

Deep learning allows rapid acquisition
of high definition B-scan OCT images

Denoising

from a **single-frame** image
using **deep learning**

Images courtesy of Kagoshima University Hospital, Japan

Denoising using deep learning technique

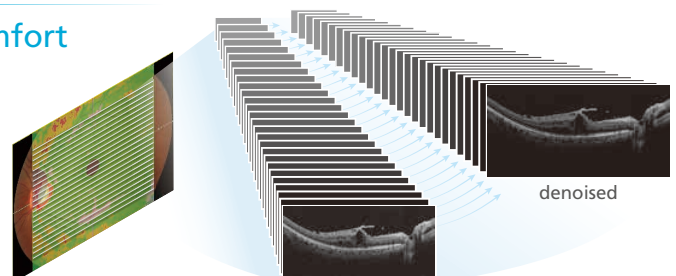
When a B-scan image is captured, a denoised image is automatically displayed by the denoising technique using deep learning. A large data set of images that are each averaged from 120 images were used as teaching data for deep learning in order to create clear images comparable to images generated by averaging 120 images. Generative adversarial network, which is reported as an effective approach to improve image clarity, was adopted as the deep learning method.

Faster acquisition of high definition B-scan images

for better workflow and increased patient comfort

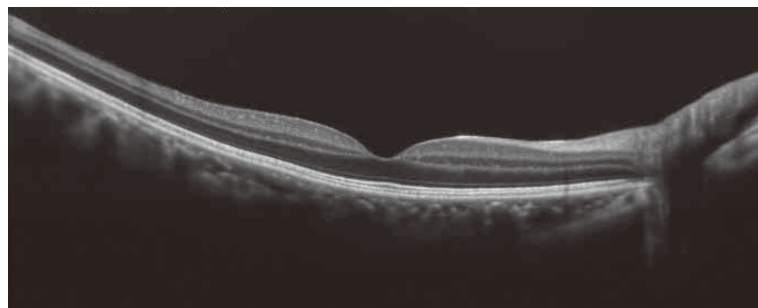
Applications for wide area scan

B-scan Denoising Software enhances the functionality of the wide area scan for screening. This software provides high definition images of each single-frame wide area B-scan image without acquiring multi-frame images.



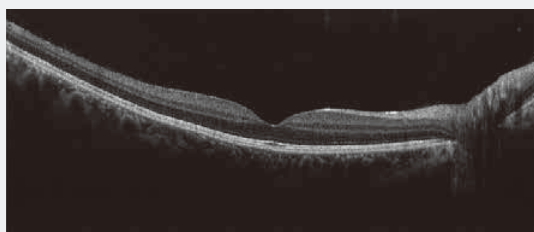
High definition images comparable to multiple image averaging

The B-scan Denoising Software removes speckle noise from a single scan, producing an image that is as clear as an image generated by averaging 120 images. The denoising technique allows easier image acquisition for obtaining high quality images.

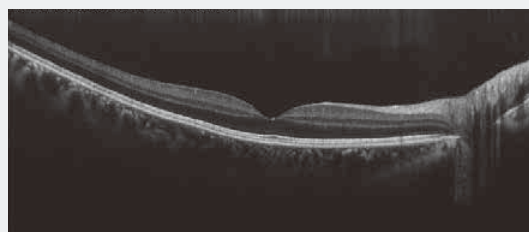


Denoised
from a single-frame image

Reference: Images generated by averaging multiple images
(The Retina Scan Duo 2 averages up to 50 images. The RS-1 Glauvas / Mirante averages up to 120 images)



Averaged from 50 images



Averaged from 120 images

■ Operating specifications

The B-scan Denoising Software requires Windows OS* (64 bit) with NAVIS-EX (Ver. 1.14.0 or later) and is applicable for images acquired by the following NIDEK OCT models: Retina Scan Duo 2 (model name: RS-330), RS-1 Glauvas (model name: RS-1) and Mirante SLO/OCT (model name: Mirante). The B-scan Denoising Software is available for the Retina Scan Duo 2 and optional for the RS-1 Glauvas and Mirante SLO/OCT.

Denoised images are displayed in the following software.

- Viewer and follow-up screen on RS Viewer (NAVIS-EX Ver. 1.14.0 or later)
- Viewer and follow-up screen on OCT Viewer (NAVIS-EX Ver. 1.14.0 or later)

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Images that can be denoised:

Eligible image types

Macula line, Macula cross, Macula map X-Y/Y-X, Macula multi horizontal/vertical/cross, Macula radial 6/12, Disc circle, Disc map X-Y/Y-X, Disc radial 6/12, Retina map, Macula map A X-Y/Y-X, Disc map A X-Y/Y-X

Ineligible image types

Cornea line, Cornea cross, Cornea radial 6/12, ACA line

The following OCT images are not captured by B-scan and are not denoised.

- For Macula, Disc, and Retina map, Y direction (vertical) for X-Y, and X direction (horizontal) for Y-X
- OCT image of Disc circle for the Disc map and Retina map

Product/model name: Image Filing Software NAVIS-EX

Brochure and listed features of the device are intended for non-US practitioners.

The availability of products differs from country to country depending on the status of approval.

Specifications may vary depending on circumstances in each country.

Specifications and design are subject to change without notice.

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Please contact our distributor for more information.

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