiX A16) 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 A12) or USB stick (plusoptiX A16). 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 this case, it is not necessary to insert a SD card for transferring the PDF file with the "plusoptiX A12" model

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.

## 2.2 Adding an individual infographic

An infographic is found on the upper and 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)).

## 2.3 Accessing the measurement reports

After saving the measurement report to the SD card (plusoptiX A12) or USB stick (plusoptiX A16), there are four different options to electronically access them:

- a) Manual connection of the SD card or USB stick to a workplace computer
- b) Manual LAN / WLAN network access (only A12C and A16)
- c) Automated connection with the freeware plusoptiXconnect (only A12C and A16)

Following, please find detailed explanations.

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

Connect the SD card (plusoptiX A12) or USB stick (plusoptiX A16) 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 save. You can copy it to any folder on your workplace computer or in the network.

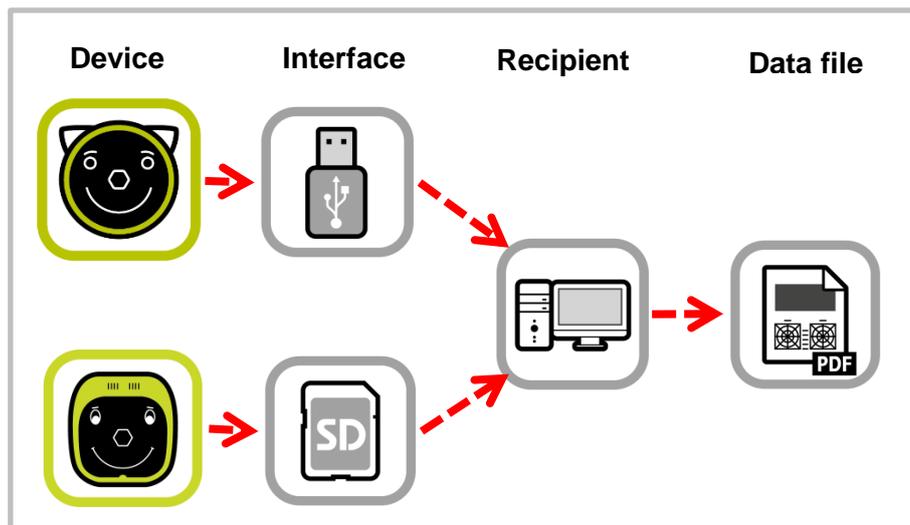


Figure 2: Manual connection of the storage device to a workplace computer

## b) Manual LAN / WLAN network access (only A12C and A16)

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.

Choose the measurement report you want save. You can copy it to any folder on your workplace computer or in the network. If the workplace computer displays the error message “Access denied”, restart Windows Explorer or Apple Finder.

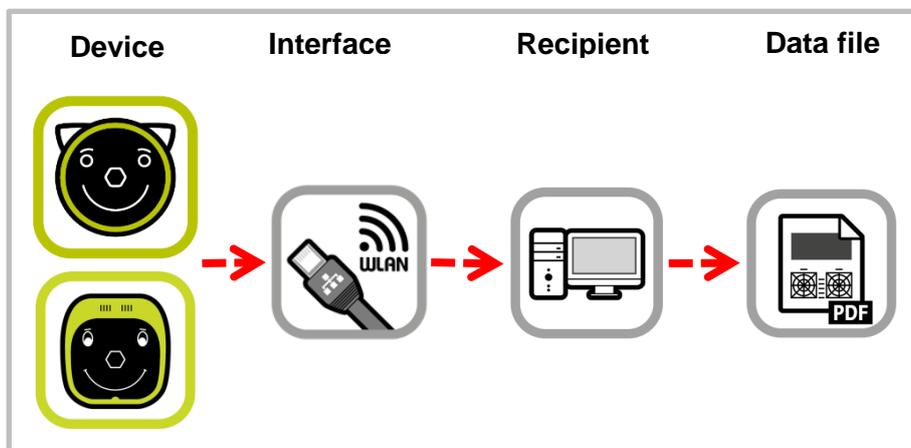


Figure 3: Manual LAN/WLAN network access

## c) Automated connection with the freeware plusoptiXconnect (only A12C and A16)

“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)).

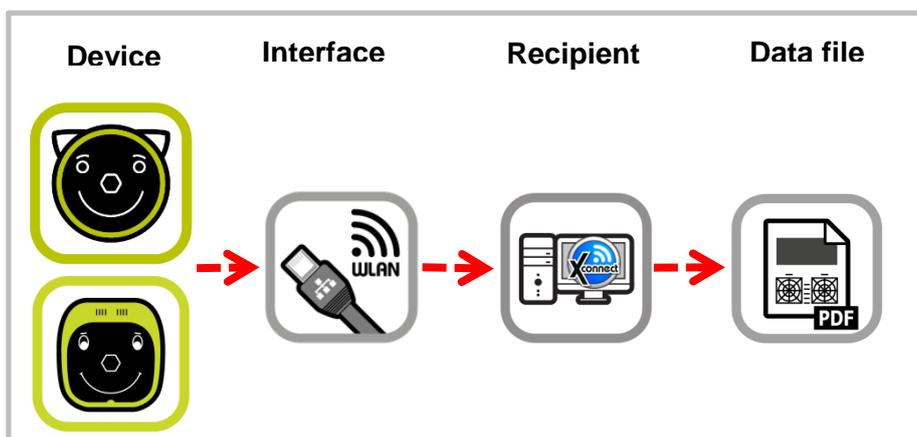


Figure 4: Automated connection with the freeware plusoptiXconnect

## 3 Full integration with your EMR system (only A12C and A16)

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.

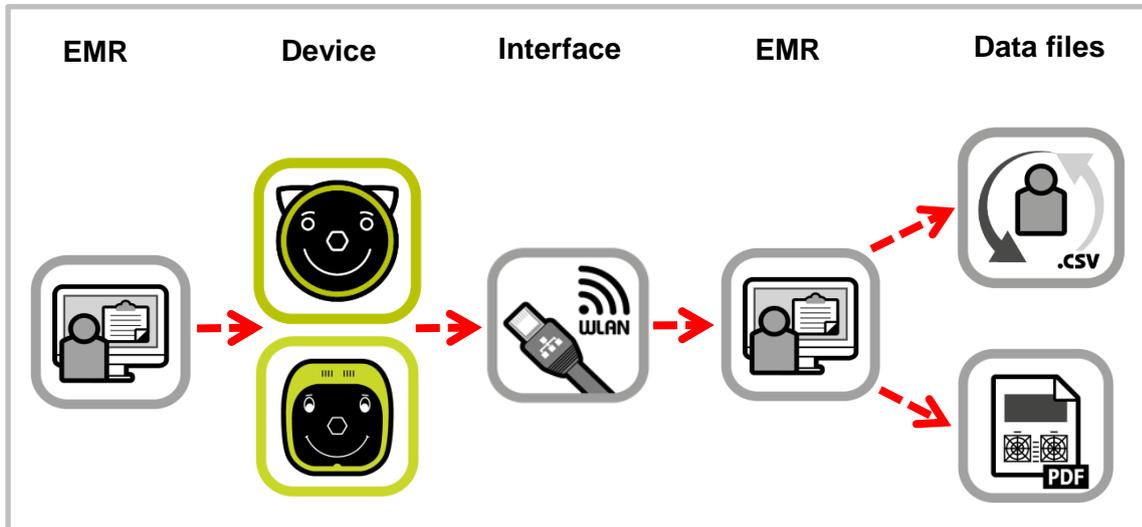


Figure 5: Automated connection to your Electronic Medical software

You simply have to choose a patient in your EMR system, and transfer the data to the device. After the measurement, the measurement results and the measurement report will be retransferred and saved to your EMR system.

The measurement report can be printed on any printer that is connected with your network or workstation computer.

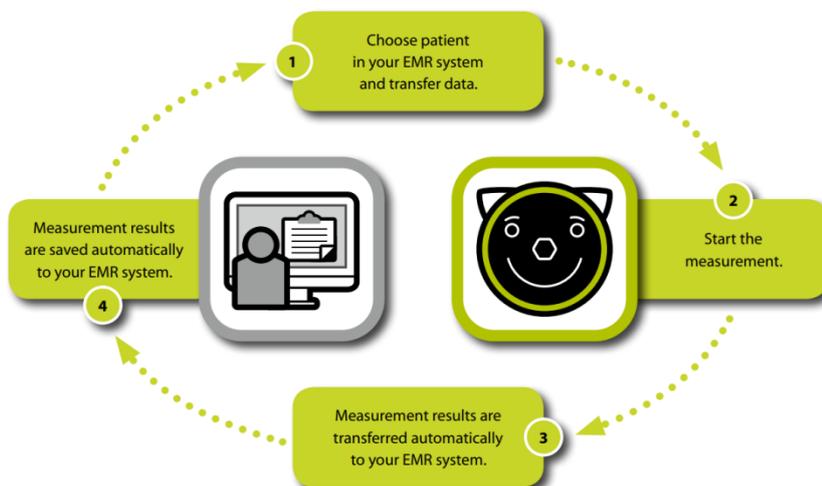


Figure 6: Automated transfer of patient data and measurement results

More information about csv file based EMR interface can be found on our homepage ([www.plusoptix.com](http://www.plusoptix.com)), under support.