

Printgraph

ATTO Gel Documentation System



AE-6932GXES-U

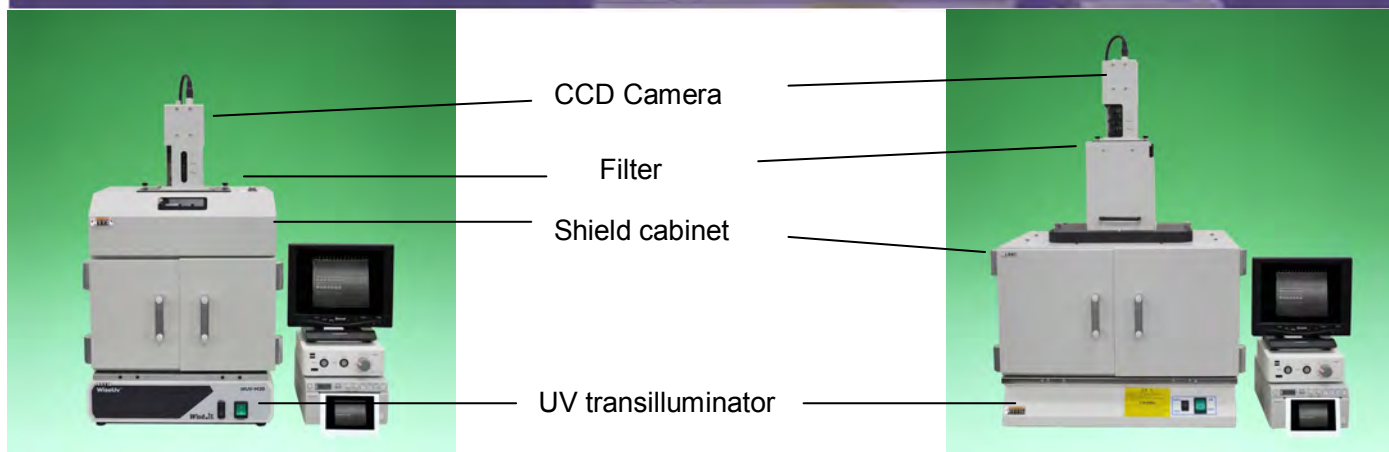


AE-6933FXES-U

*for Fluorescence Detection
High sensitivity CCD Camera
USB digital data save
Easy operation*

ALL NEW “ATTO Printgraph”

GEL DOCUMENTATION SYSTEM "PRINTGRAPH"



| | |
|---------|----------------|
| 2006070 | AE-6932GXES |
| 2006071 | AE-6932GXES-U |
| 2006074 | AE-6932GXES-US |

| | |
|---------|----------------|
| 2006080 | AE-6933FXES |
| 2006081 | AE-6933FXES-U |
| 2006084 | AE-6933FXES-US |

Specification

| | AE-6932GXES-U | AE-6933FXES-U |
|------------------------|---|---|
| Camera | Monochrome CCD camera | Monochrome CCD camera |
| Pixels | 768 x 494 (Approx. 380,000 pixels) | 768 x 494 (Approx. 380,000 pixels) |
| Lens | 8-48mm, F1.0, 6x zoom lens, close up No.3 | 8-48mm, F1.0, 6x zoom lens, close up No.3 |
| Filter | Square cassette filters:YA-3/OY(ND-13:option) | Square cassette filters:YA-3/OY/ND-13 |
| Photograph area | 40 x 30—220 x 165mm | 60 x 45—320 x 240mm |
| Shielding cabinet | GX Type | FX Type |
| Gel cropping | Easy (With looking into a window) | Easiest (With sliding camera stand) |
| In-cabinet light | White LED | White LED |
| Epi UV | Not available | Option (254nm, 6watt x 4Tubes) |
| Camera controller | AE-9020 | AE-9020 |
| Exposure time | 1/30sec to 4 sec | 1/30sec to 4 sec |
| Image format to USB | 8bit TIFF | 8bit TIFF |
| Image format to PC | 16bit TIFF, 14bit CCD 8bit BMP / JPEG / TIFF | 16bit TIFF, 14bit CCD 8bit BMP / JPEG / TIFF |
| Saturation detection | White | White |
| PC interface | Composite:1, USB:1 | Composite:1, USB:1 |
| UV transilluminator | WUV-M20 | DTB-20MP |
| White transilluminator | Flat Viewer (Option) | Flat Viewer |
| Monitor | Monochrome Video Monitor | Monochrome Video Monitor |
| Printer | Monochrome video printer (thermal printer, 256 gray levels) | Monochrome video printer (thermal printer, 256 gray levels) |

- An external power transformer (option) is required for 200-240V region.
- For FX type, it is available to choose 2 wavelengths UV(312 + 365nm) with additional price.

Dimension & Weight

| | GX type | | | | FX type | | | |
|---------------------|--------------------|-------------|-----------------------|------------------------|--------------------|-------------|-----------------------|------------------------|
| | Size (mm, WxDxH) | Weight (Kg) | Power requirement | Power consumption (VA) | Size (mm, WxDxH) | Weight (Kg) | Power requirement | Power consumption (VA) |
| Shield cabinet | 340x280x500 | 8.5 | AC100V 50/60Hz | 0.5 | 470x335x635 | 13.3 | AC100V 50/60Hz | 5 |
| Controller | 154x154x50 | 0.9 | AC100V 50/60Hz | 6 | 154x154x50 | 0.9 | AC100V 50/60Hz | 6 |
| Video Monitor | 220x150x210 | 1.1 | AC100V 50/60Hz | 7 | 220x150x210 | 1.1 | AC100V 50/60Hz | 7 |
| Video printer | 154x240x88 | 2.6 | AC100V 50/60Hz | 150 | 154x240x88 | 2.6 | AC100V 50/60Hz | 150 |
| UV Transilluminator | 350x275x95 | 8.0 | AC100V 50/60Hz | 50 | 470x332x107 | 8.2 | AC100V 50/60Hz | 90 |
| System Total | 560x280x595 | 21.1 | AC100V 50/60Hz | 213.5 | 690x350x742 | 26.1 | AC100V 50/60Hz | 258 |

Overview

ATTO Printgraph is a gel documentation system for imaging stained gels, membranes, and films after electrophoresis. Equipping with a high sensitive monochrome CCD camera and a printer, the Printgraph prints out the images without any help from a PC. The analog data processing technology allows the image displayed exactly as it looks or detected, and the data can be saved in high resolution format as well as JPEG, Bitmap, or TIFF format for later use.

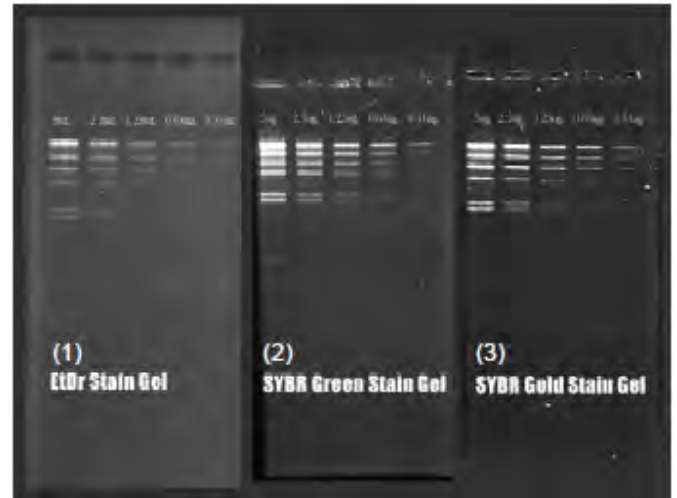
With a cross cable, the images can be transmitted to/received from an external PC through a browser-based user interface.

Sample list

| Item | Sample | Staining/Detection method | FXES-U | GXES-U |
|------------|---------------------|----------------------------------|--------|--------|
| Gels | Nucleic Acids | EtBr | OK | OK |
| | | SYBR Green | OK | OK |
| | | SYBR Gold | OK | OK |
| | | Silver stain | OK | OK(*2) |
| | Proteins | SYPRO Dye | OK | OK |
| | | Silver stain | OK | OK(*2) |
| CBB stain | | OK | OK(*2) | |
| Membrances | Nucleic Acids | Enzyme staining | OK | OK |
| | | Fluorescence Excitation at 254nm | OK(*1) | No |
| | Proteins | Enzyme staining | OK | OK |
| | | CBB stain | OK | OK |
| TLC plates | Sugar, lipids, etc. | Visible image | OK | OK |
| | | Fluorescence Excitation at 254nm | OK(*1) | No |
| Films | Nucleic Acids | Visible image | OK | OK(*2) |
| | | Radio isotope | OK | OK(*2) |
| | Proteins | Visible image | OK | OK(*2) |
| | | Radio isotope | OK | OK(*2) |

*1 Optional Epi UV kit is required for this function. TLC plates also can be photographed with silicagel-side down without the epi UV.

*2 Optional white light transilluminator, the Flat viewer with adaptor are required for this function.



Sample: Dilution series of λ -Hind III DNA
(5, 2.5, 1.25, 0.625, and 0.3125 ng/lane)
Electrophoresis: 0.8% agarose gel, constant voltage at 100V for 45 minutes
Staining: (1) In 0.5ug/ml EtBr with agitation for 30 minutes
(2) In SYBR Green I with agitation for 30 minutes
(3) In SYBR Gold with agitation for 30 minutes
Detection: (1) EtBr, at 312 nm UV, using YA-3 filter
(2) SYBR Green, at 254 nm UV, using OY filter
(3) SYBR Gold, at 254 nm UV, using OY filter
Photographed by Atto Printgraph

Camera controller (AE-9020 E-shot2)

The CCD camera controller provides functions such as shutter speed control, 'Freezing' images, and saving images to a media.



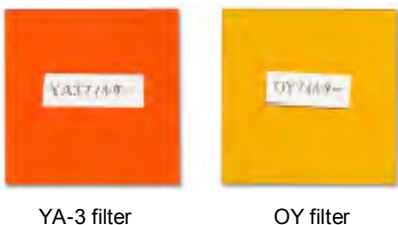
Monitor & Printer



8-inch Monochrome video monitor displays the image in real-time. Parameters setting for the Printgraph are also displayed on the monitor. With the video printer, users can print out the image by pressing a button on the printer. Contrast and brightness can be changed as well as the size of printing image.

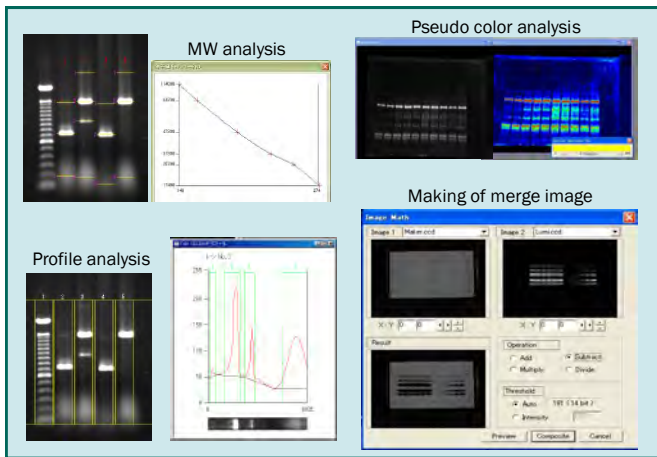
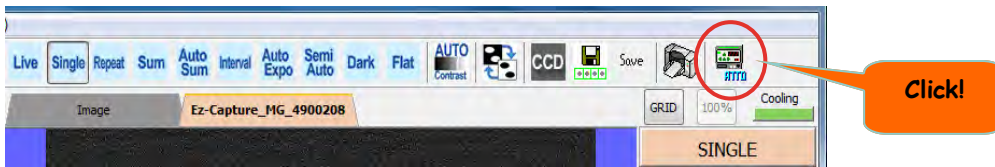
- *Fast print out
- *Produces exact image on the monitor
- *Negative / Positive image switching

Filters



For fluorescent imaging, proper wavelength filters should be selected. Printgraph is including YA-3 (for EtBr) and OY(for SYBR Green) as a standard accessory.

Image Analysis Software



Optimized function and user-friendly CS analyzer software

The data can be instantly transferred to linkable CS analyzer software by one click.

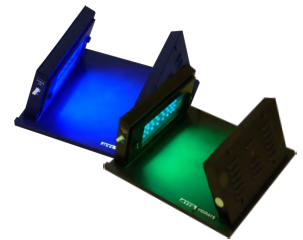
It is applicable for diverse imaging data such as chemiluminescence, bioluminescence, fluorescence and colorimetric.

Combination of luminescent pattern and colored marker image, image subtraction, addition, multiply, divide, measurement are easily accomplished by the software.

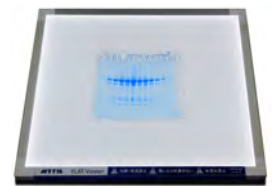
It also has calibration function of dark and flat field.

Options & Consumables

| Code | Product name | Description |
|---------|---|--------------------------|
| 2008001 | AE-6935B Visirays-B | 440-500nm:peak 470nm LED |
| 2008060 | SCF515 filter, 50mm | For AB-6935B |
| 2008012 | AE-6935GL Visirays-GL | 490-560nm:peak 525nm |
| 2130452 | R-60 filter, 50mm | For AE-6935GL |
| 2008043 | 100V-120V AC adapter for Visirays | For Visirays |
| 2196160 | FLAT-Viewer | |
| 2196161 | 100V-120V AC adapter for FLAT-Viewer | |
| 2130432 | Neutral Density Filter ND-13, 50 x 50 mm | filter for FLAT-Viewer |
| 2195402 | Epi UV (254nm 6Wx4) | For FX type only |
| 2140913 | UPP-110HG video printer paper, 10 rolls | |
| 2140915 | UPP-110HD video printer paper, 10 rolls | |
| 2392778 | VP-15052H video printer paper, 5rolls X 2sets | |
| 2195910 | Gel tray L (300x250mm) | |
| 2195930 | Gel tray M (192x215mm) | |
| 2195931 | Gel tray S (194x164mm) | |
| 2130414 | YA-3 filter, 50mm | |
| 2130419 | OY filter, 50mm | |



Visirays



Flat Viewer

| | | | |
|---|-------|---|----------------------|
| 0.1=10 ⁻¹ | deci | d | one tenth of |
| 0.01=10 ⁻² | centi | c | one hundredth of |
| 0.001=10 ⁻³ | milli | m | one thousandth of |
| 0.000 001=10 ⁻⁶ | micro | μ | one millionth of |
| 0.000 000 001=10 ⁻⁹ | nano | n | one billionth of |
| 0.000 000 000 001=10 ⁻¹² | pico | p | one trillionth of |
| 0.000 000 000 000 001=10 ⁻¹⁵ | femto | f | one quadrillionth of |
| 0.000 000 000 000 000 001=10 ⁻¹⁸ | atto | a | one quintillionth of |



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