Circuit Diagram (wired operation)

The GSM controller must be switched to MODE0
#PWD123456#MODE0
Also change the time to 500ms
#PWD123456#GOT500

The GSM controller draws 40ma during standby operation

This wiring can be 100' + long. 24 gauge wire has 26 Ohm per 1000 ft.

The Auto relay coil draws 130ma when activated. AutoZone $5

Ports 2-7 COM provides 12V for other remote devices with SMS calls to the controller

Notes -
The D1 diode will prevent excessive arcing at the switch contacts inside the Auto Relay.
Port 1 on the GSM Controller will activate the auto relay for a preset amount of time whenever the controller receives a call from a pre-authorized phone number.  500 ms (1/2 second) is sufficient and will not cause overheating of the solenoid. If placing the solenoid and auto relay a long distance from the controller then use another similar battery for it. It will rarely be used and can be recharged manually when needed.

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The advantage of wireless operation is that the GSM controller and external antenna can be placed at a site with better cell reception or at a site central to several traps. One X'mtr and four R'cvr's could potentially activate 4 different trap gates or other devices on one trap.
Double set latch
Tested with 50 lb weight

Bottom of gate box

1-1/4"

Cable to Solenoid

Release clip

Heavy gauge gate hinge

Secure hinge to box with bolts (not screws)

1/4 -20 U-bolt connected to top of sliding gate

3/4" deep

Release clip

Side view of hinge
Remote activated
Hog Trap Gate

Note - Posts must be parallel

Make gate 36 inches tall and wide enough to slide freely. Allow about 1/4" clearance between the plywood and the posts. The grain of the plywood should run left and right.
7-Port GSM Controller
Ebay - $129

60# "Door Popper"
Solenoid
Ebay $49

12 Volt SLA battery

Auto Relay
Autozone #4232
$5

Alternate diode markings

DC12V 1 CH Wireless Receiver
433MHz W/ Learning Code
Ebay $5

SC2262 433MHZ ASK
OOK Wireless Transmitter
Ebay $5
20 Watt solar panel

Reverse current diode not needed when using Vr-1

Circuit board
1-5/8" long by 1/2" wide

Diagram is same for LM350T

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**SR-1 Voltage Regulator**

**Schematic**

- LM350T Adjustable Voltage Regulator
- 3 amp Schottky diode
- Vin 15-32V
- Vout 13.5V
- R1 - 220 Ohms, R2 - 2200 Ohms (1/4 watt)

Note: The 3 amp diode will prevent backfeed through the resistors when regulating the voltage into a battery.
Lighting the trap enclosure
This should enable better night viewing with the MMS game camera

Option 1 (wired operation)

<table>
<thead>
<tr>
<th>COM</th>
<th>24 gauge wire</th>
<th>Relay coil</th>
<th>&quot;L1&quot;</th>
<th>&quot;L1&quot;</th>
<th>&quot;L1&quot;</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>18 gauge wire</td>
<td></td>
<td></td>
<td></td>
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</table>

Option 2 (wireless operation)

<table>
<thead>
<tr>
<th>To R'cvr #2 activated by channel 11-13 on X'mtr #1 (SMS call to activate)</th>
<th>24 gauge wire</th>
<th>18 gauge wire</th>
<th>&quot;L1&quot;</th>
<th>&quot;L1&quot;</th>
<th>&quot;L1&quot;</th>
</tr>
</thead>
<tbody>
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<td></td>
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</tbody>
</table>

L1 - 10 watt Battery powered LED floodlight
Both available on Ebay
Optional night vision LED floodlight

Uses 1 Amp
Uses 200ma

Notes -
The lights can be turned on at any time by a SMS call to the appropriate port of the GSM controller. A second call will turn them off. This is called "ratchet" mode operation.
Example 6 element Yagi antenna for the GSM controller

![Antenna Image]

All aluminum parts taken from an old TV antenna

<table>
<thead>
<tr>
<th>Elem.</th>
<th>Len</th>
<th>Posn.</th>
<th>Diam.</th>
<th>Type</th>
<th>Material</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>181</td>
<td>100</td>
<td>9</td>
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<td>Aluminum</td>
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<td>154</td>
<td>169</td>
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<td>235</td>
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<td>477</td>
<td>9</td>
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<td>Aluminum</td>
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</tbody>
</table>

Measurements given in Millimeters. 9 mm = 3/8 inch. Get a metric tape measure. The first element hole will be 100 mm from the rear end of the boom. The DE hole will be 169 mm from the rear end, and so forth. Antenna gain is about 10 dbi.

Tight fitting dowel rod sealed to prevent water absorption

1 mm gap

center wire

shielded wire

Solder small terminal connectors like this on the end of the wires.

Drill the holes for small sheet metal screws after the cable clamp is on and has been secured to the boom. Don't get the holes to big! The elements should NOT have electrical contact with the boom.

After done, waterproof the connections with several coats of thick black paint

The antenna can be spray painted if desired.