

# Using RealityVision™ over BGAN

Version 1  
6 March 2009

[inmarsat.com/bgan](http://inmarsat.com/bgan)

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The mobile satellite company™

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## 1 Overview

Reality Mobile's RealityVision™ software gives your organisation the ability in a crisis environment to instantly broadcast live video and other data from the scene. The data can be shared immediately with everyone who needs to see it, wherever they are located and without any intervention.

Field users can send and receive live video feeds and other data files instantly, whilst your headquarters has complete command and control flexibility, enabling you to react immediately to rapidly changing events. And now, using Inmarsat's BGAN network, you can do this *anywhere* in the world.

Reality Mobile's patent-pending solution consists of an integrated suite of software applications that run on mobile devices, a physical server, and one or more desktop or notebook computers. It requires no new infrastructure investment or customised hardware, and can be installed on new or existing equipment such as smart phones, PCs, and laptops. Using these everyday devices over BGAN, you can:

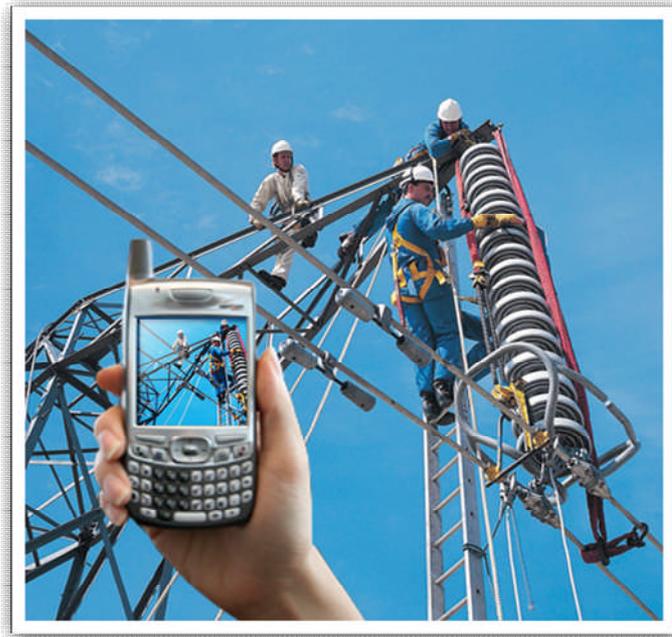
- Receive live video from the field from both mobile devices and fixed cameras.
- Share the incoming video immediately with key individuals in the field, at headquarters, or at remote offices.
- Superimpose video over satellite imagery to provide a unique 3D viewing perspective and quickly place video in context with the surrounding environment.
- Track the precise location of field personnel, down to their exact geospatial coordinates.
- Send messages, still photos, and other critical information to your entire team, and others.
- Remotely compel any mobile device to take a specified action, such as to start streaming live video or start viewing live video from another source, or to dial a phone number.

With RealityVision over BGAN, it's as if you're standing in the shoes of your field personnel.

## 2 Features

### 2.1 In the field

- **Real-time Streaming Video** - with the push of one button, field personnel can immediately transmit streaming video and geospatial coordinates from a mobile phone (WiFi enabled for BGAN), or PC to a command centre in real-time as events unfold.
- **Video Sharing** - search for and access live video feeds from other mobile users or from fixed cameras.



- **Remote control video camera** - one touch commands allow users to remotely control fixed cameras if authorized.
- **Data Delivery** - users can automatically receive text messages, still photos, maps and other data in real-time.
- **History Log** - access a history log on the mobile device to retrieve data files previously sent from the command center.
- **Alert Button** –push one button to send an alert to the command centre for immediate assistance. Live video is sent automatically as well.

### 2.2 At the Control Centre

- **Live simultaneous video feeds** - simultaneously monitor multiple real-time video feeds from field users and fixed cameras.
- **Push technology** - instantly push video, images, text and other data files directly to field personnel or others. Data automatically appears on the device without user action.
- **“Multi-Push” capability** - by exercising a single command, the same data files can be pushed to up to 100 users simultaneously regardless of location.
- **Remotely take control of mobile devices remotely using simple commands** - turn the mobile camera on or off to control incoming video streams; force video from mobile or fixed cameras to play on the remote device; force the device to call any phone number (if in cellular coverage), including a conference bridge.

- **Track field personnel** - pinpoint the exact geospatial location of field personnel and track their last movements in real time.



- **Video archive** - Incoming video is tagged with geospatial coordinates and stored on a frame-by-frame basis for easy retrieval and analysis. Archived video can be positioned over detailed maps specifying its precise origin.

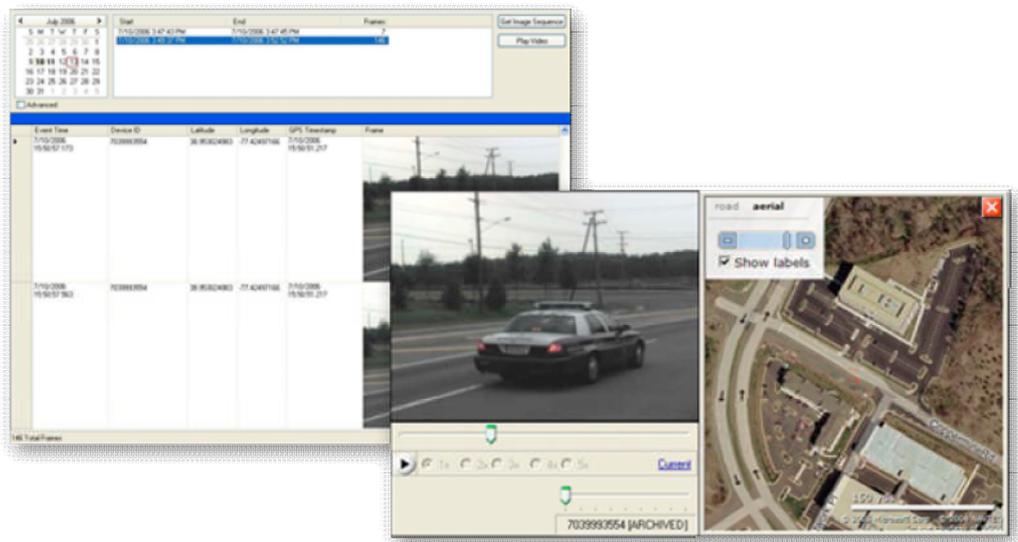
### 2.3 System wide

- **No custom infrastructure or hardware required** - operates with off-the-shelf hardware and commercially available networks.
- **Rapid deployment** - modular software allows supported devices to be provisioned in minutes.
- **Secure and encrypted** - out of the box, all information shared within the RealityVision system is protected by user authentication and the same SSL encryption used by financial institutions and many other organizations.
- **Integrated solution** - an integrated software suite specifically designed to allow for integration of additional 3<sup>rd</sup> party components and systems including:
  - VPNs to encrypt incoming/outgoing data.
  - Video surveillance tools and infrastructures.
  - Artificial intelligence solutions such as facial and object recognition.
- **Mobile Command Centre** - with a supported desktop or laptop and a wired or wireless Internet connection, any authorized individual can act as a fully operational roving command centre.

### 3 Benefits

#### 3.1 In the field

- No delay between the arrival of field personnel at a location and the ability of a command centre to see exactly what's happening.
- Avoids misunderstandings that can arise from verbal descriptions.
- Saves valuable time in assessing or avoiding a critical situation.
- Provides access to live data, resulting in a better and faster assessment of situations no matter where personnel are located.
- Enables field personnel to better assess and understand the nature of unfolding events wherever they are.
- Provides remote users with control over what they're viewing.
- Displays data automatically without user intervention.
- Eliminates the need for phone calls, email, media servers and other traditional delivery methods.
- Provides immediate access to all prior data — such as a photo or a map that had been sent days or weeks before. No need to involve the command centre.
- Ensures the command centre is aware of an urgent situation or unfolding events.
- Live video puts the command center in a better position to respond correctly.
- Alert button can be used to compel the command centre to address and pay attention to a critical time-sensitive transmission from the field.



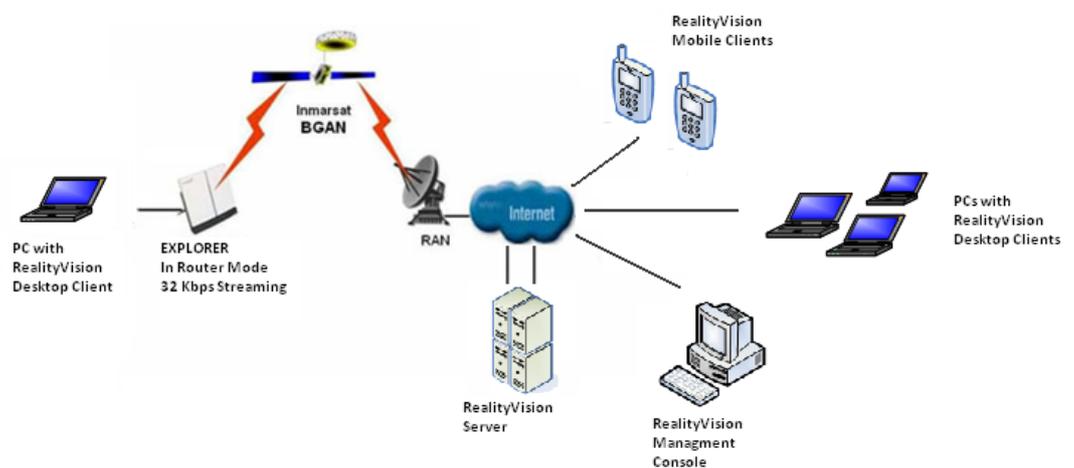
#### 3.2 At the Control Centre

- Leverages mobile as well as fixed cameras to truly understand the nature of unfolding events.
- Ensures a deeper understanding of the situation and surrounding environment.
- Eliminates delays from downloading data, opening messages, or opening images.

- Gives you immediate control over what others are viewing.
- Eliminates time delays associated with sending multiple messages.
- Brings multiple individuals to the same level of understanding immediately.
- Puts the command centre in complete control and streamlines communications to and from remote users, saving valuable time.
- Enables more efficient alerts, and speeds up mobilisation in response to unfolding events.
- Avoids miscommunications caused by “middle-man”.
- Enables better management of resources in the field.
- Facilitates better awareness of where personnel are in relation to each other and to unfolding events.
- Highlights potential safety issues.
- Enables quick retrieval of time- and/or location-specific video segments.
- Uses existing video to better evaluate and assess unfolding events.
- Enables easy review of similar situations to evaluate trends or on-going issues.

### 3.3 System wide

- Not tied to any vendor's proprietary hardware.
- Leverages commercial wireless carriers to provide instant global communications.
- Allows remote personnel to immediately come “on-grid” in minutes.
- Saves investment in existing infrastructure.
- Leverages existing processes and security measures.
- Enables command centre operator to move to another location as needed.
- Allows command centre control to be transferred to other individuals as needed.



## 4 Typical uses and users

- Security
- Remote maintenance and logistics
- Surveillance
- Remote monitoring of construction / engineering
- Tracking of field individuals
- Oil fields / pipelines surveillance / repairs
- Critical infrastructure
- Port operations
- Intelligence collection and dissemination
- Border and port security
- Law enforcement
- Counterterrorism
- Emergency first response and disaster relief
- Force protection and persistent surveillance
- Humanitarian assistance

## 5 Setting up for BGAN

### 5.1 Before you start

This section describes how to setup BGAN for use with RealityVision, and gives an example of a Reality Vision IP configuration. The Reality Vision solution works out of the box, and require no special configuration to use with BGAN.

You install Reality Vision software on your PC or PDA and then connect to BGAN terminal. Simply activate your BGAN Standard IP connection, and click on the Reality Mobile login icon and you will be online within 1 minute.

### 5.2 Equipment needed

In a typical setup, you require:

- PC or Notebook.
  - Optional GPS USB device (if not embedded in PC or Notebook).
- Power supply.
- Any camera or camcorder that has a COMPOSITE or S-Video connector.
- Off-the-shelf USB adapter for COMPOSITE or S-Video input to PC or Notebook.
- Network switch, if plugging in a network camera.
- PC or PDA.
- BGAN terminal
- Infrared lamps (optional).

### 5.3 Step-by-step setup

To setup your computer and BGAN terminal for RealityVision:

- a. Activate a BGAN standard IP connection.  
EXPLORER 500 users: RealityVision does not require any port forwarding, so you can have the BGAN terminal setup either in Modem or Router mode.
- b. Once connected, use your predefined RealityVision login ID to log in.
- c. Once you are online, you can use all the features of RealityVision.

## 6 Supported platforms and equipment

RealityVision is supported on the following devices:

- PCs and laptop running Windows XP or Windows Vista
- The following devices running Windows Mobile:
  - Motorola Q
  - Samsung Blackjack
  - Treo 700WX
  - HP iPAQ 6925
  - AT&T Tilt
  - Motorola Q9h (AT&T)
  - Motorola Q9c (Sprint)
  - Samsung Blackjack II

Other Windows Mobile devices may work, but have not been officially tested by Reality Mobile. Reality Mobile may from time to time post an updated list of supported devices on its website at **[www.realitymobile.com](http://www.realitymobile.com)**

- The following devices running the Blackberry OS (to be released in 2009):
  - Blackberry Bold
  - Blackberry Curve
  - Blackberry World Edition

In addition, the RealityVision server software currently supports the remote viewing of network cameras capable of outputting Netscape/Mozilla format Motion JPEGs. The Netscape format Motion JPEG is an HTTP multi-part MIME message with binary JPEG content.

Third party network cameras that support this format include:

- Axis Communication (cameras and video servers)
- Panasonic (BL and KX Series)
- Fujitsu Siemens (certain models)
- Linksys (certain models)
- Sony (certain models)

The RealityVision server software also supports pan-tilt-zoom controls on network cameras, if they are available through HTTP.

## 7 Resources used over BGAN

Test	Results
Bandwidth used when registered with the host and not broadcasting	Around 200k-2Mb/24-hour
Frame rate when broadcasting video	Max 10fps, but software adjust according to available bandwidth
Resolution	320 x 240
BGAN IP service	Standard IP

## 8 Further details and support

### 8.1 Commercial and International

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### 8.3 Reality Mobile's website

For the latest product information, visit Reality Mobile's web site at:  
[www.realitymobile.com](http://www.realitymobile.com)