

FastGene[®] FAS-V Imaging System

Catalogue Number GP-FAS-V



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1. Safety Information

Please read carefully the following notes to be able to properly use the FastGene® FAS-V imaging system.

- ▲ Please wear the appropriate personal protective equipment
- ▲ Using FastGene® Blue/Green LED Transilluminator instrument will normally not injure eyes, skins, and samples. However, prolonged exposure of human naked eyes with light irradiation in the blue spectrum may increase the probability of suffering from retina diseases. Therefore, we recommend wearing the amber goggle included in the box, when handling the transilluminator while the FastGene® FAS-V box is open.

2. WARRANTY

The FastGene® Blue/Green LED Transilluminator and the FastGene® FAS-V is warranted against defects in materials and workmanship for 1 year. In case of any defects occurring in the instrument or accessories during this warranty period, Nippon Genetics Europe will repair or replace the defective parts at its discretion without charge.

The following defects, however, are specifically excluded:

- Defects caused by improper operation.
- Repair or modification done by anyone other than Nippon Genetics Europe or an authorized agent.
- Damage caused by substituting alternative parts.
- Use of fittings or spare parts supplied by anyone other than Nippon Genetics Europe.
- Damage caused by accident or misuse.
- Damage caused by disaster.
- Corrosion caused by improper solvent or sample.

For any inquiry or request for repair service, contact Nippon Genetics Europe or your local distributor. Please send a message containing information about the model and serial number of your instrument.

3. Contact Details

Please contact us for additional information: info@nippongenetics.eu

Please contact our support: support@nippongenetics.eu

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Binsfelder Strasse 77

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4. REGULATORY NOTICE

IMPORTANT: This Nippon Genetics Europe instrument is designed and certified to meet safety standards and EMC regulations. Certified products are safe to use when operated in accordance with the instruction manual. This instrument must not be modified or altered in any way. Alteration of this instrument will:

- Void the manufacturer's warranty
- Void the safety and EMC certification
- Create a potential safety hazard

Nippon Genetics Europe is not responsible for any injury or damage caused by the use of this instrument for purposes other than those for which it is intended, or by modifications of the instrument not performed by Nippon Genetics Europe or an authorized agent.

5. IMPORTANT NOTICE

Please, read the installation instruction carefully before installing the FastGene® Blue/Green LED Transilluminator and the FastGene® FAS Digi Imaging System. This instrument is intended for clinical and research laboratory use with DNA gel activation and it must be operated only by specialized personnel aware of the potential risks associated with the chemical and biological agents normally used with this unit. This instrument is meant for use only by specialized personnel that know the health risks associated with blue light radiation and with reagents that are normally used with this instrument. Please wear the amber goggle for your own protection!

6. Specification

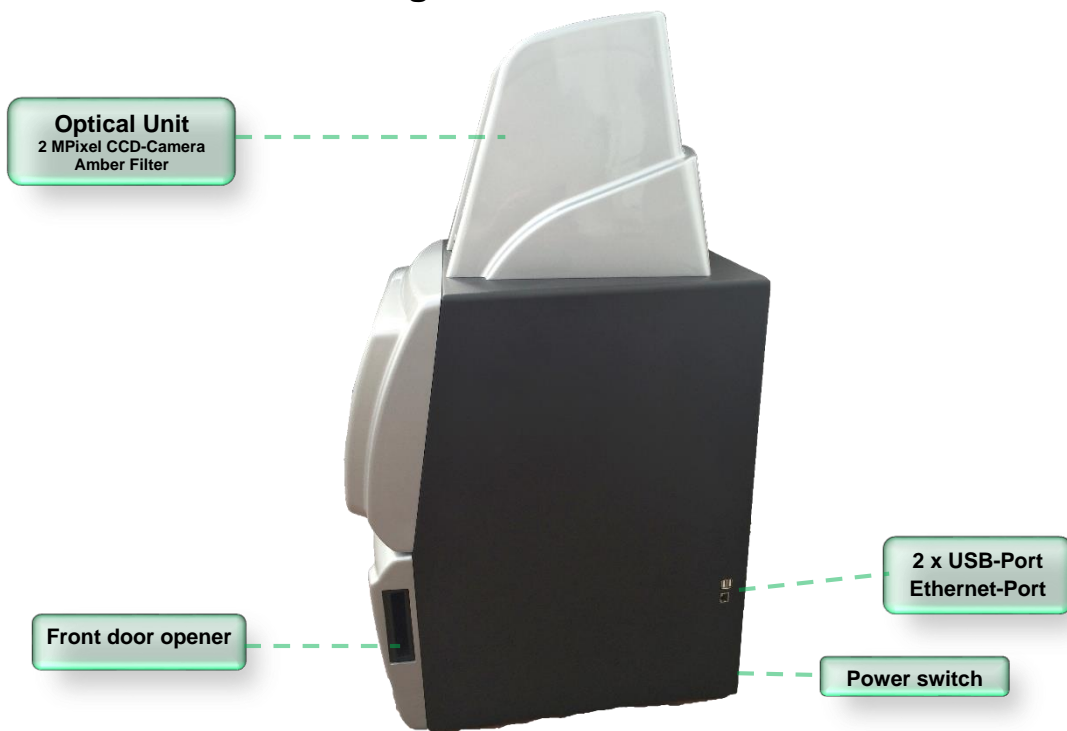
Camera	
Camera type	2.0MP CCD
Image Sensor	Monochrome CCD camera
Resolution/Image Size	1600 x 1200
Video Output Format	12-bit
Pixel size	4.40 x 4.40 um
Max. frame rate	15 fps
Digital interface	USB 2.0
Aperture	F/1.2
Lens	12.5 – 75 mm, 6 X Zoom Lens , manual, parfocal
Exposure time	0.001 to 30 seconds
Filter	Midori Green Amber Filter 580 nm
Control & Display	
Control panel	10.4" color touch screen
Saved Image Format	PNG/TIFF /BMP/JPEG for 8-bit
Image storage	16 GB SSD (Built-in memory); USB stick (External memory)
Interface	Ethernet Port - 10/100Mb Ethernet Port
	USB flash drive
	Supports Mitsubishi thermal-printer P95D
Darkroom	
Inner white light	1W x 6 lamps built-in white light LED
Access	Front door, 180° opened
Illuminator	
Built-in Blue-Green light source	~490 nm with optical filter
View Area	26 x 21 cm
White Light Plate	26 x 21 cm
Unit	
Material	Painted iron metal, ABS front door
Unit Dimensions	Approx. 382 x 400 x 785 mm
Rated Voltage	100-240 V~, 50/60 Hz, 2 A
Weight	35 kg
Certification	CE

7. Nomenclature

Left side view



Right side view



8. Operating the FastGene® FAS-V imaging system

The FastGene® FAS-V is operated through the central window:

Main Menu



All the following operations can be performed or accessed via the main menu:

- 7.1. Selecting the size of the image***
- 7.2. Selecting the light source***
- 7.3. Selecting the exposure time***
- 7.4. Selecting the Gain and Gamma value***
- 7.5. Freezing the image***
- 7.6. Capturing the image***
- 7.7. Loading an image***
- 7.8. Setting up the system***
- 7.9. Reversing the image***

7.1. Selecting the size of the image



The image size can vary between 50 – 100 % of the total possible image.

The size of the file will vary as follows:

1. 50 %: Image Size 1.0 MPixel
2. 75 %: Image Size 1.5 MPixel
3. 100 %: Image Size 2.0 MPixel

You can select among 50-100% depending on your gel size or required image size.

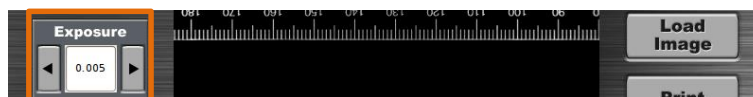
7.2. Selecting the light source

The light sources (blue/green LED light, white LED light plate, white LED room light) can be selected by pressing the buttons on the left side of the main menu:



7.3. Selecting the exposure time

The exposure time can be selected by using the arrows or by pressing into the number area and entering the desired exposure times in seconds:



7.4. Selecting the Gain and Gamma value

The Gain increases the sensitivity of the sensor in live view mode while the Gamma setting is applied when the image is frozen.



Please be aware that increasing the Gain can lead to a higher noise level in the image!

7.5. Freezing the image

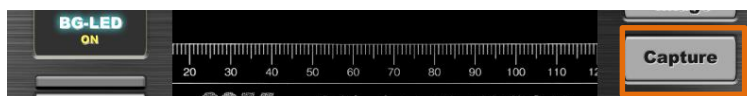
The live view of the image can be frozen before capturing the image. Press the button *Freeze Image*:



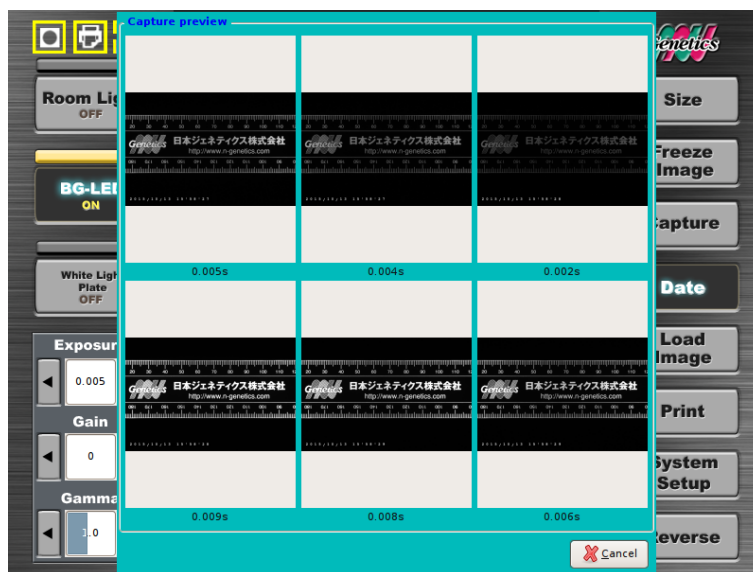
The gamma value can be changed while the image is frozen.

7.6. Capturing the image

Capturing images with the FastGene® FAS-V is very easy. Press the Capture button after adjusting the exposure of the image to the desired level.



The FastGene® FAS-V will take 6 images with different exposure times:



Select the best image by pressing on it. The following menu will be displayed:



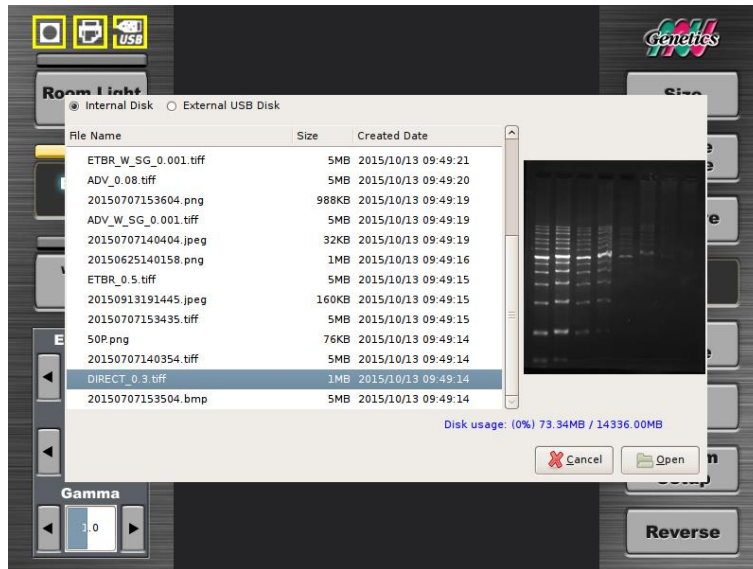
Here, the type of image is selected as well as the file is named. On the top part, the selection of storage place can be chosen (please note that external USB is only possible to select if a USB-stick has been recognized by the system before).

7.7. Loading an image

Recorded images can be loaded from the storage by using the **Load Image** button:

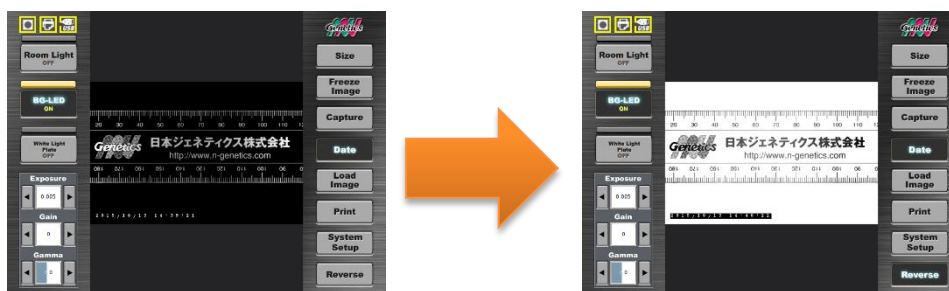


The menu with the recorded images will appear. Select the desired image:



7.1. Reversing Images

The images in live view or previously captured and loaded can be inverted by pressing the button **Invert**:



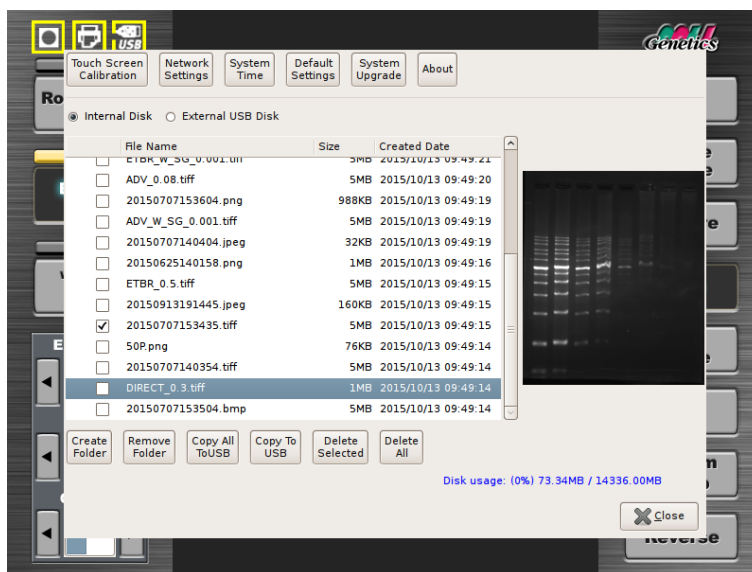
7.2. Setting up the system

Press the **System Setup** button to enter the setup menu:

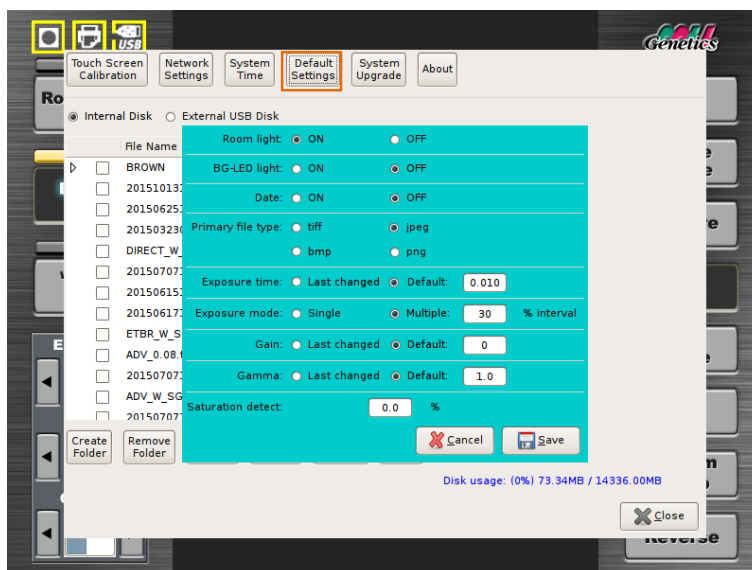


All the following operations can be performed or accessed via the setup menu:

- Calibration of the touchscreen (only by qualified staff)
- Network setup
- Defining system time
- Upgrading the software (only by qualified staff)



The default settings can be changed by pressing the **Default Settings** button:



In this menu you can select:

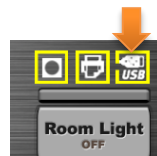
- If the light sources are turned on or off when the system is booting.

- The standard image file type can be chosen.
- The option of taken six images at the same time can be switched off by changing from multiple exposure mode to single exposure mode.
- Additionally the saturation limit detection threshold can be set.

9. Transferring to an external USB-stick

Images taken with the FastGene® FAS-V and stored in the internal SSD storage can be transferred easily to an external USB-stick:

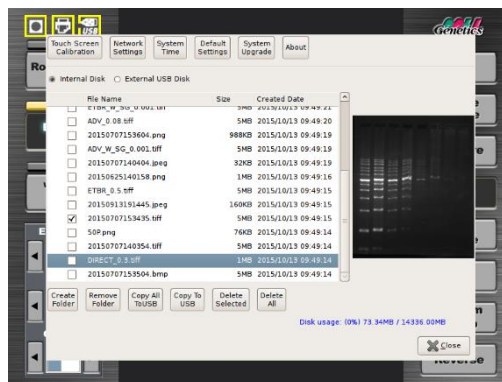
1. Connect the USB-Stick with the USB-port on the top left side of the FastGene® FAS-V.
2. Make sure the USB-stick control sign is yellow:



3. Press the menu System Set-up:



- Select the image you want to transfer and press *copy to USB* or press *copy all to USB*:

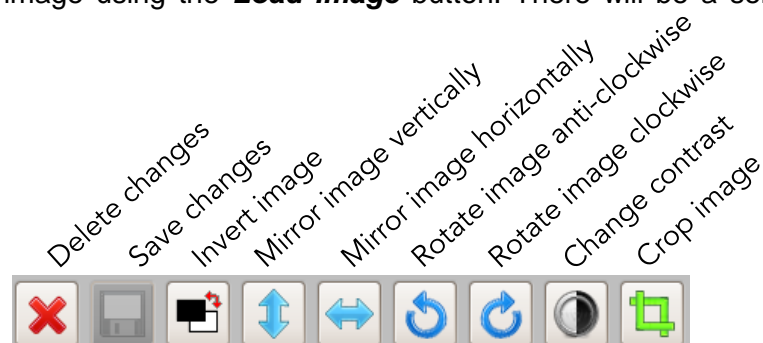


- The images are now saved on the external USB-stick.

10. Editing captured images

The FastGene® FAS-V can edit images which are available in the internal storage or on an external storage place.

There for load the image using the **Load Image** button. There will be a selection of tools available:



After editing the image it is pivotal that the save button is pressed otherwise all changes will be lost. Please be also aware that saved edited images cannot be restored to their original state.

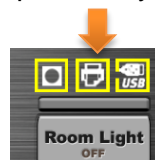
11. How to print images using P95D

The FastGene® FAS-V comes with the driver for the thermal printer Mitsubishi P95D preinstalled:

1. To print your images, connect the printer with the FastGene® FAS-V using one of the ports on the right hand side. Turn on the FastGene® FAS-V.



2. Verify that the control sign for the printer is yellow:



3. Print the live view or a selected saved image by pressing the button **Print** :



The image will be printed.

