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How to Start Up/Shut Down the System

**Start Up**
1. Turn on the external hard drives if necessary.
2. Turn on the **Laser Power Supply** by pressing the green switch in front (Figure 1). This is located next to the PC, beneath the printer.
3. Power up the PC.

**Shut Down**
1. Using the Windows Start menu, select **Shut down**.
2. Select **Shut down** from the “Shut Down Windows” pop-up window (Figure 2).
3. Once the PC has completely powered down, switch off the external hard drives.
4. Switch off the Laser Power Supply.
How to Enter Patient Data

1. Double click on the Heidelberg Eye Explorer (HEYEX™) icon on the desktop.
2. Once the program opens, click the **New Patient** icon at the top of the screen (Figure 3).
3. Enter, at minimum, the patient’s last name, first name, and date of birth into the appropriate fields (Figure 4).
4. Click **OK**.
5. Select the SPECTRALIS system for the device type (Figure 5).
6. Enter operator initials.
7. Click **OK**.
8. Enter the correct cornea curvature or click **OK** to accept the default eye data (Figure 6).
9. The acquisition module will now open and you can begin the exam.
**Re-examine an Existing Patient**

**How to Re-examine an Existing Patient**

Filter the database by following the above steps and then continue with the instructions below.

1. From the database window, load the selected patient to the right pane of the screen.
2. Use the **New Exam** icon to begin an exam (Figure 7).
3. Click **Yes** when asked to re-examine a patient.
4. Select the SPECTRALIS system for the device type (Figure 8).
5. Enter operator initials.
6. Click **OK**.
7. Enter the correct cornea curvature or click **OK** to accept the default eye data (Figure 9).
8. The acquisition module will now open and you can begin the exam.

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**Figure 7: New Exam Icon**

**Figure 8: Device Type**

**Figure 9: Eye Data**
How to Search for a Patient

1. From the main database window, type any portion of the patient’s first and last name into the Name field. The first initial of each name, separated by a space is sufficient (Figure 10).
2. Click Update Display.
3. Select the patient name from the filtered list.
4. Once finished with the patient file, unload the name with the Unload icon (Figure 11).
5. Delete all text from the name field.
6. Click Update Display to reload the entire database.
How to Align the Patient

1. After entering in the patient data, turn on the camera by activating the yellow start button located on the monitor.
2. Adjust the joystick so the camera is centered on the red line, or one finger between camera and base (Figure 12).
3. Instruct the patient to come forward into the chinrest and adjust the chinrest so the pupil is aligned with the center of the live window (Figure 13).
4. Adjust the table height to the patient’s comfort.
Set a Custom OCT Scan

Figure 14: Click and Hold Custom Scan Button

Figure 15: Name and Description

How to Set a Custom OCT Scan

1. Turn on the camera.
2. Press the IR+OCT button on the touch panel or OCT button on the bottom right of the monitor.
3. Wait for the OCT module to calibrate.
4. Select the scan parameters required for the custom scan, including the Automatic Real-time Tracking (ART) settings and the fixation target.
5. Click and hold one of the custom scan buttons for three seconds (Figure 14) until the Save Preset dialogue box appears, enter a six character name and a description (Figure 15).
6. Click OK.
Acquire an IR+OCT Image

How to Acquire an IR+OCT Image

1. Press the IR+OCT button on the touch panel or the OCT button on the bottom right of the monitor.
2. Wait for the OCT module to calibrate.
3. Once the OCT goes live, select a preset scan pattern (Fast, RNFL, etc.).
4. Once the patient is aligned with the camera, begin by pushing the base of the camera forward towards the patient’s pupil.
5. The patient’s fundus will become visible on the computer screen. Make sure to keep the image centered.
6. Push the camera forward until the fundus image is evenly illuminated.
7. Slide the base of the camera forward until the OCT scan is within the blue markers in the top one-third of the acquisition screen (Figure 16).
8. Adjust the joystick left and right to achieve an evenly dense OCT scan. The RPE should be evenly and deeply saturated, and the scan should be as horizontal as possible (Figure 17 and 18).
9. Once the saturation and placement of the scan is optimal, activate the Automatic Real-time Tracking (ART) by pressing the black Gain Control button on the touch panel (Figure 19) or by holding down the joystick button.
10. Maintain the image quality using the smaller live image screen at the bottom of the monitor.
11. Press Acquire.
12. When all images have been acquired, click Save Images.
13. Once the images have been saved, click Exit.
Position the ETDRS Grid

How to Set the ETDRS Grid

1. Open an OCT image in the Thickness Map tab (Figure 20).
2. Scroll through the OCT scans with the mouse wheel to determine which one has the point of interest (usually the center of the fovea).
3. Drag the green marker line through the point of interest on the OCT image below the thickness map.
4. Left-click and hold one of the outer blue lines of the ETDRS grid, and drag the center of the grid to the green OCT line marker on the fundus image.
5. To save the image, switch to another view or exit the window, and select Yes in the dialogue box (Figure 21).
How to Set a Reference for a Follow-Up Scan

1. Open the OCT image.
2. Go to the Progression menu at the top of the screen (Figure 22).
3. Select Set Reference.
4. Close the OCT image.

OR

5. Right-click on the desired OCT scan icon.
6. Go to Progression in the menu.
7. Select Set Reference (Figure 23).
Perform a Follow-Up Exam

1. Align the patient with the camera, and evenly illuminate an IR image.
2. Press the IR+OCT button on the touch panel or the OCT button on the bottom right of the monitor.
3. Wait for the OCT module to calibrate.
4. Slide the base of the camera forward until you have an OCT scan in the top one-third of the screen.
5. Adjust the joystick left and right to achieve an evenly dense scan. The RPE should be deeply and evenly saturated, and the scan should be as horizontal as possible.
6. Once a quality OCT image is in the live window, press the Follow-Up button on the acquisition screen (Figure 24).
7. Select the appropriate baseline scan from the Select Baseline Examination window (Figure 25). Note: only baseline scans from the eye being imaged will be selectable in the follow up window.
8. Wait for the scan lines to go from red to blue, and adjust the scan and patient to closely match the baseline image at the bottom of the screen (Figure 26).
9. Activate Automatic Real-time Tracking (ART) by pressing the black Gain Control button on the touch panel (Figure 27) or by holding down the joystick button.
11. Repeat for any additional scans for the fellow eye.
12. Click on Save Images.
13. Click Exit.

Figure 24: Follow-Up Button

Figure 25: Select Baseline Scan

Figure 26: Align Current and Baseline Scans

Figure 27: Gain Control Button

How to Perform a Follow-up Exam
How to Acquire a BluePeak™ Blue Laser Autofluorescence + OCT Image*

1. Press the IR+OCT button on the touch panel or the OCT button on the bottom right of the monitor.
2. Wait for the OCT module to calibrate.
3. Once the OCT goes live, select a preset scan pattern (Fast, RNFL, etc.).
4. Once the patient is aligned with the camera, begin by pushing the base of the camera forward towards the patient's pupil.
5. The patient's fundus will become visible on the computer screen. Make sure to keep the image centered.
6. Push the camera forward until the fundus image is evenly illuminated.
7. Slide the base of the camera forward until the OCT scan is within the blue markers in the top one-third of the acquisition screen (Figure 28).
8. Adjust the joystick left and right to achieve an evenly dense OCT scan. The RPE should be evenly and deeply saturated, and the scan should be as horizontal as possible (Figure 29 and 30).

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* Not available on the SPECTRALIS OCT or SPECTRALIS OCT Plus
Acquire a BluePeak™ Blue Laser Autofluorescence + OCT Image  (continued)

9. Press the FA+OCT button on the touch panel or change the IR button to BAF on the monitor (Figure 31).**

10. Adjust the sensitivity to about 90 by turning the black Gain Control button on the touch panel, or until the vasculature in the eye is visible.***

11. Adjust the focus using the knob on the back of the camera until the image is brightest (Figure 32).

12. When the image quality is optimized, activate the Automatic Real-time Tracking (ART) by pressing the black Gain Control button on the touch panel (Figure 33) or by holding down the joystick button.

13. Maintain the image quality using the smaller live image screen at the bottom of the monitor.


15. Once all images have been acquired, click Save Images.

16. Click Exit.

** Only available on the SPECTRALIS OCT with BluePeak model.

*** SPECTRALIS OCT with BluePeak does this automatically with an automatic Gain Control.
How to Acquire an IR Image

1. Once the patient is aligned with the camera, begin by pushing the base of the camera forward towards the patient’s pupil.

2. The patient’s fundus will become visible on the computer screen. Make sure to keep the image centered.

3. Push the camera forward until the fundus image is evenly illuminated on the computer screen with no dark corners (Figure 34).

4. Adjust the image brightness by turning the black Gain Control button on the touch panel (Figure 35).* If no touch panel exists, the Auto Brightness control will do this automatically.

5. Adjust the focus using the knob on the back of the camera until the image is brightest (Figure 36).

6. Once the image is exposed and focused properly, turn on the Automatic Real-time Tracking (ART) by pressing the black Gain Control button on the touch panel or by holding down the joystick button.

7. Allow the ART bar to fill.

8. Press Acquire when the image looks optimal.

9. Click Save Images.

10. Click Exit.

* Touch panel is not available on SPECTRALIS OCT, and SPECTRALIS OCT with BluePeak.
How to Acquire a BluePeak™ Blue Laser Autofluorescence Image*

1. Align and evenly illuminate an IR image.
2. Once the image is focused and in the frame, switch to AF mode by pressing **FA** on the touch panel or clicking **IR** on the bottom right of the monitor and selecting **BAF**.
3. Adjust the brightness so the vasculature is visible, but the image is not too bright (Figure 37).
4. Adjust the focus using the knob on the back of the camera until the image is brightest (Figure 38).
5. Activate Automatic Real-time Tracking (ART) by pressing the black **Gain Control** button on the touch panel (Figure 39) or by holding down the joystick button. Do not adjust focus with ART active.
6. Allow the ART bar to fill to 15 frames.
7. Press the **Acquire** button on the touch panel or press the joystick button.*
8. Click **Save Images**.
9. Click **Exit**.

* Joystick acquisition button only available on SPECTRALIS OCT and SPECTRALIS OCT with BluePeak models.
Acquire a Composite Image

How to Acquire a Composite Image*

1. Select IR on the touch panel.
2. Tap twice on the Movie button on the touch panel to access the Acquisition Mode submenu (Figure 40).
3. Select either Composite 3x3 or Composite (Figure 41).

If “Composite 3x3” has been selected, the internal fixation moves automatically.

1. Align the patient in the camera, adjust the exposure of the image, and focus on the smallest blood vessels near the area of concern.
2. Press Acquire.
3. Repeat steps 1 & 2 until all 9 points are acquired.
4. Click Save Images.
5. The software will ask Do you want to compute composite images now? Click Yes to automatically compute the composite.

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* Automatic composite imaging is not available on SPECTRALIS OCT, and SPECTRALIS OCT with BluePeak
If “Composite” is selected you must use the external fixation light.

1. Align the patient in the camera, adjust the exposure of the image, and focus on the smallest blood vessels near the area of concern.
2. Activate the external fixation light by pressing the fixation target button on the touch panel (Figure 42).
3. Press the External button.
4. Press the gray arrow to return to the main touch panel screen.
5. Activate the Automatic Real-time-Tracking (ART) by pressing the black Gain Control button on the touch panel. Be sure to have the ART set to 9.
6. Slowly move the camera head while looking at the live image on the monitor. The better the live image looks, the better the composite will look. Moving the camera in an orderly fashion will paint the image onto the screen best (Figure 43).
7. Keep the live image centered and evenly illuminated to avoid dark spots.
8. When finished, press Acquire.
9. Click Save Images.
10. Click Exit.
How to Perform an FA*

1. Place the filter wheel in the A position (Figure 44).
2. Align and evenly illuminate an IR image.
3. Adjust the focus by using the knob on the back of the camera until the image is brightest (Figure 45).
4. Press FA on the touch panel and set the sensitivity to 85, or high enough to obtain the correct alignment.
5. Turn the focus knob until the image is brightest.
6. Select either Single or Movie from the touch panel (Figure 46).
7. Begin the injection and start the timer by pressing the Inj button.

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*Feature only available on: FA+OCT, HRA2 and HRA+OCT models
8. Press the **Acquire** button, and allow the movie to acquire images until all the blood vessels have filled, adjusting the sensitivity dial as needed (Figure 47). Do not activate Automatic Real-time Tracking (ART) during the transit phase.

9. Press the **Stop** button on the touch panel.

10. Move to the fellow eye.

11. Activate ART and acquire “single” images of the fellow eye.

12. Continue acquiring single images with ART activated on both the fellow and study eye according to the practice protocol (typically every 30 seconds for the first 3 minutes, then an additional set at 5 minutes).

13. When all images have been acquired, click **Save Images**.

14. Once images have been saved, click **Exit**.

15. To delete single images right-click on an image and select **Delete**.

16. To edit a movie, right-click on the movie and select **Expand**. Within the movie, select a group of images to delete by holding down the CTRL key and left-clicking on each image(s), right-click on an image and select **Delete**.

17. To return from the expanded movie, click on the yellow **Up One Level** folder icon (Figure 48).
Perform an ICGA

How to Perform an ICGA*

1. Place the filter wheel in the A position (Figure 49).
2. Align and evenly illuminate an IR image.
3. Adjust the focus by using the knob on the back of the camera until the image is brightest (Figure 50).
4. Select ICGA from the touch panel.
5. Select either Single or Movie on the touch panel (Figure 51).
6. Begin the injection and start the timer by pressing the Inj button.
7. Press Acquire once to capture a single image (if Single is selected), or to begin the capture of a Movie (if Movie is selected).
8. Allow the movie to acquire images until the blood vessels are filled, adjusting the sensitivity as needed (Figure 52).

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*Feature only available on: HRA2 and HRA+OCT models

Figure 49: Filter Wheel A Position

Figure 50: Focusing Knob

Figure 51: Single or Movie Option

Figure 52: Correctly Exposed ICG
9. Press the Stop button on the touch panel.
10. Move to the fellow eye.
11. Activate Automatic Real-time Tracking (ART) by pressing the black Gain Control button on the touch panel (Figure 53).
12. Continue acquiring single images with ART activated on both the fellow and study eye according to the practice protocol (typically every 30 seconds for the first 3 minutes, then an additional set at 5 minutes).
13. When all images have been acquired, click Save Images.
14. Once images have been saved, click Exit.
15. To delete single images right-click on an image and select Delete.
16. To edit a movie, right-click on the movie and select Expand. Within the movie, select a group of images to delete by holding down the CTRL key and left-clicking on each image(s), right-click on an image and select Delete.
17. To return from the expanded movie, click on the yellow Up One Level folder icon (Figure 54).
Perform an FA + ICGA

How to Perform an FA + ICGA*

1. Place the filter wheel in the A position (Figure 55).
2. Align and evenly illuminate an IR image.
3. Adjust the focus by using the knob on the back of the camera until the image is brightest (Figure 56).
4. Select FA + ICGA on the touch panel and turn down the sensitivity to 25% to prevent over exposure (Figure 57).
5. Select Single or Movie on the touch panel.
6. Begin the injection and start the timer by pressing the Inj button.
7. Press Acquire immediately after the timer is started.
8. Allow the movie to acquire images until all the blood vessels are filled, adjusting the sensitivity as needed (Figure 58).

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*Feature only available on: HRA2 and HRA+OCT models
9. Press the Stop button on the touch panel.

10. Move to the fellow eye.

11. Activate Automatic Real-time Tracking (ART) by pressing the black Gain Control button on the touch panel (Figure 59).

12. Continue acquiring single images with ART activated on both the fellow and study eye according to the practice protocol (typically every 30 seconds for the first 3 minutes, then an additional set at 5 minutes).

13. When all images have been acquired, click Save Images.

14. Once images have been saved, click Exit.

15. To delete single images right-click on an image and select Delete.

16. To edit a movie, right-click on the movie and select Expand. Within the movie, select a group of images to delete by holding down the CTRL key and left-clicking on each image(s), right-click on an image and select Delete.

17. To return from the expanded movie, click on the yellow Up One Level folder icon (Figure 60).
How to Print a “Retina Overview Report”

1. Open an OCT scan.
2. Select the Display tab.
3. Click the printer icon at the top of the screen.
4. In the dialogue box, highlight Overview Report from the Reports section of the print dialogue box (Figure 61).
5. Click Print.

How to Print a “Retina Single Exam Report”

1. Open an OCT image in a patient file.
2. Select the Display tab.
3. Press the printer icon.
4. In the dialogue box, highlight the Retina Single Exam Report from the Reports section of the print dialogue box (Figure 62).
5. Click Print.

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How to Print a “Thickness Map OU Report”

1. Click and drag the desired OD and OS volume scans to the lightbox.
2. Highlight both scans in the lightbox (Figure 63).
3. Right click on one of the highlighted scans and select Print.
4. In the dialogue box, highlight the Thickness Map Single Exam Report OU from the reports section of the print dialogue box.
5. Click Print.

How to Print a “Thickness Map Report”

1. Open an OCT volume scan in a patient’s file.
2. Select the Thickness Map tab.
3. Click the printer icon at the top of the screen.
4. In the dialogue box, highlight the Thickness Map Single Exam Report from the reports section of the print dialogue box.
5. Click Print.
Print an RNFL Single Exam Report OU with Fovea-to-Disc (FoDi™) Alignment

How to Print an “RNFL Single Exam Report OU with FoDi”

1. Click and drag a desired OD and OS RNFL scan to the lightbox.
2. Highlight both images in the lightbox (Figure 64).
3. Right-click on the highlighted images and select Print (Figure 65).
4. Select RNFL Single Exam Report OU with FoDi from the Reports section of the print dialog box (Figure 66).
5. Click Print.

OR

1. Double click on an RNFL scan.
2. Click on the Add Current Image to the Lightbox icon, or press the down arrow key on the keyboard to add the images to the lightbox (do this for one OD and one OS image) (Figure 67).
3. Highlight both images in the lightbox (Figure 64).
4. Right-click on the highlighted images and select Print (Figure 65).
5. Select RNFL Single Exam Report OU with FoDi from the Reports section of the print dialog box (Figure 66).
6. Click Print.
How to Print an “Asymmetry Analysis Single Exam Report OU”

1. Acquire a Posterior Pole (P.Pole) OCT scan on both eyes.
2. In the Image Viewing Window, click and drag the OCT scans for both OD and OS to the lightbox.
3. In the lightbox, hold down the CTRL key and select both OCT scans.
4. Right-click on one of the highlighted OCT scans and select Print.
5. In the dialogue box select Asymmetry Analysis Single Exam Report OU (Figure 68).
6. Select Print.

How to Print an “RNFL & Asymmetry Analysis Single Exam Report”

1. From the Glaucoma application on the acquisition screen, acquire an RNFL and a Posterior Pole (P.Pole) scan from the preset selections.
2. In the Display View, click and drag the RNFL and Posterior Pole scan for one eye into the lightbox.
3. In the lightbox, hold down the CTRL key and select both OCT scans.
4. Right-click on one of the OCT scans and select Print.
5. In the dialogue box select RNFL & Asymmetry Analysis Single Exam Report (Figure 69).
6. Select Print.
Print Multiple Images on a Page

How to Print Multiple Images on a Single Page (OCT)

1. Click and drag the desired OCT scan(s) to the Lightbox.
   a. If printing single images from a volume scan, right-click on the volume scan and select **Expand** to choose the desired images (Figure 70).

2. Once all desired images are added to the Lightbox, select them all.

3. Right click on one of the highlighted images and select **Print**.

4. In the dialogue box, choose how many images to print on the page. Each image selected will count as two images on the report (Figure 71).

5. Click **Print**.

How to Print Multiple Images on a Single Page (Fundus)

1. Click and drag the desired fundus images to the Lightbox.
   a. If printing images from a movie, right-click on the movie and select **Expand** to select desired images (Figure 70).

2. Once desired images are added to the lightbox, select them all.

3. Right click on one of the highlighted images and select **Print**.

4. In the dialogue box, choose how many images to print on the page (Figure 71).

5. Click **Print**.

Figure 70: Expand OCT

Figure 71: Select Print Options
How to Print a Follow-Up Report

1. Open an OCT image in a patient file that is associated with a series. Images in the series are designated by small boxes on the image icon (Figure 72).
2. Select the Display or Thickness Profile tab.
3. Press the printer icon at the top of the screen.
4. Select one of the Follow-Up reports from the Reports section of the print dialogue box (Figure 73).
5. Click Print.
How to Transfer Images Between Patient Records

1. Load both patient records with the correct and incorrect files to the right side of the database window.
2. Open the incorrect patient record.
3. Click the No Split icon to place all the images in one pane (Figure 74).
4. Highlight all images to be transferred.
5. Right-click on the highlighted images.
6. Select Change Patient from the menu (Figure 75).
7. Select from the drop-down list the name of the patient that the images should be transferred to. Click OK (Figure 76).
8. Click Yes to transfer the images (Figure 77).
9. If all images are transferred, delete the blank patient record (if no longer needed).
How to Archive Images

1. Return to the main database window (Figure 78).
2. Select **Unload All** from the icons on the menu bar (Figure 79).
3. Click the **Database** menu at the top of the window.
4. Select **Archive Images** (Figure 80).
5. Select the appropriate drive from the drop-down menu on the **Archive Data** window (Figure 81).
6. Click **Archive**.
7. Allow the process to run (Figure 82).
8. When the process is complete, a dialog box will appear stating “Archiving has been completed successfully.”
How to Safely Clean the Lens

1. Remove the lens from the mount by turning counter-clockwise.
2. Use a blower brush to remove any loose particles.
3. With a soft microfiber cloth, wipe gently in a circular manner beginning in the center of the lens and working your way out to the edge.
   
   (If this does not clear the lens, it is best to use a few drops of pure (99.9%) ethyl alcohol on a microfiber cloth and repeat until the lens is clear.)

   DO NOT USE: Acetone, methanol or cleaning tissues, as these can damage the lens.
4. Place the lens back onto the mount by lining up the red dots and turning clockwise until it clicks into place (Figure 83).

How to Delete a Patient Record

1. From the Database Window, load the patient record to be deleted.
2. From the Record menu, select Delete from the drop down list.
3. Check the box to confirm that you want to permanently delete this patient record.
4. Click OK to delete the patient record.