**Introduction**

The PixController Remote Trigger Option is a special feature of our popular Raptor Wireless Camera System. This option allows a user to connect an external 12V solenoid or 12V relay for momentary trigger control of gates or live animal traps.

This Application Note will cover the uses of feral hog and selective wildlife trapping, but this same application can be applied to access control such as remote gate control.

The PixController, Inc. Remote Trigger Option requires the PixController Raptor Wireless Camera system with the External Device Port option and Remote Trigger or Peripheral cable.

This option also requires Raptor Firmware V3.54a and PC Raptor Config software V2.06 or later. Raptor Firmware and PC Raptor Config software can be downloaded on our website at: [http://www.pixcontroller.com/downloads.htm](http://www.pixcontroller.com/downloads.htm)

The Raptor Remote Trigger systems incorporates a remotely monitored wireless camera which alerts the user in real-time when an animal has entered the trap. With the photo transmitted by the remote camera the user can determine if this is an animal of interest at the trap site. Once the determination has been made the user can remotely trigger the trap door to close by sending a SMS text command to the Raptor Remote Trigger system. The uses can also send SMS text commands to remotely trigger a manual photo or to disable the camera system from sending further photos after the trap trigger SMS command has been sent.

The ability of a user to determine when to trigger the trap can be a major advantage over the much more indiscriminate manually activated animal traps or standard animal-triggered live traps.

The Raptor Remote Trigger system will momentarily send a 0V to 12V transition pulse for 5 seconds when sent the SMS trigger command. The system can support solenoids up to 40 Amp draw using the included Raptor Trigger Cable Assembly part number CAB-030. For designs requiring solenoids over this current specification the user must wire a relay into the circuit. Please refer to the wiring diagram below.

**Raptor Config File Settings**

Before the Raptor Remote Trigger system can be deployed you must set up the Raptor USB Flash using the RaptorConfig.exe PC application. Remove the USB Flash drive from the Raptor camera and run the RaptorConfig.exe PC application.
**Config Settings Change 1**

Go to the COTA tab and select the “One Minute” Camera Update Cycle.

![Image of a software configuration screen]

**Config Settings Change 2**

Next, go to the Camera tab and select the “Fixed” option and enter a time of 1 minute or greater under the Video Clip Acquisition settings. The One Minute COTA option will tell the Raptor to wait the delay in minutes/seconds after a photo is taken. This will keep the Raptor in a mode waiting for a SMS text message to come in to trigger the solenoid. Keep in mind that the longer you make this delay the more battery power the Raptor system will use.

![Image of a software configuration screen]
Example Field Deployment

Figure 1 shows a typical use of the Raptor Remote Trigger in a live animal trap deployment scenario. This setup shows a common live trapping system with the trap trigger system modified to use a solenoid trigger. When the animal enters the live trap it will activate the Raptor wireless camera to take a photo. When the user receives the photo they can send a SMS text command back to the raptor to trigger the solenoid and close the live trap.

The same type of setup can be used to catch feral hogs. When trapping feral hogs or larger animals, the user must construct a pen system with a gate for the animal to enter. The solenoid trigger system will control closing the gate. For this type of setup a larger solenoid may need to be used and the installer will need to trigger the larger solenoid with a relay. Please refer to the wiring diagram below.

When trapping larger animals such as feral hogs we recommend using the wireless sensor option for the Raptor wireless camera. This will allow the user to place the camera in a different location from the motion sensor. Multiple wireless motion sensors can be used.
Example Raptor Photo Notification

When Raptor wireless camera is activated by the animal it will send the photo in real-time to the programmed email and smart phone address. Figure 2 below shows an example of the notification sent. In this notification you will receive the “Raptor Device Phone Number”. You will to use this phone number to send SMS commands to the Raptor Remote Trigger system from your cell phone.

**From:** Raptor@PixController.com [mailto:Raptor@PixController.com]
**Sent:** Wednesday, July 30, 2014 3:08 PM
**To:** myemail@address.com; 2315551212@cellprovider.com
**Subject:** Live Trapping Test Camera 1

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**Camera Description:** Live Trapping Test Camera
**Trigger Date:** Tue, 01 Jul 2014
**Trigger Time:** 15:07:56 -0400
**Trigger Source:** Built-in PIR
**Since last start:** 1 triggers, 1 transmitted

**Signal Strength:** Fair (2/5)
**Cellular Operator:** Verizon (32)

**Raptor Device Phone Number:** 7245559222
**Raptor Device MEID Number:** E100003299E48B
**Battery Level:** 68% (12.3 volts)
**Filename on flash drive:** \PIX\IMAGES\00000\11563951.jpg
**Attachment Filename:** Cam00_20140701_150756.jpg

*** This e-mail auto-generated by the PixController Raptor V3.54a ***

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*Figure 2*
How to Trigger Trap via SMS Commands

Step 1

We recommend sending photos from the Raptor Remote Trigger system to your smart phone. When the Raptor system is triggered you will receive a photo in real-time to your smart phone. If you see the desired animal you want to trap send a **SMS text message of “40” to the Raptor phone number**. This will close the trigger system.

![Send SMS text “40” to trigger trap](image)

Step 2

If you want to verify you have caught the animal send the **SMS text message of “10” to the Raptor phone number**. This will send a manual photo trigger command.

**Note:** This step is not needed. Typically the animal in the trap will trigger the motion sensor after being trapped if the motion sensor is pointed into the trap area.

![Send SMS text “10” to capture a manual photo](image)

Step 3

If you wish to disable any further motion events from the Raptor camera after the animal is trapped send the **SMS text message of “50” to the Raptor phone number**. This will disable the Raptor motion sensor.

To enable the Raptor motion sensor send the **SMS text message of “51” to the Raptor phone number**.

![Send SMS text “50” to disable Raptor motion sensor](image)

![Send SMS text “51” to enable Raptor motion sensor](image)

Video Example

For a video example of the Raptor Remote Trigger capturing a raccoon please see our YouTube video here: [http://www.youtube.com/watch?v=gzJVuWJCObY](http://www.youtube.com/watch?v=gzJVuWJCObY)
Example Wiring Diagram – User Supplied Solenoid & Battery

The Raptor Remote Trigger Cable (part number RRT003) requires the customer to wire a solenoid for triggering a gate system. This section will cover the steps in wiring a solenoid to your Remote Trigger Cable.

Note: Using Remote Trigger Relay Box & Solenoid Cable (part number RRT004) does not require any wiring.

Step 1: Remove the red wire from the Remote Trigger Cable system as shown in Figure 3

![Figure 3](image3.png)

Step 2: Wire a solenoid and 12V Sealed Lead Acid (SLA) battery to the Remote Trigger Cable system as show in Figure 4. Be sure your solenoid is rated for 40 AMP current draw or less.

![Figure 4](image4.png)