

The Texas Cooperative RTK Network

Frequently Asked Questions

1. What kind of equipment do I need?

If you are installing a Reference Station, we would prefer you install the new Trimble NetRS Reference Receiver that is also L2C ready.

As a Rover, any Trimble 5700 / 5800 / R7 / R8 will work as long as you are using a Trimble TSCe Data Collector (or ACU). You will also need a cell phone or modem that is Internet Data capable or you can put an internal cell phone module in the R8. Any of these combinations with Blue Tooth technology, will give you the optimum setup.

2. Where will the network be available?

When the network matures geographically, the network should be an area almost equal to the cell coverage available in the State of Texas.

3. What Internet connection capabilities will I have to have?

If you have a Reference Station at your facility, you will need a T1 or DSL line. Each Rover will have to have an Internet ready cell phone or modem.

4. What cell phone and carrier should I use?

Different areas in Texas have multi service providers and different phones. We are testing different combinations in each major city and will have recommendations available depending on your main working area. The data format is user defined and will accept all major service providers.

5. What kind of accuracy's can I expect?

When a VRS solution is created, you will basically have a zero baseline when you start the survey. Since the stated horizontal RTK accuracy spec is 1 cm plus 1 PPM of Base Line Length (vertical spec is 2 cm plus 1 PPM), the expected accuracy is better than you would obtain using normal single base station solutions since we are removing one of the error factors. The system can also be set up that when your Rover moves more than a specified distance, it will create a new VRS solution. This will always keep the 1-PPM error factor to a minimum.

6. Who do I contact for support?

Western Data Systems will be available to support your efforts in both the startup phase as well as helping you on a continuing basis. If you are working with a different local Trimble Dealer, you can contact them. Trimble also has a regional tech support person available to you.

7. Can I use other brands of GPS equipment?

At this time, only Trimble brand equipment can be used. We will evaluate different manufacturers for possible Reference Station installations, but on the Rover side, it will have to be Trimble with TSCe data collector.

8. How do I prove my results and how do I know the data is valid?

The same way you do it today. As a Surveyor, you do checks to make sure that the work that you do is good. New technology does not eliminate good survey techniques.

9. Do I still need to calibrate and can I?

This has not changed from the way you do surveys today. The system still works in WGS84 reference frame and therefore needs to be transformed to the coordinate system that you want to use. If it is a state plane, and then select it from the library, but if they are assumed then you will calibrate no differently than you presently do.

10. How far can I go with my Rover?

It is recommended to stay within the boundaries of the network. If you go outside this limit, then you are at your own risk. Outside of the network boundaries, you can obtain a Single Base Station Solution, but you have introduced the error factor that a VRS Solution eliminates, PPM x Base Line Length.

11. What hours of operation will the network provide data?

Streaming of the VRS data solution will be 24/7.

12. Can I use the network for static work?

This network will be established for RTK work first. Once the Network is operational, it can be upgraded to add static capabilities. The question is, with as many CORS stations that are already available to everyone today, is it really worth the time or expense to add more? This will be a decision the members will have to make. As manager of the network, Western Data Systems will do what a majority of the Members decide.

13. What is the elevation mask of the Reference Stations?

All the Reference Stations will be set to a 7-degree mask angle.

14. What is my initialization time?

Initialization is typically better than 30 seconds when using a VRS solution.

15. Will there be any standards set and who will set them?

Western Data Systems will set specific minimum standards for all aspects of the Reference Station including equipment that can be used, antenna mounting, receiver installation and Internet connections. These standards will follow NGS and other Texas State agencies recommendations.

16. How secure and reliable are the communication links?

The main server will be extremely secure with redundant backups, including power. How secure your individual Reference Station is will depend on your installation. We will be happy to assist you in this.

17. Can I send and receive job files from the field?

Yes. You can send the job files via the Internet to and from the field. You can also set up your own FTP sites and transfer data to and from the TSCe (and ACU) using your Internet ready phones.

18. Will this Network eliminate my need to ever set up my own field Base Station?

Unfortunately the answer at this time is no. There will be times when you are working in an area that is outside of the network or does not have cell coverage. When this occurs, you will have to resort back to the same procedures you are using today. As cell coverage expands and the network expands with it, we expect this will become a rarity in the future.

19. How many users can the network handle at one time?

With Internet technology and the software we are using, there is really no limit on the number of Rovers that can access the Network at one time. The initial software purchased will handle 50 concurrent users and can be upgraded in blocks of 50 additional concurrent users as the Network grows.

20. I am presently working with another Trimble dealer; do I have to switch to Western Data Systems as my main dealer?

No, you can continue to work with your present local dealer. You will have to sign the same contract with Western Data Systems as all members will and Western Data Systems will do all billings, but you can purchase your equipment from the dealer of your choice.

21. What do I have to do to become involved?

Contact your local Western Data Systems office. They will work with you on an individual basis to determine your needs and provide you with copy of all documents including Membership Contract. If you are interested in establishing your own Reference Station, Western Data Systems will work with you on a facility evaluation and determine the geographic needs of the Network. .

22. Will I be able to use the Network for my mapping equipment?

It is possible to set the system up to provide GIS/Mapping corrections. But it does not make economic sense. There are a number of good GIS/Mapping correction providers (such as OmniStar and US Coast Guard) that have good coverage at reasonable prices (Coast Guard is free). This Network should be considered a RTK Network only.

23. What kind of spacing will the Network Reference Stations have?

Trimble has a maximum of 70 Kilometer spacing specification between Reference Stations. It is our intention to reduce this spacing, especially in the major metropolitan areas. The reduced spacing will also benefit the Network with some redundancy. But there is no need to establish two Reference Stations on the same street at two different company sites. As we move out into the more rural areas, the spacing will naturally increase, but we will not let it go beyond 70 Kilometers.

24. Does this technology really work?

Yes, there are a number of networks, using this technology, working worldwide at the present time.