BLASTER'S RANGER II™
HIGH SPEED CAMERA

Quick Start Manual
Edition 1.0
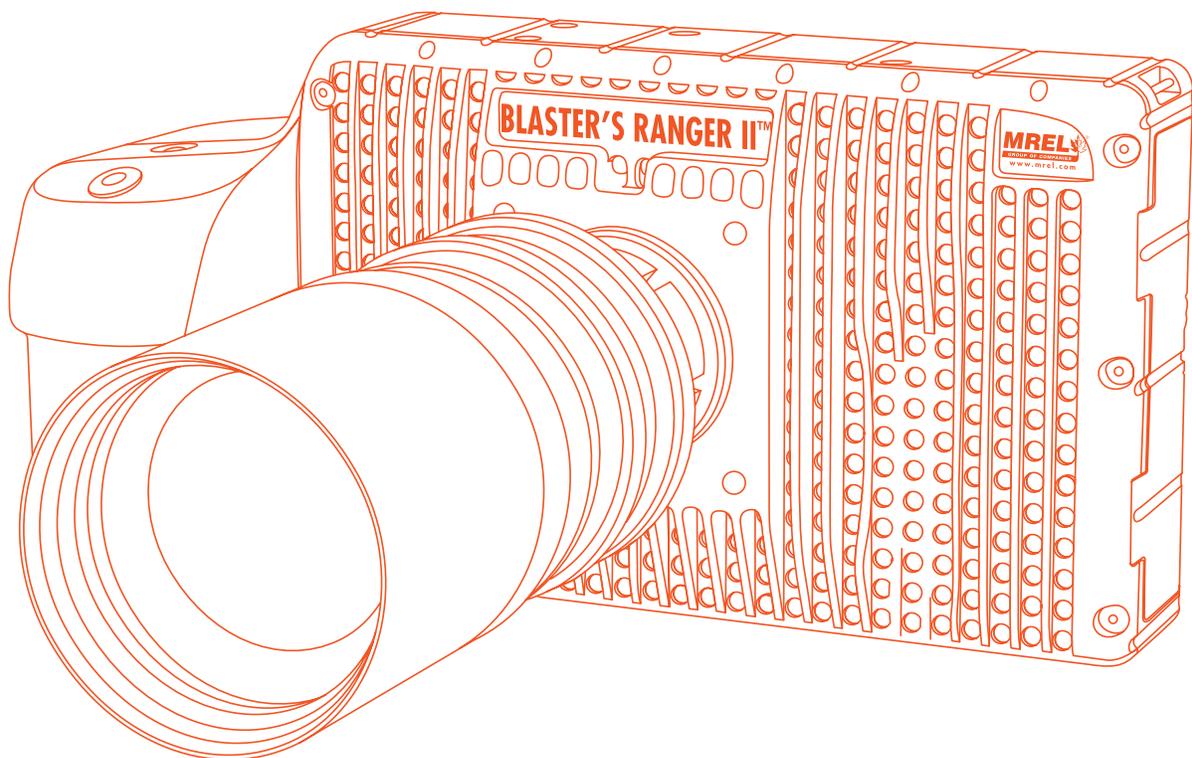
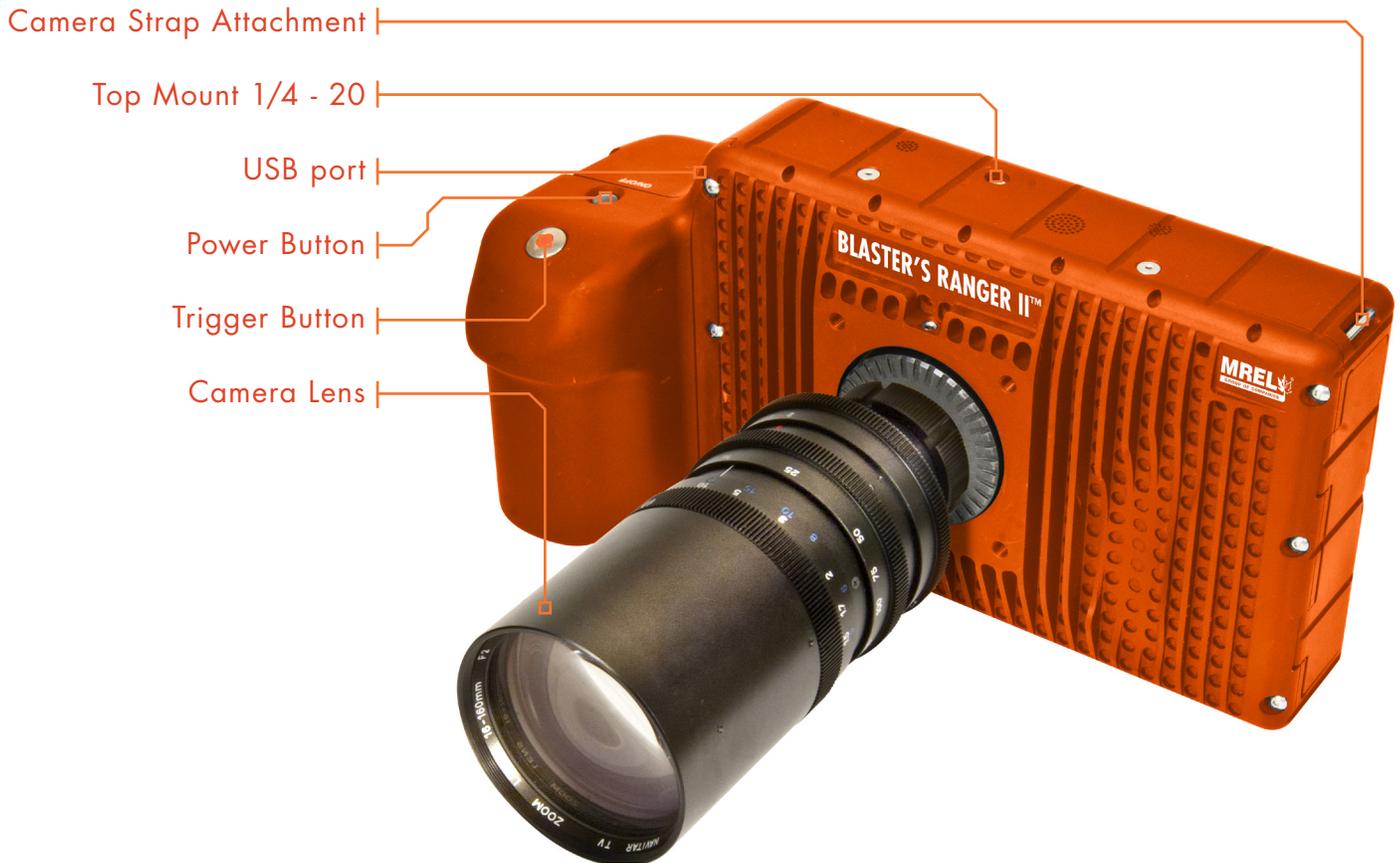BLASTER'S RANGER II™

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1.1 Equipment

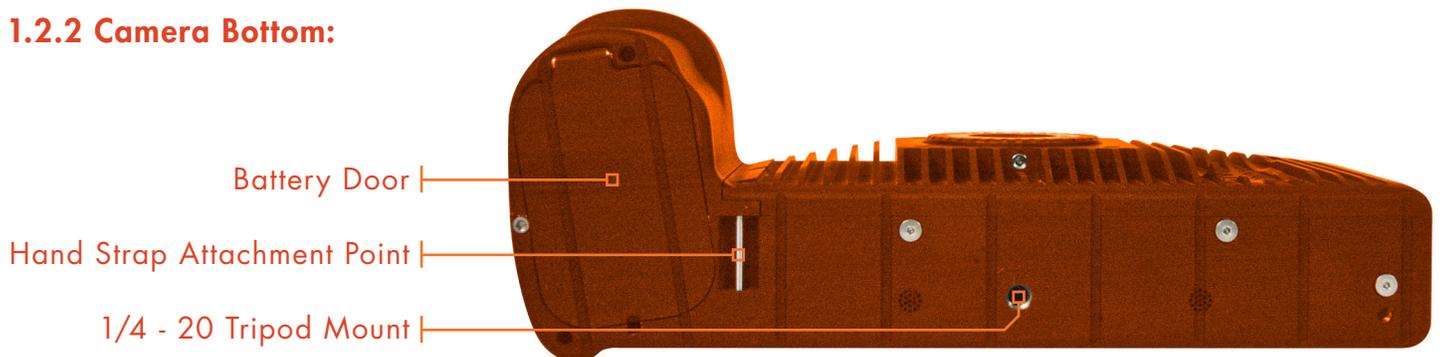Unpack the camera and assemble the following equipment:

1. **Blaster's Ranger II™ Camera**
2. **Blaster's Ranger II™ Power Adapter** with AC power cord, or charged battery inserted in the camera. (The battery is fully charged when the **Blaster's Ranger II™ Camera** is shipped from **MREL**.)
3. **Blaster's Ranger II™ Lens**
4. **Tripod** and **Grip Ball Head**
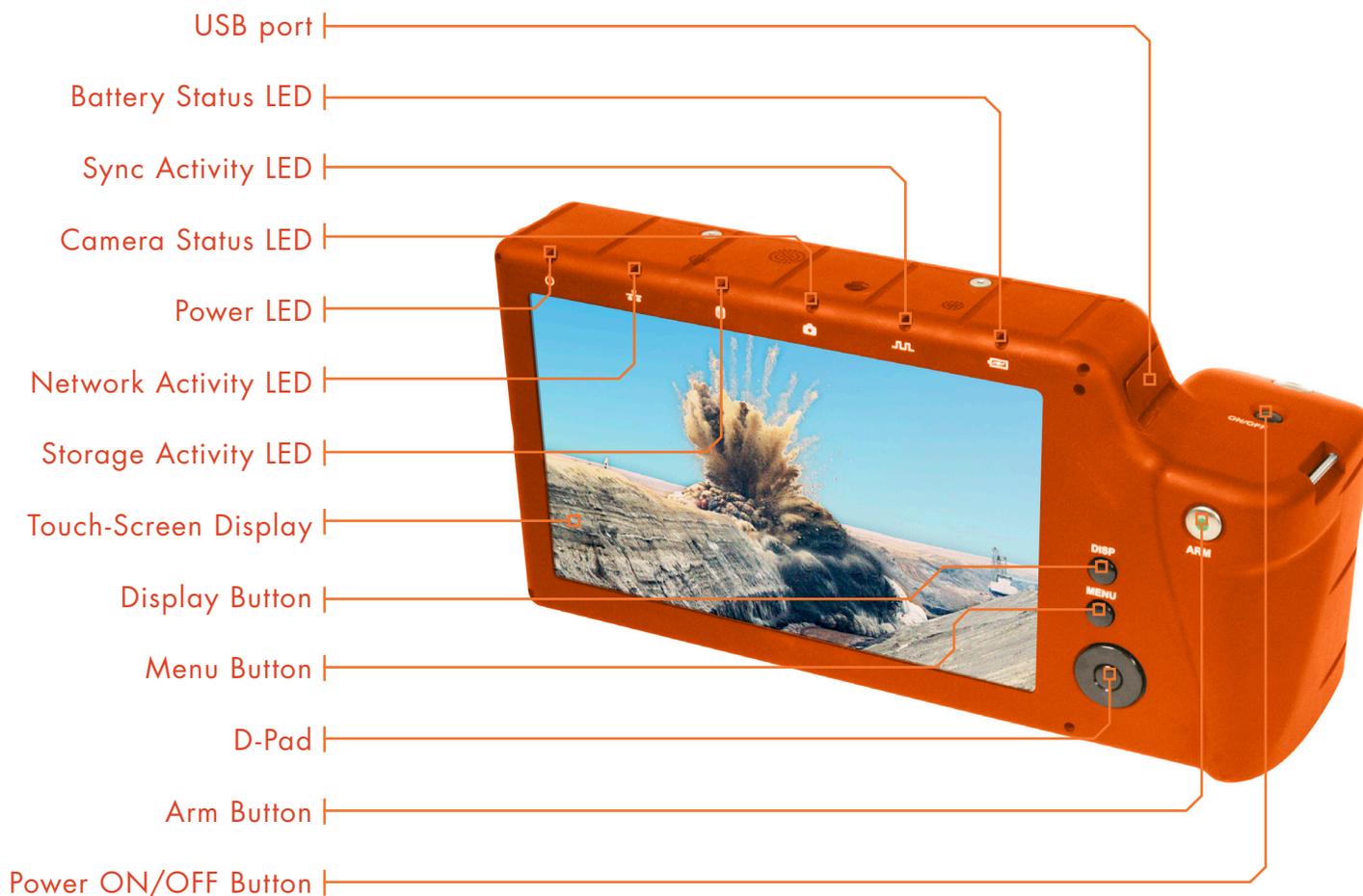
1.2 Camera Overview

1.2.1 Camera Front:

Camera Strap Attachment

Top Mount 1/4 - 20

USB port

Power Button

Trigger Button

Camera Lens

1.2.2 Camera Bottom:

Battery Door

Hand Strap Attachment Point

1/4 - 20 Tripod Mount

1.2.3 Camera Back:

USB port
Battery Status LED
Sync Activity LED
Camera Status LED
Power LED
Network Activity LED
Storage Activity LED
Touch-Screen Display
Display Button
Menu Button
D-Pad
Arm Button
Power ON/OFF Button

1.2.4 Camera Input Output Panel:

USB OTG (Micro A/B connector)
SDHC
GigE Port (RJ45 connector)
Sync I/O, Trigger (Lemo connector)
HDMI Port (Type A connector)
DC Power In (Lemo connector)

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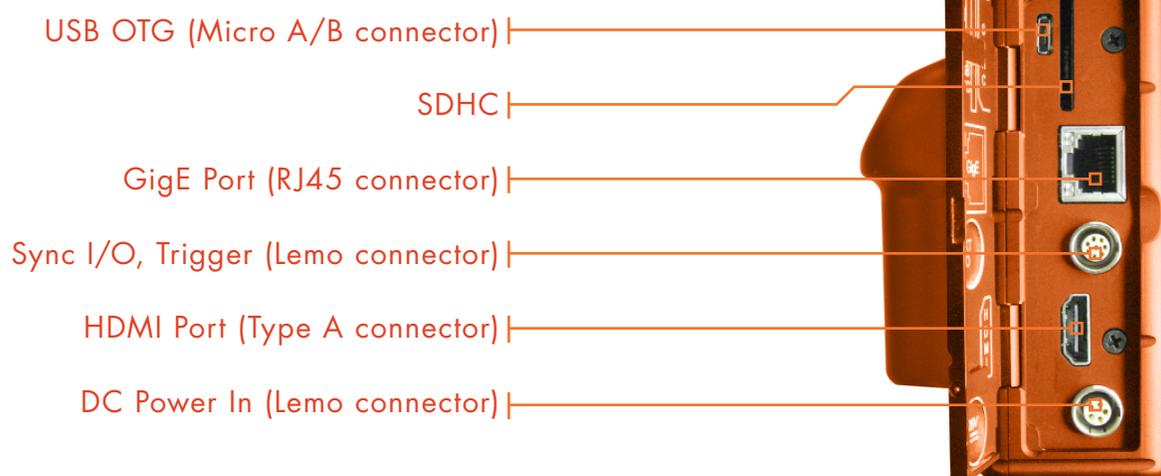
1.2.5 Tripod

This is an all aluminum **Tripod** with a 3/8" mounting screw. This **Tripod** is designed to support the **Grip Action Ball Head** with the **Blaster's Ranger II™** attached. This is the only item that does not fit inside the **Protective Carry Case**.

1.3 Control Buttons

1.3.1 On/Off Button

This button powers the camera on and off . If the battery is installed and the power adapter is attached, it toggles the camera between three states: **On/Operating**, **Charging**, and **Off** . When the **Blaster's Ranger II™ Camera** powers up, it defaults to its last settings.

1.3.2 Display Button

The Display Button controls the LCD display on the back of the **Blaster's Ranger II™ Camera**. Pressing the button toggles the **Display** between three modes: **Display on**, **Display on with Histogram**, and **Display off**.

1.3.3 Menu Button

The **Menu Button** toggles the on screen menus on and off . While navigating menus, the **Menu Button** is used to go backward through levels of the menu.

1.3.4 Directional Pad (DPad)

The **DPad** has 5 actuation points consisting of 4 arrows for navigating the menu and an **OK** Button in the center to select.

1.3.5 Arm Button

When the **Arm Button** is pressed, the **Blaster's Ranger II™ Camera** locks in its configuration settings and begins to store pre-trigger images in internal memory. (If **Low Light** has been selected for live viewing, the **Blaster's Ranger II™ Camera** will now revert to its selected shutter speed.)

1.3.6 Trigger Button

When the **Blaster's Ranger II™ Camera** has been armed and is recording, pushing the **Trigger Button** prompts the camera to record the **Trigger frame** (frame 0) and any post-trigger frames to complete the recording and stop.

1.4 Power on the Blaster's Ranger II™ Camera

Turn the **Blaster's Ranger II™ Camera** on by pressing the **Power Button.** The camera will power on in **Live Mode** at the last settings it had, or if this is the first time you are using the **Blaster's Ranger II™ Camera** it will power on to the factory default settings. The **Blaster's Ranger II™ Camera** power on default is a live image with no menu displayed.

Press the **Menu Button**. The on screen menus will appear with the **Menu Bar** at the top and the **System Menu** arranged to the left .

1.5 Battery

The **Blaster's Ranger II™ Camera** battery does not charge while the **Blaster's Ranger II™ Camera** is in use. To begin charging the battery, attach the DC power adapter to the **Blaster's Ranger II™ Camera** and press the **Power Button**. While the **Blaster's Ranger II™ Camera** is charging the **Battery LED** will blink. When the battery is completely charged the **Blaster's Ranger II™ Camera** will fully power down, turning off all LEDs. Charging may take up to 5 hours.
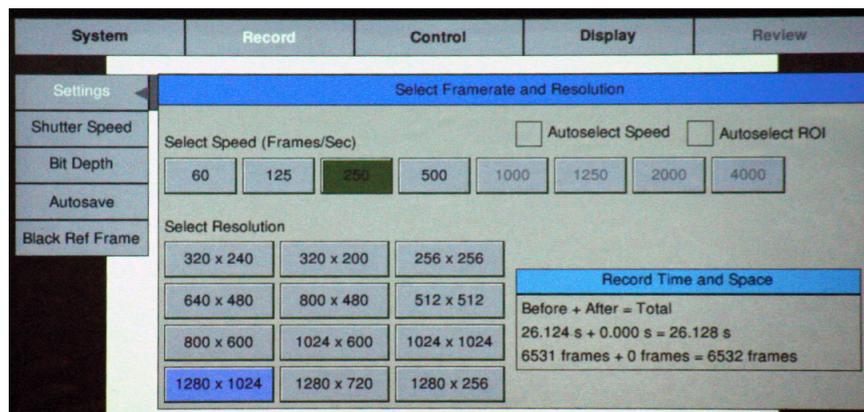
1.6 Record

1. Navigate to the **Record Settings** Sub-Menu and set the resolution and speed desired.
2. Navigate to the **Record > Shutter Speed Sub-Menu** and set the desired exposure.
3. Navigate to the **Control Menu > Trigger Position Sub-Menu** and set the desired **Trigger** point. Setting the **Trigger** point divides the internal memory into two sections:
   • A circular buffer reserved for pre-trigger frames (the **Blaster's Ranger II™ Camera** fills this buffer until it gets a trigger. If the **Blaster's Ranger II™ Camera's** memory gets full, it continues recording, discarding the oldest frame for each new frame captured);
   • A second buffer for post-trigger frames. The images recorded before the trigger are given negative frame numbers (oldest is most negative, the newest is -1), the image taken at the time of the trigger is "**frame 0**," and all frames taken after the **Trigger** are given positive numbers.

NOTE: With an "**End**" trigger, all frames will have negative numbers except for frame 0, which will be the last frame. With a "**Start**" trigger the recording will begin at frame "**0**" and all subsequent frames will have positive numbers.

4. Navigate to the **Control Menu > Ext. Trigger**, set to be **Enabled**.
5. Frame and focus the scene.
6. Press the **Arm Button** to begin recording pre-trigger frames. The **Blaster's Ranger II™ Camera** settings will be locked in. If you wish to abort the recording to change settings, press the **Arm Button** again.

NOTE: The **Blaster's Ranger II™ Camera** may remain **Armed** for an indefinate period of time because it is overwriting its **Circular Buffer**, it never runs out of space, but only retains the newest images.

7. Trigger the **Blaster's Ranger II™ Camera** via the **Trigger Button** or a **Trigger Switch** cable button attached to the **I/O cable** to complete the recording. The **Blaster's Ranger II™ Camera** will now enter **Review Mode**, unless it is set to **AutoSave**, in which case the **Blaster's Ranger II™ Camera** will download the recording, then revert to **Armed Mode**.

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1.7 Review a Video in Image Memory

Use the **Playback** icons to play forward, backward, or jump to points of interest in the movie. Use the **Cut In** and **Cut Out** icons to select a portion of the movie to review or save.
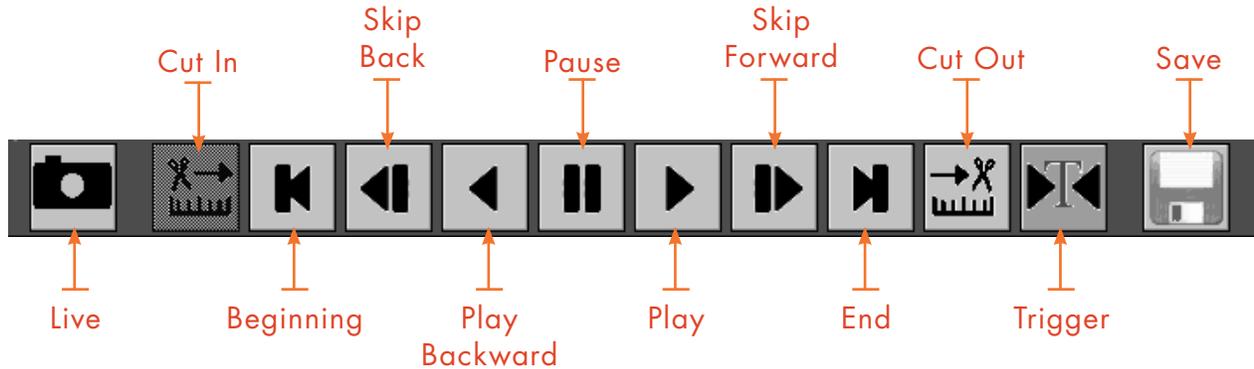
1.8 Saving Video from Image Memory

1. Select the **Save Icon** from the playback controls. This will bring up a dialog that allows selection of the following::
   - **Start** and **Stop** points of the clip (these points can be changed here using the "**cut-in**" and "**cut-out**" points.).
   - **Destination**. Where the movie clip is to be saved including the built-in **SSD**, (an option), an **SD Card** or a **USB Thumb Drive**.
   - The file Format desired. **AVI**, **BMP Stack**, **JPEG Stack** or **TIFF Stack**.
   - Use the currently set name of the **Blaster's Ranger II™ Camera** or change it.
   - Use the default file name tag or change it.
2. When the movie clip is set up as desired, press the **Save** icon on the **Save** dialog. A new dialog will open with the heading **Copy in Progress**. This dialog indicates the status of the file save operation.
3. When the file save is complete, the dialog will display a message indicating **Copy** completed successfully. Press the **OK** icon to set the **Blaster's Ranger II™ Camera** back into **Review Mode**. Press the **Review Stop** menu element to put the camera back into **Live Mode**. From here a new recording can be made or the camera's configuration can be changed.

1.9 Autosave a Video

1. Navigate to the **Record Menu**, and select the **Autosave Sub Menu**.
2. Highlight **Disabled** and click the **OK button**. **Disabled** will change to **Enabled** and turn green. A **Dialog** will appear with the header **Save Partition 0**. This is the same dialog used in the section above.
3. Make your selections from this dialog and Click on **OK** to accept.
4. **Arm** and **Trigger** the camera.
5. As soon as the recording is complete, the camera will download the imagery then re-Arm itself and await the next trigger.

1.10 Save Images to a Host PC

There a several methods available to permanently save images:

1. Download images from the image memory to an **SD** card installed in the **SD port** in the **Blaster's Ranger II™ Camera**. View the images using an **SD card** reader or by inserting the **SD card** into a built-in **SD port** in the desired PC.
2. Download images to a **USB thumb drive** installed in the **USB port** in the **Blaster's Ranger II™ Camera**. View the images by installing the **USB thumb drive** in the **USB port** of the desired PC.
3. Connect the **Blaster's Ranger II™ Camera** to a PC using a **USB cable** connected to the **USB OTG port** in the **Blaster's Ranger II™ Camera**. The **Blaster's Ranger II™ Camera** will appear as a mass storage device to the PC, and video and still image files can be viewed using the PC viewer.
4. Connect the **Blaster's Ranger II™ Camera** to a PC using an **Ethernet cable** connected to the **RJ45 port** in the **Blaster's Ranger II™ Camera**. The **Blaster's Ranger II™ Camera** will appear as a mass storage device to the PC and video and still image files can be viewed using the PC viewer.

IMPORTANT

The **Blaster's Ranger II™ Camera** image memory is volatile memory and images will be lost if a new recording is initiated or the **Blaster's Ranger II™ Camera** is powered off . Be sure to save important videos before initiating a new recording or turning off the **Blaster's Ranger II™ Camera**.

2.1 Contacting MREL

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MREL looks forward to providing you with assistance.

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