

# CARLETON DIO SPECIFICATION

Size (mm):	Length	320
	Height	247
	Width	64
Weight (kg):	1.85	
Power:	USB (5V, 2.5W max)	
Sensor:	3.0 Megapixel	
Illumination (W):	Visible:	1.5
	IR:	0.2
Focusing:	Manual / motorised	
Operation:	Table / slit lamp / hand-held	
Modes:	Non mydriatic and mydriatic	
Field of view:	Diagonal	50°
	Horizontal	40°
	Vertical	30°

## MINIMUM COMPUTER REQUIREMENTS:

Pentium IV, 1.6 GHz, 1GB RAM, 60 GB Hard drive.  
Microsoft® Windows® XP Pro SP2, Vista™ (32 bit). 8X CD ROM, SVGA Monitor, PCI, PCMCIA or PC Express expansion slot. 2x USB 2 port.

## LIGHTWEIGHT PORTABILITY

Weighing less than 2 kilos, the Carleton **DIO** has a convenient carrying case and a single USB2 interface cable for both power and data transfer. When used in combination with a laptop computer, the **DIO** is the ideal portable retinal imaging solution.



The lightweight and robust case is included as standard



## EVERYTHING YOU NEED

The Carleton **DIO** is supplied as the following kits:

- Kit 1** Carleton **DIO**, slit lamp mounting arm, **DIO** SW driver, USB cable, case
- Kit 2** Carleton **DIO**, slit lamp mounting arm, **ARC LE** software, USB cable, case
- Kit 3** Carleton **DIO**, slit lamp mounting arm, **ARC** software, USB cable, case

Options:

- **Mobile Fixation light**
- **Mobile Cross-slide with headrest**
- **Table top clamp with mounting pin**
- **Additional ARC and ARC LE software review licences**

Distributor



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# A REVOLUTION IN RETINAL IMAGING



**Carleton**

*Making light work*

Carleton DIO portable retinal camera and ARC software – engineered to provide enhanced diagnosis, durability, ease of use and value for money.

# INNOVATIVE SIMPLICITY

The Carleton **DIO** is a revolutionary instrument combining the advantages of indirect ophthalmoscopy with contemporary technology and design. The result is a retinal camera with outstanding versatility, being capable of use on a dedicated cross-slide base, mounted on to a slit lamp or operated hand-held. Designed to be simple yet effective, the Carleton **DIO** has two button operation and dynamic control utilising a simple software interface. A single USB 2 cable provides for data transfer and power to the camera.



Carleton DIO with optional joystick base



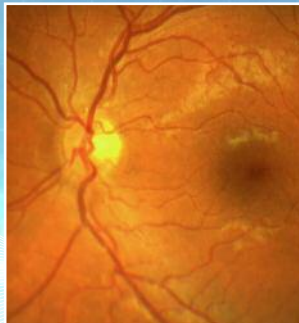
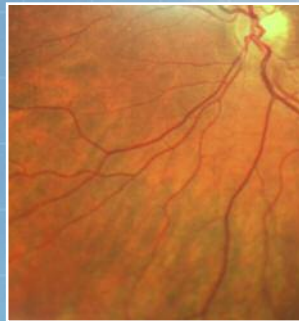
Carleton DIO attached to Takagi slit lamp



Carleton DIO in hand-held mode

# UNPARALLELED VERSATILITY

The Carleton **DIO** produces a rectangular full-frame image with a maximum field angle of 50 degrees. The **DIO**'s optical design enhances the ability to photograph the peripheral retina, and reduces loss of contrast when media opacity is present. Observation and alignment is performed in non-mydriatic mode while image acquisition requires a low intensity pulse of visible light minimising discomfort for patients. Imaging is possible through pupils of 4mm diameter or greater, with or without dilation. Alignment is performed using a real-time full frame image on the computer screen that has indicators to assist with correct focusing and positioning.



# ADVANCED ILLUMINATION

The Carleton **DIO** utilises an LED light source to enable non-mydriatic alignment and low intensity flash exposure of images. In addition to weight saving, the LED light source offers the advantage of extended life when compared to halogen or xenon alternatives.



Two section handle facilitates hand-held operation



Two control simplicity - focus and trigger



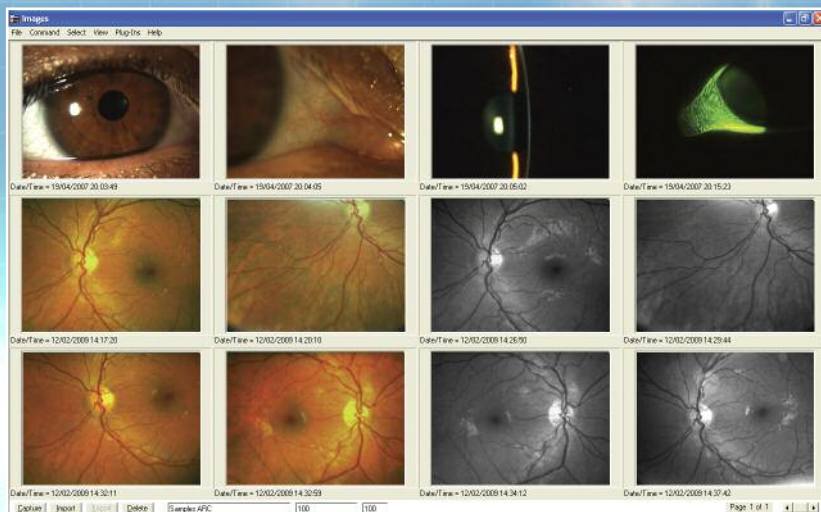
# IMAGING EXCELLENCE ARC SOFTWARE

Three software solutions are available:

**DIO DRIVER** – for interface with third party software providers.  
**ARC LE** – a simple database and archiving solution for the **DIO**.  
**ARC LE** is also configurable with Takagi slit lamps and DSLR's for anterior segment imaging.

**ARC** – a powerful imaging application offering enhanced viewing and image manipulation options. In addition to integration with the **DIO**, **ARC** is compatible with Takagi slit lamps and most other popular models where a beam splitter and C-mount adapter are available as accessories.

**ARC** software can be purchased separately for those customers requiring anterior segment imaging only. Utilising a high quality megapixel Firewire camera. Images are stored in raw Bayer format rather than as a pre-processed colour image. The advantage of this approach is that the post processing of images allows for excellent red-free, green-free, fluorescein and lissamine green filtering.



Key features of the **ARC** anterior segment system are:

- **Compact high quality C-mount megapixel Firewire camera**
- **Software control of key camera parameters**
- **Presets for typical slit lamp imaging scenarios**
- **Full resolution video capture, playback and storage**
- **Exceptional imaging of fluorescein and lissamine green**
- **Session and single image export function.**
- **Image comparison screen for loading images recorded on different dates.**



Anterior segment imaging with ARC software and Takagi SM-70 slit lamp

**ARC** software is designed to be installed as a 'stand alone' application or set up within a networked environment. Review station and additional capture station licences are available.