

Changes to FCC Part 90 Regulations Trimble FAQs

1. How to know if this FCC rule change applies:

- If you have Robotic Total Station products, this FCC rule change applies to you:
 - Geodimeter® 4000 / 600 Robotic Total Station / ATS MC / ATS 600
 - Spectra Precision™ ATS 3D
 - Trimble® 5600 Robotic Total Station / ATS
 - Zeiss S Robotic Total Station series
- If you have GPS RTK systems from Trimble, Spectra Precision or Geotronics, with one of the following radios - this FCC rule change may apply to you, so also check FAQ #2 to find out if your radio uses a 25 kHz bandwidth:
 - TRIMMARK™ 3
 - TRIMMARK IIe
 - TRIMMARK II
 - TRIMMARK
 - TRIMTALK™ 450
 - TRIMTALK 450S
 - SiteNet™ 450
 - Geotracer (Georadio)
 - Pacific Crest (some models)
 - Teledesign (some models)
 - Any other 25 kHz radio. Please check with your distributor.
- If you have a SiteVision® or BladePro® 3D system from Trimble or Spectra Precision with one of the following radios, this FCC rule change may apply to you, so also check FAQ #2 to find out if your radio uses a 25 kHz bandwidth:
 - SiteNet 450
 - Georadio (ATS radio)
 - Teledesign (some models)
 - Pacific Crest (some models)
 - Any other 25 kHz radio. Please check with your distributor.



2. How do I check the bandwidth for my radio to find out if it is 25 kHz?

- If you have a license already, locate the section called “emissions designator”. If your emissions designator begins with any number higher than “11K2” (for example ‘12K2’ is considered higher), your radio is classified as 25 kHz (or wideband). This FCC rule change applies to your radio.
- If you do not have a license, and do not know the bandwidth of your radio, please contact your local Trimble distributor.

3. If you have one or more of the following products, this FCC rule change does NOT apply to you:

GPS RTK systems from Trimble, Spectra Precision, or Geotronics with any of the following radios:

- SiteNet 900
- FreeWave 900 MHz spread-spectrum models
- Certain other 900 MHz spread-spectrum transmitters

SiteVision or BladePro 3D systems from Trimble or Spectra Precision with any of the following radios:

- SiteNet 900
- FreeWave 900 Mhz spread-spectrum models
- Certain other 900 MHz spread-spectrum transmitters

4. What is this FCC rule change?

The FCC is changing the bandwidth and channel spacings used in a class of radios operating under FCC Part 90 rules in radio frequencies in 150–174 MHz and 421–512 MHz assigned to Public Land Mobile Services (PLMRS). Today, the affected products mentioned here use radio frequencies in 421–512 MHz assigned to the FCC Part 90.35 Business/Industrial Pool.

5. Is this FCC rule change specific to Trimble products?

No, this rule change affects a class of radio transmitters used by a broad range of manufacturers for surveying, construction, and numerous other applications. The FCC believes that this change will lead to more efficient use of radio spectrum by reducing channel bandwidth and channel spacing.

6. Is the FCC changing the frequencies we can use?

No, these changes do not affect the frequencies available for RTK GPS base stations or Robotic Total Stations. They affect the maximum bandwidth that radios can use within the existing frequency ranges.



7. What is 'bandwidth' and why is it important?

Bandwidth refers to how much of the frequency spectrum a radio uses for each transmission channel. Wider bandwidth radios (e.g. 25 kHz) use up more of the radio spectrum than narrowband radios (e.g. 12.5 kHz). Consequently, with narrowband radios, more user channels can be accommodated in a given part of the radio spectrum. When you apply for an FCC license you are required to specify the bandwidth of the transmit equipment (radio) in the emissions designator field. Until recently, applicable FCC rules required that radios have a bandwidth no greater than 25 kHz. These radios are known as "wideband" transmitters. Today, the majority of RTK GPS Systems operate with radios using a 25 kHz bandwidth. Under the new FCC regulations, the bandwidth requirements for the radio are changing to 12.5 kHz (and the frequency band assignments are not affected).

8. I am a government agency. Am I affected by these changes?

Yes. If you are a government agency or public safety organization and operate products that include radios that have a 25 kHz bandwidth operating on Part 90 frequencies, you need to maintain an active license to continue to operate your current wideband radios beyond January 13, 2004.

If your Trimble products use radio frequencies in 421–512 MHz bands in the FCC Business/Industrial Pool (FCC Part 90.35) and if you maintain an active 25 kHz license, you can continue to operate these 25 kHz radios until December 31, 2012, which is the same deadline for private industry.

9. Why do I need a license?

If your RTK GPS System uses a transmitting radio that operates in the 430–470 MHz frequency bands, then you are required to obtain a license for that equipment in accordance with FCC Part 90, Public Land Mobile Radio Service (PLMRS), Industrial/ Business Radio Pool regulations (FCC Part 90.35). All Trimble, Geodimeter, and Zeiss Robotic Total Stations operate in this frequency band, and thus require a license.

10. I have an internal radio (receiver) in my Trimble 4700, 4800, 5700, 5800, Trimble R7, or Trimble R8. Does that require a license?

No. A license is only required for transmitting radios.

11. What is the filing deadline for wideband radio applications?

January 13, 2004, is the FCC cutoff for accepting and processing applications for wideband radio licenses. (However, we recommend filing early. See below). From this date forward, the FCC will accept applications for the use of radios with a bandwidth no greater than 12.5 kHz. These radios are known as "narrowband" transmitters.

File Early! Due to an anticipated increase in wideband license applications as a result of this rule change, you are strongly encouraged to file as early as possible in advance of January 13, 2004. Most companies and Frequency Coordinators providing license application services are setting earlier deadlines and requirements to allow sufficient processing time. (Frequency coordination is a prerequisite for FCC license applications for this class of radio equipment.) Many licensing service providers have identified mid-December 2003, as the



expected cutoff date for the processing of license applications. If you are not licensed or have not applied for a license, we strongly advise you to complete and file an application as soon as possible.

12. I applied for and received a license when I first purchased my system but have now lost it. Can I get a copy?

Please contact the FCC or your licensing service provider. You may also check the FCC database <http://wireless.fcc.gov/uls/applications>.

13. The built-in radio I use with my Robotic Total Station uses only 100mW of power. Do I still need a license?

Yes, because your use of this radio falls under FCC Part 90, Public Land Mobile Radio Service (PLMRS), Industrial/ Business Radio Pool, which is not license exempt.

14. I have an older Geodimeter Robotic Total Station with 6 or 8 channels. These frequencies are different from the ones offered now. Am I affected by the regulatory changes?

These radios are affected by FCC regulatory changes, which took place earlier. Please contact your Trimble Distributor or Trimble Support for further information.

15. I have an early GPS RTK product that operates on business/industrial frequencies in the 150–174 MHz range. How does this rule change affect me?

Some early Trimble GPS RTK products include 25 kHz radios that operate on business/industrial frequencies in the 150–174 MHz range assigned to the FCC Part 90.20 Public Safety Pool. If you have these radios, whether you are a government agency or you are in the private sector, they require an FCC wideband license to operate. Active licenses for 25 kHz radios in the Public Safety Pool that are designated for business/industrial use can continue to operate until December 31, 2012.

16. I have a license today for my 25 kHz wideband radio, which will eventually expire beyond January 13, 2004. When it does, will I be able to renew it?

Yes. It is our understanding that active wideband (25 kHz) licenses for frequencies in 421–512 MHz can be renewed for terms that run until December 31, 2012 under FCC Part 90.35 rules for the Business/Industrial Pool.

17. After the FCC January 13, 2004 deadline, will I be able to make changes to my existing wideband radio license?

If you anticipate the need to make changes such as extending the coverage area, we strongly recommend that you do this now.



18. Where can I find out more about the FCC regulations?

- The Association of Public Safety Communications Officials (APCO) website has posted the most recent rule changes and dates published in the Federal Register at www.apcointl.org/frequency/documents/fedreg03-18054.pdf. (To access this document, please copy and paste this URL into your browser.)
- On the FCC Home Page at www.fcc.gov: click Wireless Telecommunications then Rules & Regulations. Scroll down the center page under the Code of Federal Regulations—Title 47—to Part 90, “Private Land Mobile Radios” to find the rules.

19. What resource options exist if I don’t want to prepare the application?

Please check with your distributor for information on companies providing license applications services. For convenience, the following is a partial list of resources on license applications¹:

- Atlas License Company
Attn: Linda Simons
Ph: 800-252-0529
Fax: 866-351-4870
www.alcnds.com (Click Category “GPS-RTK & Robotic”)

Atlas announced a cut-off date of December 10, 2003 for accepting license applications for filing with the FCC. Atlas also announced that it will accept late applications until January 7, 2004, under the following conditions: (1) an additional late fee will apply and (2) they will not be responsible for the potential risk of mechanical or human error in the processing of applications that could result in the denial of the application by the FCC. Please check with Atlas since this information may be subject to change.

- Professional Licensing Consultants, Inc.
Attn: Josie Lynch
Ph: 301-309-2380

20. Can my radio be modified to operate as a 12.5 kHz transmitter?

No. With the exception of the Trimble TRIMMARK 3, a 25 kHz radio cannot be made to operate as a 12.5 kHz transmitter.

21. I have a Trimble TRIMMARK 3 radio. Can I operate my radio in a narrowband mode? If so, how do I configure it to operate this way?

The Trimble TRIMMARK 3 can operate in both 25 kHz and 12.5 kHz mode. Please contact your local Trimble-authorized service center to have it reconfigured.

¹ Please be aware that Trimble does not endorse specific companies, nor assume responsibility for the information or service provided by these companies.



22. I am not sure whether my TRIMMARK 3 is wideband (25 kHz) or narrowband (12.5 kHz). How can I tell the difference?

Please contact you local Trimble-authorized service center.

23. I use a radio with my Trimble RTK, Robotic Total Station or 3D Machine Control system that is not manufactured or supplied by Trimble. Do these changes affect me?

A number of third party radios are compatible with Trimble systems. Please contact the original equipment manufacturer to find out specific information regarding those systems.

24. What will it cost to get a license?

Currently, the FCC fees total about \$100.00. The fees charged by companies providing licensing services generally total less than \$500, and include fees charged by the Frequency Coordinator and the FCC. License renewal fees are less. Since these fees are subject to change, please check with these companies.

25. I have an RTK base radio today, licensed for 25 kHz bandwidth and currently use two rovers with that base. Will I be able to add additional 25 kHz rovers after January 13, 2004 ?

Yes. As long as your license is kept active you can continue to operate it within the FCC regulations. You can add additional RTK rovers with internal 25 kHz radios (receivers), as these radios are receive only.

26. How many transmitters are covered under my existing license?

One or more transmitters may be covered under a single license. Please contact your license service provider to learn more and to ensure that all of your current radios are covered in your active license.

27. I am planning to purchase additional GPS base/reference stations or Robotic Total Stations. Can I add transmitters to my existing license?

You may be able to add transmitters provided that you modify your existing license prior to the January 13, 2004 cutoff. Please contact your licensing service provider to learn more.

28. I obtained a license in the past, but never made use of it. I am now considering the purchase of 25 kHz equipment. Am I covered for this new equipment?

A transmitter needs to be put into service within a year of obtaining a license. If more than a year has passed, please contact your license service provider.



29. I have a license for my GPS RTK system. Is my Robotic Total Station covered under this?

It is not likely to be covered. Unless the two systems are on the same frequency and your license is for two or more transmitters, you need to obtain additional licenses.

30. Where can I obtain documentation on the license I currently hold?

You can view the status of your license on the FCC website at <http://wireless.fcc.gov/uls/applications>. Your license service provider may also be able to assist you.

31. Can I change the frequencies of my transmitter so that it falls outside of the new 12.5 kHz regulations?

No.

32. Do I need to buy new radios?

No, if you maintain a valid license you can continue to operate your existing 25 kHz radios.

