

WEISSCAM HS-1



USER MANUAL WEISSCAMware Version 1.0

EMERGENCY ADDRESSES

Support

Demo Clips
www.weisscam.com

Operator Forum
www.weisscam.com/forum

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Information on the User Manual

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Director of Photography
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User Manual WEISSCAMware Version 1.0

General Information

After more than 18 month of developing and programming we are really happy to offer you the completely new designed software for the WEISSCAM HS-1 Camera.

You will find the following brand new features:

- Download speed from WEISSCAM to Control Unit enhanced by factor 4 using fragment shader technology
- supported file formats: 10bit DPX log., 8bit TIFF, AVI, RAW files
- Integrated histogram, waveform monitor and vector scope
- Zebra function for highlights and low lights
- Overlay recorded images with live picture of camera for compositing shots
- Special Focus filter for visualising the focused plain within an image
- Timeline for easy saving with I/O markers
- Integrated file management for fast downloading
- Auto slate function (first frame of every downloaded sequence automatically contains all metadata necessary for post production i.e. title, scene, take no., director, DoP, frame rate, shutter speed, lens, T-Stop, distance)
- free adjustable safety and format zones with centre mark in the viewfinder
- free adjustable resolution as well as predefined formats
- depth of field calculator
- frame rate and shutter speed editable directly
- Simple speed ramping by software (alternative to Hand Unit) during recording
- New and enhanced debayering and demosaicing filters
- Shortcuts for control of all most important features
- Auto framed video image for the viewfinder

We worked hard to make this software easy to operate and perfectly fitting to your needs on high speed sets. The image processing is not longer done by the control unit's CPU but by the built-in high performance nVIDIA graphic card. This gives us the freedom to handle higher resolutions and data rates in the future.

Although I tested the new software for about two month I recommend testing it on your own in order to familiarize with this new tool. For safety reasons you should leave the old software on your control unit – just in case!

I hope you will enjoy working with this new software!

Stefan Weiss

DoP & Developer of WEISSCAM

SOFTWARE

Installation & Licence

Download the Software zip file from the internet, unpack and install it.

All necessary drivers, hotfixes and icons on the desktop will be installed automatically.

After installation is finished you need to license your software:

> Go to ☞ Program ☞ Weisscam HS-1 ☞ request license key

> Enter the serial number of the control unit and your camera and press create request code

> Send this code to the WEISSCAM Product Manager at P+S Technik Matthias Ruge (ruge@pstechnik.de) and he will provide a personal license key to you.

> After you received this license key go to ☞ Program ☞ Weisscam HS-1 ☞ Enter license key and edit the license key.

Now your software is ready to use. If you operate a backup laptop you need to request another licence number for this computer.

Monitoring

In general the monitoring is the same like it was before (with the previous software) and therefore up to your own setup of monitors and settings of your graphic card.

☞ While working with the Clone mode (nVIDIA settings), you will find the same picture on every additional monitor

☞ The Dual View mode (nVIDIA settings) enables you to place the viewfinder picture on the second and all other additional monitors (working with more than one additional VGA (TFT) Displays requires an additional scan converter!). All other (control and calibration) windows stay on the control unit's TFT monitor.

Important!

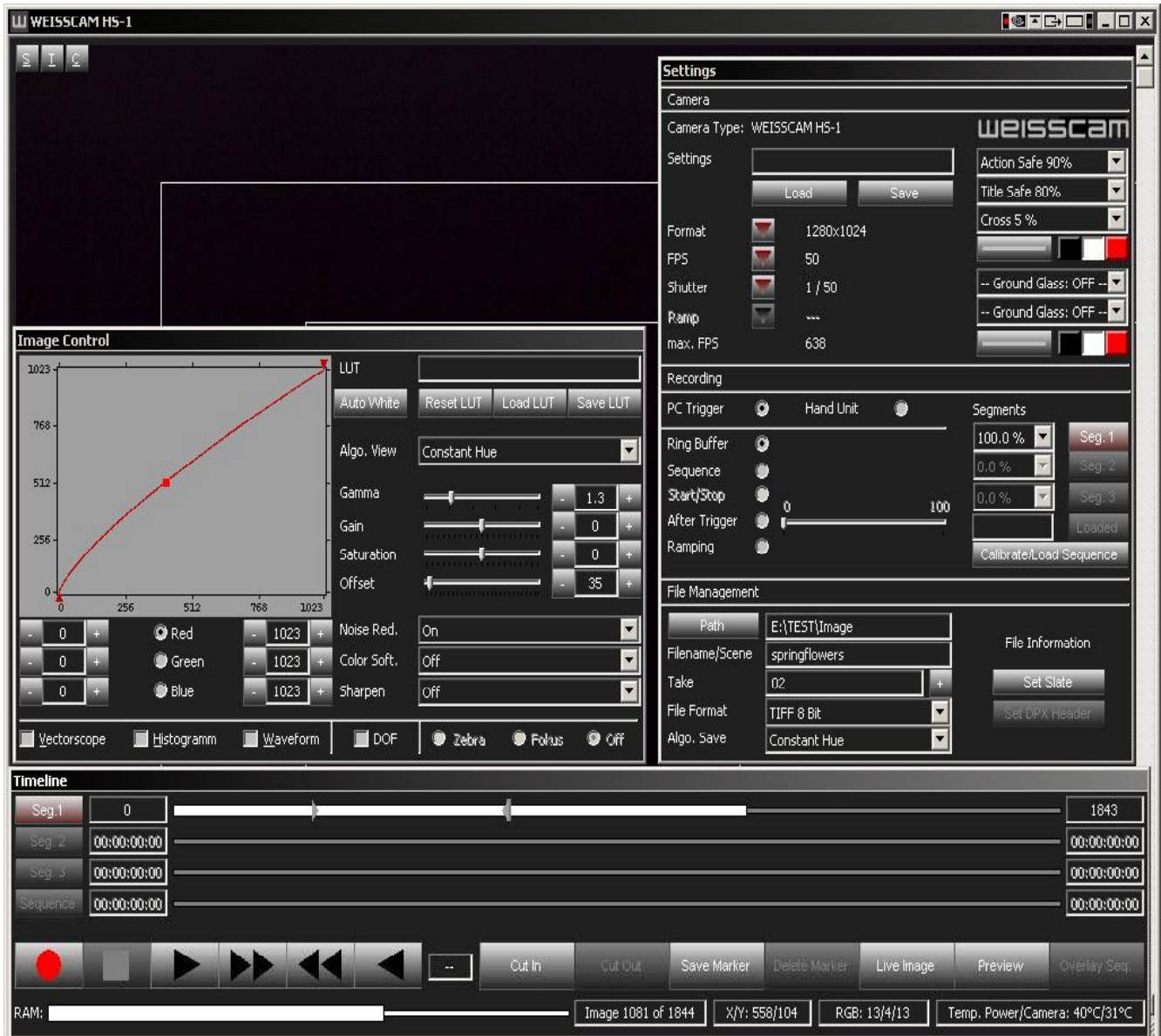
☞ **Always check your graphic card settings before opening the software!**

☞ **When working in Dual View mode it is necessary to set the second monitor as your primary monitor / display (select the 2nd monitor for this change)! If you have problems with this settings please work in Clone Mode.**

Start Software

Double click the WEISSCAM HS-1 icon on the desktop. The software will open up and find the camera automatically. Three windows are displayed:

1. Window : Settings
2. Window : Image Control
3. Window : Timeline



Important!

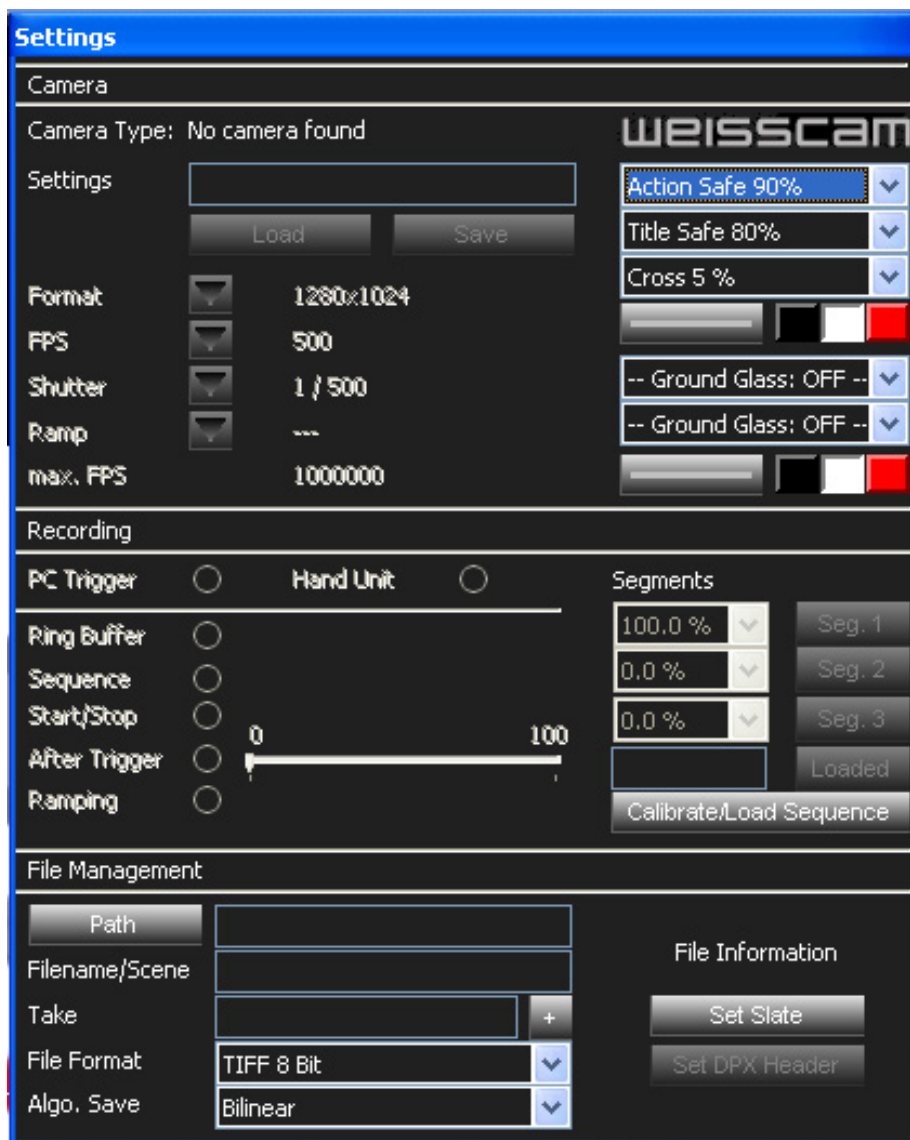
The software needs about 10 seconds to start. Please be a little patient and do not start the software twice!

If the software shows "Camera not connected" please try the following:

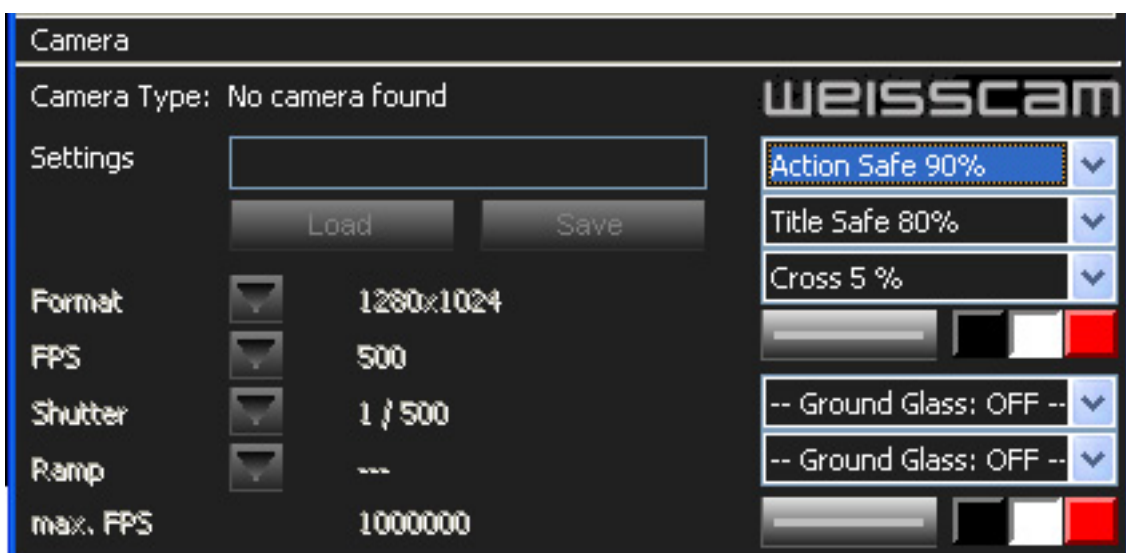
1. Check if camera is still turned off ➡ Turn on camera and restart the software
2. Check the data connection (Firewire / FOL), then turn the camera off and on again and restart the software
3. Check if the software is already running in the background.
➡ Close the second software window and work with the one that is already opened.

Window : Settings (shortcut „S“)

The Window “Settings” is divided into three sections: Camera, Recording and File Management



Section CAMERA:



Important!

-> You always have to press **OK** to confirm changes of any of these values!

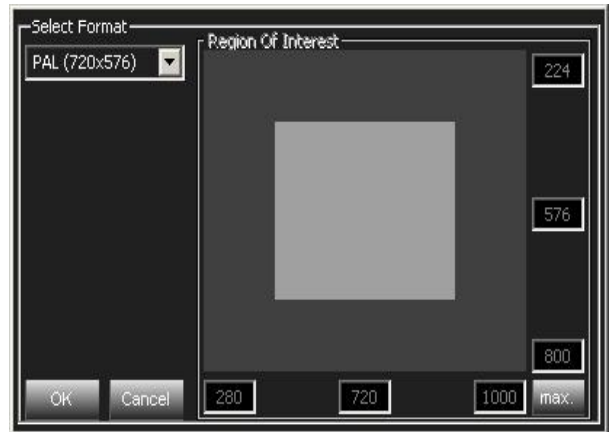
1) Settings

-> Load and Save your own settings. The settings will be saved as a .wcp file

2) Format

-> Use the pull down menu to select format presets (NTSC, PAL, 720p etc.)

-> Select Free Format to create customized formats. Use the left mouse button to create your own ROI or just type the desired values into the relevant boxes.



3) FPS (Frames per Second)

-> Use the pull down menu to select speed presets (25, 50, 75, 100, 125 etc.)

-> Select Free FPS to choose customized speeds by moving the scale or by entering the appropriate numbers.

4) Shutter

-> Use the pull down menu to select shutter speed presets (1/50, 1/75, 1/100, 1/125 etc.)

-> Select Free Shutter to create customized shutter speeds by moving the scale or by entering the appropriate numbers.

5) Ramp

-> This function allows you to program a software ramp. It is available as soon as ramping in section RECORDING is activated. Then you can select the speed (fps) you want to ramp to. Software ramping is always starting at the FPS value and jumping to the Ramp value!

6) Max. FPS

-> This box displays always the max. possible speed (fps) related to the chosen settings.

7) Ground glass marks

-> Select from a pull down menu

-> The selected ground glass frame relates to the selected format and will be superimposed in centre on the viewfinder image.

-> The cross will be added in the image centre.

The following ground glass settings are available:

TV (1:1,33)

Academy (1:1,37)

Widescreen EU (1:1,66)

HDTV (1:1,78)

Cinemascope (1:2,35)

Cross 5%

Cross 10%

8) Safety Zone 1 & 2 and Cross

- > The safety zone will be abstracted from every frame boarder
- > Select between Action Safe, Title Safe and a customized value.

9) Color & line styles

- > Select the line style: solid, dotted and dashed lines are available
- > Select the color for the lines: red, black or white lines are available.

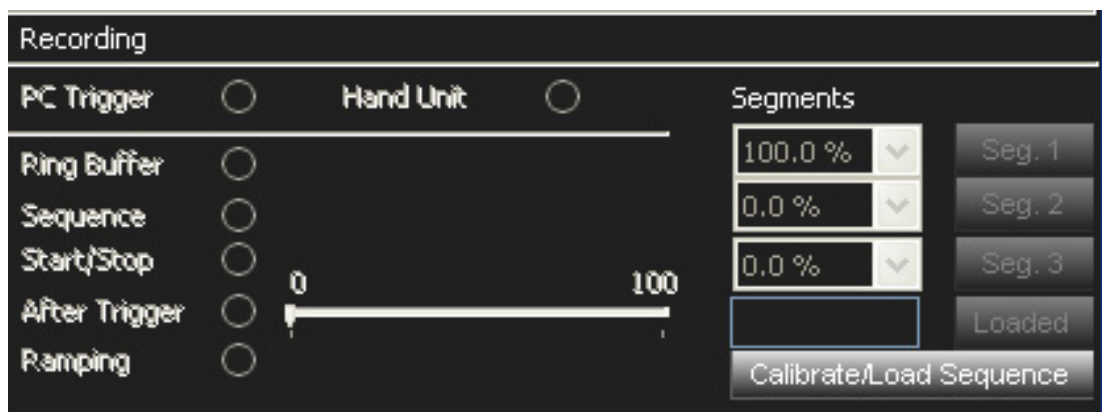
You can easily turn off the ground glass, safety zone or cross function by selecting the appropriate pull down menu entry.

Section RECORDING:

This section enables you to select different recording and trigger modes as well as splitting the camera's Random Access Memory (RAM). You also can load an earlier recorded sequence into the software to compare it with the sequences of the other segments. This loaded sequence can also be superimposed to the recordings in segment 01.

Important!

Trigger and record modes are only changeable when you are in play back and are not available when recording and in live image mode. Inactive positions are displayed blurred and are not accessible!



1) PC Trigger

- > Use the Control Unit for triggering and ramping

2) Hand Unit

- > Use the Hand Unit for triggering and ramping

3) Ring Buffer

-> The camera overwrites the internal RAM continuously until the recording is stopped by a trigger-signal

4) Sequence

-> The camera records until a trigger signal stops the recording or the activated memory segment is completely filled up with data once.

5) Start Stop

-> This option is available only when Hand Unit is activated. Recordings may be started and stopped with the Hand Unit until the active memory segment is filled up with data once.

6) After Trigger

-> Select how much percent of the recording you want to keep before and after the trigger signal

7) Ramping

-> Select ramping when you intend to perform software ramping. If this option is activated the pull down menu Ramp is available as well. For software ramping select the desired ramping FPS. The software automatically chooses the right shutter. You always jump from FPS to Ramp.

-> **To perform software ramping:** Start recording. The button changes to a ramping symbol. As soon as you hit the ramping symbol the camera jumps to the frame rate which was entered in Ramp. Press the ramping symbol again to jump back to the frame rate entered in FPS. Press "Stop" to finish the ramping sequence.

8) Segments

-> You have 3 segments. To active and set segment 2 or 3 you have to reduce the size of segment 1 first otherwise you don't have memory for the other segments.

9) Calibrate / Load Sequence

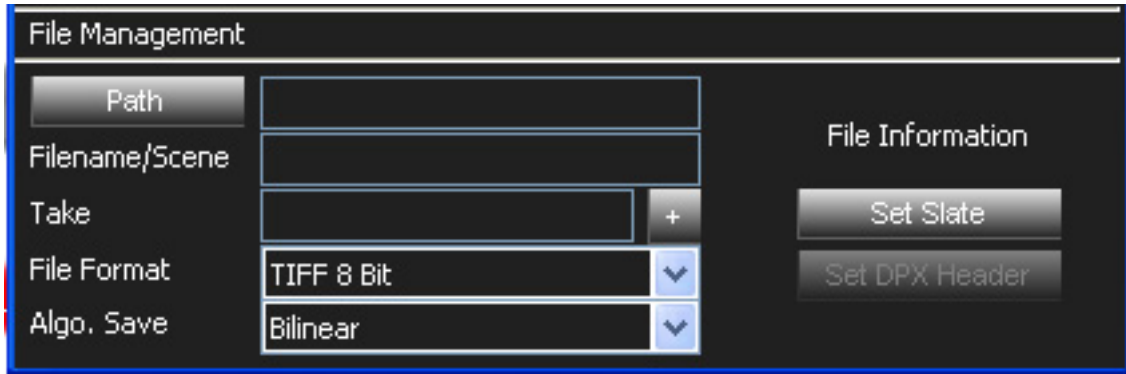
-> You can load a sequence or a picture into the software to compare it with the live image from the camera, with other segments or to overlay the loaded picture(s) with segment 1. This is a very helpful tool for compositing / blue box shots.

Important!

You only can load a sequence or a picture that was recorded and saved with the WEISSCAM !

Section FILE MANAGEMENT:

In this section you select the path for saving, the file format and the color algorithm for saving the recorded data (NOTE: this is not the viewing algorithm !). You can also create slates and information for the DPX header.



1) Path:

-> Select a main directory on your Control Unit (for a shooting day or a job). Choose the path as short as possible to be able to see the whole name in the box.

2) Filename / Scene:

-> Enter a filename (i.e. for a new scene). This will create a new subdirectory.

3) Take

-> If you don't click the „+“ symbol, the software will automatically start with take one (0 is always added before: 01 for take 1, 02 for take 2, etc...)

4) File format:

-> 8 bit TIFF

-> DPX 10-bit (logarithmic)

-> AVI (uncompressed) – in this format your takes will be data files without being put together in a special folder.

-> RAW (10 bit black and white data from camera – with bayer pattern) The RAW Format is right now a PGM format and will be changed as soon as a worldwide standard for RAW data will be established.

5) Set Slate

-> It is not urgently necessary to fill in all the fields, but please consider: all your important shooting information will be saved in the same folder as a .txt file and burned in the first picture of your downloaded sequence as well. This is very important for postproduction purposes.

Important!

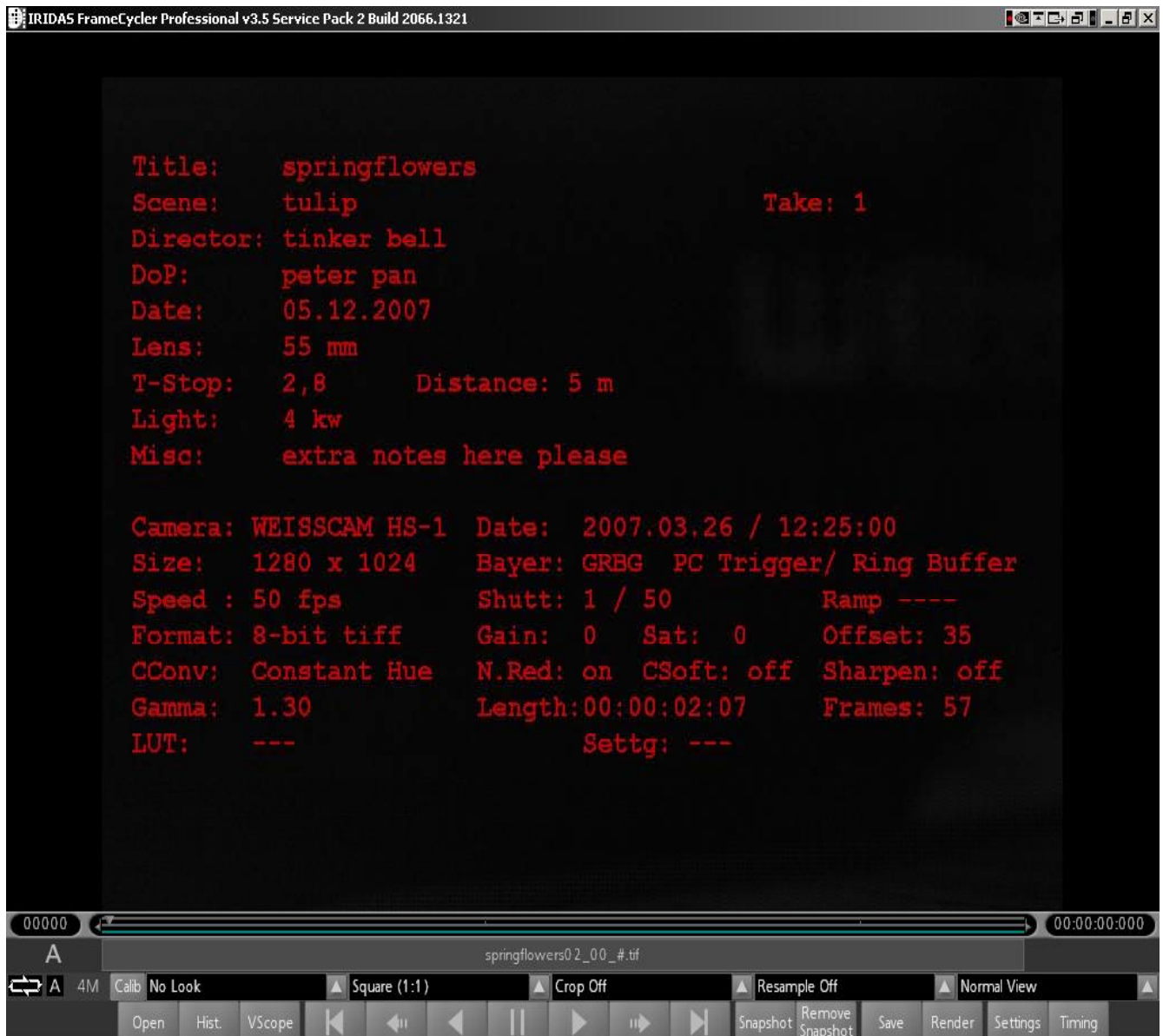
Slate information will be reset when closing the software!

Title	<input type="text"/>	Scene	<input type="text"/>
Take	<input type="text"/>	Director	<input type="text"/>
DoP	<input type="text"/>	Date	<input type="text"/>
Lens	<input type="text"/>	T-Stop	<input type="text"/>
Distance	<input type="text"/>	Light	<input type="text"/>
Misc	<input type="text"/>		
		OK	Cancel

The following information will be assumed to the slate from the camera settings:

- Camera Type
- Date / Time
- Image Size
- Record Speed
- Shutter
- File Format
- Gamma
- Gain
- Saturation
- CSoft
- Sharpen
- Length
- Frames
- Trigger Mode
- Record Mode
- LUT-File
- Bayer filter-configuration (only in RAW-format)

The following image displays the first frame of a sequence loaded into the IRIDAS Frame Cycler to demonstrate the appearance of the slate in a downloaded sequence:



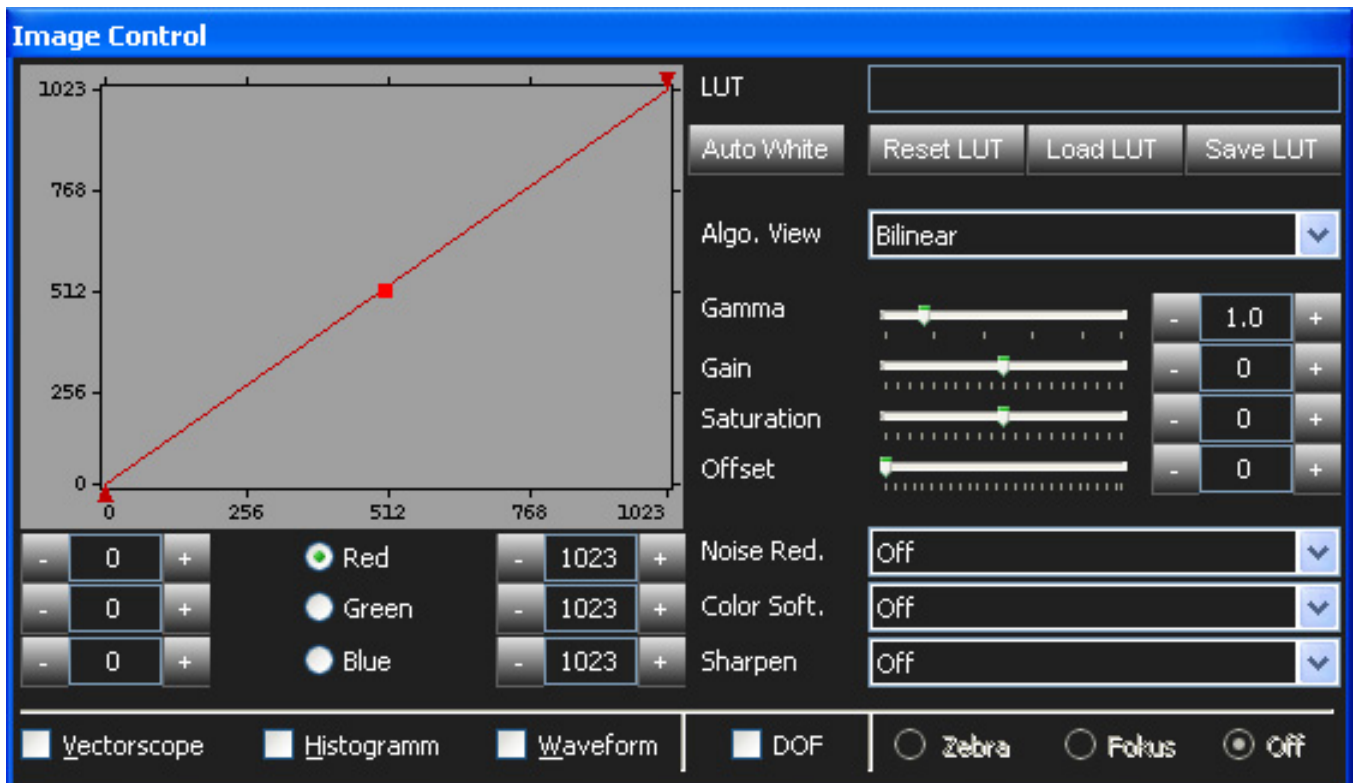
6) Set DPX-Header (button just active when DPX file format selected)

DPX file information:

- > Creator (max. 100 signs)
- > Project name (max. 200 signs)
- > Copy right (max. 200 signs)

Window : Image Control (shortcut „C“)

This is your image control centre for editing LUTs, gamma, gain etc. You can perform the white balance manually by moving the RGB curves and checking the RGB values. Over and above you find a vector-scope, histogram, waveform monitor, DoF calculator, zebra and a special focus filter in this section for appropriate image measurement.



Recommendations

- > Don't use "auto white balance", do your white balance by hand.
- > Don't use "offset", move the curves to the desired value.
- > Use "constant hue" as Preview and Saving Algorithm.
- > Leave "noise red." always "on" (it's the old + filter function)
- > Your LUT don't save the "Algo. View", "Noise Red.", "Color Soft" and "Sharpen".
You have to set them by hand if you load your LUT!
- > All settings will be rendered except the "Algo. View."
- > Vectorscope, Histogramm and Waveform are just available in 1:1 screen mode.

1) LUT:

- > Load and save your own LUTs. Reset a current LUT if you have a wrong white balance. Be aware that your LUT doesn't save Algo. view, Noise Red., Color Soft and Sharpen. You have to set them manually when reloading your LUT!

2) Auto White

- > This function performs an internal auto white balance and leaves the RGB curves in their standard position. Because the internal change of the RGB curves is not displayed it is always better to do your white balance by moving the RGB curves manually. In this case you always have the full visual control of the RGB curves!

3) Algo. View

- > This is the color algorithm for live imaging and previewing. If you have any delays in previewing please change the algorithm.
- > Please note that this is NOT you saving algorithm! Always check the saving algorithm in Settings ➔ File Management before you start a downloading process.

4) Gamma

Don't use higher gamma values than 1.5. If you need to go higher please check the noise in dark areas carefully. To evaluate the image you may rise up the RGB values in the dark areas up to 50. A new standard gamma value is 1.3 to 1.4.

5) Gain

Rise up the gain very carefully when you need more light.

Please note: NEVER go to negative values!

6) Saturation

Don't use higher saturation values than 50 and check in vectorscope before saving.

7) Offset

Don't use the offset. It is comparable to the black level adjustment when moving the RGB values from 0 to 50 for example. The offset will move the black level for all three RGB curves but doesn't display this on the RGB curves that mean you don't have a visual control of the change in the RGB curves!

8) Noise Reduction

Please keep this filter always activated! It is the + filter function of the old software and reduces mosaiking.

9) Color Soft.

This one is also a filter for reduction of mosaiking. In case you see wrong colors on edges or mosaiking you may activate this option and check if it improves your image.

10)Sharpen

- > We recommend to keep this filter always off. It enhances sharpness in your images but since it is a digital filter you'd rather do these things in post.
- > To receive a visually sharper image it is always better to enlarge depth of field by stopping down your lens. This effect is not achievable with a digital filter, of course.

11)RGB values

- >The left side of the RGB values is to be used for setting up the black level. Setting these values to 0 will enhance noise in dark areas. In normal conditions values between "15" and "45" (depending on the image content) will do. If you don't get a full black, you need to adjust the value accordingly, but carefully.
- > The right side of the RGB values is to be used to perform a manual white balance (that is always recommended).

12)Zebra

- > Overexposure / underexposure zones flicker black and white when this tool is activated.

-> The zebra starts flickering as soon as the video signal is less than 10% in dark areas and more than 90% in white areas.

13)Focus Tool

-> The focus filter turns your image into a black image. The focus plane appears bright white. This gives you the possibility to do proper focusing by eye through the viewfinder.

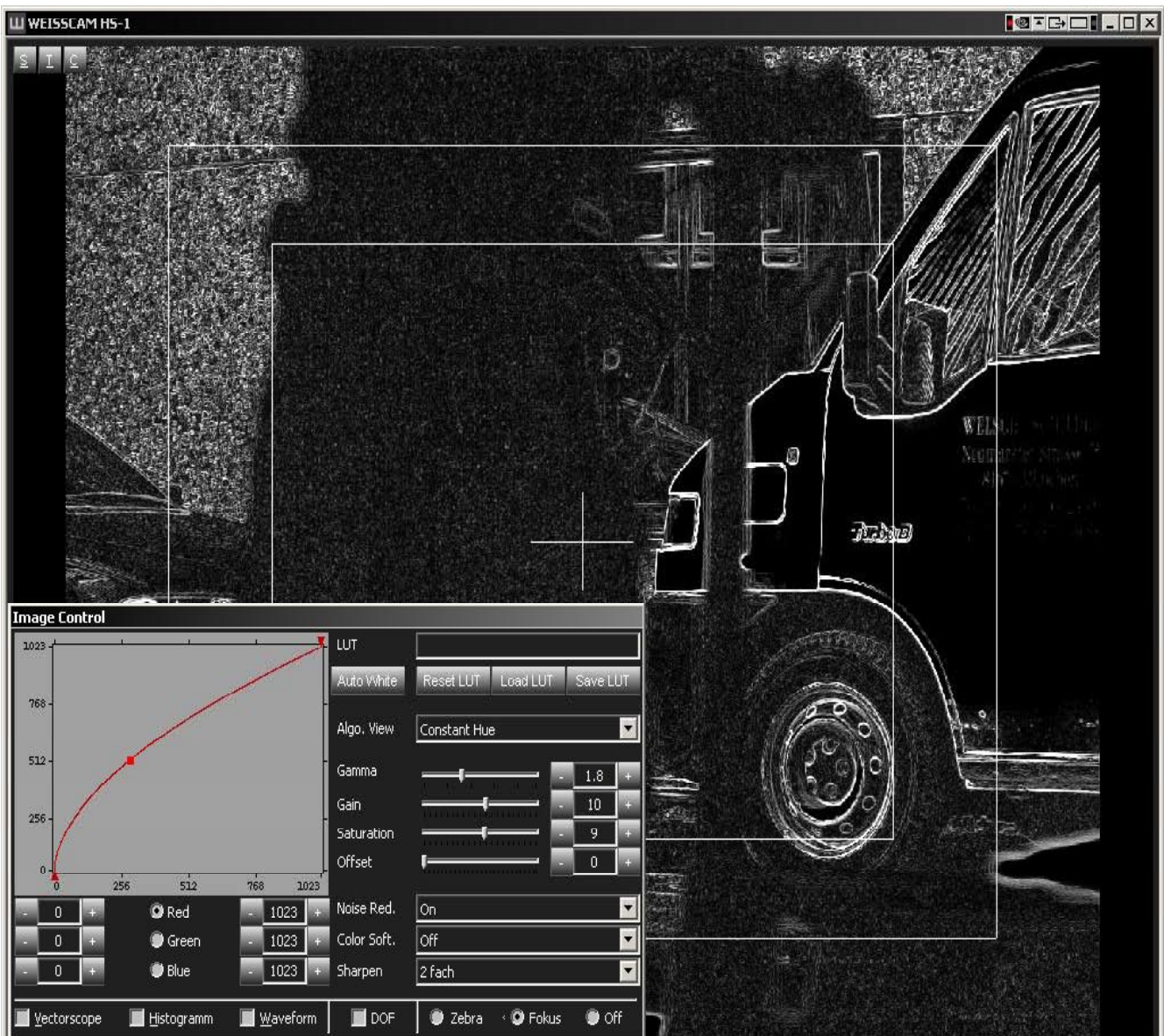
Tip

If you need to pull focus while recording you may use this tool as well since it won't appear in the recorded material.

Depth of Field	
Distance (in m):	5
Lens (in mm):	55
Aperture:	2.8
Near Limit	4.68 m
Far Limit	5.37 m

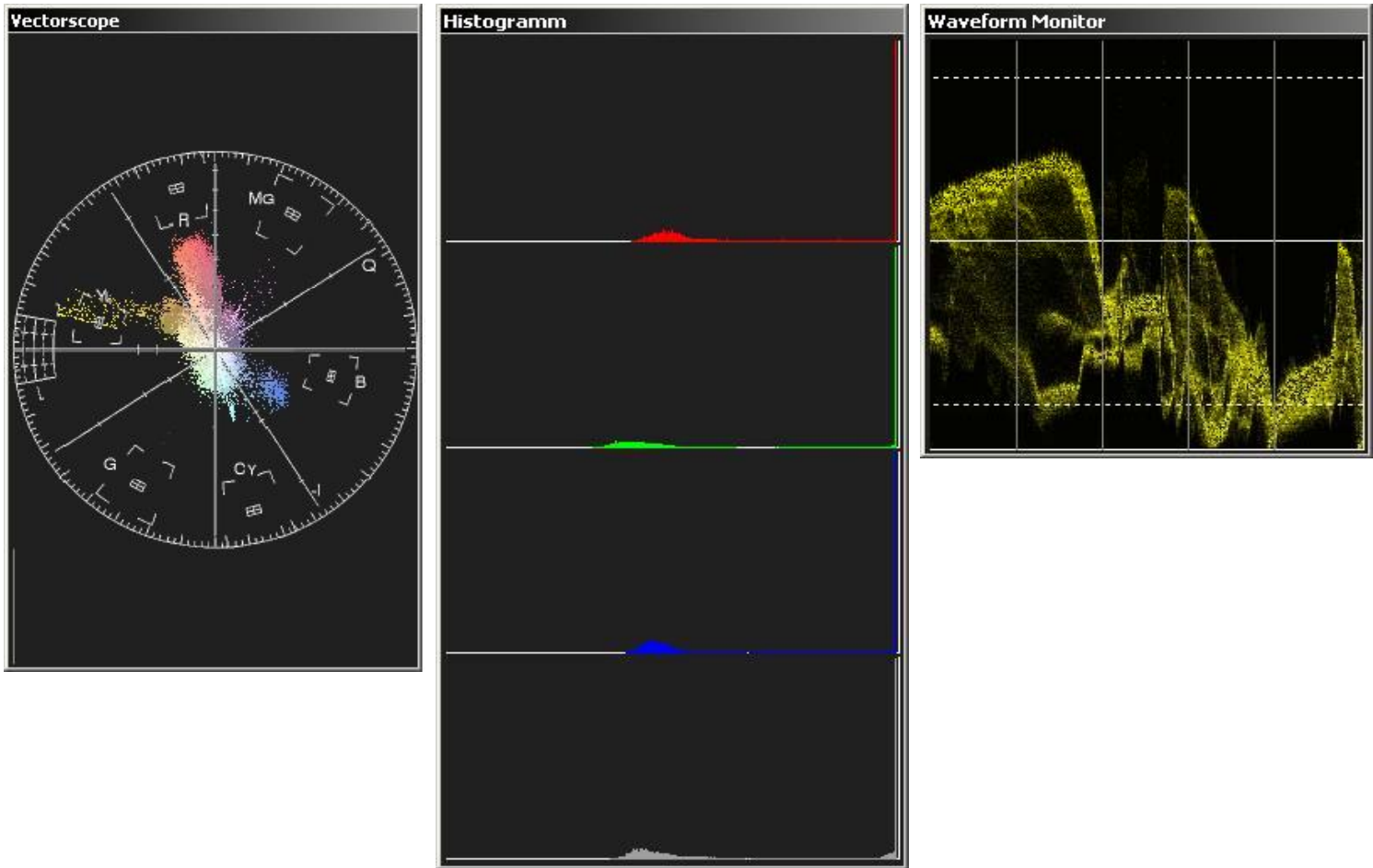
14)DoF:

-> A Depth of field calculator adapts to the WEISSCAM HS-1 Sensor see the screen shot on right side



Windows : Vectorscope, Histogramm and Waveform Monitor

Waveform Monitor: Dotted line is 10% and 90%, straight line is 50%



Window : Timeline (Shortcut "T")

The timeline has three different appearances by pressing Shortcut "T"

- > Full time line window
- > Reduced time line window
- > No time line

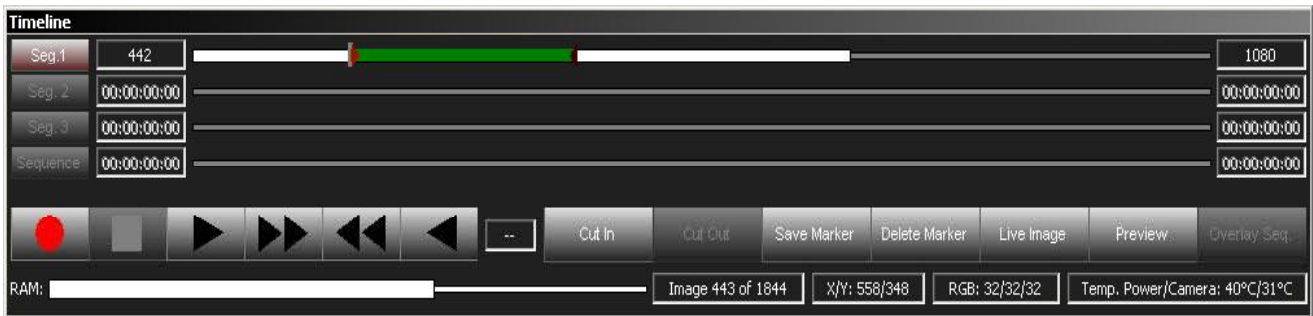
Reduced timeline



Full timeline



RECORDING AND PLAYING:



- For recording press the red RECORD button
- Stop recording with the STOP button or the shortcut ENTER
- Press PLAY or Shortcut "I" to see the recorded sequence form the beginning
- Press FF to speed up the playback speed (2x / 3x / 4x)
- Press FR to slow down the playback speed
- Press STOP button to stop the playback and to move the PLAY CURSOR

After recording the play cursor appears at the beginning of the timeline.

You can move the play cursor via drag and drop or with shortcut

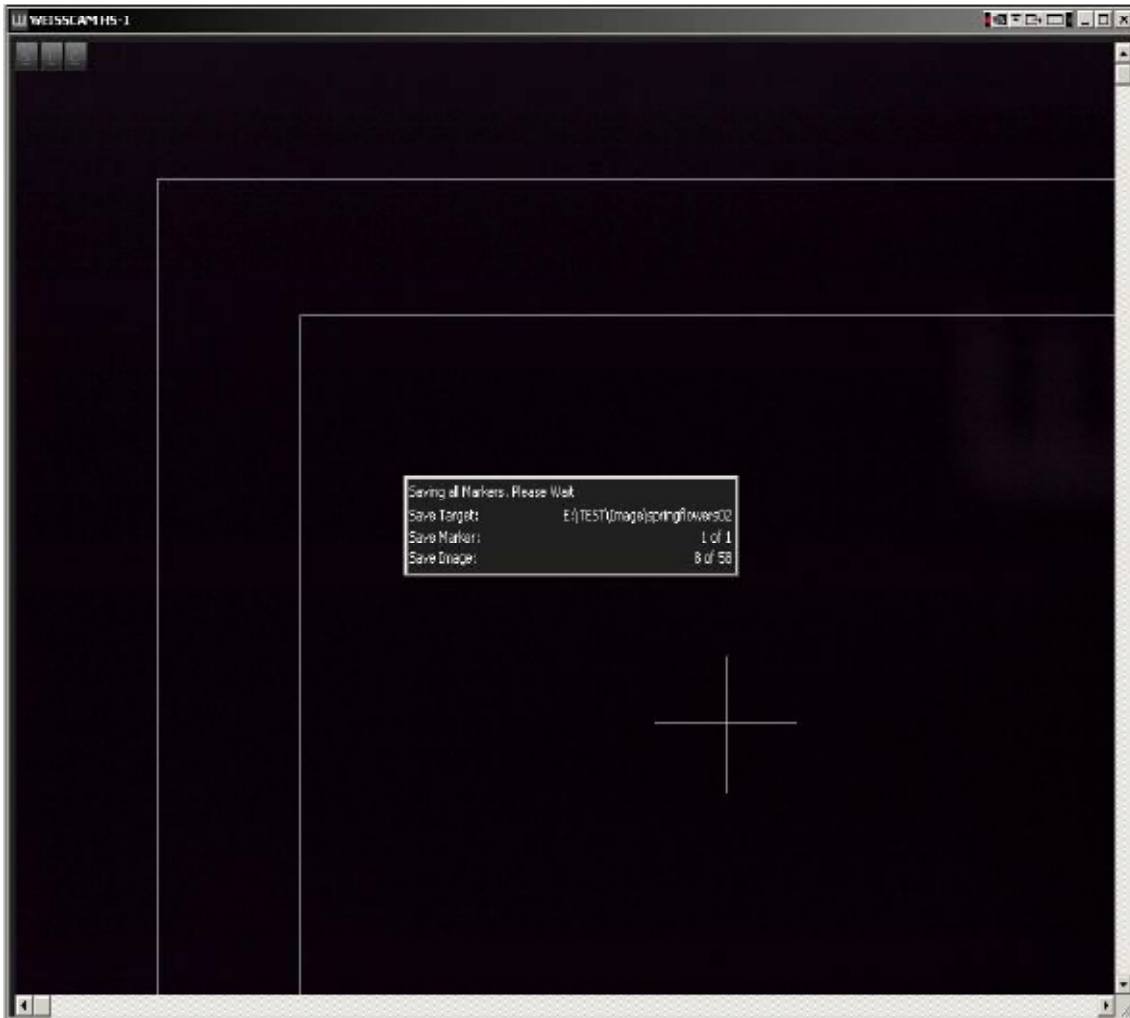
PAGE UP and PAGE DOWN or with Shortcut "←" and "→"

Important!

Don't move the play cursor while playing. This will make the cursor jump back to the start point.

SAVING

- > Move the play cursor to the desired in point and press button CUT IN or Shortcut "I".
- > Move the play cursor to the desired out point and press button CUT OUT or Shortcut "O". The selected sequence between the in and the out point turns green.

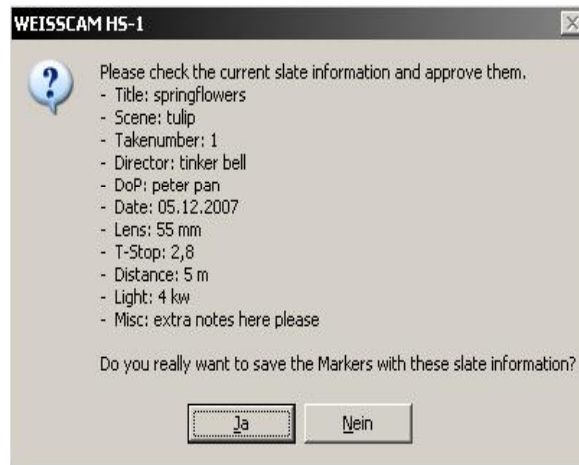


- > You can check the length of the marked sequence in the timecode field. It is possible to set more than one pair of markers.
- > Delete selected (green) marker pairs by pressing Delete Marker.
- > Jump from one to another marker by pressing shortcut "M"
- > Move markers with right mouse click and drag and drop or by using Shortcut Page Up and PAGE DOWN or "←" and "→".
- > Check again your path (for saving) and slate information
- > Start the download between camera and control unit by pressing SAVE MARKER – ALL marker pairs will be downloaded one after the other.

Important!

- Check your path before saving! You can see the path by moving the mouse into the Filename / Scene field!
- Check your slate before saving! You can see the slate by clicking on the "Set Slate" icon in File Management!

-> The system will ask you before saving about the actual slate information.



- > Press **Yes** to save with the displayed slate information
- > Press **No** to stop saving and change the slate information.
- > The download process starts and shows the target and the saved images

PLEASE NOTE

While downloading, all functions are disabled

- > Press preview after downloading. Frame Cycler will be open automatically and start with the latest downloaded sequence.

Status line

- > Number of frames within the active segment. In play mode this field shows the actual frame position.
- > X/Y: display coordinates of the mouse in the viewing area
- > RGB: display the RGB-values in place of the mouse pointer
- > Temperature: Shows sensor and power temperature inside the camera

Important!

RGB Values are displayed in the 1:1 screen mode! Press shortcut "F5" to change between split screen, full screen and 1:1 screen!

SHORT-CUTS (Hotkeys)

Important! To use the shortcuts, the specific window has to be active!

Global Shortcuts

Key	Window	Description
F5		Change the display mode
S	Settings	Open and close window settings
T	Timeline	Open, minimize and close window timeline -> 1 x T window timeline small -> 2 x T window timeline normal
C	Control	Open and close image control
V	Vectorscope	Open and close the vectorscope. NOT available in split screen mode!
W	Waveform	Open and close the waveform monitor. NOT available in split screen mode!
H	Histogram	Open and close the histogram. NOT available in split screen mode!

Local Shortcuts

Key	Description
I	IN point
O	OUT point
M	Jump to next marker
P	Select play cursor
R	Start recording
ENTER	Stop recording
L	Activate / deactivate live image
SPACE	Stop playing back a recorded sequence (forward)
↑	Start play back a recorded sequence (forward)
↓	start play back a recorded sequence (backward)
Page Up	1. Play back speed of sequence is enlarged 2. If no sequence is played back the play cursor jumps 1% left and shows the image
Page Down	1. Play back speed of sequence is reduced 2. If no sequence is played back the play cursor jumps 1% right and shows the image
→	shift play cursor/ selected marker for one frame to the left and display image shift play cursor/ selected marker for one frame to the right and display image
Pos 1	Go to first image of sequence
End	Go to last image of sequence
P	Activate play cursor

