



Juno T41

Rugged Handheld Computer for Rail



KEY FEATURES

Reads rail-industry specific AEI tags, developed by and for the rail industry

Reads UHF EPC tags, often used in asset tracking, inventory control, maintenance applications, inspection operations

Reads tags from any orientation: front, side, above, below

Small, lightweight, handheld form factor for complete mobility

Ultra-rugged and integrated for reliability in all environmental conditions

Read range of 2.4-3 meter (8-10 ft) AEI; 3.5+ meter (12+ ft) EPC; reads both types concurrently

Choice of Microsoft® Windows® Embedded Handheld 6.5 or Android™ 4.4 operating system

GSM/CDMA 3.75G dual-mode WWAN connectivity (data only)

Sunlight-readable 4.3" Gorilla Glass capacitive display screen



The Trimble® Juno® T41 R-AEI is a mobile handheld industrial computer with an integrated Ultra-High Frequency (UHF) RFID capability designed to read the rail-industry specific AEI or EPC tags that are used all over the world – at the same time, with high accuracy, and at safe distances for mobile rail workers.

Engineered for safety and new efficiencies

The RFID read-range on the Juno T41 R-AEI is best-in-class, providing an accurate reading even when taken three meters (10 feet) away from the train for AEI tagged rail cars – and even further away for EPC tags¹. This ability to work from a distance is critical for worker safety and overcomes the need to use fixed-location pole readers.

This mobility advantage provides new efficiencies for rail businesses, with the ability to track rail assets beyond the cars that pass fixed readers. Workers armed with the Juno T41 R-AEI can provide critical business information from remote locations, smaller rail-yards and from repair facilities. Connectivity capabilities – including GSM/CDMA² data plan choices, Wi-Fi, and Bluetooth® – allow for instant communication between the worker on-site with the device and back-office management requesting the information.

Rail-worthy rugged

The Juno T41 R-AEI weighs just 0.5 kg (14 oz.), but its lightweight form factor is certified to IP68 and MIL-STD-810G standards, making it impervious to dust and water (from hard rain to submersion) and capable of withstanding extremely low or high temperature conditions, shock, drops and vibrations – all hazards that standard computers could not endure but that are business-as-usual in a busy rail yard.³

The full-color, sunlight-readable, Gorilla® Glass 4.3" display screen gives workers an easy workspace for filling in forms, accessing documents and sending text messages. The built in 8 MP camera provides photos and videos. With a standard 32 GB flash memory, the device can hold data from shift to shift. The built-in battery is designed for all-day work and an optional External Battery Pack extends battery life by up to 80% before a recharge is required.

Integrated technology for rail

In North America, Mexico, Australia and many other countries, the rail industry uses a very specific type of UHF RFID tag which is bolted onto rail cars for inventory and location tracking, called "AEI" tags (AEI stands for "Automatic Equipment Identification"). The European rail industry and some others use "EPC" UHF RFID tags, which are also used in many related industries around the globe, including marine and truck transportation.

The Trimble Juno T41 R-AEI meets international rail requirements by reading both AEI and EPC tags at the same time. It also includes built-in 1-2 meter (3-6 feet) GPS capability. The combination of these technologies provides rail companies with actionable business intelligence and the ability to better coordinate loads safely and efficiently, as product moves through multi-modal transport from production to final destination.

Trimble MCS provides a complimentary Software Development Kit (SDK) and APIs to assist with integration of the handheld computer into company software applications. A choice of either Microsoft® Windows® or Android™ operating system means that the Juno T41 R-AEI handheld will be able to work with any rail business applications already in place.

The RFID Setup App can be used to quickly read and verify AEI and EPC tag information.

Trimble reliability and stability as a provider of rugged, powerful handheld computers give the Juno T41 line of devices an edge over any other AEI RFID solution available today.

Android is a trademark of Google Inc.
Windows is a trademark of Microsoft, Inc.

¹Longer read-ranges may be possible with larger tag sizes.

²GSM and CDMA only available on XGA models.

³See specific rugged specifications on page two of this datasheet.



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TECHNICAL INFORMATION

R-AEI FEATURES

Ultra-High Frequency RFID

- Reads rail-industry AEI tags and UHF EPC tags concurrently
- AEI Decoder Tool (SDK)
- Camera barcode scanning app included
- Integrated ThingMagic M6e-Micro module
- Integrated antenna supplies fast and accurate tag reads from all directions and regardless of product orientation.
- Power transmission up to +30 dBm (1 Watt) power
- Choice of 865-868 MHz or 902-928 MHz
- Read range of 2.4-3 meter (8-10 ft) AEI; 3.5+ meter (12+ ft) EPC; reads both types concurrently¹
- Supports EPCglobal Gen 2 (ISO 18000-6C) protocol

Real-Time Enhanced GPS

- 1-2 meter (3-6 feet) real-time accuracy with SBAS (WAAS, EGNOS) correction; with no post-processing or subscription fees required
- Supports GPS L1 band
- Average cold start < 33 seconds; Average Warm Start < 3 seconds
- Reliable performance in reduced signal environments

OTHER MODEL FEATURES

- Processor: 1.0 GHz, Texas Instruments DM3730
- RAM: 512 MB
- Battery Capacity: 3300 mAh, 3.7 V (@0.2C), 12.2 Wh
- 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
- Flash Storage: 32 GB
- 4.3" WVGA sunlight-readable Corning® Gorilla® Glass display - 480 x 800 pixel, WVGA TFT
- Light sensor to auto-adjust display brightness
- Capacitive multi-touch interface
- Integrated 3.75G cellular data, and text capability²
- 8 megapixel camera with geo-tagging and dual LED flash
- Bluetooth® 2.1 with Enhanced Data Rate
- Wi-Fi (802.11 b/g/n)
- WWAN Supported Technologies (GSM / CDMA) : GSM, GPRS, EDGE, UMTS / UMTS, HSPA+
 - CDMA (W-CDMA/FDD) Bands: 800, 850, 1900 MHz
 - GSM Bands: 800, 850, 1800, 1900 MHz
- 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
- SIM card slot and 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 (WEHH) 6.5
 - o Language Support: Chinese (Simplified), English, French, German, Italian, Japanese, Korean, Portuguese, Russian or Spanish
- Android 4.4 "KitKat"

Windows Embedded Handheld 6.5 Standard Software:

- Trimble RFID Set Up Application
- 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 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 4.4 "Kit Kat" Standard Software:

- With language support (All Android default languages)
- Trimble RFID Set Up Application
- App Launcher: Trimble Outdoors Navigator
- Download other 3rd party applications designed for Android 4.1 and above
 - Email and People (Contacts)
 - SMS Text Messaging
 - 1D 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 R models to customize workflows
- Software Developer Kit with documentation for Android 4.4
 - o Specific SDKs for 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

RECOMMENDED ACCESSORY

- External Battery Pack extends continuous use by 80% (See illustration of pack on product at right)

ENVIRONMENTAL SPECIFICATIONS

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

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

Drops: Survived multiple drops of 1.2 m (4 ft), MIL-STD-810G, Method 516.6, Procedure IV, Transit Drop

Operating Temperature: -30 °C to 60 °C (-22 °F to 140 °F), 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 °C to 70 °C (-40 °F to 158 °F), 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 -30 °C and 60 °C (-22 °F and 144 °F), MIL-STD-810G, Method 503.5, Procedure I-C

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

Altitude: 4,572 m (15,000 ft) at 23 °C (73 °F) to 12,192 m (40,000 ft) at -30 °C (-22 °F), 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..... 20.98 cm x 8.14 cm x 3.19 cm
(8.26 in x 3.2 in x 1.26 in)

Weight..... 0.5 kg (14.0 oz) including battery
Color Black with Gray

CERTIFICATIONS

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



¹The RFID read range can vary according to the type of tag and reading environment.

²GSM and CDMA only available on XGA models. All other models are GSM only, no CDMA.

Specifications may be changed without notice.

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