

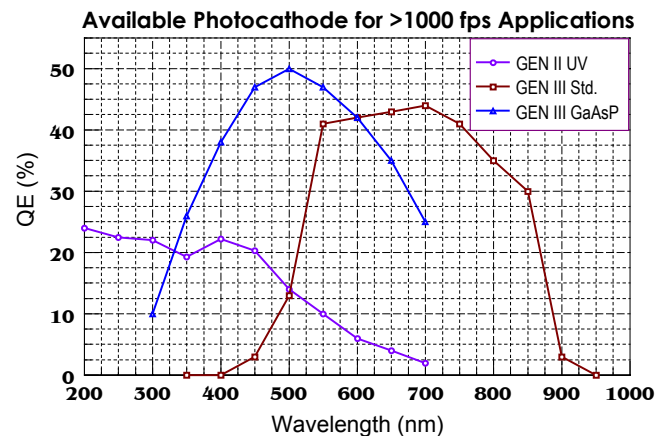
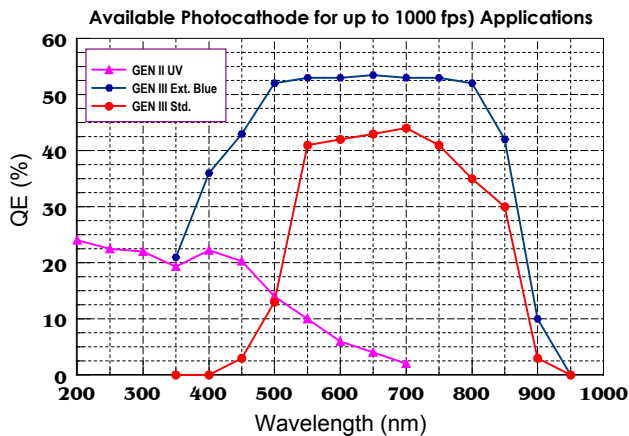
Data Sheet

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VS4-1845HS

GEN III Image Intensifier Assembly for High-Speed Cameras



Applications Include:

- ✓ Microscopy
- ✓ Time Resolved Imaging
- ✓ Flow Visualization
- ✓ Combustion Research

- ✓ Munitions Studies
- ✓ Other Scientific High-Speed Low Light Level Imaging

Features:

- ✓ Double intensifier for bright output needed for high frame rate cameras.
- ✓ Extended Blue Response from 350 to 900nm with 40% to 50% QE at 500nm
- ✓ Optional UV Response: 200 to 700nm
- ✓ Gating from 50ns to 1ms and Gate Delay from 0 to 2mS or DC operation
- ✓ >100 kHz (fps) gating with special intensifier power supply.

- ✓ 57 to 64 linepairs/mm Resolution
- ✓ Negligible shading and geometric distortion
- ✓ Input Format: 1", standard C-Mount
- ✓ Output Format: 1/2", 2/3" or 1", F-Mount convertible to C-Mount with an adapter
- ✓ Computer control of all functions

The **VS4-1845HS** Image Intensifier is a double intensifier made expressly for High Speed cameras for low light and High Speed scientific imaging. The **VS4-1845HS** comes in two versions:

- The **VS4-1845HS-P43** is made for cameras operating at **<1000 Frames/Sec.**
- The **VS4-1845HS-P24** is made for cameras operating at **>1000 Frames/Sec.**

Response of the standard Gen III Photocathode extends from 350 nm to 900nm. An option for UV response from 200nm to 700nm is also available. The **VS4-1845HS** is optically coupled to the camera. The output format may be selected for 1/2", 2/3" or 1" cameras.

The **VS4-1845HS** is pre-adjusted to work with an included computer control system operated from a GUI on the computer. It is all self-contained and requires no control unit. The GUI adjusts the Intensifier Gain, Intensifier Gating and Intensifier Gate Delay. The supplied software runs in all late versions of Windows™.

The **VS4-1845HS** was designed for use on high-speed cameras for scientific applications. There is no Automatic Gain or Gate control. The **VS4-1845HS** operates under the manual control of the user at all times. The output is strictly linear. The design of the **VS4-1845HS** was done so as to present to a high-speed camera, with short exposure times, the bright output needed to expose the camera. The sensitivity of the **VS4-1845HS** and high-speed camera is a function of the sensitivity of the camera used. Higher sensitivity cameras will yield better low light level results.

Specifications:

- Intensifier Type (Visible): **Generation III MCP Image Intensifier**
- Intensifier Type (UV): **Generation II Image Intensifier with S-20 Photocathode**
- Response:
 - For up to 1000 fps applications:
 - Visible: **350 to 900nm with 40 to 50% QE @ 450nm**
 - UV: **200 to 700nm with 15 to 20% QE from 200 to 400nm**
 - For over 1000 fps applications:
 - UV: **200 to 700nm with 15 to 20% QE from 200 to 400nm**
 - Blue: **300 to 700nm with 50% QE @ 500nm**
- Input Window: **Glass** (visible)
Quartz (UV)
- Phosphor:
 - **P-43: 1 ms persistence for <1000 fps operations**
 - **P-24: 1 μs persistence for >1000 fps operations**
- Active Area: **18 mm**
- Output Window: **Fiber Optic**
- Gating Range: **50ns to 1ms (in 20ns increments)**
- Gating Delay Range: **0ns to 2ms (in 20ns increments)**
- Resolution: **57 to 64 linepairs/mm (based on photocathode selection)**
- Input Lens Mount: **C-Mount**
- Output Lens Mount:
 - **F-Mount (convertible to C-Mount via an adapter).**
 - **C-Mount**
- Input Format: **1"**
- Output Format: **8mm for 1/2" camera**
11mm for 2/3" camera
16mm for 1" camera
- Geometric Distortion: **<1%**
- Control: **Gain, Gate and Gate Delay set via Computer (RS-232) control (Windows™ Operating System)**

Mechanical:

- Dimensions: **175 x 70 x 89 mm**
- Weight: **3 lbs**

Electrical:

- Input Voltage: **110V/220V**
- Input Power: **<10 Watt**

