



# Boundless Security Systems, Inc.

*the communications bandwidth experts*

Covert cellular IP camera  
High definition DIY  
Counter-terrorism, counter-drug, counter-gang, SWAT  
Utility pole camera  
Rugged traffic trailer camera

## Embeddable Ultra Low Bandwidth, 5 MP Outdoor Cellular Smart $\mu$ PTZ Camera

Small, very low power, high definition, cellular system for your own covert outdoor enclosure.

### Benefits

- Very low power, ultra low bandwidth, high definition, turnkey, fully digital with cellular Internet access, DIY, miniature smart camera system for placement in your own covert enclosure
- Much smaller, lower bandwidth, lower cost, lower power dissipation, and more capable than outdoor covert IP PTZ camera with cellular modem
- Very low power dissipation for battery and solar, typ. only 3W to 4W with GSM cellular service
- 5 mega-pixel (MP)  $\frac{1}{4}$ " CMOS color image sensor – 15X pixels of most outdoor wireless cameras
- Records video internally, avoiding distant network video recorder and constant network traffic, recording better video than could be sent to it, **reducing cellular traffic by 500+ GB/month**
- Unique concealed **Forward Pivot™** micro-PTZ camera with four-point suspension is unusually small and rugged yet provides remotely controlled mechanical pan and tilt, and optical zoom, with small window, while avoiding light loss and blurring of conventional camera concealments
- 3.3X optical zoom range at 1920x1080 (equiv. to 10X std def) and 10° mechanical pan and tilt, with focal lengths for telephoto use (50+ feet)
- Dual-stream optimization: **monitoring stream** is live and internally recorded at 960x540 @ 5 fps with high compression, PLUS sharper, **investigations / evidentiary stream**: 1920x1080 @ 5 fps is int. recorded (programmable, typ. values)
- Rapid access video file system greatly reduces time to view desired video segments
- Int. recorded monitoring stream enables remote viewing of recorded video at accelerated speed
- 256 GB internal solid state storage
- **Stranger Detector™** locating system detects *patterns of presence* of persons whose identities are unknown, using WiFi signals broadcast by their mobile devices, within approx. 150 feet (longer with opt. dir. antenna) and sends alerts when particular mobile devices are detected; also interfaces to WiFi sensor networks

## DIY Low Power High Definition Covert Cellular



Made in USA

Two N-type RF connectors for cellular and **Stranger Detector™** WiFi antennas



1.5" dia. clear acrylic window for built-in, rugged, concealed 5 mega-pixel **Forward Pivot™** micro PTZ color camera

Weatherproof ethernet jack, cable gland for 12V power, and cable gland for battery temperature sensor




Approx. 3.7W using Verizon when not viewing video, 400 hrs on 12V 125AH LiFePO4 battery<sup>3,4</sup>



Approx. 4.7W using Verizon when viewing live video, 300 hrs on 12V 125AH LiFePO4 battery<sup>3,4</sup>

Rugged, weatherproof cast aluminum case approx. 8"H x 6"W x 3"D (other colors and housings avail.)

- 12 VDC nominal, wide range input (10.5 to 15) with battery-saving, low voltage shut down
- Smart battery gauge with low power alert and estimated run time remaining 
- Internal battery-free shutdown UPS bridges brief power failures and provides clean shutdowns
- Watchdog timer and remote power management
- Industrial grade 3G cell modem<sup>1,2</sup> (svc. not incl.)
- Totally sealed avoids internal dust and moisture
- Cloud-based **Portal** for flexible user interface and ability to tunnel through cellular firewalls



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Please see our White Paper on *Smartphone WiFi Monitoring* integrated with outdoor video surveillance, aka *Stranger Detector™*: <http://tinyurl.com/cqycmxm>

**Example Alert push e-mail from a system that has been given the host name, M-1 (note: *view* links are active in Alerts sent, but not in this document):**

To: M-1.alerts@BoundlessSecurity.com  
Subject: M-1 10:40:f3:56:a5:00 on Watch List detected

### **Smartphone on Watch List with WiFi Signature 10:40:f3:56:a5:00 Detected**

Click any *view* link for live video. To view recorded video: (1) click the *view* link for the desired probe and wait for live video, (2) click **REC** and wait for recent recorded video, and then (3) click **SET\_TS** to see recorded video starting 15 seconds before the probe was received.

The less negative the signal strength, the stronger the signal and the closer the smartphone or other WiFi-enabled mobile device was to the camera. Signals are received in all directions, not just where the camera views.

Probe received at Sep 6 2012 08:19:55 with signal strength -85 dBm [view](#)  
Probe received at Sep 6 2012 08:19:55 with signal strength -84 dBm [view](#)  
Probe received at Sep 20 2012 16:39:08 with signal strength -87 dBm [view](#)  
Probe received at Sep 20 2012 16:39:14 with signal strength -86 dBm [view](#)  
Probe received at Sep 21 2012 17:01:44 with signal strength -87 dBm [view](#)  
Probe received at Sep 27 2012 16:23:28 with signal strength -78 dBm [view](#)  
Probe received at Sep 28 2012 14:10:44 with signal strength -84 dBm [view](#)

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#### **Notes:**

1. Able to use mobile-originated, GSM / HSPA and CDMA cellular data networks with appropriate modem. Tunnels through mobile-originated cellular networks to Boundless' Cloud-based Portal, from which users access the system.
2. Cellular networks are not intended for continuous viewing. Live and recorded video should be viewed only as needed.
3. Power dissipation and run time on a given battery charge depend on many factors. Approx. figures are shown and may vary widely. Run time is not guaranteed.
4. Use of GSM cellular networks requires less power than CDMA networks, resulting in longer run time with GSM.