

20 April 2010

## Trimble Yuma Rugged Tablet Computer: FAQ for Customers

### What is the Trimble Yuma rugged tablet computer?

The Trimble® Yuma™ rugged tablet computer is an all-in-one mobile computing solution that can transport a user's office to the field, forest, desert, or boardroom.

Users can bring full office capabilities to the field in a mobile package with a powerful 1.6 GHz Intel Atom processor, Windows® 7 Professional operating system, and wireless connectivity. Standard features include integrated Wi-Fi and Bluetooth® wireless technology connectivity, GPS, and two geotagging-enabled digital cameras. The Trimble Yuma tablet can be further expanded by two USB 2.0 slots—a 34 mm Expresscard, and an SDIO slot. The large 17.8 cm (7 inch) sunlight-readable WSVGA color touchscreen optimizes viewing for a host of mapping and form-based applications.

The ultra-rugged design of the Trimble Yuma tablet ensures operation in any environment—from extreme cold to hot desert sand, or in a vehicle on the bumpiest of roads. The Trimble Yuma tablet features a 32 GB solid state hard drive, and, with no moving parts, it meets stringent MIL-STD-810F military standards for drop, shock and vibration.

It operates in temperatures from -30 °C to 60 °C (-22 °F to 140 °F), and its IP67 rating means it is impervious to dust and water.

### What are the key features of the Trimble Yuma tablet?

- Large 17.8 cm (7 in) sunlight-readable touchscreen display provides optimum viewing of maps and form-based applications.
- Powerful Intel Atom 1.6 GHz processor, designed to run the same large applications as you would on your desktop computer.
- 32 GB solid state hard drive provides ample space for large memory-hungry applications, and, with no moving parts, ensures ruggedness.
- High-yield GPS positioning capable of 2–5 meter accuracy in real-time or after postprocessed differential correction.
- All-in-one device with integrated Wi-Fi and Bluetooth wireless connectivity

**This document is for informational purposes only and is not a legally binding agreement or offer. Trimble makes no warranties and assumes no obligations or liabilities hereunder.**

**Trimble Navigation Limited, 10355 Westmoor Drive, Suite #100, Westminster, CO 80021, USA**

© 2010, Trimble Navigation Limited. All rights reserved. Trimble, the Globe & Triangle logo, GPS Pathfinder, and Yuma are trademarks of Trimble Navigation Limited, registered in the United States and in other countries. DeltaPhase, GPS Analyst, GPSCorrect, ProXH, ProXT, TerraSync, and VRS are trademarks of Trimble Navigation Limited. Microsoft, Windows, Windows Mobile, and Windows Vista are either registered trademarks or trademarks of Microsoft Corporation in the United States and/or other countries. The Bluetooth word mark and logos are owned by the Bluetooth SIG, Inc. and any use of such marks by Trimble Navigation Limited is under license. All other trademarks are the property of their respective owners.



- Two integrated digital cameras, with geotagging functionality to easily attach a GPS position to a photo.
- ExpressCard slot for expandability, including attaching a cellular modem card.
- SDIO slot to accommodate high capacity memory cards up to 32 GB, or for use with SDIO peripheral devices.
- A rugged design guaranteed to meet military and IP67 standards, ensuring that the Trimble Yuma tablet will operate reliably in the toughest environments.

### **How is the Trimble Yuma tablet charged and powered?**

The Trimble Yuma tablet is powered by two high-capacity (5100 mAh) Li-Ion batteries. These batteries are hot-swappable, allowing you to change batteries while keeping the device in use. These batteries can be charged (in the unit) using either the supplied AC adapter or the optional vehicle power adapter. The optional office dock accessory also provides two bays for recharging the batteries.

### **What can I do to prolong battery life?**

The major drains on battery life are the backlight, the GPS receiver, and the Bluetooth and WLAN radios. If you rarely or never use one or more of these features, turn them off to significantly increase battery life.

### **How does the Trimble Yuma tablet differ from other tablet computers?**

Other tablet computers on the market that are listed as rugged are typically rated only IP54 and are designed to be able to handle the occasional bump or drop. The IP67 rating and military standard specifications for drop, shock, vibration, and temperature extremes of the Trimble Yuma tablet ensure it can withstand the rigors of an outdoors working environment.

Compared to other 'rugged' tablet computers that have large, heavy casings in order to offer added protection, the Trimble Yuma tablet form-factor is extremely compact and lightweight.

### **What is the difference between a tablet computer and a tablet PC?**

A tablet PC has an active pen and passive screen; the active pen is required to operate the screen, which is unresponsive to touch. The Trimble Yuma tablet is a tablet computer, which has an active touchscreen. This type of screen can be used with a passive stylus or by your fingertip. This flexibility provides a distinct advantage for tablet computers like the Yuma rugged tablet.

### **Is there an extended warranty for the Trimble Yuma tablet?**

The Trimble Yuma tablet comes with a standard one-year hardware warranty. Additional one- and two-year warranty extensions are available at time of purchase.

### **What software applications can I run on a Trimble Yuma tablet?**

Any applications designed for desktop computers running the Windows 7 operating system will work with the Trimble Yuma tablet. Applications designed to work solely on Windows Mobile® powered devices are not compatible with the Windows 7 Professional operating system and will not work on a Trimble Yuma tablet.

## What are the features and benefits of the Windows 7 Professional operating system?

The Windows 7 Professional operating system on the Trimble Yuma tablet is a full version of the latest Windows operating system, not a pared-down tablet version with limited functionality. As a result, you can now take all the functionality of your desktop computer to wherever you work. With a familiar Microsoft user interface, the Windows 7 Professional operating system provides a wide range of standard software applications, identical to those of your desktop operating system.

In addition, the Windows 7 Professional operating system comes with several new features and improvements in performance and reliability. For more information, go to <http://www.microsoft.com/windows/windows-7/compare/top-ten-reasons.aspx>.

## Can the Windows 7 Professional operating system be downgraded to the Windows XP or Windows Vista operating systems?

The Windows 7 Professional drivers for many of the components of the Trimble Yuma tablet are incompatible with the Windows XP and Windows Vista® operating systems, so the tablet will not perform correctly if downgraded to one of these operating systems. Trimble does not recommend this action, which will void the warranty on the device.

## Can I change the language used by the Trimble Yuma tablet operating system?

The Trimble Yuma tablet's Windows 7 Professional operating system is only available in English; language packs are not available for download for this edition.

## What versions of Trimble software support the Trimble Yuma tablet?

The Trimble Yuma tablet supports the following field software applications:

- TerraSync™ software, version 4.01 or later
- Trimble GPScorrect™ extension for ESRI ArcPad software, version 3.01 or later
- Applications developed with GPS Pathfinder® Tools Software Development Kit (SDK), version 2.34 or later
- Third-party field software written for Windows 7 that supports NMEA input

## What ships standard in the box?

The Trimble Yuma tablet includes the following standard parts and accessories:

- AC charger with international power cords
- Extended battery set
- Stylus pen
- Stylus tether
- Hand strap
- Ultra clear screen protectors (2-pack)
- Extended cap
- Display cleaning cloth

## What optional accessories are available with the Trimble Yuma tablet?

The following optional accessories are available for purchase:

Accessory	Part number
Yuma vehicle charger (11-16V)	69569-00
Yuma anti-glare screen protectors (2-pack)	69564-00
Yuma office dock	69568-00
Yuma rugged keyboard	69562-00
Yuma deluxe carry case	69571-00

The following standard accessories can also be purchased separately as spare or replacement parts:

Accessory	Part number
Yuma extended battery set	69561-00
Yuma ultra-clear screen protectors (2-pack)	69563-00
Yuma extended cap	69565-00
Yuma hand strap	69566-00
Yuma stylus tether	69567-00
Yuma international AC power kit	69570-00

## What GPS output protocols does the Trimble Yuma tablet support?

The Trimble Yuma tablet GPS outputs data in either SiRF or NMEA protocol. If you connect to the receiver using Trimble GPS field software, NMEA output is switched off. If you need to re-enable NMEA output, you can use the VGPS software which is installed on the Trimble Yuma tablet.

## How do I ensure the best GPS performance with the Trimble Yuma tablet?

When collecting point features or vertices, Trimble recommends that you log GPS data for at least 30 seconds, using a 1-second logging rate. Collecting multiple positions for a static feature helps to improve accuracy by averaging out the errors in individual GPS positions. In heavy canopy, or other difficult environments, logging for 1–2 minutes is recommended.

Pausing briefly (5–10 seconds) before logging a point feature or vertex also helps to get the best performance from the receiver. This enables you to ensure that the internal GPS receiver is horizontal and correctly located over the feature you are mapping, and allows it to settle so that positions are not influenced by the recent movement of the handheld.

## Can I use postprocessed differential correction with the Trimble Yuma tablet?

Provided your field software stores raw GPS measurements (for example, the Trimble TerraSync software, the GPSCorrect extension, or an application created with Trimble's GPS Pathfinder Tools SDK), you can differentially correct this data back in the office.

In addition to having the appropriate field software, you also require at least one license to the Trimble GPS Pathfinder Office software, or the Trimble GPS Analyst™ extension for ESRI ArcGIS Desktop software, to actually perform the postprocessing of your GPS data.

The Trimble Yuma tablet computer does not output GPS carrier data, so you cannot use carrier postprocessing techniques. However, the new postprocessing engine with Trimble DeltaPhase™ technology enhances the code postprocessing accuracy achievable with the Trimble Yuma tablet computer. The new postprocessing engine was introduced in the GPS Pathfinder Office software version 4.20 and the Trimble GPS Analyst extension for ESRI ArcGIS Desktop software version 2.20.

### **Can I use accuracy-based logging with the Trimble Yuma tablet computer?**

If your field software supports accuracy-based logging (for example, the TerraSync software), you can specify an accuracy threshold for either real-time or postprocessed accuracy. Only positions with accuracy estimates better than the specified threshold will be logged. Be aware, however, that accuracy thresholds for SiRF-based receivers have a higher degree of uncertainty. For this reason, accuracy estimates will be no lower than 2 meters. Make sure that your accuracy-based logging threshold is not set lower than 2 meters.

### **What real-time correction options are available with the Trimble Yuma tablet?**

The Trimble Yuma tablet supports WAAS correction services in North America. In open GPS environments, the Trimble Yuma tablet typically achieves 2–5 meter accuracy using SBAS.

### **Can I connect the Trimble Yuma tablet to a higher accuracy receiver?**

The Trimble Yuma tablet is compatible with all Trimble Mapping & GIS GPS receivers, including the GPS Pathfinder ProXH™, ProXT™, and ProXRT receivers. The Trimble Yuma tablet allows a Bluetooth connection to the GPS Pathfinder Pro series for cable-free use. The Trimble Yuma tablet also allows connection to older Trimble receivers (for example GPS Pathfinder Pro XR and Pro XRS receivers) through a serial cable to the RS232 connector on the bottom of the tablet.

### **Can I use corrections from a Trimble VRS network over the Internet with the Trimble Yuma tablet?**

The Trimble Yuma tablet can be used to receive corrections from a Trimble VRS™ network if you have an external cellular modem connected to the ExpressCard slot. These corrections can then be transmitted through Bluetooth wireless technology to an external GPS receiver such as the GPS Pathfinder ProXRT. However, corrections from a VRS network cannot be applied to the internal GPS receiver of the Trimble Yuma tablet.

### **Can I use an external GPS antenna with the Trimble Yuma tablet?**

The Trimble Yuma tablet does not have an external antenna option. The device is designed to achieve specified accuracy with the integrated antenna of 2–5 meter accuracy in real-time or after postprocessed differential correction.

### **What connectivity options does the Trimble Yuma tablet support?**

The Trimble Yuma tablet has integrated Bluetooth wireless technology and integrated Wi-Fi support for connecting to a variety of peripheral devices, or to the Internet and corporate networks for sending and receiving data, files, and email. There is a DB9 serial port for connecting to other receivers, and two USB-host ports that support USB devices, such as a digital camera, scanner, printer, modem, or mouse, and USB mass storage devices.

The ExpressCard slot supports a range of applications, including memory and wired and wireless communication.

### **Does the Trimble Yuma tablet have a flight mode for use in an aircraft?**

The Trimble Yuma tablet does not have an explicit “flight mode”. The Windows Mobility Center application accessed through the Control Panel can be used to turn off the Wi-Fi radio. The Bluetooth Manager can be used to disable the Bluetooth radio. Alternatively, you can perform a full power down of the device.

### **What can I use the Trimble Yuma tablet’s Wi-Fi capabilities for?**

The Trimble Yuma tablet has an integrated wireless Local Area Network (LAN) radio compliant with IEEE 802.11 b/g that you can use to receive data anywhere within the range of a wireless LAN access point. Wireless LAN is often referred to as Wi-Fi. There are many publicly available Wi-Fi access points (also known as “hotspots”). To locate nearby access points, use Internet sites such as [www.jiwire.com](http://www.jiwire.com). Using the Wi-Fi radio in a Trimble Yuma tablet does not impact GPS performance, but battery power is consumed faster when there is an active connection to a Wi-Fi access point.

### **What can I use the Trimble Yuma tablet’s Bluetooth capabilities for?**

The Trimble Yuma tablet has an integrated Bluetooth radio that you can use to establish cable-free connections to other Bluetooth devices within a range of 10 meters. Using a Bluetooth wireless connection, you can communicate with Bluetooth-enabled devices such as a laser rangefinder, wireless headset, or barcode scanner.

Using the Bluetooth radio in a Trimble Yuma tablet does not impact GPS performance, but battery power is consumed faster when there is an active connection to another Bluetooth-enabled device.

### **How can I connect the Trimble Yuma tablet to a cellular network?**

The ExpressCard slot can accommodate a 34 mm wide ExpressCard (ExpressCard/34). Cellular modems with this interface are commonly available for purchase, and are often available at locations that supply laptop or computer peripherals. For guidelines on how to select an appropriate ExpressCard, refer to the [Trimble Yuma tablet ExpressCard Support Note](#).

### **What expansion options are available on the Trimble Yuma tablet?**

The SDIO and ExpressCard slots both accommodate memory cards (SD, SDHC, SDIO, MMC, MMC 4.0, Express card SSD cards) in typical memory sizes.

### **What are the functions of the Trimble Yuma tablet’s integrated digital cameras?**

The Trimble Yuma tablet features two integrated digital cameras that you can use to capture still photos and video. The 1.3 megapixel user-facing camera is ideal for video conferencing and calls, while the outward-facing 2 megapixel camera can be used to capture photos with greater detail. The Trimble Yuma tablet uses an application called G-Camera to control the cameras and also to attach a GPS position, if required.

Still photographs can be taken with a maximum resolution of 1600x1200 pixels with the 2 megapixel camera, and 1280x1024 pixels with the 1.3 megapixel camera. Still photos are stored in the JPEG format which is widely readable on all types of computer.

Video clips are recorded at a resolution of either 320x240 or 640x480 pixels. They are stored in .WMV format, which can be viewed on the Trimble Yuma tablet and also on most computers using an application such as Windows Media Player.

Photos and videos can be previewed on the Trimble Yuma tablet using the Browser mode of the G-camera application.

### **Do the integrated cameras have a flash ('strobe')?**

No, there is no flash capability. In low-light situations, you can adjust the brightness and contrast levels or select Night Mode to improve subject visibility.

### **What can I use the digital camera's geotagging capabilities for?**

With geotagging, not only is the picture time- and date-stamped, but the current GPS position is also recorded in the picture's EXIF header. This means that the picture can always be identified in space and time, even if it is subsequently separated from the GIS data you were collecting at the time the picture was taken.

### **Can I use the camera as a barcode reader?**

Some proprietary business applications allow you to use the digital camera as a barcode scanner, but this capability is not currently available as a stand-alone application. For companies wanting to implement this capability in their application, SDK packages exist.

### **Can I link pictures to GIS features that I am capturing?**

Yes. The Trimble TerraSync software can be used to control taking still photographs. Any photographs initiated from within the TerraSync software are automatically associated with the current GIS feature, and are moved to the folder in which your TerraSync data is being stored. This file association is preserved during data download and export through the GPS Pathfinder Office software.

### **Where can I get more information?**

Go to [www.trimble.com/mgisyuma.shtml](http://www.trimble.com/mgisyuma.shtml), email [mgis\\_info@trimble.com](mailto:mgis_info@trimble.com), or contact [your local Trimble reseller](#).