

Trimble ACU

Release Notes

Revision D
October 2002
PN 571 702 060

This document contains important information about using the Trimble ACU. Trimble strongly recommends that you read and understand the information contained in this document before using the Trimble ACU for the first time.

This device complies with part 15 of the FCC Rules.

Operation is subject to the following two conditions:

- (1) The device may not cause harmful interference and**
- (2) this device must accept any interference received, including interference that may cause undesired operation.**

Welcome to the Trimble ACU

The following notes are relevant for all Trimble ACU users. Please thoroughly read and understand the following information before using the Trimble ACU.

These release notes include information relating to:

- General information
- Hardware information
- Trimble 3600 Total Station
- Trimble 5600 Total Station
- Trimble 5800 RTK Rover
- Safety information
- Regulatory information

For more information on any of these topics, or for any other inquiries, contact your local Trimble representative, or alternatively visit <http://www.trimble.com>.

NOTE: The Trimble ACU should be charged with the mains charger for a minimum period of two hours before use. Ideally, the Trimble ACU should always be on charge when not in use.

NOTE: If the Windows CE operating system (version 4.0.6 or later) on the Trimble ACU needs to be hard reset at any time, external power MUST be connected before resetting the device. If external power is not connected, upon hard reset, the Trimble ACU will shut down until external power is connected.

General information

Power supply

If your Trimble ACU configuration has one of the following configuration part numbers, the standard power supply (PN 571906344) has been substituted with a power supply that is specific for your region.

Region:	Config part number	Power supply part number
US:	P71225502-US	571126192
Europe (except GB)	P71225502-EU	571126190
GB	P71225502-GB	571126194

Adjusting your total station

If you want to switch between using the Trimble ACU and another CU on either the Trimble 3600 Total Station or the Trimble 5600 Total Station, Trimble strongly recommends that before each switch you perform the following adjustments (if available):

- Horizontal collimation
- Vertical collimation
- Compensator run center

Hardware information

Internal battery

The internal battery of the Trimble ACU provides up to one hour of stand-by time to avoid any potential data loss should your external power source expire. The internal battery powers the Trimble ACU only. It does not power any device that may be connected.

Under no circumstances should you rely on the internal battery for extended periods, especially during data collection. When the Trimble ACU is running on its internal battery, Trimble recommends that you connect an external power source immediately. External power sources include the Trimble ACU mains charger, the Trimble 5600 Total Station and the CU holder for robotic surveying. See the latter sections of these release notes for information on connecting to these devices.

Using the backlight

To toggle the backlight on and off, press the Shift button, and then press the Trimble button. To access the backlight settings, from the Start menu select Settings / Control Panel and then click on the Display icon.

Typing alphabetic characters

Use the Alpha key to enter alphabetic characters on the Trimble ACU. Press this key to switch between alpha and numeric modes. To enter an upper case character in the preview panel, press the Shift key while in alpha mode.

Using Simple Caps Lock

To hold the Caps Lock on for more than one character when in alpha mode, set Simple Caps Lock in the operating system:

- From the Start menu, select Settings / Control Panel and then click on the Keyboard icon.
- In the Sticky keys tab, select the Enable simple caps lock check box.

Press the Shift key twice to switch between Simple Caps Lock on or off.

Trimble 3600 Total Station

To use the Trimble ACU with a Trimble 3600 Total Station, the instrument must have firmware version 02.00 or later installed.

To start the system, use the following procedure:

- Set up the instrument.
- Ensure that the Trimble ACU is turned off, and then attach it to the front of the instrument.
- Attach a freshly charged internal battery to the instrument.
- Press the green power button on the Trimble ACU until you hear a short beep from the instrument. The short beep indicates that the instrument has turned on.

You will then be able to use the survey application software installed on the Trimble ACU (for example, Trimble Survey Controller) to connect to the instrument and start your survey.

NOTE: Please refer to your survey application software documentation for more application specific information about this procedure.

NOTE: If your survey application software does not connect to the instrument at any time, it may be because the instrument is turned off. To re-connect to the instrument, disconnect the Trimble ACU and the instruments power source, and then repeat the above start up procedure.

When connected to the Trimble 3600 Total Station, the Trimble ACU will draw enough power from the instrument to maintain its current internal battery level. When the

power source expires, the Trimble ACU automatically switches to its internal battery. At this point, Trimble recommends that you connect a new external power source immediately.

Trimble 5600 Total Station

To use the Trimble ACU with a Trimble 5600 Total Station, the instrument must have firmware version 696-03.05 or later installed.

To start the system, use the following procedure:

- Set up the instrument.
- Ensure that the Trimble ACU is turned off, and then attach it to the front of the instrument.
- Connect a power supply to the foot-connector of the instrument.
- Press the green power button on the Trimble ACU to start the system. The instrument should beep indicating that it has been turned on.

You will then be able to use the survey application software installed on the Trimble ACU (for example, Trimble Survey Controller) to connect to the instrument and start your survey.

NOTE: Please refer to your survey application software documentation for more application specific information about this procedure.

NOTE: If your survey application software does not connect to the instrument at any time, it may be because the instrument is turned off. To turn on the instrument

without affecting the status of the Trimble ACU, check the power supply, and then press the measure button on the reverse of the instrument. The instrument will turn on, and the survey application software will connect to the instrument.

When connected to the Trimble 5600 Total Station, the Trimble ACU will charge its internal battery from the instrument's power source. Once charged, the Trimble ACU will continue to draw enough power from the instrument to maintain a full internal battery. When the external power source expires, the Trimble ACU automatically switches to its internal battery. At this point, Trimble recommends that you connect a new external power source immediately.

To connect to the CU holder for robotic surveying, use the following procedure:

- Connect a freshly charged battery to the holder.
- Connect a radio to the holder.
- Ensure that the Trimble ACU is turned off, and then attach it to the holder.
- Press the green power button on the Trimble ACU to start the system.

NOTE: Please refer to your survey application software documentation for more application specific information about this procedure.

In this configuration, the Trimble ACU will behave the same as when attached directly to a Trimble 5600 Total Station with respect to power management.

Trimble 5800 RTK Rover

The Trimble ACU should always be used with the latest Trimble 5800 GPS Rover firmware version.

To start the system, use the following procedure:

- Attach the Trimble 5800 RTK Rover and the Trimble ACU Holder to the rod.
- Insert a freshly charged battery in the Trimble 5800 GPS Rover, and then press the green power button to turn it on.
- Attach two freshly charged batteries to the Trimble ACU holder.
- Ensure that the Trimble ACU is turned off, and then attach it to the Trimble ACU Holder.
- Press the green power button on the Trimble ACU to start the system.

You will then be able to use the survey application software installed on the Trimble ACU (for example, Trimble Survey Controller) to connect to the receiver and start your survey.

NOTE: Please refer to your survey application software documentation for more application specific information about this procedure.

When connected to the Trimble ACU Holder, the Trimble ACU will draw enough power from the holder to maintain its current internal battery level. When the power source expires, the Trimble ACU automatically switches to its internal battery. At this point, Trimble recommends that you connect a new external power source immediately.

The Trimble ACU Holder has an internal electronic power switch that is activated by pressing the green power button

on the Trimble ACU when it is attached to the holder. If the Trimble ACU is powered on while being attached to the holder, the holder will remain off and will not supply power to the Trimble ACU. To correctly run the Trimble ACU from the batteries in the holder, use the following procedure:

- Remove the Trimble ACU from the Trimble ACU Holder.
- Ensure that the Trimble ACU is turned off, and then attach it to the Trimble ACU Holder.
- Press the green power button on the Trimble ACU to start the system.

Safety information

Only persons qualified and approved by Trimble may disassemble the Trimble ACU. Any other disassembly may damage your product and void the warranty. This warning applies to the Trimble ACU and all associated parts.

Battery safety

Please take notice of the following battery safety information:

- The unit has a built in battery NiMH 2.8 watt-hours 4.8V.
- Do not expose the unit to high storage temperatures above 70° C for extended periods.
- Do not charge the battery pack if the ambient temperature exceeds 65° C or is below 0°C.

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- Handle a damaged or leaking battery with extreme care. If you come in contact with the electrolyte, wash the exposed area with soap and water. If it contacts the eye, flush the eye with water for 15 minutes and seek medical attention.

Power cords & AC adaptors

Please take notice of the following power safety information:

- Use only the AC Adaptors intended for the Trimble ACU.
- Using any other AC Adaptor can damage your product and may void your warranty.
- AC Adaptors are designed for "INDOOR USE ONLY". Avoid using the AC Adaptor in wet or outdoor areas.
- Unplug the AC Adaptor from power when not in use.
- Do not short the output connector.

The AC adaptor is a wall mount unit that does not require an additional power cord. The adaptor is supplied with replaceable socket adaptors. Use the adaptor that matches the plug and voltage requirement of your local area. When travelling to another country, bring the adapter required for that country.

Rated Voltage: 100-240 V, AC 47-63 Hz.

Regulatory Information

This section contains legal information for the U.S and Canadian markets.

USA

Class B statement - Notice to the users:

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Notice - Changes and modifications not expressively approved by the manufacturer or registrant of this equipment can void your authority to operate this equipment under Federal Communications Commissions rules.

Canada

This digital apparatus does not exceed the Class B limits for radio noise emissions from digital apparatus as set out in the radio interference regulations of the Canadian Department of Communications.

Le présent appareil numérique n'émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de Classe B prescrites dans le règlement sur le brouillage radioélectrique édicté par le Ministère des Communications du Canada.

The term "IC:" before the certification/registration number only signifies that the Industry Canada technical specifications were met.

Declaration of Conformity

The Trimble ACU adheres to the following standards.

Radio

EN 300 328 (2001)

Bluetooth Core Specification 1.1, part A - Radio specification, 20.B353/091 (2001-07-02)

FCC part 15.247, sub-part C (2001)

FCC part 15, sub-part B (2001)

Electrical

EN 60 950:2000 / IEC 60 950, third ed. 1999

IP classification

EN 60 529 / IEC 60 529

EMC

EN 301 489-17 (2001)