



# Juno T41

## Rugged Handheld Computer



The flexible, fully-rugged Juno T41 is available in a wide variety of configurations. Build the handheld computer you need: Android or Microsoft Windows operating systems, Barcode Imager, Ultra-High Frequency RFID, Smartphone or GPS collector (or combinations). Every Juno T41 is a reliable small workhorse computer designed to last for years in any environment.

### KEY FEATURES & MODELS

#### Juno T41 C, X, M: Basic Model with Smartphone option

Fully Rugged design with IP65 or IP68; Mil-ST-810G

Choice of Operating Systems: Windows Embedded Handheld (WEHH) 6.5 or Android 4.1 "JellyBean"

Processor: 800 MHz or 1GHz TI OMAP 3

RAM: 512 MB

Multi-touch User Interface with capacitive stylus compatibility

8 MP camera with dual LED flash and geo-tagging/  
Audio/Video

2-4 Meter integrated GPS receiver w/SBAS

Bluetooth and Wi-Fi 802.11 b/g/n; CCX certified

4.3" WVGA Sunlight-readable Corning® Gorilla®  
Glass Display

Accelerometer and Electronic Compass

Full-Day Battery Life

Raw GPS Data Available for post-processing to enable  
sub-meter performance

3.75G cellular data, text & voice optional

Camera Barcode Scanning Application

Software Development Kit to customize workflow

#### Juno T41 S: 1D/2D Barcode Imager

White light illumination and red LED-based aimer for  
ease of use

High-motion tolerance for quick scanning  
responsiveness

Omni-directional reading capabilities for real world use  
conditions

Rapid Scanning Capability for high read rates no matter  
the angle or orientation

Access to other valuable tools such as:

- Multicode reading

- Data editing

- Image capture

- Illumination, aiming, presentation modes

#### Juno T41 R: Ultra-High Frequency RFID

Rapid-Read, high-accuracy performance on multiple  
tags with multiple orientations, even in crowded  
conditions

Read-Range: 3.5+ (12'+) Meters for 5 cm<sup>2</sup> (2") UHF  
tags in unobstructed space

Integrated antenna with the ability to transmit up to  
+30 dBm (1 Watt) power for demanding applications

Configurable performance settings and use-case  
parameters in the pre-loaded Trimble SearchLight  
application

Supports EPCglobal Gen 2 (ISO 18000-6C) protocol

Automatically configured and ready for use around the  
world:

- FCC Certified (North America): 902-928 MHz  
bands

- ETSI Certified (EU): 865.6-867.6 MHz bands

- ACMA Certified (AU/NZ): 920-926 MHz bands

Easy-to Use Software Development Kit (SDK) and  
Application Programming Interfaces (APIs) to customize  
all settings including read range, power consumption  
and other features

#### Juno T41 G: Real-Time Enhanced GPS: Accuracy 1-2 Meters in Real Time<sup>1</sup>

Reliable Performance in Reduced Signal Environments

Real-time GPS accuracy of 1-2 meters<sup>2</sup> with SBAS

Dramatic performance improvement with GPS Accuracy  
Algorithm Enabled<sup>5</sup>

Small, portable & ergonomic form-factor

Note: X models contain C functionality and options

Note: S and G models contain C and/or X functionality  
and options



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### EMPOWERING THE MOBILE WORKER

The Juno T41 rugged handheld computer is designed to be long-lasting, from the battery to the processor, and to work through mishaps that would sideline lesser products. The Juno T41 handheld is built to MIL-STD- 810G standards and all are available in your choice of IP65 or IP68 ratings to survive hostile conditions in the field: it can withstand driving rain and liquid immersion, corrosive environments, dust, shock, drops, vibration, prolonged UV exposure and extreme temperatures and altitudes.

All Juno T41 handhelds come in your choice of either Windows Embedded Handheld (WEHH) v 6.5 or Android 4.1 "Jelly Bean" operating systems.

The Juno T41 features an 800 MHz to 1 GHz processor, 512 MB of RAM and up to 32 GB of storage. The 4.3" high resolution Corning® Gorilla® Glass panel capacitive touchscreen is sunlight-readable and beautifully clear. Multi-touch support allows complex selections and controlled zoom to optimize the user experience with maps and detailed information. A capacitive stylus is available as an optional accessory.

Physical connection to other electronic devices is supported via the Juno T41 handheld's custom connector that provides easy connectivity to a USB device, a 9-pin Serial device or a battery charger.

### MODEL OPTIONS – BUILD YOUR IDEAL JUNO T41

#### BASIC AND SMARTPHONE: THE "C" AND "X" CONFIGURATIONS

Tough, powerful and packed with features that take it far beyond "basic," the Juno T41 is designed to replace BYOD smartphones with an 8 MP integrated camera, SMS text and 3.75 cellular data transfer capabilities on GSM networks worldwide. The 800 MHz or 1 GHz processor and 512 MB RAM will run your software fast and reliably. Choose either Android 4.1 or Microsoft WEHH 6.5 operating systems.

#### 1D/2D BARCODE IMAGER: THE "S" CONFIGURATION

TrimbleScan Technology gives your solution an edge by reading an array of traditional barcodes as well as 1D and 2D matrix codes, captures signatures and images. All of these features are customizable using the Trimble "Scan Agent" application. Enterprises can also use the T41 Software Development Kit (SDK) to optimize for specific customer needs.

Omni-directional reading capabilities along with high motion tolerance allows rapid, accurate barcode imaging no matter what the angle or orientation the unit is to the barcodes. Read as many as 200 barcodes per second with 100% accuracy.

Even if the unit is dropped on the concrete... it's going to provide accurate information, without missing a beat.

#### ULTRA-HIGH FREQUENCY SUPPORT: THE "R" CONFIGURATION

The Juno T41 R integrates the Trimble ThingMagic Mercury6e-Micro (M6e-Micro) RFID reader into its small, compact form factor. Using EPCglobal Gen 2 RFID technology, the T41 R rapidly reads tags at different frequencies almost simultaneously, for accurate reads in real world conditions.

The Juno T41R can read a single square 5 cm<sup>2</sup> (2 square inch) UHF RFID tag more than 3.5 meters (11+ feet) away from the unit in unobstructed space. In more challenging environments with higher

levels of interference, it reads 5 cm<sup>2</sup> tags consistently between 1-2 meters. The application reports the tagged asset in order of signal strength.

The Juno T41R is location aware, ready for use in different regions around the world. The FCC Certified and ACMA Certified T41R supports the 902 to 928 MHz and 920 to 926 MHz frequency bands, respectively, and is ready for use in the United States, Canada, Australia and New Zealand. The ETSI Certified T41R uses the 865.6 to 867.6 MHz range and is ready to use in European RFID frequencies.

In short, there is more powerful and compact RFID reader currently on the market today... and nothing as rugged.

**REAL-TIME ENHANCED GPS ACCURACY: THE “G” CONFIGURATION**

Pair enhanced GPS with any other Juno T41 technology including the basic handheld computer, RFID, smartphone, or 1D/2D Imager to get extra value out of your existing workflows. The T41 G provides dramatic improvements in performance compared to other T41 models without the Enhanced GPS, allowing data collection in real-time at 1-2 meter accuracy, while gathering Raw Data Output for post-processing applications.

The Juno T41 G supports the GPS L1 band, along with offering reliable performance in reduced signal environments. Mobile workers who have to move from place to place to collect GPS data on far-flung assets won’t have to waste time waiting for a warm-up: the Juno T41 G boasts an average cold start of less than 33 seconds, and an Assisted-GPS start of less than 3 seconds. DGPS by SBAS (WAAS, EGNOS & MSAS) or RTCM. The Juno T41 G is designed to work optimally with Trimble Positioning Services VRS.

Assets are everywhere now... map accurately and reliably no matter where your workers have to go.

**BUILT FOR WORK IN THE REAL WORLD**

Your business isn’t limited to inside the four walls. No matter your industry, if your people spend work hours outdoors, a rugged handheld is a cost-effective piece of equipment. Integrate the Juno T41 with the right set of features and functionality into your organization and take your applications to the next level.

**MODEL CONFIGURATIONS BY FORM FACTOR:**

The images below depict the available physical form factors of the Trimble Juno T41 computers.



Models in this form factor:	Models in this form factor:	Models in this form factor:
Juno T41 C	Juno T41 CG	Juno T41 CS
Juno T41 X	Juno T41 XG	Juno T41 XS
Juno T41 M (military)		Juno T41 XGS
		Juno T41 CR
		Juno T41 XR
		Juno T41 XGR



<sup>1</sup>Requires SBAS and T41 GPS Accuracy Algorithm. May vary due to atmospheric conditions, multipath, obstructions signal geometry and number of satellites tracked. The GPS Accuracy Algorithm is a Carrier Smoothing Algorithm. Testing done in Open Sky & Light Cover.  
<sup>2</sup>WAAS available in North America only; EGNOS available in Europe only; MSAS available in Japan only.

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### TECHNICAL INFORMATION

#### S, G, R FEATURES

##### 1D/2D Barcode Imager

- White light illumination and red LED-based aimer for ease of use
- High-motion tolerance to deliver quick imaging responsiveness
- Omni-directional reading capabilities for real world use conditions
- Rapid Scanning Capability for high read rates no matter what the bar code angle or orientation is in relation to the unit
  - o 1D supported symbologies:  
EAN/UPC, GS1 Databar (limited expanded & omni-directional), Code 39, Code 128, UCC/EAN 128, ISBN, ISBT, Interleaved/Matrix/Industrial and Standard 2 of 5, Codabar, Code 93/93i, Code 11, MSI, Plessey, Telepen, postal codes (Australian Post, BPO, Canada Post, Dutch Post, Japan Post, PostNet, Sweden Post)
  - o 2D supported symbologies:  
Data Matrix, PDF417, Micro PDF 417, Codablock, Maxicode, QR, Aztec
- Access to other valuable tools such as:
  - o Multicode reading
  - o data editing
  - o image capture
  - o scanning barcodes on mobile phone screens
  - o illumination, aiming, presentation modes

##### Real-Time Enhanced GPS

- 1-2 meter Real-time accuracy with no post-processing or subscription fees required
- Trimble Positioning Services VRS Capable
- Supports GPS L1 band
- Raw Data Output available for post-processing applications
- Average cold start < 33 seconds; Average Warm Start < 3 seconds
- Reliable performance in reduced signal environments

##### Ultra-High Frequency RFID

- Integrated ThingMagic M6e-Micro module
- Integrated orientation insensitive antenna for fast and accurate tag reads
- Power transmission up to +30 dBm (1 Watt) power
- Choice of 865-868 MHz or 902-928 MHz
- Supports EPCglobal Gen 2 (ISO 18000-6C) protocol

#### C, X AND ALL OTHER MODEL FEATURES

- Processor: 800 MHz or 1 GHz, Texas Instruments DM3730
- RAM: 512 MB
- Flash Storage: 8, 16 or 32 GB
- 4.3" WVGA sunlight-readable Corning® Gorilla® Glass display
- Light sensor to auto-adjust display brightness
- Capacitive multi-touch interface
- Integrated 3.75G cellular data, text and voice capability
- 8 megapixel camera with geo-tagging and dual LED flash
- Bluetooth® 2.1 with Enhanced Data Rate
- Wi-Fi (802.11 b/g/n)
- GPS Receiver CCX certified options: 2 to 4 meter accuracy or 1 to 2 meter accuracy (SBAS Capable: WAAS & EGNOS)
- MCX port for optional External GPS Antenna
- Electronic Compass

- Accelerometer
- Robust Custom Port with USB 2.0 Full Speed Protocol
- Conversion Cables available for 9-pin Serial or USB host
- MicroSD memory card slot (supports SDHC up to 32 GB)
- Integrated speaker and microphone
- 3.5 mm Headset Jack with Audio Capability

#### OPERATING SYSTEMS

- Windows Embedded Handheld 6.5
  - o Language Support: Chinese (Simplified), English, French, German, Italian, Japanese, Korean, Portuguese, Russian or Spanish
- Android 4.1 "Jelly Bean"

##### Windows Embedded Handheld 6.5 Standard Software:

- Trimble SatViewer (GPS interface application)
- Trimble CellStart (WWAN configuration application)
- Microsoft® Office Mobile® 2010 (Word Mobile, Excel Mobile, PowerPoint Mobile, Outlook Mobile)
- Internet Explorer Mobile 6
- Microsoft My Phone with SMS Text Messaging
- Camera control application
- 1D/2D Barcode reader camera application
- Flashlight mode control application
- Calculator
- Calendar
- Microsoft Pictures & Videos
- Windows Media Player
- Windows Live Messenger
- Microsoft Task Manager & Notes
- Adobe Reader LE 2.5

##### Android 4.1 "Jelly Bean" Standard Software:

- With language support (All Android default languages)
- App Launcher: Trimble Outdoors Navigator
- Email
- Phone & SMS Text Messaging
- 1D/2D Barcode reader camera application
- Picture & Video Gallery
- Multimedia Player
- Web Browser
- Flashlight mode control application

##### Application Developer Support

- Software Developer Kit with documentation for WEH 6.5
  - o Specific SDKs for C, G, S, and R models to customize workflows
- Software Developer Kit with documentation for Android 4.1
  - o Specific SDKs for C, G, S, and R models to customize workflows

#### STANDARD ACCESSORIES

- International AC Charging Kit
- T41 USB Cable
- Wrist Strap
- Ultra Clear Screen Protectors (qty 2) Kit
- SIM/SD Card Tool
- Quick Start Guide

#### ENVIRONMENTAL SPECIFICATIONS

**Water:** Survives immersion at 6.6 ft (2m) for 1 hour (gray models), IEC-60529 IP-X8

Survives driving rain and water spray (yellow models), IEC-60529 IP-X5, water jet 12.5mm dia @ 2.5-3m

**Dust:** Protected against dust, IEC-60529 IP-6X, dust chamber with under-pressure

**Drops:** Survived multiple drops of 4 ft. (1.22m), MIL-STD-810G, Method 516.6, Procedure IV, Transit Drop

**Operating Temperature:** -22 °F to 144 °F (-30 °C to 60 °C), MIL-STD-810G, Method 502.5, Procedure I, II, III (Low Temp Operating -30 °C); Method 501.5, Procedure I & II (High Temp Operating 60 °C)

**Storage Temperature:** -40 °F to 158 °F (-40 °C to 70 °C), MIL-STD-810G, Method 502.5, Procedure I, II, III (Low Temp Storage -40 °C); Method 501.5, Procedure I & II (High Temp Storage 70 °C)

**Temperature Shock:** Cycles between -22 °F and 144 °F (-30 °C and 60 °C), MIL-STD-810G, Method 503.5, Procedure I-C

**Humidity:** 90% relative humidity with temperatures between 22 °F and 144 °F (30 °C and 60 °C), MIL-STD-810G, Method 507.5, Procedure II

**Altitude:** 15,000 ft (4,572 m) at 73 °F (23 °C) to 40,000 ft (12,192 m) at -22 °F (-30 °C), MIL-STD-810G, Method 500.5, Procedure I, II & III

**Vibration:** General minimum integrity and loose cargo tests, MIL-STD-810G, Method 514.6, Procedure I & II, Category 5

**Solar Exposure:** Survives prolonged UVB exposure, MIL-STD-810G, Method 505.5, Procedure II

**Chemical Exposure:** Resistant to mild alkaline and acid cleaning solutions, fuel hydrocarbons, alcohols and common vehicle and factory machine lubricants

#### PHYSICAL

Size (C,X,M) ..... 6.1 in x 3.2 in x .9 in  
(15.5 cm x 8.2 cm x 2.5 cm)

Size (G) ..... 8.26 in x 3.2 in x 1.26 in  
(20.98 cm x 8.14 cm x 3.19 cm)

Size (S,R) ..... 8.26 in x 3.2 in x 1.26 in  
(20.98 cm x 8.14 cm x 3.19 cm)

Weight (C,X,M) ..... 13.5 oz (.4 kg), including battery

Color ..... Black with Yellow or Black with Gray

#### ELECTRICAL

**Processor:** 800 MHz or 1GHz TI OMAP 3

**Memory:** 512 MB RAM

**Storage:** 8/16/32 GB non-volatile Flash Storage

**Expansion:** microSD card slot, SIM Card Slot

**Display:** 4.3 in (10.9 cm), 480 x 800 pixel, WVGA TFT

**Batteries:** 11.1 V, 2500 mAh, 27.8 Wh Li-ion rechargeable pack

**I/O:** 3.75mm audio jack, MCX GPS antenna port and a custom port that supports USB 2.0 Host, USB Client, 15 VDC power and Serial connections

**GPS:** 2-4 m or 1-2 m accuracy with WAAS/SBAS correction

**Radios:** Bluetooth 2.1 +EDR; Wi-Fi 802.11 b/g/n

**WWAN radios:** UMTS / HSPA+, GSM / GPRS/ EDGE, UMTS

**Bands (WCDMA/FDD):** 800, 850, 1900

**GSM Bands:** 850, 900, 1800, 1900 MHz

#### CERTIFICATIONS

FCC, CE, R&TTE, IC (Canada), A-tick, C-tick, GCF compliant, RoHS compliant, Section 508 compliant, PTCRB, SAR, AT&T network compatible, Wi-Fi Alliance certified, CCX, USB 2.0 Full Speed, MIL-STD-810G, IP65/IP68, MIL-STD-461E.

