

High Resolution OCT **Scanner** with hand-held probe

VIVO SIGHT

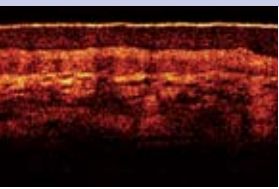
**Multi-Beam OCT provides clear
images of tissue microstructure
*in vivo and real time***



Michelson
DIAGNOSTICS

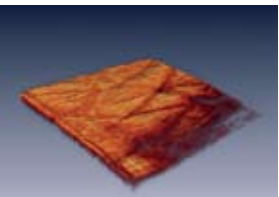
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Provides clear images of tissue microstructure - in vivo and real time



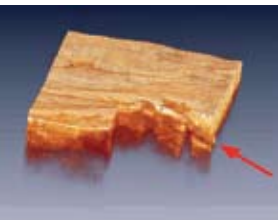
Skin at knuckle joint of finger. Note clear definition of epidermal and dermal layers, and also blood capillaries in the dermis.

Image size 5 mm x 2 mm



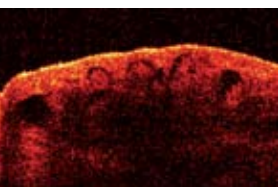
3D image of wrinkles at base of wrist.

Imaged area 5 mm x 5 mm



3D image of skin on upper lip, with cutaway showing hair follicle.

Imaged area 2 mm x 2 mm



Superficial hemangioma (strawberry mark). Blood-filled cavities can be seen.

Image size 1.7 mm x 1 mm

VivoSight – a breakthrough in surface tissue imaging

The VivoSight scanner uses Multi-Beam Optical Coherence Tomography (OCT), a revolutionary laser-based imaging modality that provides images of surface tissue at extraordinarily high resolution – better than 7.5 μm lateral and 10 μm vertical resolution – far higher than is possible with other modalities, revealing previously hidden details of tissue microstructure. Example images shown at left.

- In vivo
- Real time
- 2D and 3D imaging capability
- No need for gels or contrast agents



Large 22" display on adjustable arm for optimal viewing during the procedure.

Hand-held topical probe stowed in holster.

High performance Quad Core Workstation for real time display of OCT images. User - friendly software. Just click and start scanning.

Cart for easy transport and hygiene maintenance.

Foot pedal for hands-free control of image capture.

Powerful Imaging Capability

VivoSight with 'topical' hand-held probe is designed to enable capture of images of surface tissue microstructure to a depth of up to 2 mm. The probe is positioned over the tissue and can capture either 2D or 3D images of a 5 mm square region. Tissue microstructure features such as epidermis, dermis and sub-layers can be imaged, as can sub-surface blood vessels.



Ergonomic Probe

Light, ergonomically designed, wipe-clean probe, with adjustable 'stand-off' to enable the user to maintain a correct focus distance. The probe utilizes the Michelson Diagnostics' patented Multi-Beam OCT optics for high resolution images, a visible red spot to aim the scan, and an X-Y (3D) scanning capability.

Safe

Multi-Beam OCT uses low intensity near-infrared laser light to illuminate the skin feature. It is a class 1 laser product that can be used safely in a typical laboratory environment, and it does not produce harmful ionizing radiation.

Easy to Use

VivoSight is comfortable to use for both the scientist and the subject. The software is straightforward to operate and produces images in standard format for easy post-session analysis.

Fast

VivoSight captures and displays images in real time, for instant visual feedback. The captured video data can be instantly replayed for review, or stored for later analysis.



VivoSight hand-held topical probe and close-up view showing the ergonomic, adjustable stand-off for easy control of scan depth.

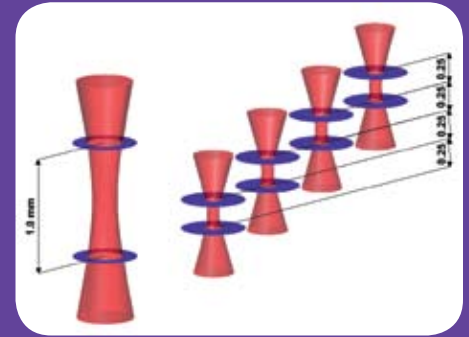
The VivoSight OCT probe has been designed to allow the user to quickly and efficiently obtain the best images for the chosen task.

Michelson Diagnostics

Experts in optical engineering and medical imaging, our team at Michelson Diagnostics is leading the way in applying Optical Coherence Tomography (OCT) to multiple healthcare applications. Our unique, patented 'Multi-Beam' OCT optics provides images with double the resolution of single-beam OCT equipment, providing higher image quality. This advantage has helped us establish our position as market leaders in high resolution surface tissue imaging.

VivoSight with Topical Probe Specification

OCT System type:	Swept-source Fourier-Domain OCT
Laser centre wavelength:	1305 +/- 15 nm
Optical resolution (in tissue):	< 7.5 µm lateral, < 10 µm axial
A-line rate:	10 kHz
Frame rate:	> 6 fps (5 mm scan width / 1,250 A-line) > 20 fps (1 mm scan width / 250 A-line) > 35 fps (0.2 mm scan width / 50 A-line)
Image formats:	TIFF, TIFF stack
Laser system classification:	Class 1
3D Image capture:	Yes
Scan area (w x l x d):	5 mm x 5 mm x 2 mm
System components	
Light source:	Santec HSL-2000-11-MDL (Wider sweep range)
Processing system:	Dell Precision Quad Core Workstation
Display:	22" Flat Panel Display
Data acquisition:	Spectrum M2i4022 4-channel 20 MHz 14-bit data acquisition card



Multi-Beam OCT: Four beams provide a much tighter focus than is physically possible with a single beam with the same overall depth of focus.

Rental or Purchase?

We understand that projects may require the use of equipment for a specific period (weeks or months) and that there are often constraints with grant applications and budget limitations. We have a flexible approach to obtaining a VivoSight OCT Scanner which is available by:

Rental or Direct purchase

- 3 levels of after sales support and training
- Support packages include annual maintenance visits
- 1 year warranty
- 70% of rental payments can count towards purchase

Contact Us

To arrange a no obligation demonstration and / or quotation please contact us on +44 (0) 208 308 1695 or email demo@md-ltd.co.uk

References:

J. Holmes, S. Hattersley, N. Stone, et al. (2008) "Multichannel Fourier domain OCT system with superior lateral resolution for biomedical applications" Ed. J. A. Izatt, et al. Vol. 6847, pp. 684700. Presented at Coherence Domain Optical Methods and Optical Coherence Tomography in Biomedicine XII, SPIE.

Holmes, J. (2008) "Theory and applications of multi-beam OCT" Eds. Podoleanu, A. Vol. 7139, pp. 713908. Presented at 1st Canterbury Workshop on Optical Coherence Tomography and Adaptive Optics, SPIE, Canterbury, United Kingdom.



Compliant with
Medical Device Directive
93/42/EEC

For clinical use in the US FDA 510(k) K093520 applies:

- VivoSight is a Multi-Beam Optical Coherence Tomography (OCT) system indicated for use in the two-dimensional, cross-sectional, real-time imaging of external tissues of the human body. This indicated use allows imaging of tissue microstructure, including skin, to aid trained and competent clinicians in their assessment of a patient's clinical conditions.

- US Federal law restricts this device to sale by or on the order of a physician.



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