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# OPD-Scan III

REFRACTIVE POWER / CORNEAL ANALYZER

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**Product Development E/X3, Medical Division**

**OPD-Scan III Development team**



# What's new of OPD-Scan III

## Ease of use



- Total size decrease, Nidek new standard design
- Tilt LCD, Automatic cutting printer, motorized chinrest

## More accurate

**<OPD>**

Measurement Area: •Cornea area Current  $\Phi 6.0$  to MAX.  $\Phi 9.5$

Measurement Speed: 1.2 time/s  $\Rightarrow$  1 times/s •20% faster

**<CT>**

•70% up measurement points

19 rings/ Red Placido  $\Rightarrow$  33 rings/ Blue Placido •Pupil image is not showing, so accurate placido edge detection

## Simple operation

MAP & Layout selection

Must select the Maps, Layout and Settings

Contact Lens

Cataract

Overview

- Fixed Map Layout for purpose

## Ease of Service

- No.1 claim report: HDD (12%)  $\rightarrow$  Change to SSD
- Security software available/Windows desktop is only for service
- Possible to update software (firmware also) by USB memory

## For Cataract Market

- Map layout for Cataract (include the Retro image)
- Corneal power for IOL power calc. (App, ECCP)
- Work with IOL-Station

# Graphic user interface

## Measurement screen

**NIDEK** Ver. 1.00.01

Name: NIDEK ICHIRO  
ID: 1510

View Setting Main Menu

Verify

S: -20.98	R1: 44.38
C: -10.02	R2: 42.35
A: 178	A: 178

**Right**

Ref: 5

S	C	A
-20.98	-10.02	-178
-20.98	-10.02	-178
-20.98	-10.02	-178
178E		
-20.98	-10.02	-178
-20.98	-10.02	-178

KM: 3

R1	R2	A
45.28	42.38	178
45.28	42.38	178
45.28	42.38	178

**Left**

Ref: 5

S	C	A
-20.98	-10.02	-178
-20.98	-10.02	-178
-20.98	-10.02	-178
178E		
-20.98	-10.02	-178
-20.98	-10.02	-178

KM: 3

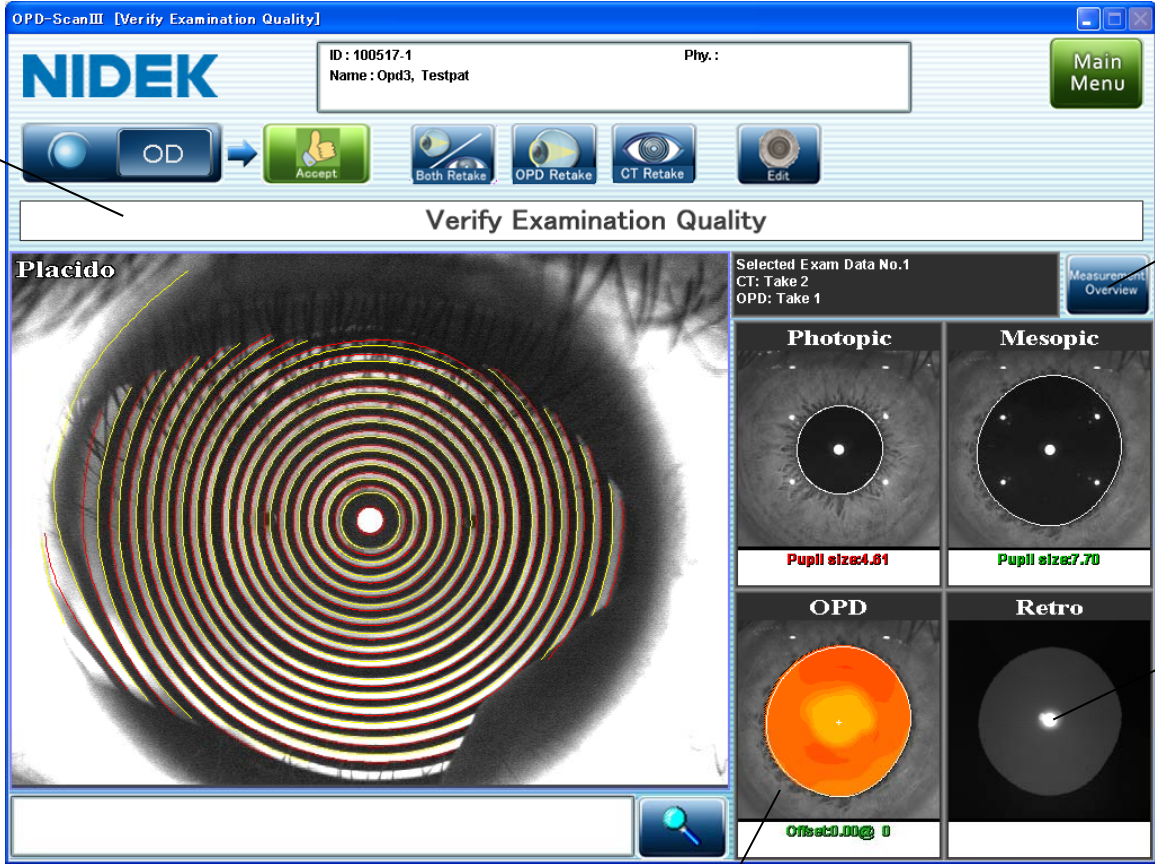
R1	R2	A
45.28	42.38	178
45.28	42.38	178
45.28	42.38	178

Information

Laid out buttons  
on upper part of  
screen  
(on all of screen)

# Verify Examination Quality

Measurement screen changes to this Verify screen automatically after measurement, then you can check the measurement conditions of OPD, Placido ring trace, Photopic/Mesopic/Retro images.



Automatically selected the best examination from multiple measurements.

Press this button, switch to All measurement data display screen.

Retro image (new)

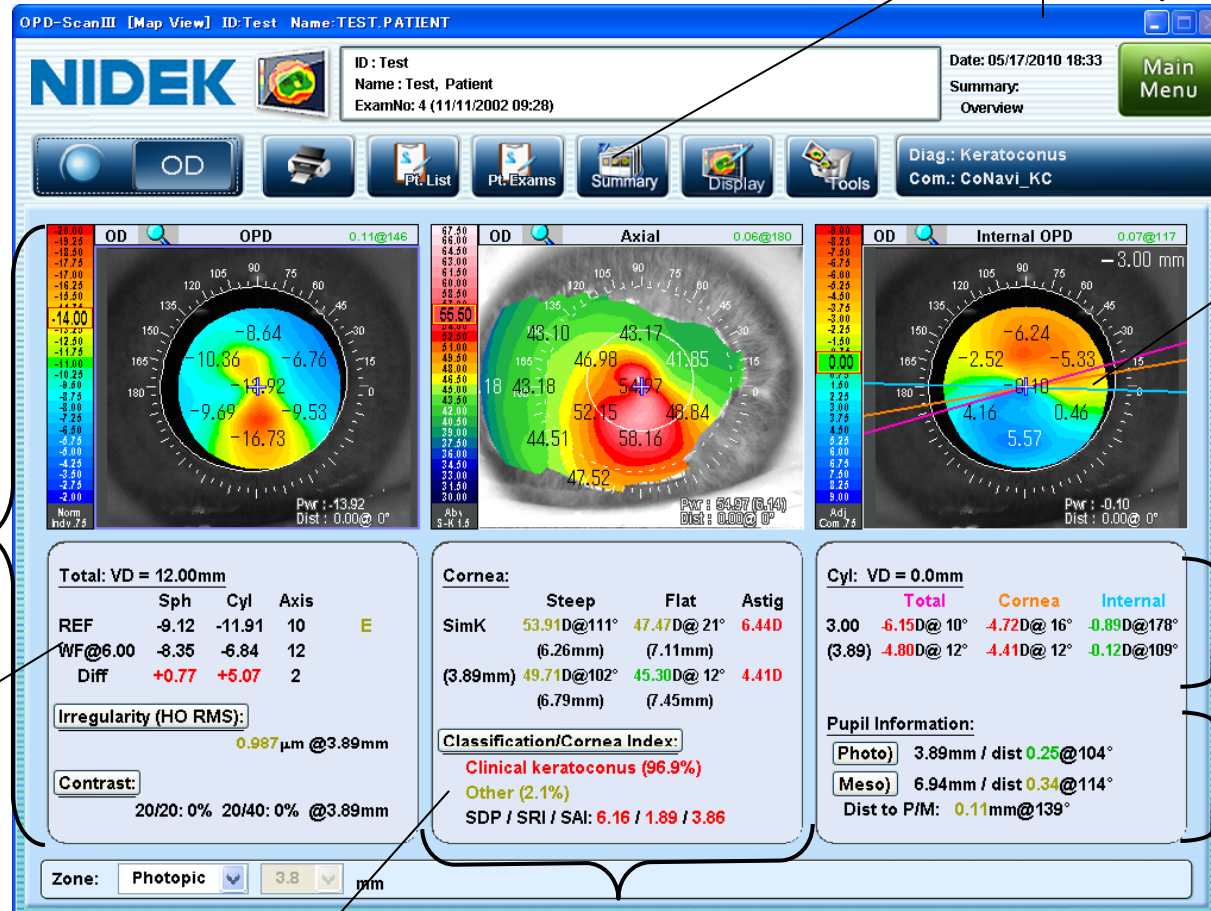
Press the thumbnail, switch the Placido image

# Overview

OPD-ScanIII has some useful fixed summaries.  
You can choose the summary what ever you want.

Summary change button  
Press the button, the displays summary list.

ex. Keratoconus



Total information

Upper:OPD Map

Lower:Entire eye info.

Auto Ref value

Upper:Normal 2.6mm

(for day)

=>Marco 30secRef

Lower:WF 6.00mm

(for night)

=>Marco HD Exam

Internal OPD Map

Displays Total/Cornea/Internal Cylinder Lines (new)

Cyl information

Diameter 3.00mm

Photo/Meso/Manu Selectable

Pupil information

Corneal Navigator Info.

You can check the cornea shape easily.

Cornel information

Upper:Axial Map

Lower:Corneal info.

If you need more information, click the button, then you can get the relational maps & images.

The main interface displays the following data:

- Diagnosis:** Keratoconus, Com.: CoNavi\_KC
- OPD Map:** 0.11@146
- Axial Map:** 0.06@100
- Internal OPD Map:** 0.07@117
- Corneal Data:**
  - Steep: 53.91D@111° (6.26mm)
  - Flat: 47.47D@21° (7.11mm)
  - Astig: 6.44D (49.71D@102°, 45.30D@12°, 6.79mm)
  - Classification/Cornea Index: Clinical keratoconus (96.9%), Other (2.1%), SDP / SRI / SAI: 6.16 / 1.89 / 3.88
- Pupil Information:** 3.96mm / dist 0.25@104°, 6.94mm / dist 0.34@114°, 0.11mm@139°
- Classification/Classifier:**

Classifier	OD	No.4	Graph
NRM	0.0%		
AST	0.0%		
KCS	0.0%		
KC	96.9%	KSI=72.3%	
PMD	0.0%		
PKP	0.0%		
MRS	0.0%		
HRS	0.0%		
OTH	2.1%		

Relational maps and images are accessible via buttons:

- WF HO map:** Shows wavefront error and higher-order aberrations.
- MTF graph:** Shows Modulation Transfer Function (Contrast [%] vs Visual acuity).
- Eye image:** Shows the captured eye image with pupil and cornea outlines.
- Corneal Navigator:** Shows the classifier results for different corneal conditions.

**3 colors of value**  
Green:Normal,  
Yellow:Suspect,  
Red:Abnormal

->You can see the value is normal or abnormal easily.

# Cataract summary

Cataract summary has many useful information for Cataract surgery.

Retro image  
You can see the crystal lens condition,

Corneal powers for IOL power calculation  
ECCP: for LASIK eye  
(from Dr. Holladay)

Cornea SA  
for Aspheric IOL Info.

Cornea shape  
You can check the cornea shape easily.

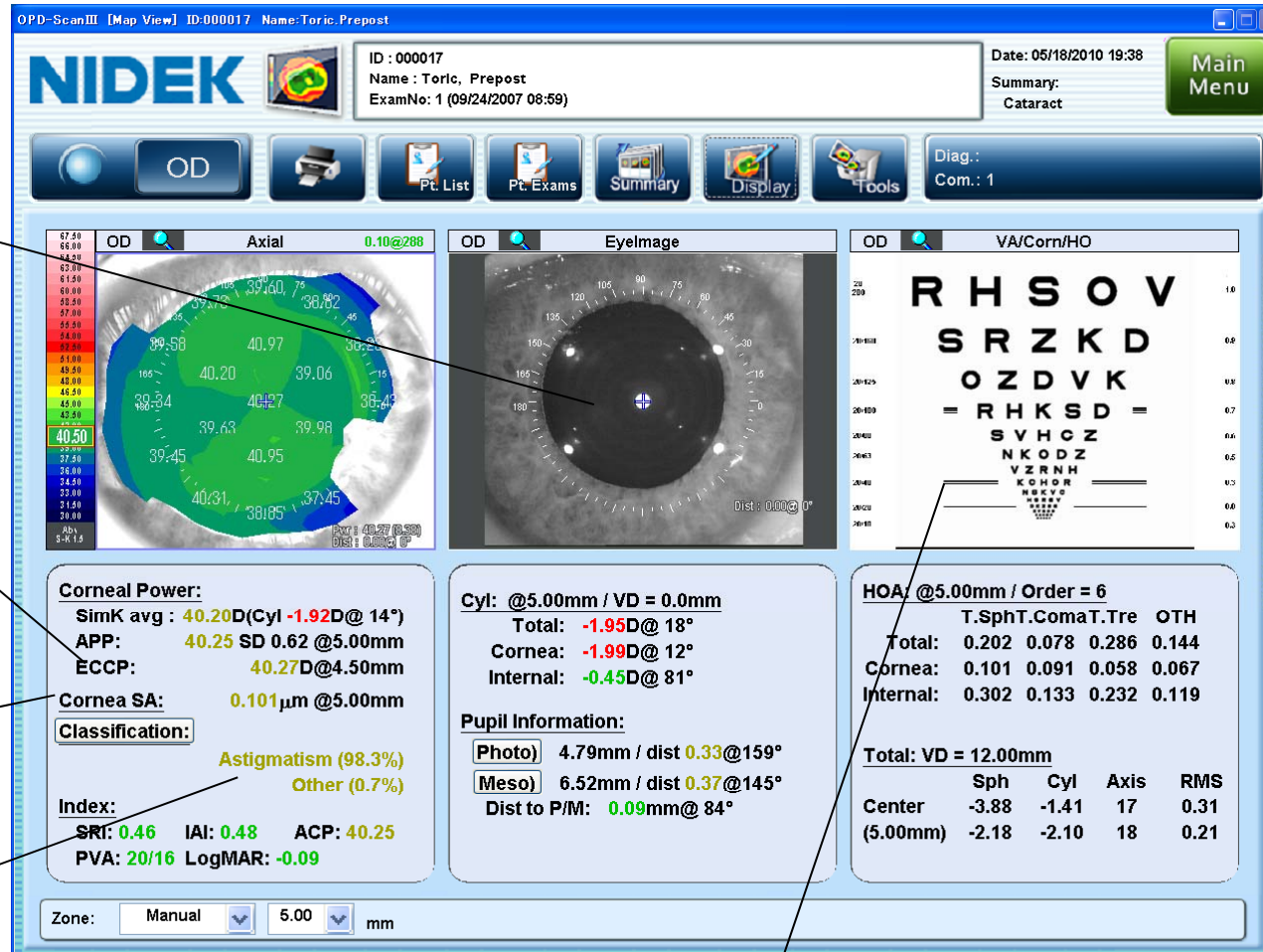
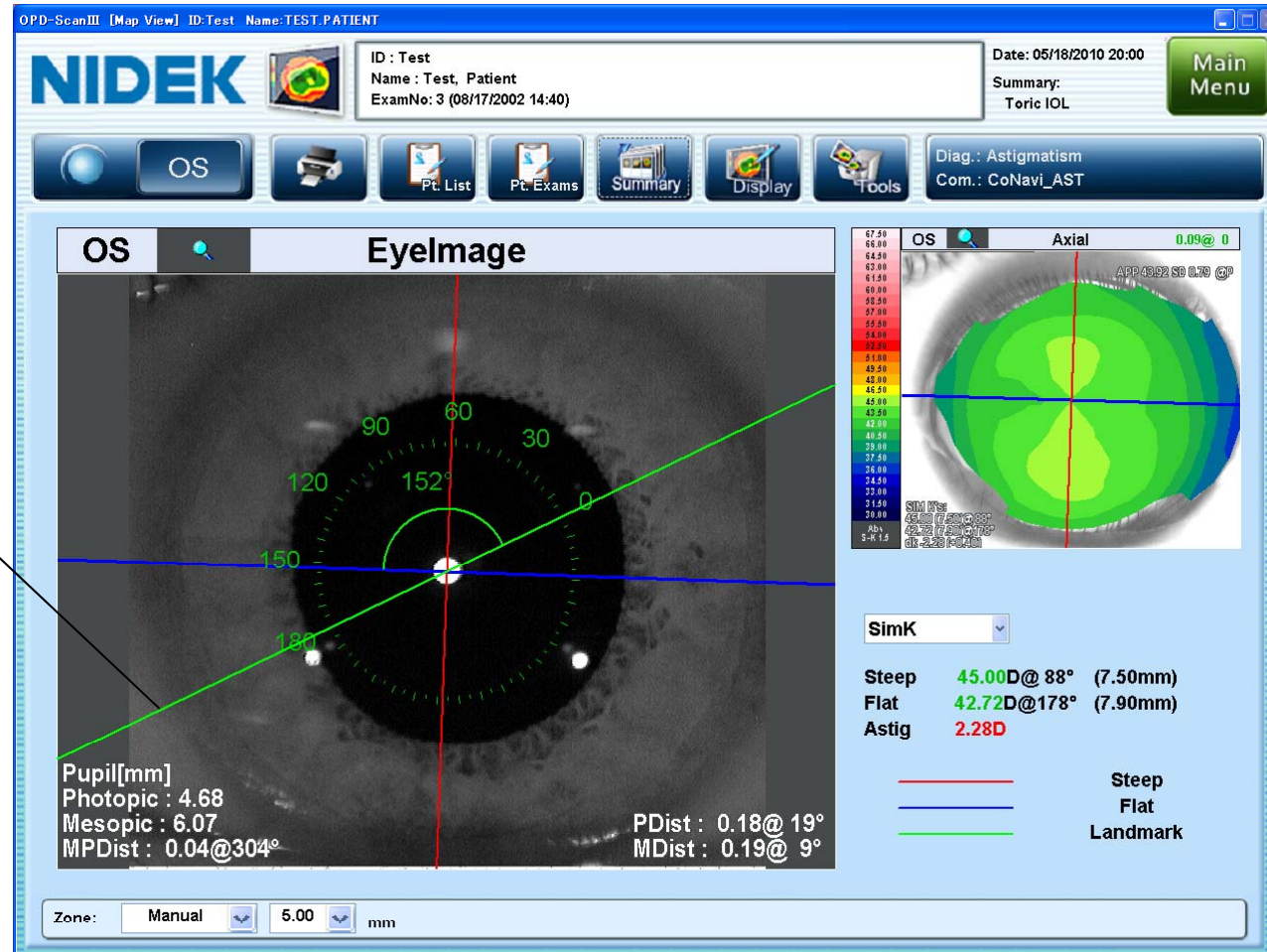


Chart simulation  
You can see the patient visual acuity after Cataract surgery,

# Toric IOL summary

This is a special summary for implanted Toric IOL surgery.  
You can see the same eye image when surgery that using Toric IOL Gage & Marker.

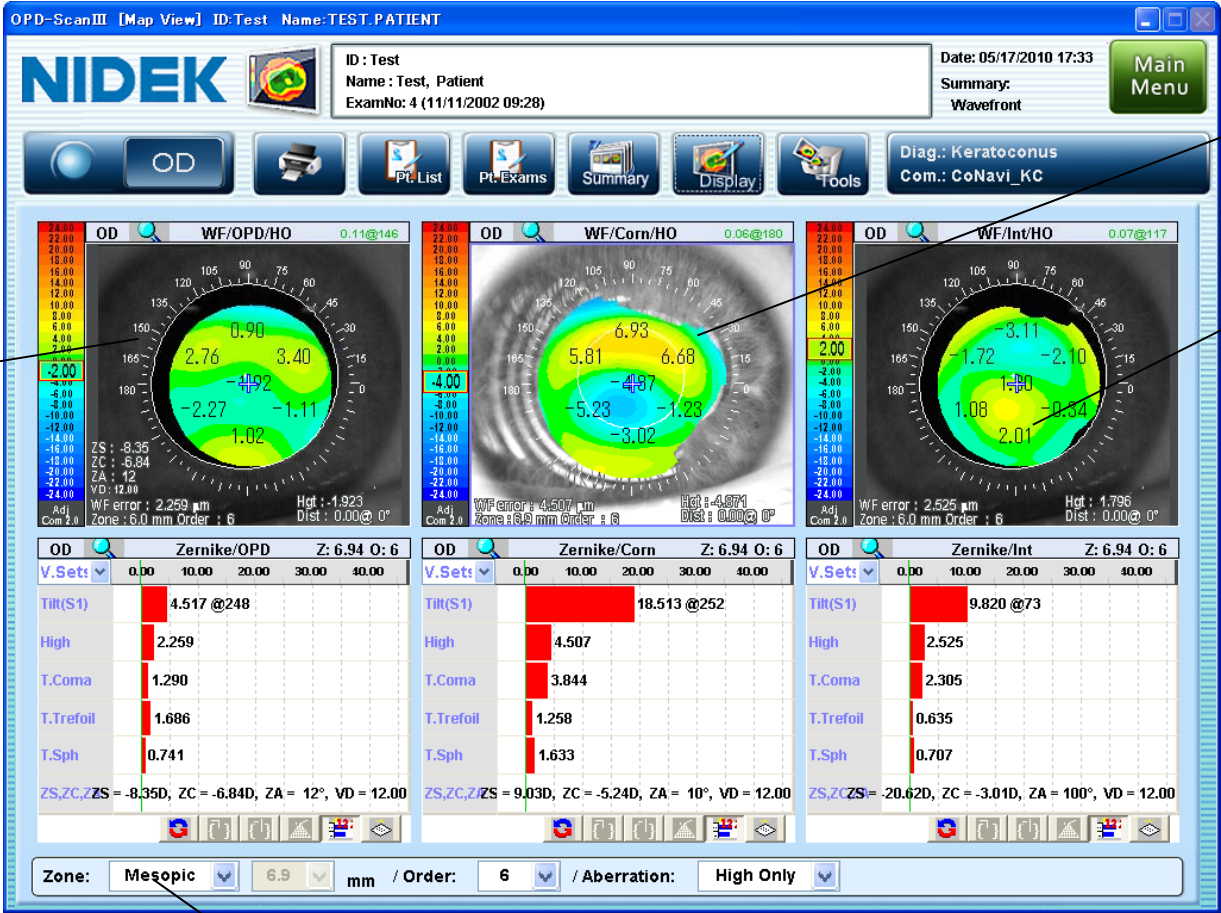


Gage Axis  
Click the characteristic image on iris, then the Green line moves this position, and angle scale be '0'



# Wavefront summary

OPD has 3 position of the wavefront information, Total, Cornea, and Internal.  
You can see the irregular which portion cause.

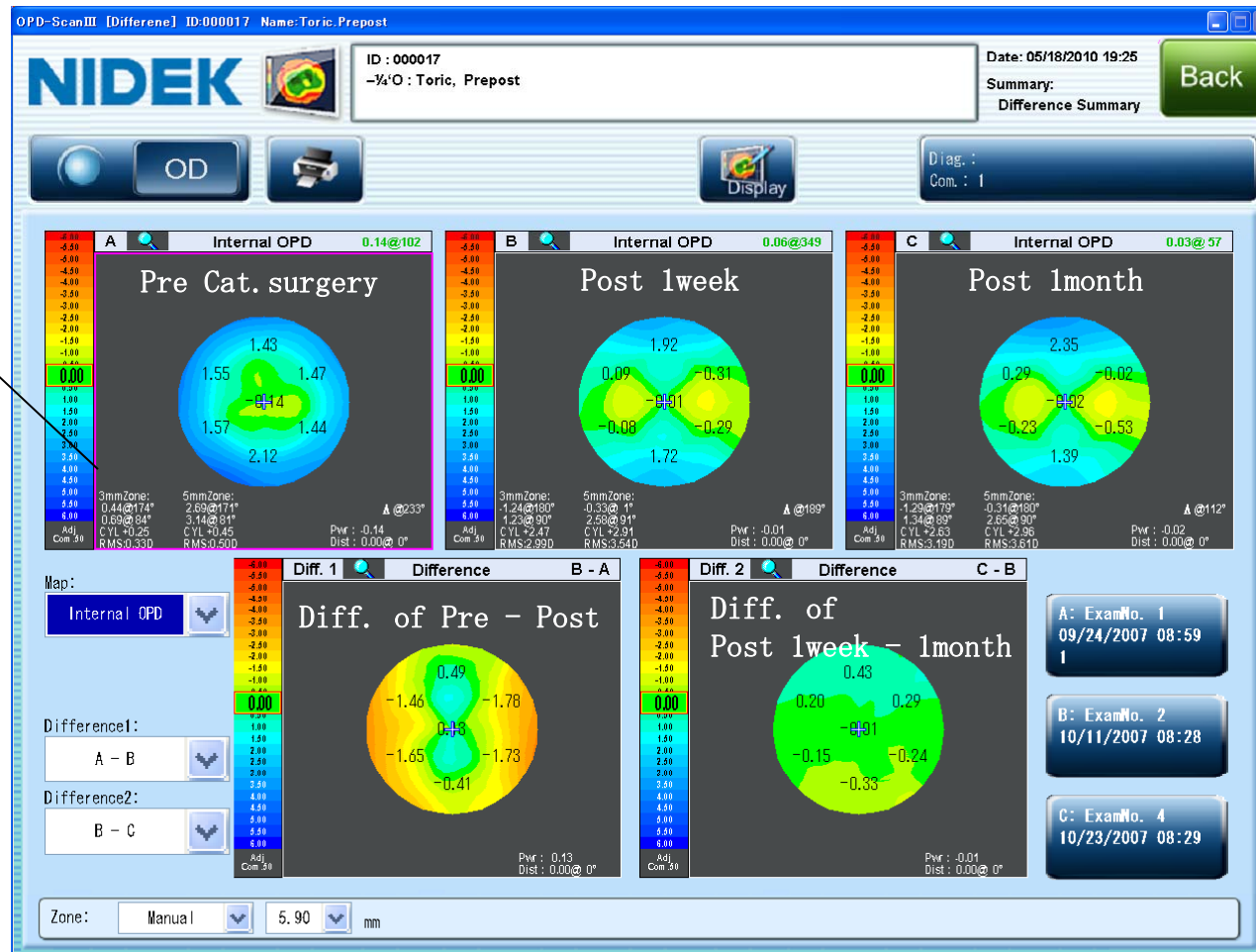


Change the diameter of analysis  
Photo/Meso/diameter input

# Difference map

You can see 2 difference maps at the same time, easy to check the patient follow up.

Upper: Source maps  
Lower: difference maps



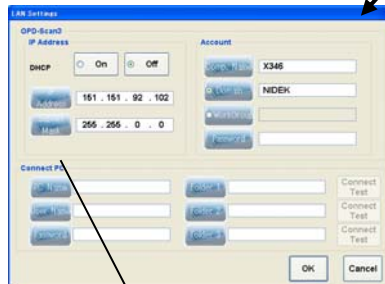
# Maintenance

All settings what you need are available on the “Maintenance” screen. You don’t need to use Windows functions.

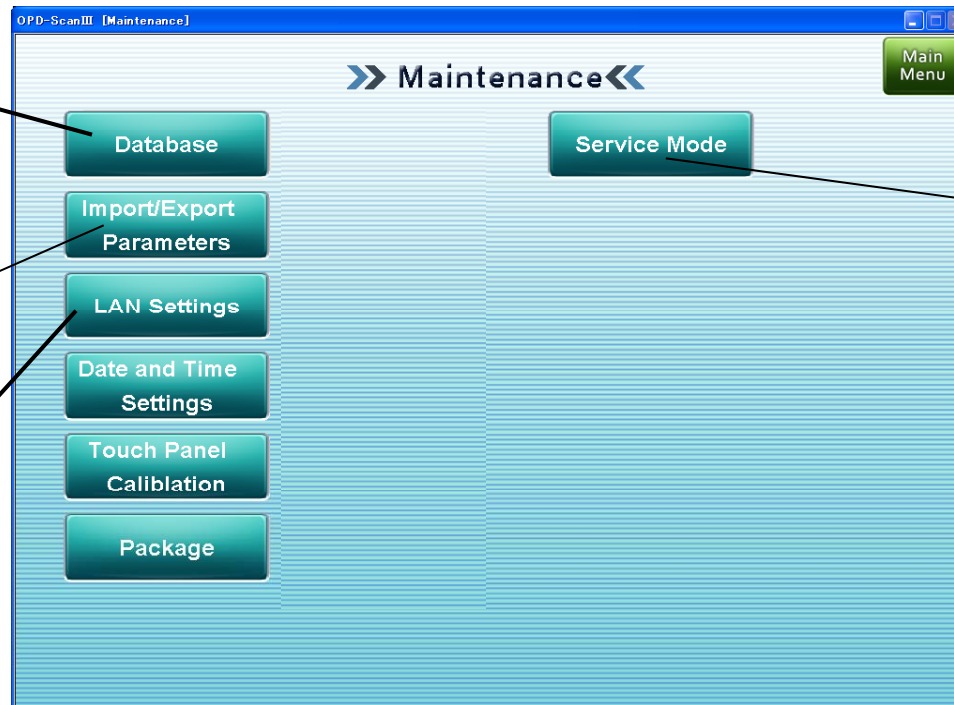
OPD Database Manager  
(same as OPDII/OPDStation)



All parameters of OPD-Scan (Maplayout/color scale ...) can export or import to USB memory.



You can do the LAN settings and check LAN connection using original screen.



Need to input the password, then displays some service functions. (ex. Update/Calibration/ Go to Windows Desktop ...)

Security software (McAfee Embedded Security) is pre-installed on OPD-ScanIII.

## McAfee Embedded Security

==> No need update the pattern file.

