

VisualizeIR - non-fade, non charge visualization of IR lasers & laser diodes

Safe and convenient alignment of laser and laser diode modules is in an essential task in laboratories, telecom's and manufacturing plants throughout the world. Advances in materials processing have allowed AST to develop the Visualize series of products – optimised for individual applications.

Background

Infra-red lasers and laser diodes are in routine use in a wide range of applications including telecom's and scientific instruments.

Lasers aligned routinely and it is essential that this is carried out in a safe manner – particularly regarding eye hazards.

Conventional card methods have been inconvenient (requiring charging and also fading during use) and less than safe while CCD based methodologies are expensive and cumbersome

The Applied Scintillation Technologies Solution

VisualizeIR is an essential aid to the alignment, location and visualization of infrared beams from laser diodes, Nd:YAG/YLF lasers and other NIR emitters.

Unlike conventional IR detector cards there is no need to optically charge VisualizeIR and more importantly VisualizeIR will not discharge!

- ◆ Gives green emission under CW or pulsed NIR.
- ◆ Active in popular laser diode, Nd:YAG/YLF and communications wavelength bands.
- ◆ **Always ready for use** with no optical charging necessary.
- ◆ **No fading!** Constant light output for steady light input.
- ◆ Detects IR at powers as low as **175 nW/cm²**
- ◆ Free from hazardous reflections.
- ◆ A low cost alternative to beam profilers.

Product Styles

The **VisualizeIR** product comes in 3 formats:

- ◆ **Laminated "credit card" style** - budget format suitable for low power lamp and laser use
- ◆ **25mm disc and clip-on wand** - specifically designed for laser engineers and optics experimentalists where frequent component positioning is required
- ◆ **Optical bench mounted head** - rugged, 40mm active area, free standing 13.7 mm mounting post and post holder allowing centre adjustments from 90 – 235 mm. Ideally suited for laser alignment component positioning



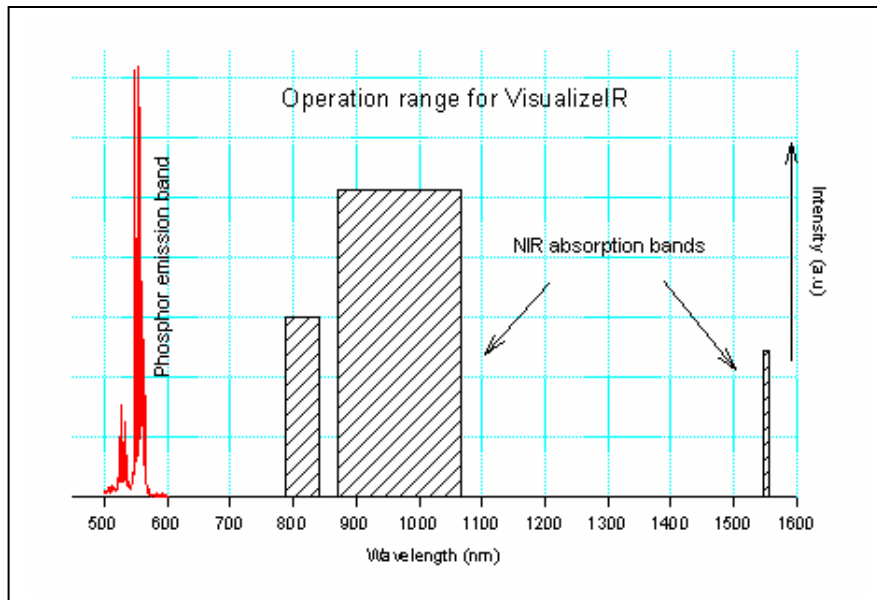
AST's Visualize product range

Product Style Information

- ◆ **Credit Card Style**
Dimensions 86mm x 54mm
Active area ~4.5 cm²
- ◆ **Disc + Wand**
Disc OD 25 mm
optical mount compatible
Active area ~3 cm²
- ◆ **Optical Bench Mounted Head**
Head OD 70 mm
Depth 8 mm
Post dia 12.6 mm
- ◆ Active area ~12.6 cm²

Performance Specifications

- ◆ Stimulation range: (see graph)
 - Band 1: 790 nm to 840 nm
 - Band 2: 870 nm to 1070 nm
 - Band 3: 1550 nm
 - ◆ Typical Applications
 - Band 1: 808 nm, 820 nm, 830 nm LDs
 - Band 2: 880 nm, 960-980 nm LDs, Nd:YAG
 - Band 3: 1550 nm telecommunications
 - ◆ Emission Colour: (see graph)
 - Principle peak Green centred @ 550 nm
 - Other peaks Red centred @ 673 nm
 - Blue centred @ 400 nm
 - ◆ Persistence
 - ◆ Decay time to 10% 800 us
 - ◆ Minimum Stimulation for Visible Emission:
 - Pulsed: 250 kW/cm² @ 1064 nm
(7 ns pulse, 10 Hz, low ambient)
 - Continuous: <2 μW/cm² @ 808 nm
<175 nW/cm² @ 960 nm
<100 μW/cm² @ 1550 nm
(measured under darkened conditions)
 - ◆ Maximum Stimulation
 - Pulsed: 35 MW/cm² @ 1064 nm,
(7 ns pulse, single pulse)
- For Nd:YAG use at powers >35 MW/m², please contact AST for special quotation



Applied Scintillation Technologies has the knowledge and expertise based on years of experience to partner you in the development of custom products for laser alignment & IR imaging/detection. Resolution, sensitivity, speed & colour of response are a few of the parameters that can be influenced in the production of a customised product that more closely relates to your customer need.

- ◆ A customised product is often a more cost effective solution
- ◆ Formulations can be developed to meet your specific requirements
- ◆ Exceed your initial expectations through partnership development
- ◆ An ISO9002 company – quality assurance is guaranteed through every delivery
- ◆ Product differentiation can provide unique product positioning versus competitors
- ◆ Enjoy continued product development and technical support through partnership

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