

Wavelength Range:	375-1100 nm
(Optional)	1475-1620 nm
Resolution:	1.0 μm
Smallest Beam:	52 μm
Imaged Area:	5.2 x 5.2 mm

BladeCam™

The Smallest Profiler in the Known Universe

0.65" Thin! Portable, Port-Powered, USB 2.0, Beam Profiling for Windows XP & Vista, Intel-Mac

Features

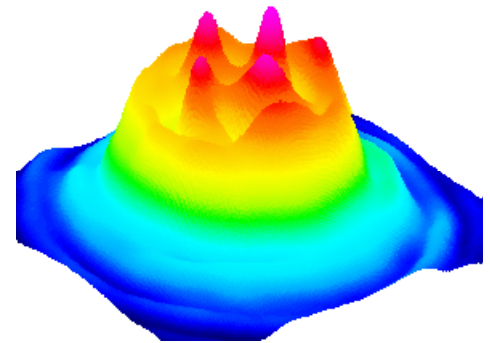
- ◇ **USB 2.0 port-powered;** flexible 3 m cable;
- ◇ **Ultra-thin -0.65"**, (16.5 mm), (includes ND filter)
- ◇ **10 Bit Digital** CMOS cameras with on-chip 10-bit ADC
- ◇ **Window-free sensors** standard for no fringing
- ◇ **Auto-Shutter** 20,000:1 electronic, 50 μs –1000 ms
- ◇ **Multiple Cameras-** Parallel capture
- ◇ **Field-replaceable** image sensors
- ◇ **Wide Wavelength Range** 355 – 1100 nm, (optional X-Ray-385, 1475 to 1620 nm)
- ◇ **High Resolution:** 1.3 MPixel, 1280 x 1024, 5.2 μm^2 , 6.6 x 5.2 mm



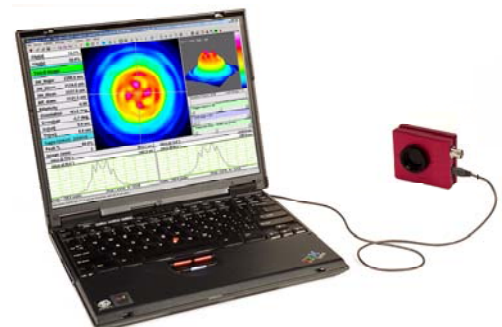
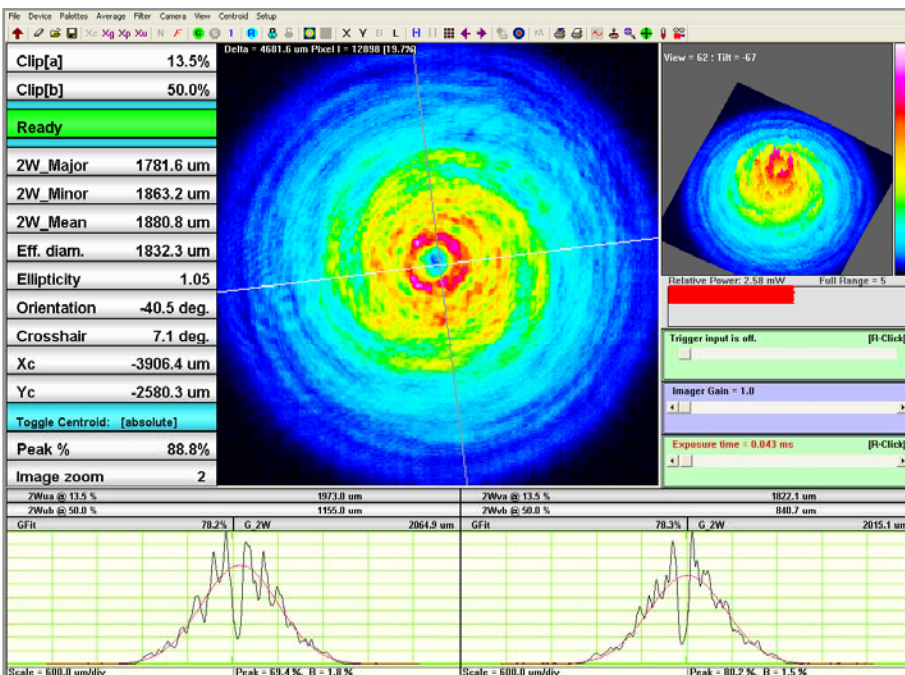
Shown Actual Size
1.8 x 1.8 x 0.65" [45 x 45 x 16.5]

Applications

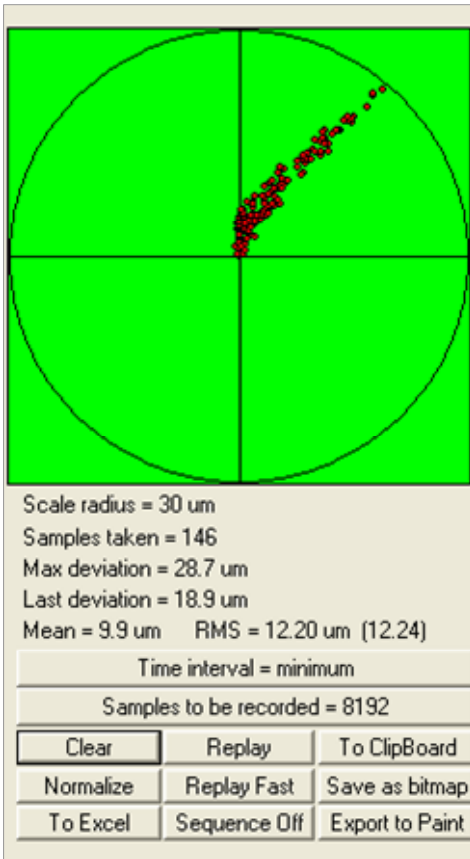
- ◇ **CW laser** profiling
- ◇ **Field servicing** of lasers and laser-based systems
- ◇ **Optical assembly** & instrument alignment
- ◇ **Beam wander** & logging



3D View with Auto Rotation



Powerful Beam Analysis Software

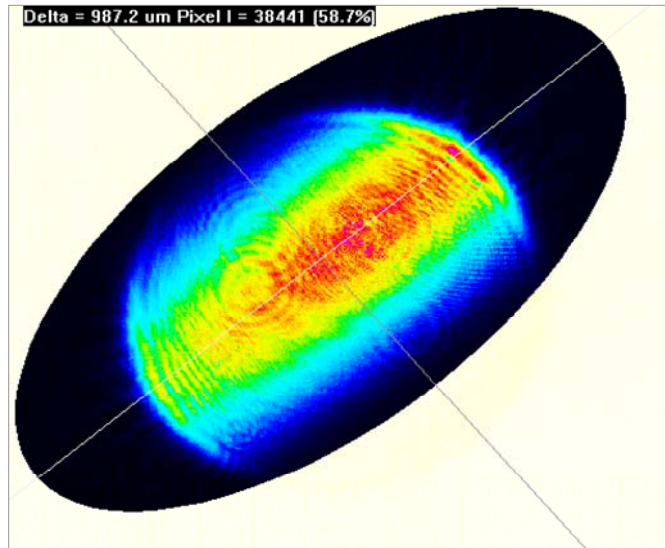


Beam Wander on a drifting Laser

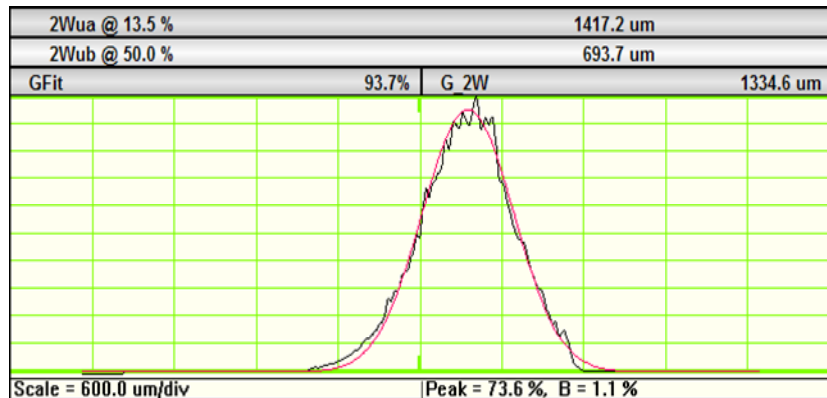
Up to 8192 samples at a User Set interval.
 Mean, RMS and Max. deviation.
 Replay Fast or Slow.
 Export to Excel, Paint, Bitmap or Clipboard.

Auto-Inclusion Region on an Elliptical Beam

Automatically isolates the appropriate analysis region.
 With user overrides.

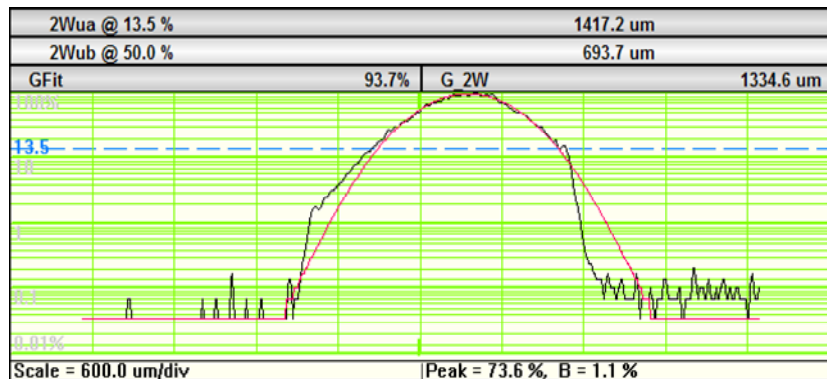


Standard Linear Profile with Gaussian Fit



Logarithmic Profile

The same profile with Averaging & Log 40 dB display reveals structure in the wings of the beam at levels below 1%.



DataRay Innovation - The company that brought you the *first* Windows-based CCD beam profiler, the *first* thin camera for confined spaces, the *first* software slider exposure and electronic auto-shutter, the *first* standard window-free CCD for no fringing, the *first* auto-orientation on the ellipse & the *first* USB 2.0 beam profiling camera ... has done it again.
Ultra-Compact profiling cameras.

Features:

- ◇ Digital serial link for EMI immunity
- ◇ XY profiles and centroids
- ◇ Linear and logarithmic displays
- ◇ Gaussian and Top Hat least squares fits
- ◇ Ellipse Angle, Major, Minor, Mean Diameters
- ◇ Background capture and subtraction
- ◇ Image & Intensity Zoom
- ◇ Linear and area filters
- ◇ Image Averaging, 1 to continuous
- ◇ PC Or Intel-Mac Operation

BladeCam Specifications: [Specifications are subject to change without notice]

Wavelength	~ 190-1100 nm (see Options and Accessories for use outside 380- 1100 nm)
High dynamic range	20,000:1 (43 dB) continuously variable auto electronic shutter, <50 μs to 1.0 s. Additional 10,000:1 ND filter + 5:1 electronic control to give 10 ⁹ :1.
Compact- with ND filter	1.8 x 1.8 x 0.65" (0.50" without ND filter)
Interface	Port Powered USB 2.0 for laptops & desktops. 3 m standard thin cable, 5 m option.
Multiple Heads:	1 – 16 cameras. Parallel capture, serial read.
ISO 11146	Beam profile Second moment processing
Certification	RoHS, WEEE, CE
Measurable Sources	CW beams and can average pulsed beams at 10 x 1/exposure time.
Measured Beam Powers	See the Saturation Beam Power Graph and Notes, below.
Manual Beam Attenuation:	Provided ND 4.0 (10,000:1) C-mount Neutral Density filters. [ND 4.0 at 546 nm, higher in blue, lower in near IR.] Screw stackable ND 1, 2, 3, 4, 5 available.
Options:	EAM-2: 4-wheel stepped variable attenuator, 0 to 90 dB CUB and CUB-UV 3 to 10 % beam samplers for high power beams 1% and 0.05% Holographic Beam Samplers (by gentec-eo)
Measured & Displayed Profile Parameters	Beam Diameter: Diameter at two user set Clip levels Gaussian & Second Moment beam diameters Equivalent diameter above a user defined Clip level Equivalent Slit and Knife Edge diameters Beam Fit: Gaussian & Top Hat profile fit & % fit Equivalent Slit profile Ellipticity: Major, Minor & Mean diameters. Auto-orientation of axes. Centroid Position: Relative and absolute Intensity Weighted Centroid and Geometric Center Beam Wander Display and Statistics Smoothing Filter: Triangular running average up to 10% FWHM
Displayed Profiles	2-D & 3-D plots 10, 16, 256 or max. colors or gray. Contoured display at 10 and 16 color.
Displayed Plots	X-Y Profiles, 2D, 3D Plots. Zoom to x10
Processing Options	Image & profile averaging, 1, 5, 10, 20, Continuous Background Capture and Subtraction User set rectangular or elliptical Capture region * .job files save all WinCamD custom settings for particular test configurations
Pass/Fail display	On-screen, in selectable Pass/Fail colors. Ideal for QA & Production.
Averaging	Beam dimension running average up to 50 samples
Log data and statistics	Min., Max., Mean, Standard Deviation. Up to 4096 samples
Relative Power Measurement	Rolling histogram based on user's initial input. Units of mW, μJ, dBm, % or user choice (relative to a reference measurement input)
Fluence	Fluence, within user defined area



Chip depth from housing/filter ring	4.0 mm (<i>Options for other depths – contact sales</i>)
Outline and Mounting L x W x D	1.8 x 1.8 x 0.65 (0.5)" without ND filter (45 x 45 x 16.5 mm)
Weight, Camera Head	85 gm (3 oz)
Minimum PC Requirements: PC or Intel-Mac	1 GHz Pentium IV or higher running Windows XP/Vista (32 Bit); 1024 MB RAM; 10 MB Hard Drive space; 1024 x 768 monitor, USB 2.0 hi-power (500 mA) port.

ORDERING INFORMATION

- ◇ **Limited 3 Year Warranty** ◇ **Free Software Upgrades** ◇ **30 Day Sale or Return Evaluation PO**

A Complete System comprises: Camera, ND 4.0 filter, Software, 3 m (10 ft) Cable, User Manual.

Part Number component descriptions

BladeCam-HR Complete working USB 2.0 camera system.

Other DataRay Profiling Instruments all USB 2.0 interface

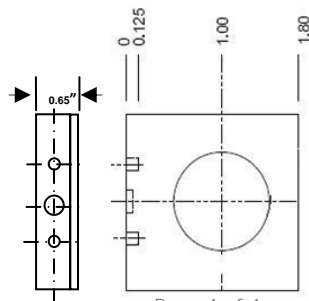
BeamMap2	Real Time M-Squared Multi-plane profiler 0.1 micron resolution on CW lasers Centroid, Alignment, Divergence, M ² . Visible and Telecom wavelengths.
Beam'R2	0.1 micron resolution on CW lasers, 0.5 micron to 4 mm beam dimensions
BeamScope-P8	3.0 microns to 23 mm, M ² accessory, ISO 11146 Standard Linear scanning slit ,CW or Pulsed (prr >5 kHz) lasers, up to 23 x 45 mm scanned area
WinCamD-UCD12	14 Bit ADC with high resolution ½" CCD array 4.65 ² µm pixels
WinCamD-UCD23	14 Bit ADC with high resolution 2/3" CCD array 6.5 ² µm pixels
WinCamD-UHS	High Speed 10 Bit onboard ADC
DualCamD	Measure real-time divergence and ratios with cameras at 90°

M-Squared Option for WinCamD series – USB 2.0

M2DU-UV 185-450 nm	WinCamD-Series USB 2.0 M ² Scan Stage with lens & adaptor plates: 2.5 µm steps, 44 mm travel + Mounted 100 mm focal length fused silica singlet lens (17.5 mm aperture) for 185 to 450 nm + 3 m (10 ft) cable Contact factory for lens assemblies for other wavelengths and focal lengths
M2DU-VIS 450 700 nm	WinCamD-Series USB 2.0 M ² Scan Stage with lens & adaptor plates: 2.5 µm steps, 44 mm travel + Mounted 100 mm focal length fused silica singlet lens (17.5 mm aperture) for 400 to 700 nm + 3 m (10 ft) cable Contact factory for lens assemblies for other wavelengths and focal lengths
M2DU-NIR 630-1100 nm	WinCamD-Series USB 2.0 M ² Scan Stage with lens & adaptor plates: 2.5 µm steps, 44 mm travel + Mounted 100 mm focal length fused silica singlet lens (17.5 mm aperture) for 630 to 1100 nm + 3 m (10 ft) cable Contact factory for lens assemblies for other wavelengths and focal lengths
M2DU-TEL 1030-1800 nm	WinCamD-Series USB 2.0 M ² Scan Stage with lens & adaptor plates: 2.5 µm steps, 44 mm travel + Mounted 100 mm focal length fused silica singlet lens (17.5 mm aperture) for 1030 to 1800 nm + 3 m (10 ft) cable Contact factory for lens assemblies for other wavelengths and focal lengths

Options- Accessories

UV Converter	Converts UV wavelengths to Visible non damaging wavelengths. Available from 190- 380 nm. Contact sales for assistance with this option
-UV	Camera with 3 mm UG11 filter instead of ND 4.0. Works at 260 through 380 nm.
-1310	Adds 50 mm C-mount tube and long-pass filter for 1290 to 1350 nm work.
-NIR	On-chip IR to visible phosphor converter for 1480 to 1600 nm.



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