VIRTUAL RINEX & LOCALIZATION

RON HANSON, PSM

520 520 500 500



Besides myself, who else is frustrated by long observation times to establish primary control?



Virtual Rinex may be your solution.

Lets look at a sample scenario.



You have a client that is intending to develop a large tract of land in Southeast Orange County.

You will be working as the primary Surveyor from the beginning of the project until completion of construction.

The site is comprised mostly of cow pastures and is an ideal candidate for GNSS RTK observations.

You research the project area for NGS control, Certified Corner Records, FPRN base stations, platting, Right-of-Way map, etc.



During the course of your planning you determine that the closest FPRN station is 14km away from the site.

With a 14 km baseline you determine that your static observation times should be 2 hours per occupation and with a set of redundant measurements, total observation time would be 4 hours per point.

In order to cut cost , you decide to use Virtual Rinex to establish the primary control and VRS-RTK to perform the boundary survey.

You go on to recover the NGS control and the section corners.







You send field crews out to obtain 2 sets (separated by at least two hours) of 15 minute, 5 second epoch observations on each recovered point.



After the Field crews return all the data, you pick a location to act as your Virtual Reference Station.

| Virtual RINEX Request | t line line line line line line line line |
|-----------------------------------|---|
| Date: * | 12/12/2018 |
| l ocal start time: * | 07 0 |
| Duration: * | 14 : 0 h.min |
| Output files: * | ☑ Observation ☑ Navigation |
| Observation rate: * | 5.00 V sec |
| | 28 122 155 50 1 9100 |
| Lautude: | 20 22 55.59 NOS |
| Height: * | -0.04 m |
| Virtual station site code: * | VRS1 |
| Virtual station site name: * | Virtual Rinex |
| | |
| Use data from satellite system: * | GPS and GLONASS V |
| Select position of site in map: | |
| Google Map | |
| * Required field | |
| | Submit |
| | Sugar |

You log onto the FPRN webpage and request a Virtual Rinex file, that covers the entire field time, for the station.

| | estures | 1788 ⊀ GNGS 🛣 | cod lie imaging 🔔 in | Nastuchire 🔹 Ağustmer | ts 💿 Feature Coding | | | | | | | | | 100 100 100 100 100 100 100 100 100 100 | T | |
|-----------------------|----------|---------------|-----------------------|--------------------------|-----------------------|------------|------------|-------|-------|-------|-------|-------|-------|---|---|--|
| | Interved | Point Id | Z Point Role V Source | Start Time | Food Time | Duration | 12/12/2018 | i | here | Trees | i | La ca | to an | 1 2 3 | | |
| * | | P021 | Navigated RTK p21 34 | 5m00 12/12/2018 06:59:43 | 12/12/2018 07:14:37 | 00:14:55 (| 07:00 | 08:00 | 09.00 | 10:00 | 11:00 | 12:00 | 13:00 | | | |
| - A-9 | | P001 | Navigated RTK p01 34 | 5m30 12/12/2018 07:29:4 | 12/12/2018 07:44:37 | 00:14:55 | | 2001 | | | | | | | | |
| | | P005 | Navigated RTK p05 34 | 5n00 12/12/2018 07:59:4) | 12/12/2018 08:14:37 | 00:14:55 | | P005 | | | | | | | | |
| 12 | | R021 | Navigated RTK r21 346 | in30 12/12/2018 08:29:4 | 2 12/12/2018 08:44:37 | 00:14:55 | | | 8021 | | | | | | | |
| | | R025 | Navigated RTK r25_346 | io00 12/12/2018 08:59:42 | 12/12/2018 09:14:37 | 00:14:55 (| | | R025 | | | | | | | |
| | | R005 | Navigated RTK r05 346 | io30 12/12/2018 09:29:43 | 12/12/2018 09:44:37 | 00:14:55 | | | | R005 | | | | | | |
| 34 | | T021 | Navigated RTK t21 346 | ip00 12/12/2018 09:59:4 | 12/12/2018 10:14:37 | 00:14:55 | | | | 1501 | | | | | | |
| B | | V021 | Navigated RTK v21 34 | 030 12/12/2018 10:29:4 | 2 12/12/2018 10:44:37 | 00:14:55 | | | | | 021 | | | | | |
| | | V023 | Navigated RTK v23 34 | 5000 12/12/2018 10:59:43 | 12/12/2018 11:14:37 | 00:14:55 0 | | | | | W023 | | | | | |
| | | V005 | Navigated RTK v05 344 | 5a30 12/12/2018 11:29:42 | 12/12/2018 11:44:37 | 00:14:55 | | | | | | 105 | | | | |
| | | AK7331 | Navigated RTK 733134 | 6:00 12/12/2018 11:59:4 | 12/12/2018 12:14:37 | 001455 | | | | | | 4473 | | | | |
| | | 0.12445 | Navioated RTK 244534 | 6/30 12/12/2018 12/29/4 | 12/12/2018 12:44:37 | 001455 | | | | | | | 174 | | | |
| | | DG6196 | Navigated RTK 619634 | 6+00 12/12/2018 12:59:42 | 12/12/2018 13:14:37 | 00:14:55 | | | | | | | DG61 | | | |
| | | | A | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |

After receiving the VR file you proceed to import the field and refence data into your post processing software.





After processing your GNSS data. You create a separate coordinate file containing the published control for your project.

If the published datum for your control points (NGS, CCR's, etc.) is out of date, do not match, or not on the datum required by contract, you may choose to convert them to the desired datum prior to creating the new coordinate file.

| Create new transformation | | | | | | • * |
|--|----------------|----------------------------|------------------|-------------------|--------------------------|----------------------|
| Settings | System A (V | VGS84) | | System B (Loca | 0 | |
| | Project | Virtual Rinex | | Project 1 | /RS Base2 | • |
| Match Points | Point Id | ٩ | | Point Id (| 2 | |
| Results | | Point Id | Point Role Y | Poi | nt ld | Point Role 🍸 Nor |
| | ► () AJ2445 | (12/12/2018 17:14:37) | Averaged | O 1021 (01/00 | V2019 12:32:00) | User-entered 1,40 |
| e de la companya de la | ▶ ◎ AK7331 | (12/12/2018 16:44:37) | Averaged | O 7003 (01/08 | (2019 12:31:29) | User-entered 1,40 |
| 1 | ▶ ◎ DG6196 | (12/12/2018 20:14:37) | Averaged | O R025 (01/00 | (2019 12:30:30) | Urar-entered 1,40 |
| 1 | ► ◎ P001 (1. | 2/12/2018 18:14:37) | Averaged | O R021 (01/00 | /2019 12:29:47) | User-entered 1,47 |
| | ► ◎ P005 (1) | 2/12/2018 18:44:37) | Averaged | O R005 (01/08 | /2019 12:28:11) | User-entered 1,47 |
| | ► ◎ P021 (1 | 2/12/2018 17:44:37) | Averaged | O P021 (01/08 | /2019 12:27:35) | User-entered 1,47 |
| | ► ◎ R005 (1 | 2/12/2018 14:14:37) | Averaged | O P005 (01/08 | /2019 12:26:54) | User-entered 1,47 |
| | ▶ (○) R021 (1. | 2/12/2018 19:14:37) | Averaged | O P001 (01/08 | /2019 12:17:10) | User-entered 1,47 |
| | ▶ (©) R025 (1) | 2/12/2018 19:44:37) | Averaged | O DG6196 (01 | /08/2019 12:15:44) | User-entered 1,46 |
| e | • (0) 1021 (1. | 2/12/2018 14:44:37) | Averaged T | Ο ΔΚ7331 /01 | /08/2019 12-14-59) | Liser-entered 1.47 * |
| | System | A Point Id 🍸 🛛 System B Po | int ld 🝸 Use | Y Residual X [ftU | S] Residual Y [ftUS] | Residual Z [ftUS] W |
| | S O V02 | 3 O V023 | Position & Heigh | • 0.0034 | -0.00707 | 0.00378 |
| | © (0) V02 | 1 O V021 | Position & Heigh | -0.000 | 12 0.00738 | -0.00426 |
| | 0 V00 | 5 O V005 | Position & Heigh | . • 0.002 | ⁷⁶ -0.01132 | 0.00515 |
| | 0 102 | 0 1021 | Position & Heigh | • 0.000 | -0.00344 | -0.00154 |
| | 0 R02 | D R025 | Position & Heigh | -0.000 | 25 0.00270 16 0.01212 | -0.00126 |
| | | 0 R021 | Position & Heigh | · 0.000 | 21 0.00184 | 0.00021 |
| | 0 (O) P02 | O P021 | Position & Heigh | -0.002 | 32 0.00783 | -0.00052 |
| | 0 P00 | 5 O P005 | Position & Heigh | -0.002 | 0.01028 | -0.00608 |
| | 0 0 P00 | O P001 | Position & Heigh | -0.001 | 6 0.00350 | -0.00430 |
| | | 196 O DG6196 | None | • | | |
| | 🗿 🔘 AK7 | 331 O AK7331 | Position & Heigh | • 0.001 | -0.00860 | 0.00705 |
| Norman | 🕥 🔘 AJ2- | 45 O AJ2445 | Position & Heigh | • 0.000 | -0.01622 | 0.00683 |
| Details Name Lake Name | - | | | | | P. |
| Time Charline 20 | - | | | | Deals No. | a Consel |

You begin to create a localization file (custom transformation) for the project site by matching the field observed points to the published value points.

Review the residuals for each point and discard any points that have a negative affect on the solution.

| | | | | A Start Continuent |
|---------------------------|--------------------|----------------------------|--------------------|--|
| Create new transformation | | | 0 % | |
| Settings | Parameters | | RMS | |
| | Height Mode | Ellipsoidal | | |
| Match Points | Model | Bursa Wolf | | |
| Results | Common Points | 13 | | |
| The solid | Δx | 28.74979 ftUS | 6.38379 ftUS | |
| e | Δу | -9.55203 ftUS | 6.67467 ftUS | |
| 5 | Δz | -18.61517 ftUS | 9.28867 ftUS | |
| 4 | Rx | 0.20330 * | 0.09895 * | |
| | Ry | 0.16773 * | 0.05709 " | and the second s |
| | Rz | 0.22992 * | 0.06039 * | |
| | Scale | 0.999999839786 | 0.000000256169 | |
| 4 | Coordinate S | ystem | | |
| 2 | Create | | | 0.0 |
| | Name | Lake Nona | | a.e. 111 M (1111) |
| e | Residual Distribut | ion Multiquadratic | - | 001 'q6 03 |
| Details | | Ç≱ | | |
| Name Lake Nona | [v] snow Iransto | rmation Calculation Report | | |
| Type Classical 3D | | E | Back Finish Cancel | |
| | | | End not the state | |

Finish creating your localization file (custom transformation).

| | | | | | | | | S/ Committee |
|---------------------|---------------------|--------------------|--|-----------------------------|--------------------------|--------------------------------|--------------------|-------------------|
| 🚳 Coordinate System | n Manager | | | | | | | • * |
| Import Export Data | eport Delete Co | ordinate iystem | rmation 🖄 Geoid Model d 🛃 CSCS Model on New | Determine Transformation | Create Geoid Field Fi | Create CSCS le ▼ Field File | | Ć |
| Coordinate Systems | # Transformations |) Ellipsoids | Proiections 🖉 Geoid M | odels 🗛 🔍 | 1 | Properties | | × |
| Name | Last Modified | Transformation Y | Transformation Type Y | Height Mode Y | Residual Dist | 📲 Lake Nona | | - |
| FL E NAD83 12B | 01/08/2019 09:14:32 | | | | None | ▲ Coordinate Syste | m | Luna - |
| FL E NAD83 GD12B | 01/08/2019 09:14:09 | | | | None | Name | Lake Nona | 1 |
| FL E NAD83 GD16 | 01/08/2019 10:00:23 | | | | None | Last Modified | 01/08/2019 12 | :50:05 |
| FL N NAD83 GD12B | 01/08/2019 09:14:09 | | | | None | Transformation | Lake Nona 🛛 🔻 | 1 201 |
| FL N NAD83 GD16 | 01/08/2019 09:14:09 | | | | None | Transformation Type | Classical 3D | |
| FL W NAD83 GD12B | 01/08/2019 09:14:09 | | | | None | Residual Distribution | Multiquadratic | • • • • • • • • • |
| FL W NAD83 GD16 | 01/08/2019 09:14:09 | | | | None | Ellipsoid | GRS 1980 - | 0 |
| Lake Nona | 01/08/2019 12:50:05 | Lake Nona | Classical 3D | Ellipsoidal | Multiquadra | Projection | FL E NAD83 🔻 | 0 - 1 |
| UTM 16 NAD83 GD12B | 01/08/2019 09:14:09 | | | | None | Projection Type | Transverse Mercato | or of C |
| UTM 16 NAD83 GD16 | 01/08/2019 09:14:09 | | | | None | Geoid Model | FPRNGD16B - | / |
| UTM 17 NAD83 GD12B | 01/08/2019 09:14:09 | | N | | None | CSCS Model | None 🔻 | > |
| UTM 17 NAD83 GD16 | 01/08/2019 09:14:09 | | 63 | | None | | | |
| | | | | | | | | 1. 200 |
| - | | | | | | 0 | ancel Anni | v |
| | | | | | | | dours opp | |
| | | | 7. . . | | | US Survey Feet 👻 🚦 | r dms ▼ 🕹 d | MS 👻 |

Apply your Localization file to your project.

Make sure to upload the file to your GNSS rovers and apply the transformation to any field file being used for the project.

By applying the localization file to the your field files will cause the coordinates to be transformed, in real time, to the datum being used on the project.

No matter if it is NAD83 (CORS 96) or NAD83 (2011).



So, you don't own a post-processing software?

Why not use the FPRN Computation Service.

| SpiderWeb | | |
|---|--|---------------------------------------|
| Home | Computation Service | |
| FORT Surveying & Mapping FPRN FPRN FAQ FPRN Live Support FPRN Technical Support | Static Mode: Upload up to 3 observation files for the position to be calculated in static computation mode. Please make sure that you only upload static observations. The files can be from different days but have to be for the same position. It uploading files with several positions in one file, the coordinate result will be calculated incorrectly. Make sure your observation file contains a valid antenna type which complies with the IGS naming conventions (<u>See her</u> for reference). | a |
| Site overview | Deset form | 5 S/ /8 |
| KINEX Job Service Virtual RINEX Service Computation Service | Prease, choose 3 reference sites to be used for calculation. In case "Use virtual reference" or "Choose sites automatically" option is selected, sites will be chosen automatically. | |
| Configuration Results | Choose sites automatically: | er (|
| ↓ Statistics | Use virtual reference: | a string |
| | Select site(s) from list: Show list | · · · · · · · · · · · · · · · · · · · |
| | Select site(s) in map: Show map | |
| | Note: turn off pop-up blockers | |
| | Computation mode Static V | |
| | Choose Coordinate System | |
| | Coordinate System FL E NAD83 | |
| | Please note that the maximum allowed distance from the reference sites to the rover (in meters) is 70000 | |
| | Upload observation file 1: sktop\Labins\VRS\Field\p21_346m00.180 Browse | |
| | Upload observation file 2: sktop/Labins/VRS/Field/p21 346w30.180 Browse | |
| | Upload observation file 3: Browse | |
| | Choose computation precision: | |
| | Computation precision: 10mm+3ppm V | |
| | Or enter computation practicion values manually | 가는 모양 것 생활을 보였 |
| | or one component precision values manually. | |
| | Enter mm nere: | |

Login to the FPRN webpage and select Computation Service

Let the program choose sites automatically and Use a Virtual Reference

| Home | Computation Serv | ice | |
|---|--|--|---------------------------------------|
| RINEX download guide FDDT Surveying & Mapping FPRN FPRN FAQ FPRN FAQ FPRN FAQ FPRN Live Support FPRN Station Information EDRN Tacking Support | Static Mode: Upload up to 3 sure that you only upload stat uploading files with several p Make sure your observation f for reference). | observation files for the position to be calculated in static computation mode. Please make to behave a static static behaves a static static electronism a valid antenna type which complex with the IGS naming conventions (<u>See here</u> | 16 170 1 16 170 1 |
| Site overview | D | | 2 2 1 |
| RINEX Job Service Virtual RINEX Service Computation Service | Please, choose 3 reference automatically" option is sel | e sites to be used for calculation. In case "Use virtual reference" or "Choose sites cted, sites will be chosen automatically. | 1 |
| Configuration | Choose sites automatically | | · · · · · · · · · · · · · · · · · · · |
| ✓ Results ✓ Statistics | Use virtual reference: | 2 | |
| | Select site(s) from list: | Show list | |
| | Select site(s) in map: | Show map | |
| | Computation mode | Static | • |
| | Choose Coordinate System | 1 | |
| | Coordinate System | FL E NAD83 | |
| | Please note that the maximur | n allowed distance from the reference sites to the rover (in meters) is 70000 | |
| | Upload observation file 1: | sktop\Labins\VRS\Field\p21_346m00.18o Browse | |
| | Upload observation file 2: | sktop\Labins\VRS\Field\p21_346w30.180 Browse | |
| | Upload observation file 3: | Browse | |
| | Choose computation precis | | |
| | Computation precision: | 10mm+3ppm V | |
| | Or enter computation preci | sion values manually: | |
| | Enter mm here: | | |
| | | | |

Select the Computation Mode

| SpiderWeb | | |
|--|--|---------------------------------------|
| Home | Computation Service | |
| FINCX download guide FOOT Surveying & Mapping FPRN FPRN FPRN FAQ FPRN Live Support FPRN Subtion Information FPRN Technical Support | Static Mode: Upload up to 3 observation files for the position to be calculated in static computation mode. Please make sure that you only upload static observations. The files can be from different days but have to be for the same position uploading files with several positions in one file, the coordinate result will be calculated incorrectly. Make sure your observation file contains a valid antenna type which complies with the IGS naming conventions (<u>See h</u> for reference). | e |
| Site overview | Resat form | 5 1 18 |
| RINEX Job Service Virtual RINEX Service Computation Service | Please chroup Please chroup and the set of t | |
| ↓ Configuration | Choose sites automatically: | · · · · · · · · · · · · · · · · · · · |
| ✓ Results ✓ Statistics | Use virtual reference: | |
| | Select site(s) from list: Show list | · · · · · · · · · · · · · · · · · · · |
| | Select site(s) in map: Show map | |
| | Computation mode Static Y | |
| | Choose Coordinate System | |
| | Coordinate System FL E NAD83 | |
| | Blazes note that the maximum allowed distance from the reference sites to the rours (in meters) is 70000 | |
| | Upload observation file 1: sktop/Labins/VRS/Field/p21 346m00.180 Browse | |
| | Upload observation file 2: esktop\Labins\VRS\Field\p21 346w30 180 Browse | |
| | Upload observation file 3: Browse | |
| | Choose computation precision: | |
| | Computation precision: 10mm+3ppm V | |
| | Or enter computation precision values manually: | |
| | Enter mm here: | |
| | Enter nom bere: | |

Select the Coordinate System

| SpiderWeb | | |
|--|---|-------------------------------------|
| Home | Computation Service | 941 |
| FINEX download guide FOT Surveying & Mapping FPRN FPRN FAQ FPRN Live Support FPRN Station Information FPRN Technical Support | Static Mode: Upload up to 3 observation files for the position to be calculated in static computation mode. Please sure that you only upload static observations. The files can be from different days but have to be for the same posit uploading files with several positions in one file, the coordinate result will be calculated incorrectly. Make sure your observation file contains a valid antenna type which complies with the IGS naming conventions (<u>Su</u> for reference). | make nake lon. If ep. berg |
| Site overview | Decat form | |
| RINEX Job Service Virtual RINEX Service Computation Service | Please, choose 3 reference sites to be used for calculation. In case "Use virtual reference" or "Choose sit automatically" option is selected, sites will be chosen automatically. | es |
| Configuration | Choose sites automatically: | |
| ✓ Results ✓ Statistics | Use virtual reference: | |
| | Select site(s) from list: Show list | |
| | Select site(s) in map: Show map | |
| | Computation mode Static V | |
| | | |
| | Coordinate System | |
| | Please note that the maximum allowed distance from the reference sites to the rover (in meters) is 70000 | |
| | Upload observation file 1: sktop\Labins\VRS\Field\p21_346m00.180 Browse | |
| | Upload observation file 2: esktop/Labins/VRS/Field/p21_346w30.180 Browse | |
| | Upload observation file 3: Browse | |
| | Choose computation precision: | |
| | Computation precision: 10mm+3ppm V | |
| | Or enter computation precision values manually: | |
| | Enter mm here: | |
| | | |

Upload up to 3 Rinex 2.11 files per point

| SpiderWeb | | | | | | | |
|---|---|---|---|--|-----------------------------|---|--|
| Home | | | | | | | |
| RINEX download guide | Computation Serv | ice | | | | | |
| | Static Mode: Upload up to 3 sure that you only upload stat uploading files with several pu Make sure your observation f for reference). | observation files for the posit ic observations. The files car isilions in one file, the coordi le contains a valid antenna fi | on to be calculated in static be from different days but h nate result will be calculated pe which complies with the I | omputation mode. Please we to be for the same posi ncorrectly. 3S naming conventions (<u>S</u> | make lion. If re here | 166 320 166 320 | |
| Site overview | Reset form | | | | | | |
| Virtual RINEX Service Computation Service | Please, choose 3 reference automatically" option is sel | sites to be used for calcu acted, sites will be chosen | ation. In case "Use virtual automatically. | eference" or "Choose sit | es | | |
| Configuration Results | Choose sites automatically | | | | | · · · · · · · · · · · · · · · · · · · | |
| ↓ Statistics | Use virtual reference: | \mathbf{V} | | | | | |
| | Select site(s) from list: | Show list | | | | | |
| | Select site(s) in map: | Show map | | | | ومعولات الصوعيقة | |
| | | Public | | | | | |
| | computation mode | Static | | • | | and the second se | |
| | Choose Coordinate System | | | | | | |
| | Coordinate System | FL E NAD83 | | ~ | | | |
| | Please note that the maximur | n allowed distance from the r | eference sites to the rover (ir | meters) is 70000 | | | |
| | Upload observation file 1: | sktop\Labins\VRS\Fie | d\p21_346m00.180 | Browse | | | |
| | Upload observation file 2: | sktop\Labins\VRS\Fie | ld\p21_346w30.18o | frowse | | | |
| | Upload observation file 3: | | | frowse | | | |
| | Choose computation precis | ion: | | | | | |
| | Computation precision: | 10mm+3ppm V | | 11-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1 | | | |
| | Or onter computation proci | sion values manually: | | | | | |
| 10 | Si enter computation preci | avar values manually. | | | | | |
| | Enter mm here: | | | | | | |

Select the computation precision or enter manually.

I suggest selecting 10mm +3ppm

| Site overview BINEX Job Service | Reset form | -/ |
|--|---|----|
| Virtual RINEX Service Computation Service | Please, choose 3 reference sites to be used for calculation. In case "Use virtual reference" or "Choose sites automatically" option is selected, sites will be chosen automatically. | |
| ✓ Configuration ✓ Results | Choose sites automatically: | |
| Statistics | Use virtual reference: | |
| | Select site(s) from list: Show list | |
| | Select site(s) in map: Show map | |
| | Note: turn off pop-up blockers | |
| | Computation mode Static 🗸 | |
| | Choose Coordinate System | |
| | Coordinate System FL E NAD83 | |
| | Please note that the maximum allowed distance from the reference sites to the rover (in meters) is 70000 | |
| | | |
| | Upload observation file 2: http://abins/VRS/Field/p21_346w30.180 Browse | |
| | Upload observation file 3: Browse | |
| | Choose computation precision: | |
| | Computation precision: 10mm+3ppm V | |
| | Or enter computation precision values manually: | |
| | Enter mm here: | |
| | Enter ppm here: | |
| | The automatically computed results are only to be used for reference purposes. Your data provider and Len Geosystems AG provide no guarantee regarding the correctness of this automatic computation (both its methodology and suit) and shall not be balate to any look, damage or injury including during thinde to consequential loss, damage or injury in brevver caused, which may arise directly or indirectly from the use or application of this automatic computation result. If the verify the automatic computation result before use. | |
| 17 | Submit | |

Finally, click on the submit button.

| Umm • RHEX download guide • PRO • Statistics • Statistics • Statistics • Statistics | SpiderWeb | | | | | |
|---|--|--|--|--|----------|--|
| I conditional service FPRN FAQ FPRN Station Information FPRN Station Information FPRN Station Information FPRN Station Information Stati date: OT/03/2019 End date: OT/03/2019 End date: OT/10/2019 End date: OT/10/2019 Statistics | Home VRINEX download guide EDC Surreging & Monoing | Results | | | | |
| Show transactions: All Show transactions: Show transactions: All Show transactions: Show transactions: Show transactions: All Show transactions: S | FPRN FPRN FAQ FPRN Live Support | User name: | Ron Hanson (ron.hanson) | | ~ | |
| IniteX sols Service Vintual RINEX Service Computation Service Statistics Find date: 01/10/2019 IMP Show Results Statistics Date/Time Download Sites Job Name Status User Del 01/10/2019 15.04 Coordinate Computations 01/10/2019 14.59 Virtual RINEX once only of ron hanson in 01/10/2019 14.59 Virtual RINEX once only of ron hanson in 01/10/2019 14.59 Coordinate Computations 01/10/2019 14.59 Coordinate Computations Other the symbol for RINEX file download Click on the symbol for RINEX file download Not all data available, drag mource write symbol for an error description | ↓ FPRN Station Information ↓ FPRN Technical Support ↓ Site overview | Show transactions: Start date: | All ~ | \searrow | | |
| Results Select all Deselect all DI/10/2019 15.04 Coordinate Computations D/1/0/2019 15.94 Coordinate Computations D/1/0/2019 14.59 D/1/0 | V RINEX Job Service Virtual RINEX Service Computation Service Configuration | End date: | 01/10/2019 | [| Show | |
| During Time During Time Source only Source only Source only Forn hanson 01/10/2019 15 04 Coordinate Computations A ron hanson 01/10/2019 15 04 Coordinate Computations A ron hanson 01/10/2019 14 59 Virbula RINEX once only ron hanson 01/10/2019 14 59 Coordinate Computations A ron hanson | → Results ↓ Statistics | Data/Time Download | Situe Job Nama | Select all Desel | lect all | |
| Click on the symbol for RINEX file download Click on the symbol for RINEX file download A Not all data available, drag mouse over the symbol for an error description | | 01/10/2019 15.04 01/10/2019 15.04 01/10/2019 15.04 01/10/2019 14.59 01/10/2019 14.59 01/10/2019 14.59 | Virtual RINEX once only Coordinate Computations Virtual RINEX once only Coordinate Computations | √ ron.hanson ▲ ron.hanson √ ron.hanson √ ron.hanson | | |
| Q Request in progress, server is busy ✓ Transaction successfully processed | | Click on the symbol for RINE Not all data available, drag m Request in progress, server i Transaction successfully proc | X file download ouse over the symbol for an error description s busy sessed | | | |
| To delete the selected Transaction(s) press: Delete | and the second | | To delete the selec | ted Transaction(s) press: | Delete | |

The program will generate a report containing the averaged WGS84 Cartesian, WGS84 Geodetic, and, in this case, the NAD83 (2011) Florida State Plane Coordinates (East Zone) coordinates.

The program will also create a Rinex file of the Virtual Rinex Station used to compute the Least Square adjusted coordinates supplied in the report.

You can use the Rinex file to import into a post processing software.

Barults of Casy 1 Total number of Gr95 Maselines computed 1. Total number of Gr95 Maselines used for final computation (after baseline rejection) = 1 MUS 44 Cartesian Coordinates Tot = 35800.655 m Standard error = 0.078 mm Are residual of G95 Maselines in Component = -: Mus. residual of G95 Maseline in Component = -: Mus. residual of G95 Maseline in Component = -: Mus. residual of G95 Maseline in Component = -: Mus. residual of G95 Maseline in Component = -: Mus. residual of G95 Maseline in Licityde component = -: Mus. residual of G95 Maseline in Licityde component = -: Mus. residual of G95 Maseline in Licityde component = -: Mus. residual of G95 Maseline in Licityde component = -: Mus. residual of G95 Maseline in Licityde component = -: Mus. residual of G95 Maseline in Licityde component = -: Mus. residual of G95 Maseline in Licityde component = -: Mus. residual of G95 Maseline in Licityde component = -: Mus. residual of G95 Maseline in Licityde component = -: Mus. residual of G95 Maseline in Licityde component = -: Mus. residual of G95 Maseline in Licityde component = -: Mus. residual of G95 Maseline in Licityde component = -: Mus. residual of G95 Maseline in Licityde component = -:



Most of the modern Data Collectors will allow for the creation of a Localization file (custom transformation).

Just use the published coordinates as one of the files and the coordinates from the FPRN as the field observations and follow the steps previously outlined.



