FASTEC   HS-Quick-Start

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Equipment

HS Camera Systems ship from Fastec with:

- HS Camera
- HS Camera Controller
- 12v Power Supply (Camera)
- 19v Power Supply (Camera Controller)
- 3m MTP fiber optic cable
- (3) I/O Adapter Cables (DIN 1.0/2.3 to Std BNC-F)
- MFT body cap (for lens opening)

HS Options and Accessories:

- MFT to C-mount, F-mount adapters
- External High-Capacity SSD 2TB or 4TB
- External High-Performance SSD 500GB or 1TB
- Trigger Switch
- Lenses
- Tripod and/or Magic arm
- LED Strobe lights
- Conventional studio lights and stands

### Control PC/Mac Requirements:

Note: PC is not required for HS camera system operation. PC or Mac may be used to run the camera on a network.

- Windows PC (running Win7, 8, or 10) Latest macOS (Catalina)
- 6 GB of memory for 1-camera systems, 2GB additional memory recommended for each additional camera
- Gigabit Ethernet Network Interface Controller. Support for 9K Jumbo packets is recommended. (Qualifying Thunderbolt-2 and USB-C to Gig-E adapters are available)
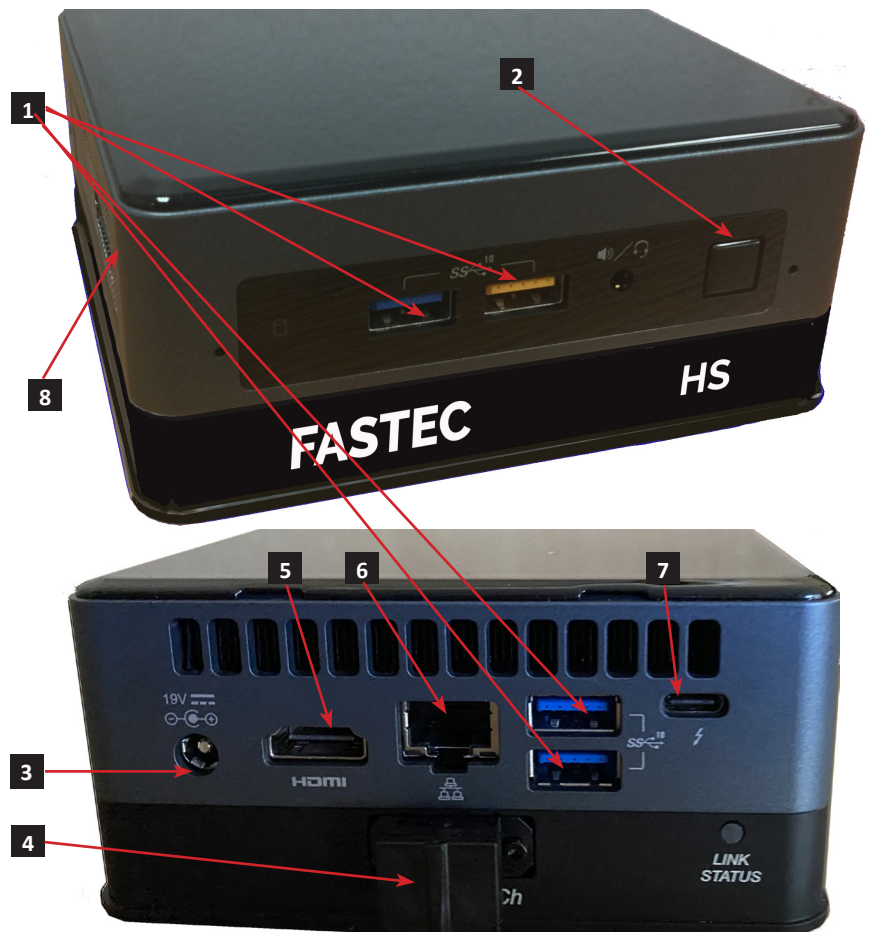- Mass storage for image files: SSD recommended

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Camera I/O and Indicators

1. MTP fiber port
2. Trigger button / status LED
3. I/O ports 3.3v / 5v
4. Power button / LED
5. Power inlet (12V)
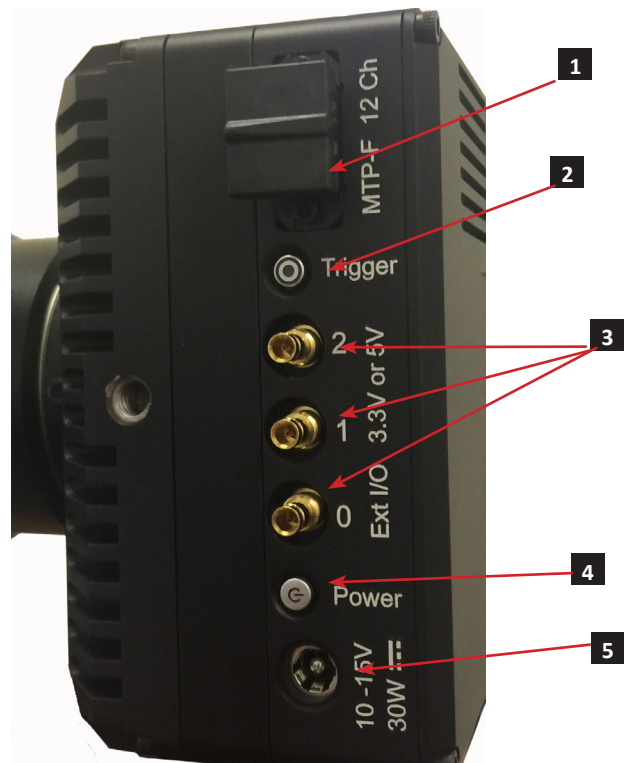
1. USB-3 ports (front)
2. Power on/off button
3. power inlet (19V)
4. MTP fiber port
5. HDMI port (Type A)
6. network port
7. USB-C port
8. SDXC UHS-II Card Reader

Software

Fastec FasMotion software is pre-loaded onto the camera controller, which comprises a high-performance PC running on Linux and high-speed camera interface.

FasMotion software may also be loaded onto one or more auxiliary PCs, which may also be used to control the camera.

Fas*M*otion for Windows and Mac may be found at Fastecimaging.com/Software

Once Fas*M*otion 3.x.x is installed on any systems, subsequent updates will be available on line using the Fas*M*otion (File/User Preferences/Updates).

To install the Windows version onto a Windows PC:

1. Run the FasMotion install file, FasMotion_3.x.x.exe on your PC. You may wish to copy the install file to a secure location on your PC for storage.
2. Follow the prompts to install and run FasMotion.

To install the Windows version onto a Mac

1. Run the FasMotion install file, FasMotion_3.x.x.dmg onto your Mac desktop.
2. Drag the FasMotion icon to the Applications folder.
3. Allow the FasMotion application to accept incoming network connections.

Network Setup on Computer:

1. Disable all network adapters on the computer (including WiFi) except for the one to be used for the camera. (This is to avoid any confusion with the initial setup. Adapters may be enabled once you get everything working, depending on PC performance.)
2. Configure Local Area Connection Properties for Internet Protocol Version 4 (TCP/IPv4) to obtain an IP address automatically (DHCP).
3. Connect the camera to the computer's Gig-E port using CAT-5e or CAT-6 Ethernet cable.

Language

To Set the Language for FasMotion:

1. Select "Language" from the View menu in FasMotion.
2. Select the language of your choice.
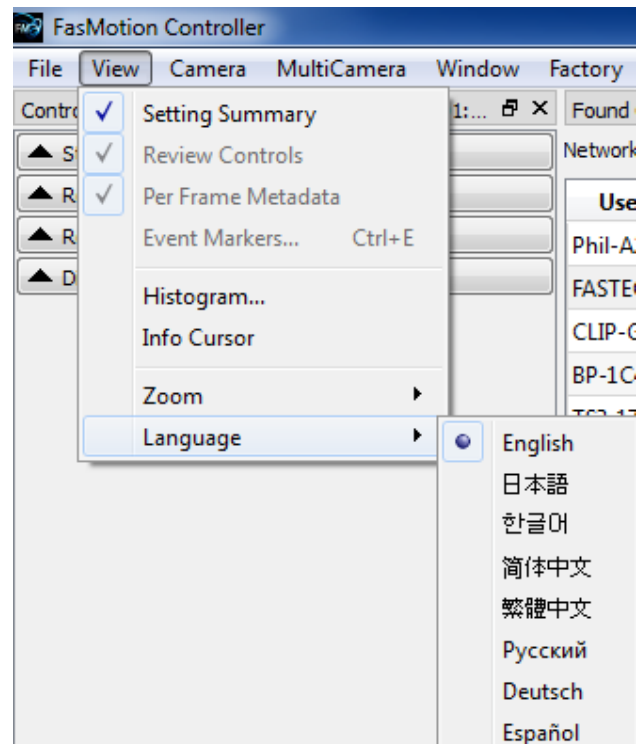
Connect

Make all connections to the Camera Controller first:
- Plug in the AC adapter and connect the power jack to the Controller. The Power on/off button will glow blue. <mark>Do not power up the Controller at this time.</mark>
- Connect keyboard and mouse to USB ports on the Controller.
- Connect a display via HDMI or USB-C / TB3
- Remove the rubber cap from the end of the MTP (fiber) cable. <mark>Store the cap for later use</mark>.
- Connect one end of the MTP cable to the Controller. The connector is keyed, so you must match the side with the white dot with the corresponding white mark on the Controller connector. Push the cable in until you hear a click.
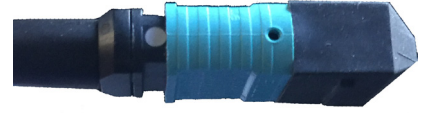
Next, make transport connection to the Camera:
- Remove the rubber cap from the other end of the MTP cable and store the cap for later use.
- Connect the free end of the MTP cable to the camera, matching the white dot with the corresponding white mark on the camera connector.

Initial Power Up

Power up the Camera:
- The camera will boot up as soon as power is applied.
- Upon booting up, the Power button will glow blue, the Trigger button will blink red, and the camera's fan will spin up.
- The Power button on the camera may be used to turn it off and on while connected to power.

Power up the Controller:
- Press the Power button on the Controller to boot it up
- The Controller will boot into Linux
- FasMotion is set as a startup application, so it will startup automatically.
- FasMotion will connect with the camera and produce a live image.
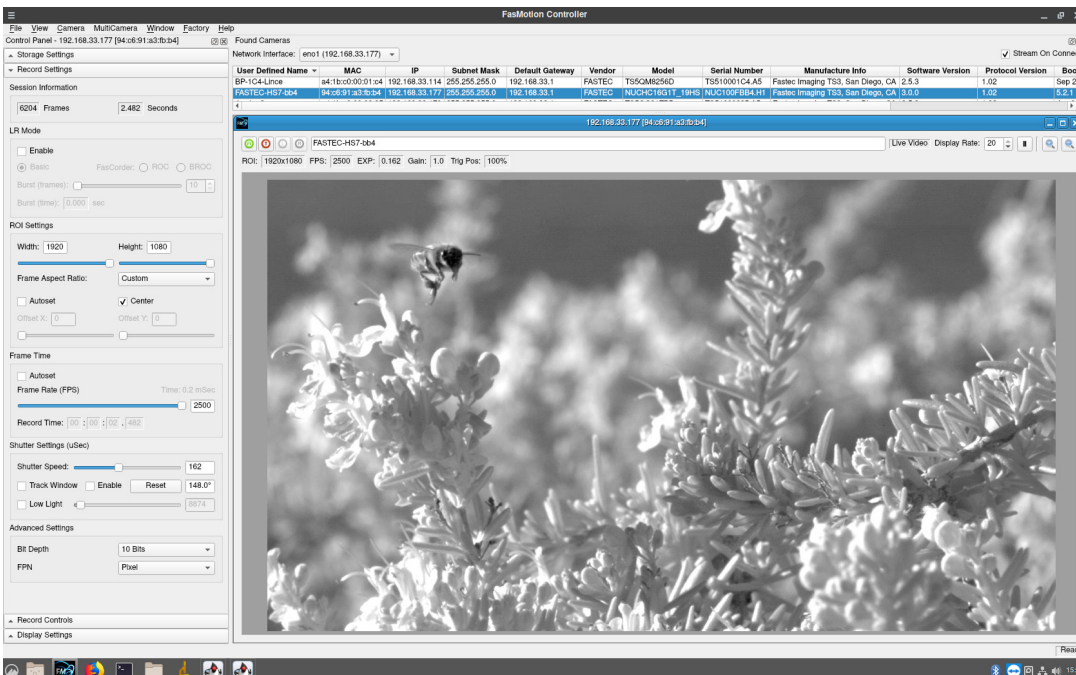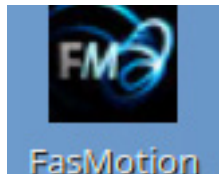
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Connect to Networked PC:

The HS camera may be controlled via FasMotion on a networked computer. This is not necessary for most installations, but it can be handy for some.

All HS, IL, and TS cameras on the network should appear in the "Found Cameras" window in FasMotion.

Cameras are listed by name and other identifying information including IP address, serial number, etc.

Double-click on the line for any camera you wish to open in FasMotion.

Power Down

Power Down from FasMotion:
- Select Power Down from the Camera Menu
- Confirm that you wish to power down the camera
- The present camera settings will be saved and both camera and controller will power down. (Images saved to an SSD in the head or external to the controller will be retained, but images in camera memory will be lost.)
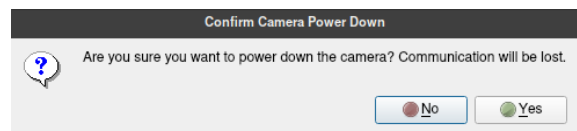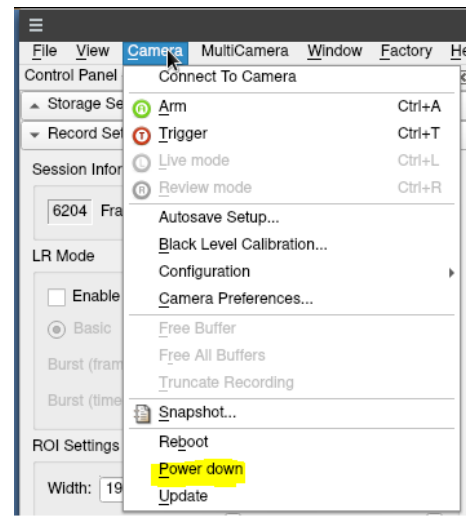
Record Setup

Open the Record Settings Tab on the Control Panel
Resolution, Frame Rate and Exposure:
- Use the Frame Aspect Ratio pull-down to select the shape of your Region of Interest (ROI)
- Adjust the Width and Height sliders or for the required resolution.
- Select the Frame Rate for your recording using the Frame Rate slider or edit box.
- Adjust the Shutter Speed to get the proper exposure for your recording.
- Cameras with the Dual Mode, "D" option, may be used in either "Basic" mode, or "Long Recording" mode, controlled by the LR Mode check box on the Record Settings tab. When this selection is changed, the camera will reboot into the selected mode. When going from "Long Recording" to "Basic" mode, the SSD will have to be reformatted before it can be accessed.
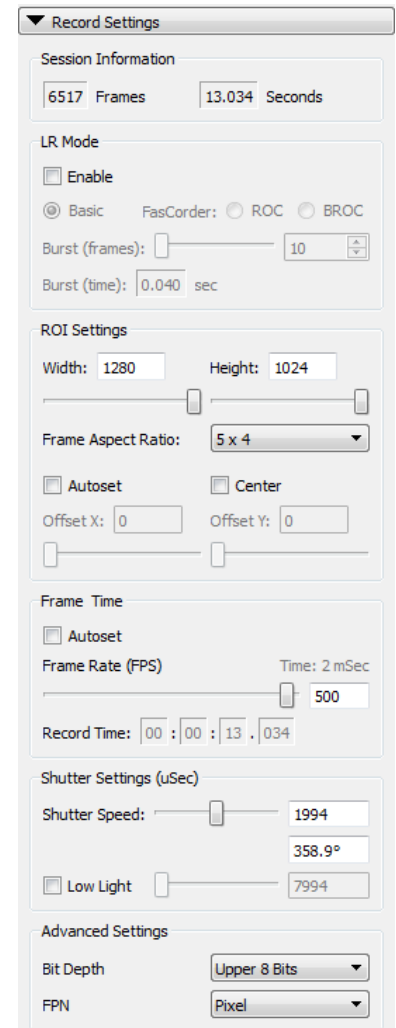
In Long Recording (LR) mode, select Basic or FasCorder ROC (Record on Command) or BROC (Burst Record on Command) via the radio buttons on the Record tab.
For Standard and Long Record Basic mode recordings:
- Click on the Green Arm button to begin recording.
- Click on the Red Trigger button to record post-trigger frames and end the recording.

For **Long Record FasCorder ROC** recordings, the Arm button is used to begin the session, and then the Trigger button toggles the camera between recording and paused states. Click on the Arm button again to stop the session and go to Playback.

BROC recordings work similarly: Arm to begin and end sessions, but the camera records a specified number frames (a burst of frames) each time it receives a trigger.
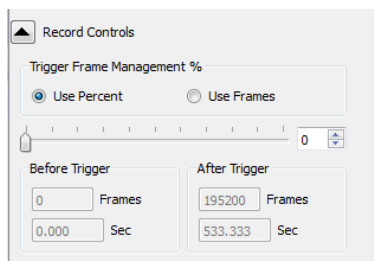
Triggering

Open the Record Control Tab to Set the Trigger Position For Standard and LR Basic Recordings:
- With the trigger slider all the way to the left (0%), an armed camera will begin recording images when a trigger is received. It will stop as soon as the session buffer is full.
- With the trigger slider all the way to the right (100%), the armed camera will begin recording images into a circular buffer and will stop recording when it receives a trigger.
- With the trigger slider at 50%, the armed camera will record into 1/2 the session length into a circular buffer, then record the last 1/2 of the session after it receives a trigger.

Trigger position is not used for LR FasCorder (ROC or BROC) recordings.

Playback

Playing Back captured Video:
Video Controls will become available immediately when a capture has been completed, when a CAP file has been loaded into memory, when a video has been selected for playback via "Open Video File..." from the File menu, or when the operator clicks on the Red Review button ⓡ.

- The Playback Bug can slide to any frame of the video. The Start and End Clip Bumpers can be moved to limit the playback to any portion you choose. The bumpers may be moved with the mouse or by clicking on the Start Clip or End Clip buttons, which move the chosen bumper to the present frame. Start and End Clip locations are also used to choose the portion of the recording to be saved.
- The playback buttons function as follows:
  - ◄ move to beginning
  - ◄ one frame back
  - ◄ play backwards
  - ‖ pause
  - ▶ play
  - ▶ one frame forward
  - ▶ move to end
  - ◄◄ move to trigger frame.

Start Clip Bumper   Playback Bug   End Clip Bumper
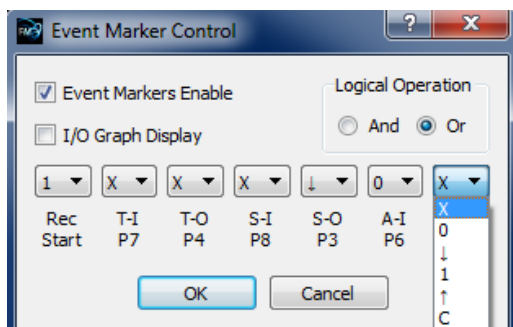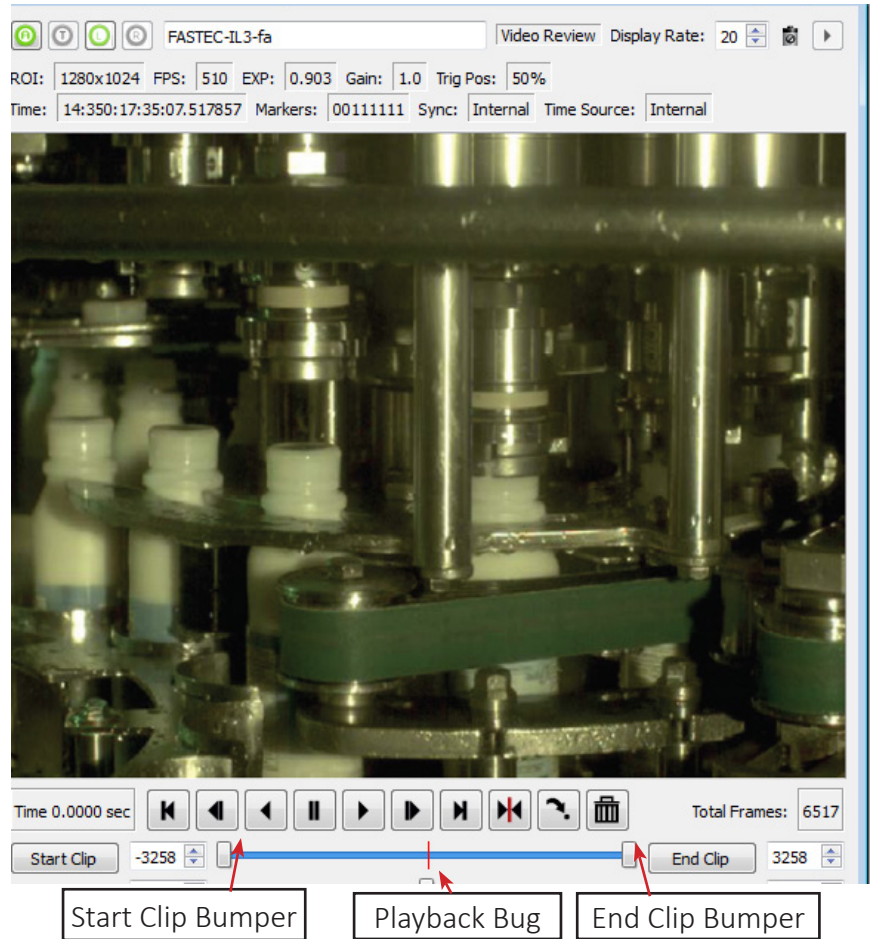
Event Markers may be enabled via the Event Marker Control dialog accessed via the image window context menu.

If Event Markers are enabled, ◄ and ▶ buttons are used to jump between events. Notice in the figure, below, that the icons now include the letter "E."


Previous Marker   Next Marker
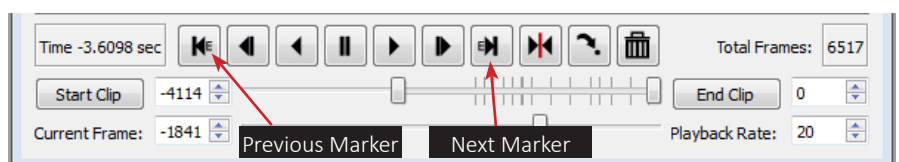
Save Video

Saving captured video:

The Save Video dialog box opens by selecting "Save Video File..." from the File menu or the image window context menu, or by simply typing Ctrl+S.

1. Select to save your captured imagery to a Device (drive accessible via FasMotion/Storage) or a Path (any storage device accessible to the Local machine).
2. Adjust start and end frames (this can also be done using the bumpers in the playback controls).
3. Select the "Save Type"--this may be AVI, MP4, DNG, BMP, JPEG, TIFF, or CAP file.
4. Click on "Save" to begin the transfer.

Some Save options depend on file types chosen:

*   If an AVI file is saved, the Image format choices are JPG (compressed MJPEG images) or BMP (un-compressed bitmaps).
*   If a JPG Stack or and AVI/JPG is saved, the JPEG Quality slider becomes active, allowing adjustment of the compression/quality.
*   If an MP4 file is saved, the quality and compression speed and "Use all Key Frames" may be selected.
*   If a TIF Stack is saved, the Raw (unprocessed) check box becomes active. Note that the TIF(raw) format is a mono (not colorized) image.
*   TIF-Raw, DNG, and CAP files are the only file types not subject to processing on the camera. They are also the only file types in which the full bit depth is maintained. (All other file types are saved in 8 bits.)
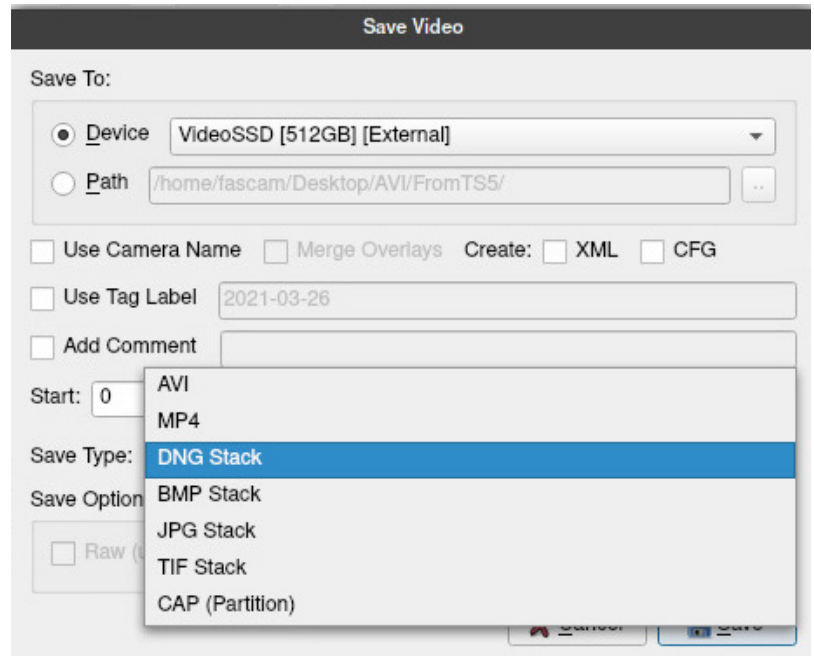
Contact Us!

We want your experience with FASTEC cameras to be as pleasant and productive as possible!

We are also very interested to know how your camera is working for you and if there is anything we can do to improve your results, whether that is helping you find the best lens, or helping with camera setup.

Do not hesitate to reach out to us:

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