

UNAVCO Resources: Engineering How-tos

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UNAVCO Resources: Engineering How-tos

Note that the some of the equipment addressed in the how-tos below is no longer supported by UNAVCO.

GPS Receivers and Related Software

- Trimble NetRS - [How to set up and take care of the UNAVCO NetRS campaign case in the field](#)
- Trimble NetRS - [UNAVCO Basic Use Guide](#)
- Trimble NetRS - [How to connect to the NetRS receiver using DHCP](#)
- Trimble NetRS - [How to send UNIX commands to a NetRS \(internal\)](#)
- Trimble NetRS - [How to configure an XP computer to connect to a NetRS via PPP](#)
- Trimble NetRS - [How to set up a PPP connection to a NetRS using Linux and wvdial](#)
- Trimble NetRS - [How to reset the receiver and reload the kernel](#)
- Trimble 5700/R7 - [How to configure the receiver using Trimble Configuration Toolbox software](#)
- Trimble 5700/R7 - [How to verify receiver tracking using Trimble GPS Configurator software](#)
- Trimble 4700/5700/R7 - [How to execute a post-processing kinematic \(PPK\) survey from start to finish](#)
- Trimble 4700/5700/R7 - [PPK Cheatsheet](#)
- Trimble 4700/5700/R7 - [How to execute a real-time kinematic \(RTK\) survey from start to finish](#)
- Trimble 4700/5700/R7 - [RTK Cheatsheet](#)
- Trimble 5700/R7 and TSC1 Survey Controller - [How to download data from the PC card](#)
- Trimble TSC2 Data Collector and Survey Controller - [Complete Quick-start Guide](#)
- Trimble 4700/4800 - [Quick Start Guide](#)

- Trimble 4700 - [How to configure a GPS receiver and a computer for SuomiNet](#)
- Trimble WinFlash - [How to load new firmware onto the Trimble 4700 receiver](#)
- Trimble Geomatics Office (TGO) - [How to process fast-static and post-processing kinematic surveys using TGO](#)
- Trimble Geomatics Office (TGO) - [TGO User Notes](#)
- Trimble Geomatics Office (TGO) - [How to apply precise orbits in TGO](#)
- Trimble 4000 - [Quick Start Guide](#)
- Trimble 4000 - [How to program survey sessions](#)
- Trimble 4000 - [How to configure for kinematic surveys](#)
- Trimble 4000 - [How to download using TRIM4000 for DOS](#)
- Trimble 4000 - [How to replace the internal batteries in a Trimble 4000 SSI/SSE](#)
- Trimble - [How to download a Trimble receiver using the Trimble rfile program](#)
- Trimble GPSurvey V2.35 - [How to process GPS data \(outline\)](#)
- Topcon GB-1000 - [How to configure for static surveying](#)
- Topcon GB-1000 - [How to configure for rapid static observations](#)
- Topcon GB-1000 - [How to configure for kinematic surveys](#)
- Topcon GB-1000 - [How to download data](#)
- Topcon GB-1000 - [How to download a Topcon GB-1000 receiver using lftp](#)
- Topcon GB-1000 - [How to use the Topcon Tools software, for first-time users](#)
- Topcon GB-1000 - [How to enable 20 Hz \(and other high-rate\) data logging](#)
- Ashtech Z-12 - [How to configure for static and rapid static surveys](#)
- Ashtech Z-12 - [How to configure to stream for VSAT](#)
- Ashtech MicroZ - [How to load firmware using the Universal Program Loader or MicroManager](#)
- Allen Osborne TurboRogue - [How to upgrade firmware](#)

- Allen Osborne TurboRogue - [How to download and qc data](#)
- Allen Osborne TurboRogue - [How to configure the receiver using terminal commands](#)
- Canadian Marconi AllStar - [How to configure L1 receivers](#)
- [How to execute some common file conversions](#)
- Campaign Surveys - [How to obtain high-confidence coordinates for a base station](#)

GPS Antennas, Mounts, and Monuments

- [How to align the GPS antenna to true north](#)
- SCIGN mount - [How to level the SCIGN mount](#)
- Tech 2000 - [How to set up the Tech 2000 antenna mast](#)
- Tripod - [How to set up a tripod and tribrach](#)
- Polar mast - [How to install a polar-style GPS mast](#)
- UNAVCO/Micro Pulse L1 - [How to make UNAVCO's L1 antenna](#)

Meteorological Equipment

- [How to extract meteorological records from GPS data files using teqc](#)
- Vaisala - [How to integrate the Vaisala WXT520 with the Trimble NetRS](#)
- Vaisala - [How to configure a Trimble NetRS for use with a Vaisala WXT510 metpack in the Plate Boundary Observatory](#)
- Vaisala - [How to integrate the Vaisala WXT520 with the Topcon NET-G3](#)
- Vaisala - [How to integrate the Vaisala WXT520 with the Ashtech MicroZ](#)
- Vaisala - [How to build a DB9 serial connector for the Vaisala W510/520 met pack](#)
- Paroscientific - [How to integrate the Paroscientific MET4 with a GPS/GNSS receiver](#)
- Paroscientific - [How to integrate the Paroscientific MET3 with the Topcon NET-G3](#)

Communications and Networking (see also Linux and Remote-station Software, below)

- Iridium - [How to establish Iridium communications from an XP computer to a UNAVCO polar remote GPS station](#)
- Proxicast LAN-Cell Gateway - [How to use a Proxicast for internet access](#)
- Proxicast LAN-Cell Gateway - [How to use a PBO Proxicast for internet access \(internal\)](#)
- Proxicast LAN-Cell Gateway - [How to determine signal strength](#)
- Proxicast LAN-Cell Gateway - [How to perform a hard reset on a LAN-Cell 2 modem](#)
- Proxicast LAN-Cell Gateway - [How to configure a UNAVCO LAN-Cell 2 modem \(internal\)](#)
- Proxicast LAN-Cell Gateway - [How to configure the VPN on a LAN-Cell 2 modem \(internal\)](#)
- Intuicom - [How to configure an Intuicom wireless Ethernet bridge using CommPro software](#)
- Intuicom - [How to load firmware onto an Intuicom EB-1 ethernet bridge](#)
- Intuicom - [How to run diagnostics on Intuicom ethernet bridges using CommPro](#)
- Intuicom - [How to upgrade to Intuicom firmware Rev. 5.80, 2001](#)
- Cisco Wireless - [How to configure an Aironet Wireless Bridge](#)
- Lantronix MSS100 - [How to configure the Lantronix MSS100 for data transfer](#)
- Quatech - [How to stream GPS data using a DNC/CNC system](#)
- Raven II, Lantronix MSS100 - [How to use the Raven II CDPD modem with the Lantronix MSS100 serial-to-ethernet device](#)
- Digi EtherLite - [How to configure the Digi EtherLite for data transfer](#)
- RAD Modems - [How to configure a RAD modem pair](#)
- Courier V.Everything 33.6 modem - [How to configure a Courier V.Everything 33.6 modem for various data transfer modes via a Linux box](#)
- Telbit Worldblazer (T3SA) - [Telbit Worldblazer Quick Reference Card](#)

- PC/104 - [How to install RedHat LINUX 5.2 on the PC/104](#)

Linux and Remote-station Software

- Linux - [How to configure the time and NTP on a Linux system](#)
- Linux - [How to securely network a Fedora Linux system](#)
- Linux - [How to configure Fedora services on UNAVCO field computers](#)
- Linux - [How to configure for a remote terminal session to a Linux box through a phone or wireless connection](#)
- Linux - [How to configure PPP for serial TCP/IP phone or wireless connections between a local and remote Linux box](#)
- Linux - [How to add one or more serial cards to a Linux box and avoid IRQ and memory address conflicts](#)
- Linux - [How to recover from trashed file systems \(boot and mount problem\) on a Linux box](#)
- WIGATE - [How to remotely access receivers that are being downloaded using the WIGATE software](#)
- LAPDOGS - [How to install the UNAVCO LAPDOGS software \(and other LAPDOGS documentation\)](#)
- EGADS & SHARC - [How to install EGADS & SHARC on a RedHat LINUX 7.3 system](#)
- APCUPSD - [How to configure the back-up power supply software APCUPSD on a Linux box](#)
- PowerAlert - [How to configure PowerAlert on Linux with the APC BackUPS Pro 280VA, and the PowerAlert executable](#)
- PowerChute Plus - [How to configure PowerChutePlus on Linux with the APC BackUPS Pro 280VA, and the PowerChutePlus executable \(2002\)](#)
- Nut - [How to install Nut v0.45.4-1 on Linux with the APC BackUPS Pro 280VA \(September 2002\)](#)
- GENPOWER - [How to install GENPOWER and Power Monitoring Software on a Linux box](#)

Other

- [How to assemble a Times N-Type Connector](#)
- [How to configure the Western Telematic NBB Series Boot Bar](#)
- [How to assemble folding 60W three-piece solar panel sets](#)

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