RELEASE NOTES

Trimble® Convert to RINEX Utility

Version 1.0.1.32
Revision A
September 2008

Trimble

Release notice

This is the September 2008 release (Revision A) of the *Convert To RINEX Utility Release Notes*. It applies to version 1.0.1.32 of the utility.

Introduction

These release notes describe the features and operation of the Trimble® Convert to RINEX (**R**eceiver **IN**dependent **EX**change) utility. This utility converts Trimble GPS measurement files in DAT or T01 format to RINEX version 2.10, 2.11, or 3.0 format. The Trimble DAT or T01 files may include GPS L2C and GLONASS observations.

Features

The utility converts or supports the following:

- Static files

- Continuous kinematic files

- Stop-and-Go kinematic files

- RINEX version 2.10, 2.11, or 3.00

- GPS and GPS+GLONASS

- Events (single and multi-port)

- Met sensor input

- Tilt sensor input

- User-selectable output folders

- Command line operation including parameters for:

  – Marker Name

  – Marker Number

  – Log Receiver Clock Offsets (only if they are non-zero)

  – Adjust Obs & Clock (account for millisecond time steps in observations and the time of observations)

  – Receiver Code

  – Receiver (serial) Number

  – Antenna (serial) Number

  – Path location for output files

Installing the utility

Use the Microsoft® Windows® installer program *convertToRinex.msi* to install the utility onto the office computer. The installation process places the utility on the *Start* menu, and creates a shortcut on the computer desktop.

For the Convert to RINEX utility to work correctly, you must have the Trimble antenna and receiver configuration files installed. If you use Trimble Office software, such as Trimble Geomatics Office™ or Trimble Business Center, these files are already installed.

Note – Version 1.0.1.32 of the RINEX utility will run on the Windows Vista® operating system.

If you do not use Trimble Office software, you can download the antenna and receiver configuration files from http://www.trimble.com/trimbleconfiguration_ts.asp (*Support / Support A-Z / Trimble Configuration Utility*).

Operating the utility

1. Do one of the following:

    – Double-click the Convert to RINEX icon

    – Select *Start / All Programs / Trimble / Convert to RINEX*:
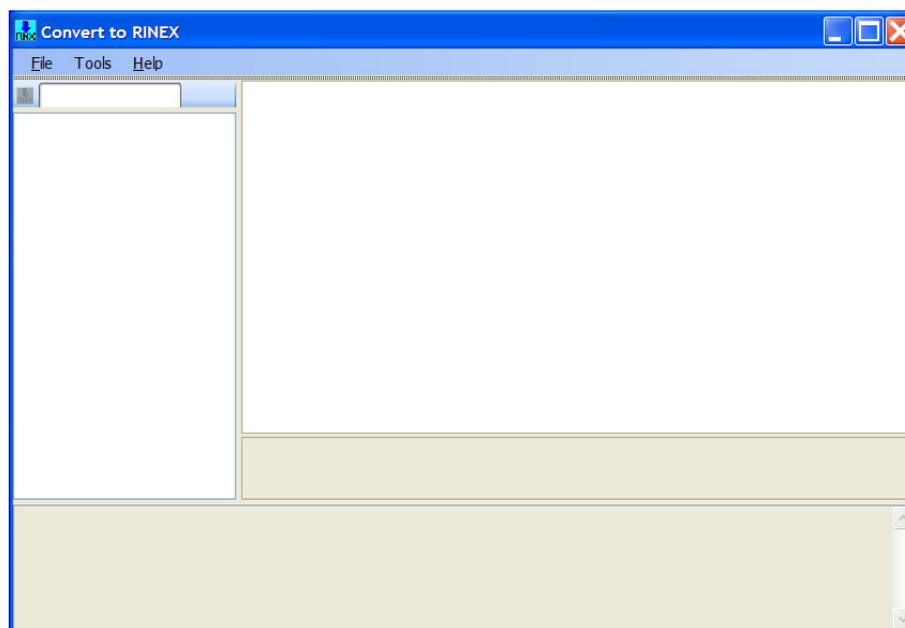
2. Select *File / Open* and then select the files to be converted. You can select more than one file for conversion. Use the *Files of type* control to select DAT or T01 files.

The selected files appear in the file pane of the *Convert to RINEX dialog*:
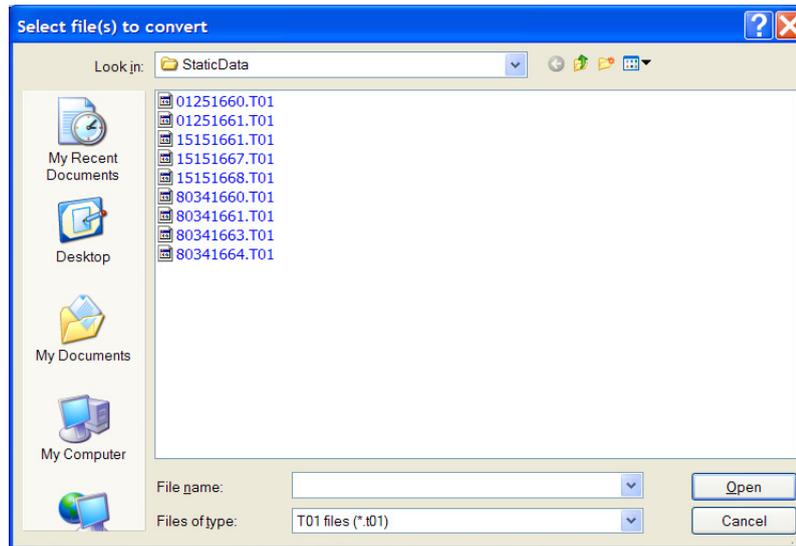
Note – All files for a single conversion run must come from the same folder. If you try to select a second group of files before converting the first group that you selected, the first group is cleared without being converted. To convert files from two different folders, select and convert the first group from one folder and then select and convert the second group from the other folder.

3. To view information for a file, select it. The information appears in the pane to the right:
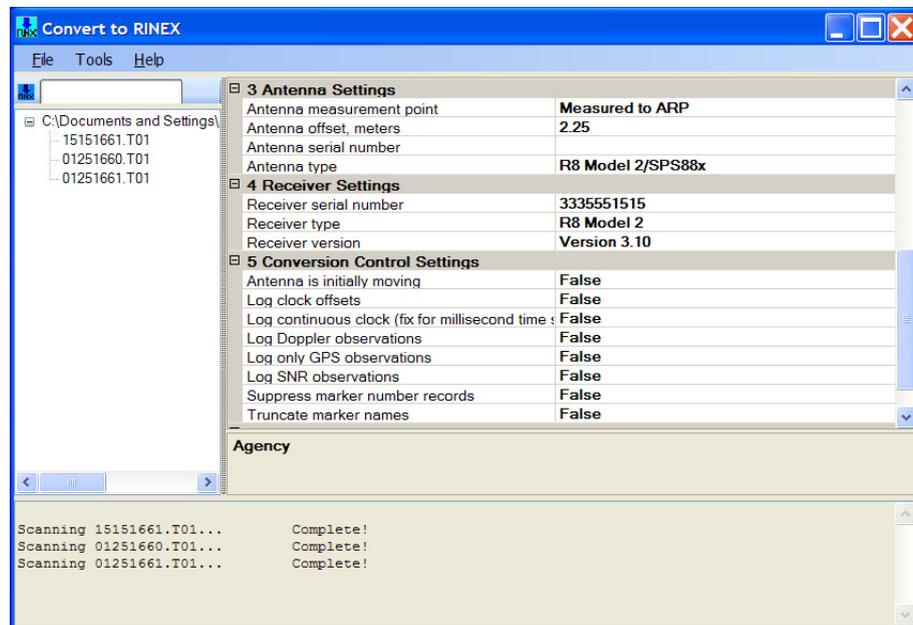
4. Once you verify all the information, click the Convert icon 🔧 or select *File / Convert Files,* to create the RINEX files.

5. To store file header information for later use, select *Tools / Options* and then complete the *Agency*, *Observer name*, or *Program Run By* fields. You can also store *Processing Controls* and *Default Folder* information for later use:
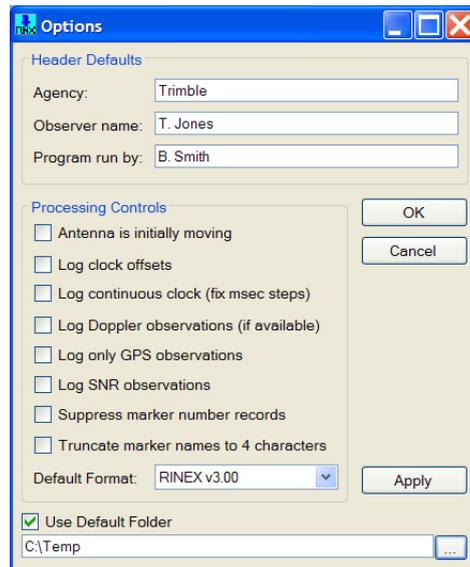
Notes

- The NGS OPUS program does not process RINEX files that contain GLONASS or L2C measurements:

  - To ensure that RINEX files with no GLONASS data are produced, select *Tools / Options* and then select the *Log only GPS observations* check box.

  - To remove L2C measurements, select RINEX v2.10 in the *Default Format* field.

  OPUS requires that all satellites have both L2 code and phase measurements for processing and will not process the data even if only one of the satellites in the RINEX file is missing the L2 code measurement. If you therefore select RINEX v2.10 to remove the L2C code measurement, OPUS rejects the file even though all the other satellites have both L2 code and phase measurements. If you intend to use OPUS to process your files, Trimble recommends that you disable L2C tracking **before** data collection, until this issue is resolved by NGS.

- If an antenna with an "S" measurement method is encountered in the file, the utility treats the antenna height as being measured to the bottom of antenna mount. When this occurs, an error message appears. All other antenna measurement methods are handled appropriately, based on the specific measurement method.

Command line operation

This section describes how to use Convert to RINEX from a command line.

C:\Program Files\Trimble\convertToRINEX>converttorinex /?

USAGE:

convertToRINEX input.dat [-p outputPath] [-r RUNBY] [-o OBSERVER] [-ag AGENCY]
                                         [-ac ANTENNACODE] [-an ANTENNANUMBER] [-h HEIGHT] [-n]
                                         [-rc RECEIVERCODE] [-rn RECEIVERNUMBER]
                                         [-mo MARKERNAME] [-mn MARKERNUMBER])
                                         [-v X.XX] [-k] [-d] [-s] [-m] [-t] [-c] [-g] [-co]
                             | @ParamFile

	Run in interactive mode.
-?	Display help information.
-p	Path in which to place the output files (OBS, NAV, MET, ...).
-r	Person or agent performing the RINEX conversion.
-o	The name of the person performing the survey.
-ag	Observer's agency.
-v	Output RINEX format: version X.XX. (Default = 2.11)
-ac	One- or two-character code (from ANTENNA.INI)
-an	Value to write in the NUMBER field of "ANT # / TYPE".
-h	Add HEIGHT (in meters) to all antenna heights.
-n	Do NOT perform default antenna height corrections.
-k	First observation in file is kinematic.
-ca	Account for millisecond time steps in observations and time of observation.
-co	Include receiver clock offset values in OBS output.
-d	Include Doppler values in OBS output.
-s	Include raw signal strength values in OBS output.
-g	Include only GPS observations in OBS output.
-m	Generate a RINEX METeorological file if data are present.
-t	Generate a RINEX AUXiliary file containing TILT data if data are present.
-mo	Value to write in the Obs file MARKER NAME field.
-mn	Value to write in the Obs file MARKER NUMBER field.
-rc	The receiver numberic code (from RECEIVER.INI)
-rn	Value to write in the NUMBER field of "REC # / TYPE / VER".

If a ParamFile is specified, it must consist of lines of the following form:

    <ParameterName> = <Value>
where <ParameterName> may be any of the following:

DatFile	Name of DAT/T01 file to be converted.
ObsFile	Name of RINEX Observation file to be created.
NavFile	Name of RINEX Navigation file to be created.
MetFile	Name of RINEX Meteorological file to be created.
RunBy	Person or agent performing the RINEX conversion.
Observer	The name of the person performing the survey.
Agency	Observer's agency.
RinexVersion	Output RINEX format: version X.X. (Default = 2.11)
GenMetFile	Set to YES to enable generation of default MET file.
AntCode	One- or two-character code (from ANTENNA.INI)
AntNumber	Value to write in the NUMBER field of "ANT # / TYPE."
AntType	Value to write in the TYPE field of "ANT # / TYPE."
CorrToBase	Set to NO to disable ant. ht. corr. to base of antenna.
AntCorrect	Set to NO to disable any ant. ht. correction.
AntOffset	Vertical offset, to be added to any antenna height values.
RcvrCode	The receiver numeric code (from RECEIVER.INI)
RcvrNumber	Value to write in the NUMBER field of "REC # / TYPE / VER."
RcvrType	Value to write in the TYPE field of "REC # / TYPE / VER."
RcvrVersion	Value to write in the VER. field of "REC # / TYPE / VER."
HdrMarkerName	Value to install in the Obs file MARKER NAME field.
HdrMarkerNumber	Value to install in the Obs file MARKER NUMBER field.
HdrMarkerXYZ	XYZ (3) values for Obs file APPROX POSITION XYZ field.
KinStart	Set to YES to indicate that antenna starts in motion.
LogDoppler	Set to YES to log Doppler. Same as "-d" command line option.
LogSNR	Set to YES to log SNR. Same as "-s" command line option.
LogOnlyGPS	Set to YES to log only GPS to the OBS file. Same as "-g" command line option.
AddMSecOffsets	Set to YES to include millisecond clock rollovers.
AddRcvrOffsets	Set to YES to include receiver-computed clock offsets.
AdjDisabled	Set to YES to disable adjustment of the total clock offset for the time, pseudorange, and phase.
AdjObservations	Set to YES to subtract the total clock offset from the time, pseudorange, and phase.

Blank lines and all characters including and following a '#' are ignored.

Leading and trailing white space (blanks and tabs) in the <Value> field are ignored.

The default value for each of the (YES/NO) control options is the opposite of the example given above. That is, the examples above override the default.