



## Technology-Based Security Solutions for the Mining Industry



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## Raptor Global Services, Inc.

### Technology-Based Security Solutions for the Mining Industry

It can be argued that the world is less safe today than anytime in the recent past. Whether or not this is true, the fact is that in certain parts of the world facilities and perimeters are penetrated more frequently, property is stolen at a record rate, and people face threats to their personal safety on a much more regular basis than ever before.

In response to this situation **Raptor Global Services, Inc.** provides the highest quality safety and security solutions, in high-risk emerging markets, at cost-effective prices. Raptor provides high-technology security and safety-related products, applications and services for 'at-risk' customers worldwide.



Raptor's service offerings cover the critical areas of providing high-end security hardware that monitors the status of personnel to ensure their safety in potentially hostile situations; deploying systems that prevent the intrusion of unauthorized personnel into critical facilities or perimeters; and supporting technology for the tracking, location and retrieval of high-value assets and vehicles on a worldwide basis. Many of Raptor's products and services were originally designed for use by the Department of Defense, and are in use by security agencies around the globe. Military versions of a number of these systems are in use today, supporting critical applications in hostile environments worldwide.

Raptor acquires, develops and deploys advanced security-technology products, applications and services for military, homeland security agencies, public safety, energy companies, seaports and transportation companies. The development of innovative products and applications that contain a high degree of intellectual property rights (IPR) is a formidable task for a small company. For this reason, Raptor has teamed with some of the leading security equipment manufacturers and software developers to jointly produce products and applications that are focused on meeting its client's needs.

Raptor's security-technology partners have a long history of developing software and products for use in critical security applications worldwide. A number of these products and software-based applications have been adapted exclusively to meet Raptor's unique requirements. This allows Raptor access to technology that would normally cost the company millions of dollars in research and development costs. The result of this cost savings is passed on the Raptor's clients, making the company's approach to high-end security solutions one of the most cost-effective options available today.

Raptor security products and services (shown on the following pages) include:

1. **'SITE MAST-R'** remote video surveillance and communications system,
2. **'SMART Pole'** advanced video surveillance and perimeter protection system,
3. **'QwikCom'** rapid response & restoration communications system,
4. **'QwikCamp- SMF'** (Secure Modular Facility), man-camps and command centers,
5. **'MIDI-Stake'** perimeter security system,
6. **'TraceGEO'** security products and services.



# 1. Raptor 'SITE MAST-R'

## Video Surveillance & Communications in High-Risk Environments

A major problem in providing security and technical oversight for construction sites in remote locations around the world is the cost, time and risks involved in dispatching qualified people to support these efforts. This problem is compounded when the site is in a potentially high-risk location, such as a war zone, or a region that is in the midst of political turmoil.



In response to this situation Raptor has developed the 'SITE MAST-R' (Site Management, Assessment, Surveillance & Telecom-Remote) system. The SITE MAST-R system is designed to support site security, safety and telecommunications needs by providing remote video surveillance, perimeter security, personnel status, asset tracking and communications to virtually any location in the world via the Internet. The system can also be used to monitor and assess the progress of construction activities on the site by providing a real-time view of the site. This feature greatly reduces the amount of time qualified oversight personnel need to be on the site, and reduces their exposure to potential danger due to the need for fewer trips to the site.



### Cost Saving Features

The Raptor SITE MAST-R system allows military, government agencies or multi-national companies to utilize local 'in-country' resources and still meet project goals by providing a conduit for home-base management to

oversee many aspects of construction on a real-time basis. With the SITE MAST-R system the best engineering, architectural and project management talent can be utilized in support of multiple projects, in locations throughout the world, without the need of venturing forth from their primary place of work.

A recent analysis of a client's current operations in high-risk locations around the world has indicated that deployment of the SITE MAST-R system could result in potential cost savings of over 70%. These savings are derived from the SITE MAST-R system's ability to mitigate the ever increasing cost of international travel, insurance, life support and security services related to maintaining an X-Pat presence on the ground in hostile environments.



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## Video System

A variety of camera options can be utilized in the video surveillance system including:

- ▶ High-definition IP cameras with a variety of field-of-view and video resolution options,
- ▶ Remotely controlled (via Internet) IP cameras providing a full range of electronic or mechanical pan, tilt and zoom functions,
- ▶ Very low light and infrared (IR) cameras for extreme or poor lighting conditions
- ▶ Wireless portable high-definition cameras that can be used to monitor in fine detail the status of construction activities, as well as specific elements of the construction process.
- ▶ Advanced video analytics for facial/license plate recognition and geo-fence applications,

The video system can be complemented by a high quality audio system that can be extended through the use of additional wireless audio pickup devices.

## Communications System

The SITE MAST-R system not only provides high-resolution video, it also supports high quality telecommunications and Internet coverage through the application of a 'carrier grade' wide area Wi-Fi network. The wireless feature allows on-site personnel to:

- ▶ Communicate real-time with off-site engineering and operations personnel using portable VoIP-SIP phones,
- ▶ Access regional or international telephony services (via VoIP),
- ▶ Send and receive changes, modifications and updates in construction drawings and plans to the site, via FTP, over the Internet,
- ▶ Access the Internet while roaming the site with laptops, 'Smart Phones' or any other Wi-Fi enabled device.

## Security & Safety Enhancements

Optional 'Trace-GEO' enhancements are available in the SITE MAST-R system to support a wide variety of security and safety applications such as:

- ▶ Trace-GEO-MIDI (Multimodal Intrusion Detection & Identification): an advanced perimeter protection and monitoring solution that incorporates a wide range of sensors (motion detection, passive IR, acoustic and seismic transducers), high-definition video surveillance, video analytics and an intelligent incident management system, to remotely detect and identify intrusions and recommend response actions in the harshest environments,
- ▶ TraceGEO-PST: wireless, satellite and GPS-based 'Lone Worker' and 'Man-Down' systems that support the monitoring and safety of personnel working in hazardous or potentially hostile environments,
- ▶ TraceGEO-AST: a complete line of asset, vehicle and equipment tracking, status monitoring and incident management and resolution solutions and services.

In addition, machine-to-machine control and status monitoring is available through the application of the latest wireless M-M technology. The M-M system can be used to:

- ▶ Remotely turn on and off pumps, generators and other site equipment,
- ▶ Monitor the status of electrical systems, engines and support systems,
- ▶ Poll performance and maintenance data from the J Bus of construction equipment.



## System Range

Depending on topography, buildings and site clutter a single SITE MAST-R system can effectively cover a perimeter with a radius of approximately one hundred to two hundred meters. The effective range of the system can be extended to up to five kilometers or more by adding additional SITE MAST-R modules. The Wi-Fi 'mesh' technology can be used to provide 'seamless' coverage for large areas, or along lengthy perimeters such as pipelines.

## System Power

The standard SITE MAST-R system is powered by a commercial 120-240 VAC (50-60 Hz) power source. Due to the unreliable nature of power sources in many remote locations the SITE MAST-R system is equipped with battery backup that provides for up to eight hours of self-contained power. Backup power can be extended for up to twenty-four hours through the application of additional battery modules. In addition, an optional solar power system is available for deployment in areas where commercial power is unavailable or unreliable. This system is backed up with a twelve to twenty-four hour battery reserve.

## Backhaul

The SITE MAST-R system is linked to the Internet by a very small aperture satellite (VSAT) uplink. The VSAT system is available in two configurations:

- ▶ Transmitting full-time on a dedicated basis,
- ▶ Transmitting only when polled from a remote location, or when there is a change in a pre-determined status condition (such as an unauthorized site intrusion).

Since in the latter mode the SITE MAST-R system transmits only when requested, or when a pre-determined alarm condition occurs, the configuration saves on costly satellite time and conserves battery life, especially if the system is solar powered.

## System Configurations

The SITE MAST-R system is available in three configurations:

- ▶ A portable rapidly deployed system that is packaged in seven ATA cases that can be loaded on a commercial airliner or military helicopter.
- ▶ A mobile trailer mounted system that is packaged for longer term deployments, supporting larger coverage areas, where access by road is possible.
- ▶ A static system mounted on rigid monopoles designed for permanent installations along site perimeters and pipelines.

## Summary of Features

- ▶ A high-resolution low-to-high light level video camera equipped for Internet-controlled remote pan, tilt and zoom,
  - ▶ A portable wireless high-resolution camera with macro-zoom lens for close examination of construction details,
  - ▶ An extended-area Wi-Fi system designed to support high-quality voice, data and video,
  - ▶ Site-wide wireless pedestrian mobile Internet access for laptops, PDAs, and other Wi-Fi enabled devices,
  - ▶ Low-cost international long distance service from anywhere on the site, utilizing portable
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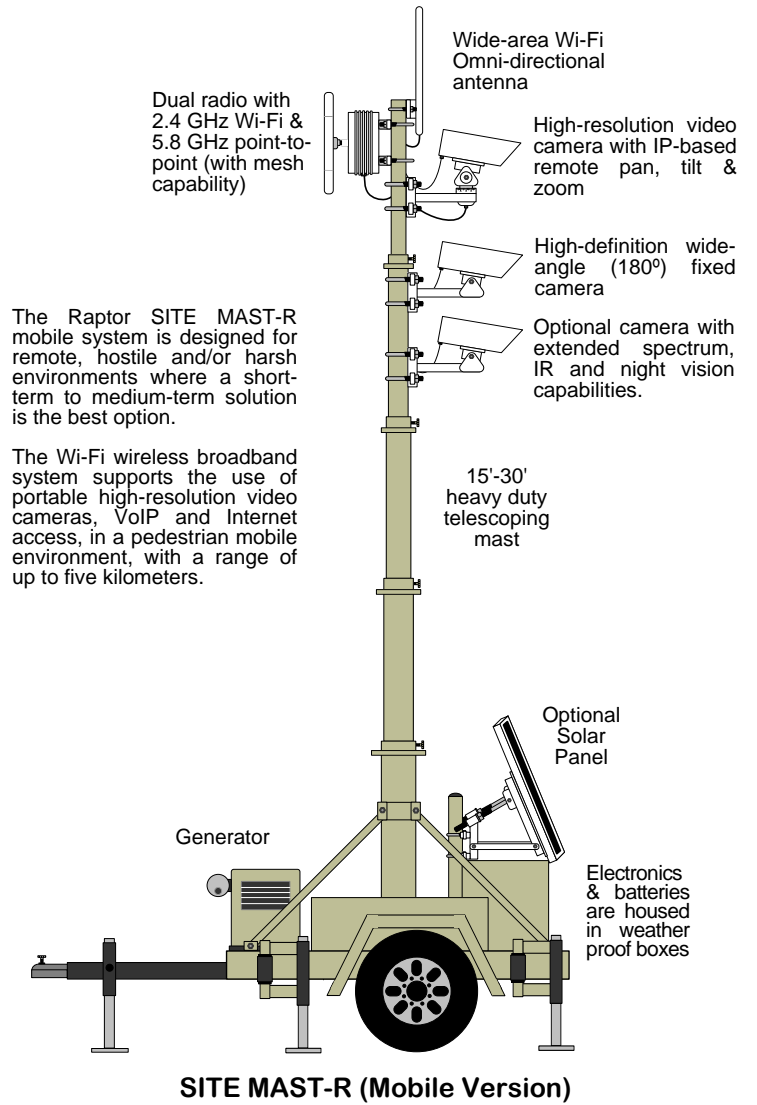
Wi-Fi (VoIP) SIP phones,

- ▶ A differential GPS system to determine the exact locations of on-site personnel, assets and end-user devices,
- ▶ Wireless 'mesh' technology (at either 2.4 or 5.8 GHz) to seamlessly link multiple Wi-Fi systems over a wide area,
- ▶ Battery backup for up to eight hours, expandable to over twenty-four hours,
- ▶ Optional solar power with fourteen to twenty-four hour battery backup,
- ▶ Reliable VSAT backhaul to provide access from any location in the world,
- ▶ Wireless interface for M-M control and status monitoring,
- ▶ Optional perimeter security, personnel status monitoring and asset tracking capability,
- ▶ Intelligent security, monitoring and control software,
- ▶ Optional 7X24 Tactical Operations Center (TOC) services are available,
- ▶ Rapid response system deployment and maintenance.

The Raptor SITE MAST-R system is an effective tool for maintaining site security and project management effectiveness in remote and hostile environments. It can improve project oversight and support by bringing to bear the best talent and tools to ensure that a project is properly managed, without exposing X-Pat personnel to the dangers and rigors of frequent site visits or extended stays.

## SITE MAST-R Views





The Raptor SITE MAST-R mobile system is designed for remote, hostile and/or harsh environments where a short-term to medium-term solution is the best option.

The Wi-Fi wireless broadband system supports the use of portable high-resolution video cameras, VoIP and Internet access, in a pedestrian mobile environment, with a range of up to five kilometers.



## 2. Raptor ‘SMART’ Pole

The Raptor ‘**SMART**’ Pole is a collaborative effort between Raptor, and a number of its advanced-technology partners. It is designed to provide a completely self-contained intelligent platform for video surveillance and communications, by incorporating ‘**MIDI**’, the unique multimodal intrusion detection and identification system that provides a high probability of detection (POD) with a low nuisance alarm rate (NAR). The system supports site security, safety and telecom needs by providing remote video surveillance, perimeter security, personnel status, asset tracking and communications from remote and potentially hostile environments to virtually any location in the world via the Internet.



### SMART Pole Configuration

The SMART Pole can be equipped with a wide variety of camera, communications, security and powering options including:

- ▶ High-definition IP cameras
- ▶ Infrared and low-light digital cameras
- ▶ Remote mechanical and electronic PTZ HD cameras
- ▶ Point-to-point wireless and wireless mesh capability
- ▶ Area-wide Wi-Fi distribution
- ▶ Internal caching and network management
- ▶ Highly reliable video analytics for license plate, facial and geo-fence recognition
- ▶ Remote wireless and wired seismic, acoustic and motion sensors
- ▶ Solar and wind power
- ▶ High-capacity batteries with up to one week of battery life without charging

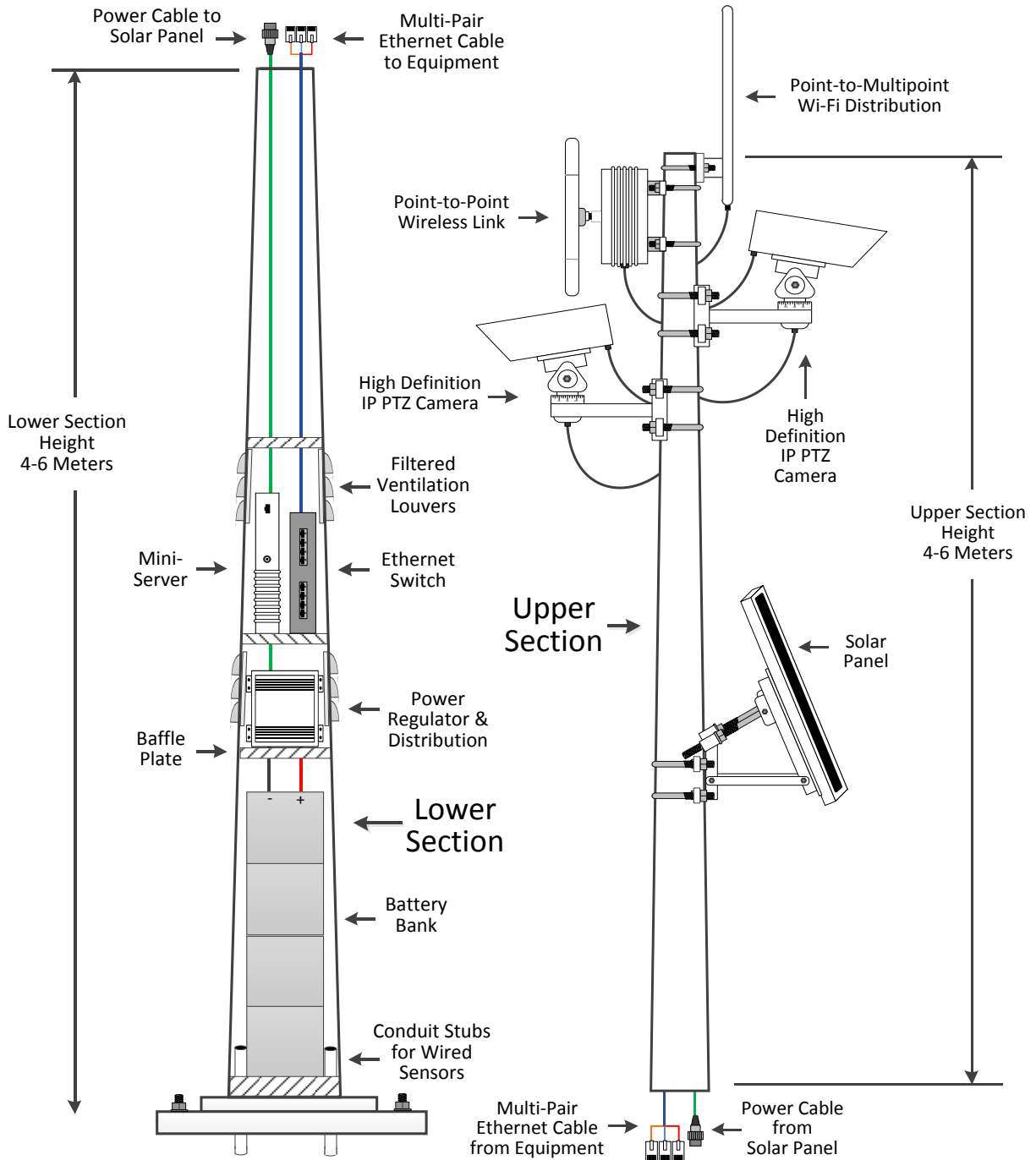
### Additional Features

Unique features of the SMART Pole include:

- ▶ The SMART Pole is completely self-contained and can be deployed in a very short amount of time.
- ▶ Multiple SMART Poles can be interconnected to provide continuous coverage over a wide area.
- ▶ Mesh architecture keeps the system on-line even if multiple SMART poles are disabled.
- ▶ A wireless interface allows control of pumps, generators, and other devices using machine-to-machine (M-M) protocol.
- ▶ Area-wide Wi-Fi coverage allows the use of laptops, I-Pads, VoIP phones and other Wi-Fi enabled devices.
- ▶ SMART Pole systems are provided on a cost-effective lease program; all installation costs, maintenance charges and upgrades are included in the monthly fee.
- ▶ Optional monitoring and security response services are available.



# SMART Pole (Security Management & Assessment Remote Terminal





### 3. Raptor ‘QwikCom’ Wide Area Rapid Response & Restoration Telecom Services

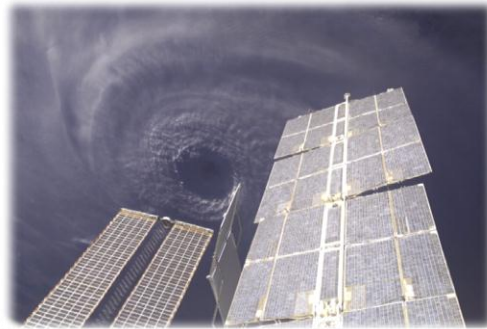


From tsunamis on remote islands, hurricanes in major cities and earthquakes in developing countries, to 9/11-style terrorism, communications reliability, survivability and security are critical factors in recovery. Commercial networks are fragile and restorative solutions limited. Recent events have provided ample evidence of a continuing and urgent need for enhanced ‘reactive’ disaster recovery capabilities, as well as providing ‘proactive’ solutions to mitigate the related risks.

In response to this requirement, Raptor has developed ‘**QwikCom**’, a rapidly deployed pre-packaged telecom solution intended to recover and sustain critical communications when disaster strikes. QwikCom rapid response and restoration systems are used to support first responders and follow-up agencies in mitigating the effects of natural or manmade disasters by providing wide-area wireless broadband voice, high-speed data and video services. Raptor has extensive ‘hands-on’ experience, both domestically and worldwide, in the deployment of wireless broadband and satellite services in crisis situations.

#### ‘QwikCom’ Telecom Restoration Services are Unique

- ▶ QwikCom rapid response wide-area telecom systems are designed to bridge the gap between ‘first response’ tactical communications, and the resumption of normal telecom infrastructure, during times of natural or manmade disasters.
- ▶ QwikCom systems are designed to provide a high level of quality voice, video and data restoration and augmentation within a wide variety of hostile and devastated environments.
- ▶ QwikCom’s on-board IP-based video system provides high-definition video from the scene of the disaster for remote situational and tactical analysis.
- ▶ QwikCom rapid response telecom systems are intended to quickly restore the communications infrastructure used, not only by those charged with rescue and civil order, but also those enterprises that are engaged in the reestablishment of commerce and daily living.
- ▶ Often, first response communications is limited to two-way radio or satellite phone voice capability. The service area for a two-way radio-based system is usually small and interoperability between agencies is usually difficult, if not non-existent. QwikCom rapid response telecom systems overcome these problems quickly and seamlessly using a variety of wireless and alternative power systems to blanket a wide area.





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## QwikCom Services, Supported Devices & Coverage

The rapid response telecom systems provided by QwikCom are much more encompassing than those normally available to first responders. These include:

- ▶ High-speed Internet access
- ▶ Voice-over-IP (VoIP) services
- ▶ Two-way video conferencing
- ▶ High quality video for surveillance and situation analysis purposes
- ▶ Secure access into VPNs and Intranets
- ▶ Telemedicine, including remote triage and medical evaluation services
- ▶ Data retrieval and storage

Devices supported by the QwikCom wide-area wireless broadband network include:

- ▶ Desktop Computers
- ▶ Laptop Computers (in fixed and pedestrian mobile mode)
- ▶ Smart Phones
- ▶ SIP enabled VoIP Phones
- ▶ Video Conferencing Systems (computer-based and stand-alone)
- ▶ Video CODECS
- ▶ Secure Routers/Servers

The wireless broadband 'footprint' extends to:

- ▶ Between and within buildings
- ▶ Throughout a campus or installation
- ▶ Within an affected geographical area regardless of the size<sup>1</sup>
- ▶ From an affected area to remote locations worldwide
- ▶ From a central point to mobile locations within an affected area

## Communications System

The QwikCom system supports high quality telecommunications and Internet coverage through the application of 'carrier grade' wide-area Wi-Fi, point-to-multipoint WiMAX and 'license-free point-to-point networks. The wireless feature allows on-site personnel to:

- ▶ Communicate real-time with on and off-site rescue, operations and support personnel using portable VoIP-SIP phones,
- ▶ Access regional or international telephony services (via VoIP),
- ▶ Send and receive changes, modifications and updates to large file-size documents, drawings and plans to and from the scene, via FTP, over the Internet,
- ▶ Access the Internet while roaming the area with laptops, 'Smart Phones' or any other Wi-Fi enabled device.

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<sup>1</sup> Multiple QwikCom units can be networked to provide ubiquitous coverage over a large geographic area.



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## Video System

QwikCom not only provides high quality communications, it also supports a wide variety of camera options for video surveillance, triage and video conferencing applications including:

- ▶ High-definition IP cameras with a variety of field-of-view and video resolution options,
- ▶ Remotely controlled (via Internet) IP cameras providing a full range of electronic or mechanical pan, tilt and zoom functions,
- ▶ Very low light and infrared (IR) cameras for extreme or poor lighting conditions
- ▶ Wireless portable high-definition cameras that can be used to monitor in fine detail the status of rescue activities, as well as specific elements of the recovery process.
- ▶ Advanced video analytics for facial and license plate recognition and geo-fence applications,

The video system can be complemented by a high quality audio system that can be extended through the use of additional wireless audio pickup devices.

## Security & Safety Enhancements

Optional 'Trace-GEO' enhancements are available in the QwikCom system to support a wide variety of security and safety applications such as:

- ▶ Trace-GEO-MIDI (Multimodal Intrusion Detection & Identification): an advanced perimeter protection and monitoring solution that incorporates a wide range of sensors (motion detection, passive IR, acoustic and seismic transducers), high-definition video surveillance, video analytics and an intelligent incident management system, to remotely detect and identify intrusions and recommend response actions in the harshest environments,
- ▶ TraceGEO-PST: wireless, satellite and GPS-based 'Lone Worker' and 'Man-Down' systems that support the monitoring and safety of personnel working in hazardous or potentially hostile environments,
- ▶ TraceGEO-AST: a complete line of asset, vehicle and equipment tracking, status monitoring and incident management and resolution solutions and services.

In addition, machine-to-machine control and status monitoring is available through the application of the latest wireless M-M technology. The M-M system can be used to:

- ▶ Remotely turn on and off pumps, generators and other site equipment,
- ▶ Monitor the status of electrical systems, engines and support systems,
- ▶ Poll performance and maintenance data from the J Bus of construction equipment.

## System Range

Depending on topography, buildings and site clutter a single QwikCom system can effectively cover a perimeter with a radius of approximately two hundred to three hundred meters. The effective range of the system can be extended to up to five kilometers or more by adding additional QwikCom modules. Wi-Fi and 'mesh' technology is used to provide 'seamless' coverage for large areas, or along lengthy perimeters or travel corridors.



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## System Power

The standard QwikCom system is powered by a commercial 120-240 VAC (50-60 Hz) power source. However, due to the unreliable nature of power sources in many disaster situations the QwikCom system is equipped with a generator and battery backup that provides for up to eight hours of self-contained power. Backup power can be extended for up to twenty-four hours through the application of additional battery modules. In addition, optional solar and wind power systems are available for deployment in areas where commercial power is unreliable or generator fuel is unavailable. These alternative power systems are backed up with a twenty-four to forty-eight hour battery reserve.

## Backhaul

QwikCom accesses Internet and VoIP gateways using a variety of backhaul systems:

- ▶ Point-to-point high-capacity wireless connectivity to the nearest active access point,
- ▶ 4G WiMAX and LTE (if networks are active in the area),
- ▶ Very small aperture satellite (VSAT) uplinks (if no other backhaul medium is available).

The VSAT system is available in two configurations:

- ▶ Transmitting full-time on a dedicated single-channel-per-carrier (SCPC) basis,
- ▶ Transmitting on a 'band-width-on-demand' (shared hub) basis.

The amount of throughput for either configuration is application and client dependent.

## System Configurations

The QwikCom system is available in three configurations:

- ▶ **'PortaQwik'**: portable rapidly deployed system that is packaged in seven ATA cases that can be loaded on a commercial airliner or military helicopter.
- ▶ **'QwikCom'**: a mobile trailer mounted system that is packaged for longer term deployments, supporting larger coverage areas, where access by road is possible.
- ▶ **'SMART Pole'** a static system mounted on rigid monopoles designed for semi-permanent installations where a longer term solution is required.

## Summary of Features

- ▶ An extended-area Wi-Fi system designed to support high-quality voice, data and video,
- ▶ Point-to-point and mesh interconnectivity for networking and backhaul capability
- ▶ Site-wide wireless pedestrian mobile Internet access for laptops, 'smart phones', and other Wi-Fi enabled devices
- ▶ High-resolution low-to-high light level digital video cameras equipped for Internet-controlled remote pan, tilt and zoom,
- ▶ Portable wireless high-resolution camera with macro-zoom lens for close examination of details during rescue, recovery and medical triage events,
- ▶ Alternative powering options including solar, wind and bio-fuel.
- ▶ Rapidly deployable to any location domestically and internationally.



## 4. Raptor 'QwikCamp'

### Rapidly Deployed Secure Housing in Hostile Environments

Raptor Global Services has the capability of supporting highly secure housing, workspace and communications requirements in hostile environments. The Raptor **QwikCamp** system can be rapidly deployed to locations virtually anywhere in the world where a threat to personnel, facilities and assets may exist. The QwikCamp provides a level of security and comfort rarely available in high-risk hostile environments.



### Security Features

The QwikCamp secure modular facility incorporates a variety of safety and security features designed to provide for the protection of personnel and assets. These include:

- ▶ A secure limited-access entrance with guard shack and holding area,
- ▶ An outer perimeter, surrounded by a twelve-foot chain-link fence with stands of security barbwire,
- ▶ An inner 'T-wall' barrier capable of preventing aimed or stray rounds from entering the living space,
- ▶ A variety of TraceGEO perimeter security sensors, including motion, seismic and acoustic detectors, installed in the zone between barriers, and in strategic locations inside and outside of the compound,
- ▶ SITE MAST-R video surveillance systems, employing high-resolution, low-light and infrared cameras, along perimeters, at access gates and inside the compound,
- ▶ Optional Kevlar module inner liner and safety glass, capable of stopping a 7.62 mm round,
- ▶ The compound is designed and landscaped with a minimum of site 'clutter' with open areas that can be easily monitored,
- ▶ There are a number of additional and supplemental security features included, but these are of a confidential nature and can be discussed with qualified inquirers.

In addition to the technology-based security features noted above, Raptor also offers a complete physical security package including:

- ▶ Armed guards to protect the site, and restrict access to authorized personnel only,
- ▶ Low profile personal personnel to protect personnel from the threats of kidnapping and personal injury,
- ▶ High profile security and convoy escorts when traveling to and from the compound,
- ▶ Translators and English speaking administrative support personnel,



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## QwikCamp Quarters

QwikCamp quarters are designed to provide for efficient work spaces and comfortable living areas. The living space is equipped with well-appointed furnishings, the latest entertainment systems and comfort features normally found only in high-end hotels.

The dining facilities are designed to accommodate a gourmet kitchen, capable of preparing western style meals in any part of the world.

Additional modules can house offices, medical facilities, commissary/convenience store, weapons storage and communications.

A typical compound can be configured to accommodate fifty or more transient personnel and twenty to twenty-four extended stay personnel.

The following modules can be selected and incorporated into the QwikCamp compound:

- ▶ Administration units with private offices, common office area and restrooms,
- ▶ Kitchen unit fully equipped with a commercial kitchen, pantry and restroom,
- ▶ Dining unit capable of seating sixteen to twenty four people,
- ▶ Three room 'bunkhouse' sleeping twelve with four bunks per room,
- ▶ Three and four bedroom units with queen beds, dressers, closets and restrooms,
- ▶ Sanitary facilities, with private showers, sinks and toilets,
- ▶ Secure weapons distribution with weapon lockers, ammunition storage and locker rooms,
- ▶ Communications module with operator consoles, workshop and equipment area,
- ▶ Optional medical aid station, bunker and commissary modules.

## Communications

The communications package is user defined, but can include systems for entertainment, Internet access, VoIP connectivity and tactical communications. This includes:

- ▶ Two-way radio systems in the aviation, marine, VHF and UHF bands configured to operate on user-defined and government assigned channels,
- ▶ Satellite uplink and downlink facilities that can be used to provide Internet and VoIP service to the facility for workplace and personal communications.
- ▶ Satellite downlink facilities and cable distribution systems for entertainment television.
- ▶ Wireless broadband systems, strategically located both indoors and outdoors, to provide ubiquitous Wi-Fi coverage throughout the compound.
- ▶ An internal VoIP telephone system providing a high degree of reliability and quality for business and personal communications.
- ▶ Support data systems to provide for the local caching of data, secure storage of files, and network management functions.
- ▶ Back-up and emergency power.



## Environmental

QwikCamp modules integrate highly efficient environmentally friendly systems that include these features:

- ▶ The highest 'R' rating for any structure of its type, allowing for efficient cooling and heating in the harshest of environmental extremes,
- ▶ A wide variety of alternative and back-up power options including wind generation, solar cells, fuel cell and diesel generators,
- ▶ Efficient and sanitary storage and treatment of potable water,
- ▶ State-of-the-art treatment, storage and disposal of solid waste and brown water,
- ▶ Safe and secure storage of fuel in buried tanks with re-enforced concrete lids,
- ▶ Covered walkways and sunshades to shield personnel from sun, rain when walking between modules,
- ▶ Attractive landscaping with patio and garden areas for outside dining and after-hours relaxation.

## The Raptor 'Central Service Unit'

The Raptor Central Service Unit (CSU) houses many of the life support and communications systems noted above. The CSU is completely self-contained and can support up to twenty modules. Views of the CSU are shown below:





## 5. Raptor 'MIDI-Stake'

### Rapidly Deployed Perimeter Security

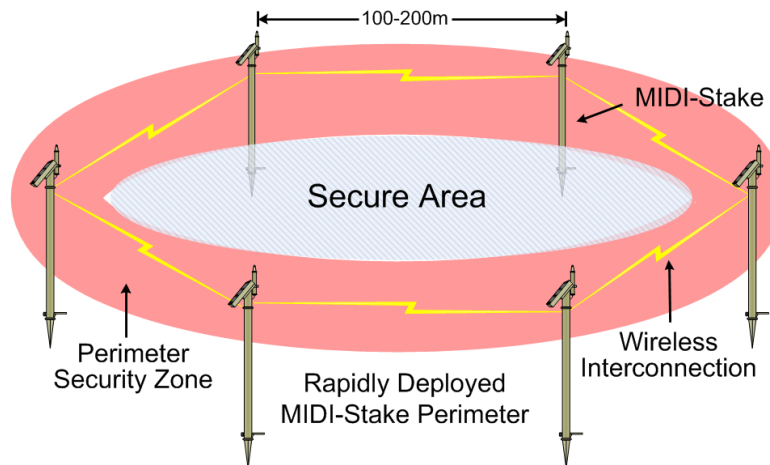
One of the 'showcase' products jointly under development by Raptor is a rapidly deployed integrated perimeter security device that includes a wireless mesh interconnection, wireless data transport platform, multiple sensors, and a number of 'add-on' modules that extend the system's performance. The advanced '**MIDI-Stake**' perimeter security system is relatively inexpensive and easily deployed. It is capable of operating in a variety of environmental and terrain conditions.

The MIDI-Stake perimeter security system is deployed and maintained by Raptor and its partners worldwide. The system is either available for purchase, or is offered to a wide variety of end-users under a monthly service contract that includes:

- ▶ Providing a complete MIDI-Stake perimeter security solution with multiple stakes, sensors and support equipment,
- ▶ Backhaul of the data accumulated by the MIDI-Stake system to a common monitoring point.
- ▶ Support of the network to include configuration of a Raptor-operated tactical operations center (TOC), training and operational assistance,
- ▶ The secure caching of data accumulated by the network for a defined period of time,
- ▶ Ongoing maintenance, applications updates and system upgrades.

Some of the characteristics of the MIDI-Stake system include:

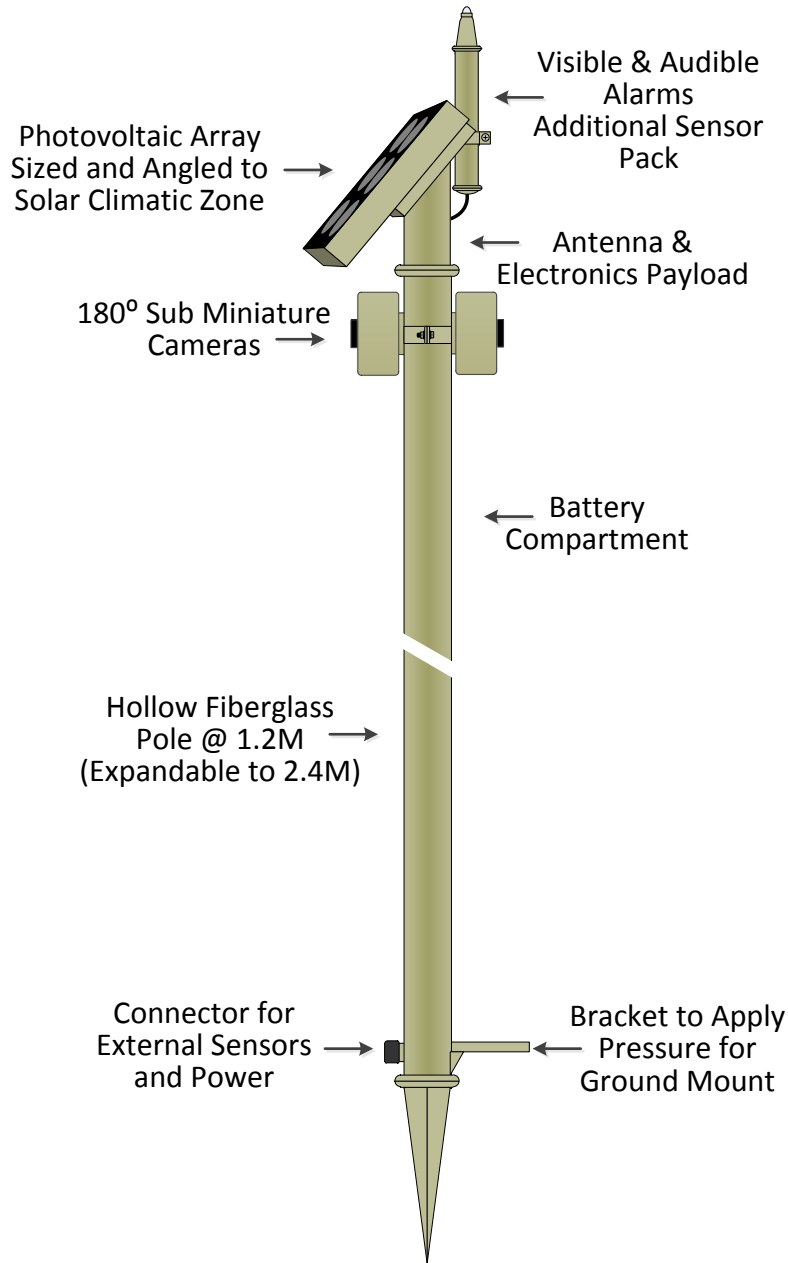
- ▶ Wireless interoperability between MIDI-Stakes using machine to machine (M-M) protocol,
- ▶ A self-powered device using solar power and 4-5 day battery backup,
- ▶ Highly reliable performance over a wide variety of weather and operating conditions,
- ▶ The ability to provide rapidly deployed perimeter security in less than an hour,
- ▶ Coverage over a wide area with multiple MIDI-Stakes 100-200 meters apart,
- ▶ A 'modular' design, allowing additional features and enhancements to be easily added in the field by non-technical personnel.





The 'MIDI-Stake' system is very cost-effective. Deployment of a MIDI-Stake perimeter system costs significantly less than the cost of similar perimeter security devices. The MIDI-Stake is either a 'stand-alone' system or can be deployed as a complementary system to the **SITE MAST-R** remote telecom, video surveillance, and site management system (shown on the following pages).

### Component Parts of the Raptor 'MIDI-Stake'





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## 6. Raptor ‘TraceGEO’ Systems for the Security of Personnel, Facilities and Assets

**‘TraceGEO’:** Many of the products and services supported by Raptor are branded under the ‘TraceGEO’ name, a product and service line specializing in providing safety and security solutions and services to the energy, maritime and industrial sectors. Raptor has commercially adapted some of the most sophisticated tracking, status monitoring and perimeter security products available today, many of which are in use by the US Government in critical applications worldwide. TraceGEO systems incorporate a proprietary ‘multi-tier’ wireless platform (RFID, Wi-Fi, GSM, GPS, A-GPS and satellite) delivery system that provides continuous and ubiquitous coverage worldwide.

- ▶ TraceGEO-AST: is a complete line of asset, vehicle and personal tracking, status monitoring and incident management and resolution solutions and services.
- ▶ TraceGEO-PST: wireless systems that support the monitoring and safety of personnel working in hazardous or potentially hostile environments.
- ▶ TraceGEO-FST: a complete line of fleet tracking and status/performance monitoring systems.
- ▶ TraceGEO-PSM: includes a complete line of advanced pipeline status and monitoring solutions including: remote cathodic monitoring, flow disruption notification and major spill surveillance and prevention; domestically or on a worldwide basis
- ▶ TraceGEO-IPM: is an advanced perimeter protection and monitoring solution that incorporates video, motion detection, passive IR, acoustic and seismic transducers, coupled with an intelligent incident management system, to remotely detect intrusions in the harshest environments.
- ▶ TraceGEO-IMS: is an intelligent incident management system that manages and tracks remote assets, vehicles and personnel and ‘intuitively’ manages the appropriate response in the event of a threat to life or property.
- ▶ TraceGEO-PSR: Protective security incident response and resolution designed for the protection and rescue of personnel and the recovery of high value assets.



## About Raptor Global Services

**Raptor Global Services, Inc.** provides a wide variety of security and telecom applications, products and services at cost-effective prices. The company provides sophisticated security technology supporting a wide variety of perimeter, facility and personnel safety solutions in high-risk situations, as well as advanced telecommunications products and applications designed to bring world-class voice, data and video services to remote and rural areas of emerging markets worldwide.

Raptor has formed strategic alliances with leading providers of protective security services, proprietary applications and advanced security hardware. These unique alliances are focused on insuring the safety of personnel, safeguarding critical facilities, tracking the whereabouts of assets and monitoring the movement of vehicles in hostile and high-risk environments.

Many of Raptor's security products and services were originally designed for use by the Department of Defense, and are in use by security agencies around the globe. Military versions of a number of these systems are in use today, supporting critical applications in hostile environments around the world.

For more information about Raptor Global Services, Inc., and its products and services, please visit our website at [www.raptorglobalinc.com](http://www.raptorglobalinc.com) or contact:

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