

SPEEDEYE 

High Speed Frame
Acquisition and Control System




Installation and user guide

Powered by  Dainese Srl
in cooperation with Marco Grilli

 **Bonechi**

1. Introduction

For a correct and safe use of the machine it is necessary to read carefully this manual following all the instructions. The manual itself is part of the machine and must be stored in such a way that it allows easy consultation by the operator.

 **If this manual gets lost or damaged ask for a copy from your retailer or from DAINESE srl.**

 **DAINESE srl disclaims any responsibility form problems and damages caused by the failure of comply with what written in this manual and by improper use of the machine**

1.1 Purpose of this manual

This manual has been made by DAINESE srl and is an integral part of the machine. The instructions inside of it are aimed to the person in charge of installation, use, and maintenance of the machine. Following the instructions guarantees the quality of the work made by the machine and the safety of the operators.

Give a copy of this manual to the person in charge of the use and maintenance of the machine.

2. Description and Functionality

2.1 Functionality

The SpeedEye is an automatic high speed image capturing and recording system made by Dainese srl. It is equipped with a motion sensing algorithm especially designed for metal chaining machines.

2.2 Components

The SpeedEye is composed by the following parts:

- The SpeedEye software
- The high speed camera with optics
- The communication cable

Optional parts:

- The SpeedEye touchscreen panel
- The custom made cart with hinged support arm

2.3 Bundle

The SpeedEye comes bundled with its accessories as agreed during the purchase. The delivery of the machine is usually responsibility of the recipient.

The standard bundle of the machine is composed by the software, the high speed camera with optics and the communication cable.

The full bundle includes also the touchscreen panel and the cart with hinged support arm.

DAINESE srl disclaims any responsibility for problems that may arise during the transport, the unloading and the installation. It is therefore recommended that all these operation are made in respect of the current regulations.

3. General notices

- Strictly follow the instructions written in this manual during the installation and the use of the machine.
- DAINESE srl disclaims any responsibility for injuries to persons or animals and damage to things due to the failure to comply with the rules written in this manual.
- The electrical connections must be made by competent personnel.
- The efficiency of the machine must be checked continuously, especially after a long period of inactivity.
- It's forbidden to use the machine until all of its components are fixed and put in place.
- Before every operation on the machine during the installation, double check that it is electrically isolated (unplug the power cord).
- It's forbidden to move the machine during the use.
- In case of failure of the command devices, proceed immediately to their fixing.
- It is forbidden to remove any accessory from the machine during its use. Before removing any accessory turn the machine off and double check that it is electrically isolated (unplug the power cord).
- The opening of the main unit is allowed only to qualified personnel and trained to operate on these machines. In case of necessity, please contact your retailer or DAINESE srl.
- The personnel that uses this machine must know about whats written on this manual.
- The personnel that uses this machine must:

- Wear tight-fitting clothing with the cuffs of the sleeves well tied.
- Wear anti-cut gloves during the use of the machine.
- Wear non-slip footwear.
- Avoid that children, animals and externals find themselves nearby the machine.

4. Connections

4.1 Power Connections

The SpeedEye has only one power connection which is the power plug. The plug must remain connected during the operation of the machine since it doesn't have internal batteries.

4.2 Data Connections

The SpeedEye has only one data connection which is the camera usb cable. The cable must be connected to a USB3.0 port compatible with the USB3 Vision standard. For more information about the compatible USB3 chipsets please refer to the Hardware requirements chapter.

In case of the full bundle the cable can be connected to any USB port of the touchscreen panel.

5. Machine Usage

Once booted, the software will show it's main screen. The main screen () awaits for the user to start the camera by pressing the recording button in the lower right corner of the screen.

5.1 Live/Recording mode

Once started the Live/Recording session the software will initialize the camera and begin to record the images form the camera. At the same time the user is able to see the images live from the camera right in the screen.

The user can use this mode to adjust the camera framing, opening and focusing to get the desired image result.


 **Make sure that the camera is fixed and well tighten well after the initial adjustment to avoid any damage during the work to the camera and/or the machine.**



Figure 1: Stop button

The lower right corner button will become a stop button (Figure 1) that allows to switch to the replay function.

5.2 Automatic movement detection

By pressing the upper right corner button (Figure 2) the user can activate the automatic movement detection. A red eye means that the movement detection is active.

This function allows the software to automatically stop the recording session in case of missing movement (still image). This function has been studied especially for metallic chaining machines which freeze in case of failure.

This function has two parameters which can be adjusted by the user:

Sensitivity and Delay. The former tunes the "intensity" of the movement. A lower value requires a bigger movement to trigger the detection, and vice versa. The latter tunes the time the image must remain still before stopping recording. This allows the machine to have pauses during its work without triggering the movement detection.



Figure 2: Automatic Movement Detection

5.3 Replay mode

By pressing the lower right button (Figure 1) the user can stop the live/recording session and activate the replay mode. While in the replay function the camera will stop capturing images and the recorded images will be shown instead of the live ones. The replay mode can also be activated by the movement detection.

A seek bar will appear in the lower part of the screen together with the replay controls buttons (Figure 4). The seek bar will automatically position itself to the beginning of the recording.



Figure 3: Replay Mode



Figure 4: Navigation Controls

The user can click or drag on the bar to seek the recording. A time tag will follow the bar showing how many seconds in the past the image shown was captured.

The control buttons allows the user to seek through the recording. They work in two modes: static seek and dynamic seek. The static seek function is identified by a vertical bar in the control buttons. The static/dynamic seek mode button (Figure 5) allows to switch the mode.



*Figure 5:
Static/Dynamic seek
mode button*

In static seek mode the control buttons allows to skip by 1 or 5 or 10 frames per time.

In dynamic seek mode the control buttons allows to replay at super slow motion, slow motion, and real time mode.

The save button allows to save the recorded images as an mpeg file.

To quit the replay mode the user must press the record button (Figure 6) in the lower right corner.



*Figure 6: Record
button*

6. Scraping

In case you decide to put the machine out of service, it is recommended that you dispose it following the applicable regulations on the waste recycling.

The machine is made by 90% of recyclable metals and electronics. It is therefore disposable as metallic and electronic waste in the recycling centers. There are no elements or materials that may be harmful during the disposal process.

7. Warranty

DAINESE srl warrants that the machine will be free from defects in materials and workmanship for one year period since the purchase date. The date will have to be proved by a valid purchase document. During this period DAINESI srl will freely supply those components that may result defective out of factory. Workmanship and transport fees are borne by the customer.

No liability will be accepted for any faults due to inappropriate treatment, wrong installation, bad maintenance or transport damages that can not be associated to manufacturing defects. The liability will not be accepted in any case of inappropriate use of the machine.

8. Hardware requirements

These are the minimum system requirements

- Operating system: Microsoft® Windows® 7, Windows 8, or Windows 8.1
- Operating system type: 64 bit only (32 bit OS not supported)
- Processor: Intel® Core i7 processor
- RAM: 8GB of RAM
- GPU: hardware-accelerated OpenGL 2.0 graphics adapter
- Display: 1024 x 768 display
- USB: USB3 controller compatible with USB3VISION standard
(Dainese srl successfully tested Intel and Nec/Renesas controllers)

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