Pocket SDR ver.0.14
Command References

2025-3-19

Contents

pocket_scan

Synopsis

pocket_scan [-e]

Description

Scan and list USB devices.

Options

-e

Show end point information for USB devices.

pocket_conf

Synopsis

pocket_conf [-s] [-a] [-h] [-p bus[,port]] [conf_file]

Description

Configure or show settings for a Pocket SDR FE device. If conf_file specified, the settings in the configuration file are set to the Pocket SDR FE device registers. The configuration is a text file containing records of MAX2771 register field settings as like follows. The register field settings are written as keyword = value format or hexadecimal format. In the case of keyword = value format, a keyword is a field name shown in MAX2771 manual [1]. Strings after in a line is treated as comments. If conf_file omitted, the command shows the settings of the Pocket SDR FE device in the same format of the configuration file.

Keyword = value format:

```
[CHx]
FCEN     = 97   ...
FBW      =  0   ...
F3OR5    =  1   ...
...
```

Hexadecimal format:

```
CH  ADDR  VALUE
1   0x00  0xA2241C17
1   0x01  0x20550288
...
```

Options

-s

Save the settings to EEPROM of the SDR device. These settings are also loaded at reset of the Pocket SDR FE device.

-a

Show all of the register fields.

-h

Configure or show registers in a hexadecimal format.

-p [bus[,port]]

USB bus and port number of the Pocket SDR FE device. Without the option, the command selects the device firstly found.

conf_file

Path of the configuration file. Without the option, the command shows current register field settings of the Pocket SDR FE device.

References

[1] maxim integrated, MAX2771 Multiband Universal GNSS Receiver, July 2018

pocket_dump

Synopsis

pocket_dump [-t tsec] [-r] [-p bus[,port]] [-c conf_file] [-q] [file [file ...]]

Description

Capture and dump digital IF (DIF) data of a Pocket SDR FE device to output files. To stop capturing, press Ctr-C.

Options

-t tsec

Data capturing time in seconds.

-r

Dump raw data of the Pocket SDR FE device without channel separation and quantization.

-p bus[,port]

USB bus and port number of the Pocket SDR FE device. Without the option, the command selects the device firstly found.

-c conf_file

Configure the Pocket SDR FE device with a device configuration file before capturing.

-q

Suppress showing data dump status.

[file [file ...]]

Output digital IF data file paths. The first path is for CH1, the second one is for CH2 and so on. The second one or the later can be omitted. With option -r, only the first path is used. If the file path is "", data are not output to anywhere. If the file path is "-", data are output to stdout. If all of the file paths omitted, the following default file paths are used.

CH1: ch1_YYYYMMDD_hhmmss.bin
CH2: ch2_YYYYMMDD_hhmmss.bin

...

(YYYYMMDD: dump start date in UTC, hhmmss: dump start time in UTC)

pocket_acq

Synopsis

pocket_acq [-sig sig] [-prn prn[,...]] [-tint tint] [-toff toff] [-f freq] [-fi freq] [-d freq] [-nz] file

Description

Search GNSS signals in digital IF data and plot signal search results. If single PRN number by -prn option, it plots correlation power and correlation shape of the specified GNSS signal. If multiple PRN numbers specified by -prn option, it plots C/N0 for each PRN.

Options ([]: default)

-sig sig

GNSS signal ID (L1CA, L2CM, ...). [L1CA]

-prn prn[,...]

PRN numbers of the GNSS signal separated by ','. A PRN number can be a PRN number range like 1-32 with start and end PRN numbers. For GLONASS FDMA signals (G1CA, G2CA), the PRN number is treated as FCN (frequency channel number). [1]

-tint tint

Integration time in ms to search GNSS signals. [code cycle]

-toff toff

Time offset from the start of digital IF data in ms. [0.0]

-f freq

Sampling frequency of digital IF data in MHz. [12.0]

-fi freq

IF frequency of digital IF data in MHz. The IF frequency equals 0, the IF data is treated as IQ-sampling (zero-IF). [0.0]

-d freq[,freq]

Reference and max Doppler frequency to search the signal in Hz. [0.0,5000.0]

-nz

Disable zero-padding for circular correlation to search the signal. [enabled]

-h

Show usage and signal type IDs

file

File path of the input digital IF data. The format should be a series of int8_t (signed byte) for real-sampling (I-sampling) or interleaved int8_t for complex-sampling (IQ-sampling). PocketSDR and AP pocket_dump can be used to capture such digital IF data. If the tag file <file>.tag of the input IF data exists, the format, the sampling frequency, the LO frequencies and the sampling types are automatically recognized by the tag file and the options -fmt, -f, -fi, and -IQ are ignored.

pocket_trk

Synopsis

pocket_trk [-sig sig -prn prn[,...] [-rfch ch[,...]] ...] [-fmt {INT8|INT8X2|RAW8|RAW16|RAW32}]
[-f freq] [-fo freq[,...]] [-IQ {1|2}[,...]] [-bits {2|3}[,...]] [-toff toff] [-ti tint] [-p bus,[,port]
[-c conf_file] [-log path] [-nmea path] [-rtcm path] [-raw path] [-opt file] [file]

Description

It searches and tracks GNSS signals in the input digital IF data, extract observation data, decode navigation data and generate PVT solutions. The observation and navigation data can be output as a RTCM3 stream. The PVT solutions can be output as a NMEA stream. The observation data and raw navigation data and some event logs can be output as a log stream.

Options ([]: default)

-sig sig -prn prn[,...] [-rfch ch[,...]] ...

A GNSS signal type ID (L1CA, L2CM, ...) and a PRN number list of the signal. For signal type IDs, refer pocket_acq.py manual. The PRN number list shall be PRN numbers or PRN number ranges like 1-32 with the start and the end numbers. They are separated by ",". For GLONASS FDMA signals (G1CA, G2CA), the PRN number is treated as the FCN (frequency channel number). To assign the signal to specific RF channel(s), -rfch option can be followed. Specify the assigned RF channel list with "," or "-". Without the -rfch option, RF channel for the signal is automatically assigned. The signal option can be repeated for multiple GNSS signals to be tracked.

-fmt {INT8|INT8X2|RAW8|RAW16|RAW32}

Specify IF data format as follows: INT8 = int8 (I-sampling), INT8X2 = interleaved int8 (IQ-sampling), RAW8 = Pocket SDR FE 2CH raw (packed 8 bits), RAW16 = Pocket SDR FE 4CH raw (packed 16 bits), RAW32 = Pocket SDR FE 8CH raw (packed 32 bits) [INT8X2]

-f freq

Specify the sampling frequency of the IF data in MHz. [12.0]

-fo freq[,...]

Specify LO frequency for each RF channel in MHz. In case of the IF data format as RAW8, RAW16 or RAW32, multiple (2, 4 or 8) frequencies have to be specified separated by ",".

-IQ {1|2}[,...]

Specify the sampling type (1 = I-sampline, 2 = IQ-sampling) for each RF channel separated by "," in case of the IF data foramt as RAW8, RAW16 or RAW32. [2,2,2,2,2,2,2,2]

-bits {2|3}[,...]

Specify the number of sampling data bits (2 or 3) for each RF channel separated by "," in case of the IF data foramt as RAW8, RAW16 or RAW32 and the sampling type as I-sampling. [2,2,2,2,2,2,2,2]

-toff toff

Time offset from the start of the IF data in s. [0.0]

-tscale scale

Time scale to replay the IF data file. [1.0]

-ti tint

Update interval of the signal tracking status in seconds. If 0 specified, the signal tracking status is suppressed. [0.1]

-p bus[,port]

USB bus and port number of the Pocket SDR FE device in case of IF data input from the device.

-c conf_file

Configure the Pocket SDR FE device with a device configuration file before signal acquisition and tracking.

-log path

A stream path to write the signal tracking log. The log includes observation data, navigation data, PVT solutions and some event logs. The stream path should be one of the followings.

(1) local file file path without ':'. The file path can be contain time keywords (%Y, %m, %d, %h, %M) as same as the RTKLIB stream.
(2) TCP server :port

(3) TCP client address:port

-nmea path

A stream path to write PVT solutions as NMEA GNRMC, GNGGA, GNGSA and GxGSV sentences. The stream path is as same as the -log option.

-rtcm path

A stream path to write raw observation and navigation data as RTCM3.4 messages with extensions. The stream path is as same as the -log option.

-raw path

A stream path to write raw IF data. The stream path is as same as the -log option.

-h height

Specify the console height (rows). [64]

-opt file

Specify the system options file. Refer pocket_trk_default.conf for the contents of the file. []

[file]

A file path of the input IF data. The Pocket SDR FE device and pocket_dump can be used to capture such digitized IF data. If the tag file <file>.tag for the input IF data exists, the format, the sampling frequency, the LO frequencies and the sampling types are automatically recognized by the tag file. In this case, the options -fmt, -f, -fo, and -IQ are ignored. If the file path omitted, the input is taken from a Pocket SDR FE device directly. In this case, the format, the sampling frequency, the LO frequencies and the sampling types are automatically configured according to the device information.

pocket_snap

Synopsis

pocket_snap [-ts time] [-pos lat,lon,hgt] [-ti sec] [-toff toff] [-f freq] [-fi freq] [-tint tint]
[-sys sys[,...]] [-v] [-w file] -nav file [-out file] file

Description

Snapshot positioning with GNSS signals in digitized IF file.

Options ([]: default)

-ts time

Captured start time in UTC as YYYY/MM/DD HH:mm:ss format. [parsed by file name]

-pos lat,lon,hgt

Coarse receiver position as latitude, longitude in degree and height in m. [no coarse position]

-ti sec

Time interval of positioning in seconds. (0.0: single) [0.0]

-toff toff

Time offset from the start of digital IF data in seconds. [0.0]

-f freq

Sampling frequency of digital IF data in MHz. [12.0]

-fi freq

IF frequency of digital IF data in MHz. The IF frequency equals 0, the IF data is treated as IQ-sampling (zero-IF). [0.0]

-tint tint

Integration time for signal search in msec. [20.0]

-sys sys[,...]

Select navigation system(s) (G=GPS,E=Galileo,J=QZSS,C=BDS). [G]

-verp

Enable verbose status display.

-w file

Specify FFTW wisdom file. [../python/fftw_wisdom.txt]

-nav file

RINEX navigation data file.

-out file

Output solution file as RTKLIB solution format.

file

Digitized IF data file.

fftw_wisdom

Synopsis

fftw_wisdowm [-n size] [file]

Description

Generate FFTW wisdom. FFTW wisdom is used to optimize FFT and IFFT performance by FFTW in target environment.

Options ([]: default)

-n size

FFT and IFFT size. [48000]

file

Output FFTW wisdom file. [fftw_wisdom.txt]

convbin

Synopsis

convbin [option ...] file

Description,

Convert RTCM, receiver raw data log and RINEX file to RINEX file. It supports the following messages or files. It supports RTCM 3.4 MSM extensions for pocket_trk and pocket_sdr.py.

RTCM 3	: Type 1002, 1004, 1005, 1006, 1007, 1008, 1010, 1012, 1019, 1020, 1029, 1033, 1041, 1044, 1045, 1046, 1042, 1074, 1075, 1076, 1077, 1084, 1085, 1086, 1087, 1094, 1095, 1096, 1097, 1104, 1105, 1106, 1107, 1114, 1115, 1116, 1117, 1124, 1125, 1126, 1127, 1230
NovAtel OEM7	: RANGECMPB, RANGEB, RAWEPHEMB, IONUTCB, RAWWAASFRAMEB, RAWSBASFRAMEB, GLOEPHEMERISB, GALEPHEMERISB, GALIONB, GALCLOCKB, QZSSRAWEPHEMB, QZSSRAWSUBFRAMEB, BDSEPHEMERISB, NAVICEPHEMERISB
u-blox F9	: UBX-RXM-RAW, UBX-RXM-SFRB, UBX-RXM-RAWX, UBS-RXM-SFRBX
BINEX	: 0x00, 0x01-01, 0x01-02, 0x01-03, 0x01-04, 0x01-05, 0x01-06, 0x01-07, 0x01-14, 0x7F-05 (big-endian, regular CRC, forward record (sync=0xE2))
Septentrio SBF	: MEASEPOCH, GPSRAWCA, GLORAWCA, GALRAWFNAV, GALRAWINAV, GEORAWL1, BDSRAW, QZSRAWL1CA, NAVICRAW
RINEX	: OBS, NAV, GNAV, HNAV, LNAV, QNAV, CNAV, INAV

Options [default]

file

Input receiver log file path (wild-cards (*) can be included)

-ts y/m/d h:m:s

Start time [all]

-te y/m/d h:m:s

End time [all]

-tr y/m/d h:m:s

Approximated log start time for RTCM [see below]

-ti tint

Observation data epoch interval (s) [all]

-tt ttol

Observation data epoch tolerance (s) [0.005]

-span span

Time span (h) [all]

-r format

Receiver log format

rtcm3 = RTCM 3

nov = NovAtel OEM7

ubx = ublox F9

binex = BINEX

sbf = Septentrio SBF

rinex = RINEX

-ro opt

Receiver options

-f freq

Number of signal frequencies [5]

-hc comment

RINEX header: comment line

-hm marker

RINEX header: marker name

-hn markno

RINEX header: marker number

-ht marktype

RINEX header: marker type

-ho observ

RINEX header: observer name and agency separated by /

-hr rec

RINEX header: receiver number, type and version separated by /

-ha ant

RINEX header: antenna number and type separated by /

-hp pos

RINEX header: approx position x/y/z separated by /

-hd delta

RINEX header: antenna delta h/e/n separated by /

-v ver

RINEX version [3.05]

-xd

Exclude Doppler frequency in RINEX OBS file [off]

-xs

Exclude SNR in RINEX OBS file [off]

-oi

Include iono correction in RINEX NAV header [off]

-ot

Include time correction in RINEX NAV header [off]

-ol

Include leap seconds in RINEX NAV header [off]

-halfc

Half-cycle ambiguity correction [off]

-mask [sig[,...]]

Signal mask(s) (sig={G|R|E|J|S|C|I}L{1C|1P|1W|...})

-nomask [sig[,...]]

Signal no mask(s) (same as above)

-x sat[,...]

Excluded satellite(s)

-y sys[,...]

Excluded system(s) (G:GPS, R:GLONASS, E:Galileo, J:QZSS, S:SBAS, C:BDS, I:NavIC)

-d dir

Output directory path [same as input directory]

-c staid

Used RINEX file name convention with station ID staid [off]

-o ofile

Output OBS file path

-n nfile

Output GPS or mixed NAV file path

-trace level

Output debug trace level [off]

-ver

Print version

pocket_sdr.py

Synopsis

pocket_sdr.py

Description

A GNSS SDR receiver with GUI (graphical user interface). To start the receiver, push Start button. To stop the receiver, push Stop button. To configure the receiver options, push Input..., Output..., Signal... or System... button and input settings and push OK on the options dialog. By pushing tab Receiver, RF CH, BB CH, Correlator, Satellites, Solution or Log, the contents of the receiver internal status can be switched. To exit the receiver, push Exit button. In this case, the receiver options are saved as pocket_sdr.ini file in the same directory of the program. The detailed instruction for the program, refer doc/pocket_sdr_help.pdf.

Options

No option.

pocket_plot.py

Synopsis

pocket_plot.py [-type type[,type...]] [-sat sat[,...]] [-sig sig[,...]] [-tspan [ts],[te]] [-tint ti]
[-range rng[,...]] [-style {-|.|-|...}] [-mark size] [-stats] [-legend] [-opt option [-opt ...]]
file ...

Description

Plot GNSS receiver log(s) written by pocket_trk or pocket_sdr.py.

Example:

pocket_plot.py -type CN0,EL -sat G01,G04,J -sig L1CA,L2CM -tspan 2025/1/1,2025/1/2 ¥
-tint 30 -range 0/60,0/100 -style . -mark 3 test_20250101*.log

Options ([]: default)

-type type[,type...]

Plot type(s) of receiver log as follows.

TRK	: signal tracking status
SKY	: satellite positions in skyplot
LOCK	: signal lock time
CN0	: signal C/N0
COFF	: code offset
DOP	: Doppler frequency
ADR	: accumulated Doppler range
SSYNC	: secondary code sync status (0:no-sync,1:normal-sync,-1:reverse-sync)
BSYNC	: bit sync status (0:no-sync, 1:sync)
FSYNC	: subframe/message sync status (0:no-sync,1:normal-sync,-1:reverse-sync)
ERR_PHAS	: phase error in PLL
ERR_CODE	: code error in DLL
NFEC	: number of bit errors corrected
PR	: pseudorange
CP	: carrier-phase
PR-CP	: pseudorange - carrier-phase

LLI : loss-of-lock indicator
AZ : satellite azimuth angle
EL : satellite elevation angle
RES : residuals for position solution
POS : position solution east, north, up
POS-E : position solution east
POS-N : position solution north
POS-U : position solution up
POS-H : position solution horizontal
NSAT : number of used satellites for solution
RCLK : receiver clock bias

-sat sat[,...]

GNSS satellite IDs (G01, R01, ...), satellite system IDs (G, R, ...) or ALL to be plotted. It is required for plot type: TRK, SKY, LOCK, CN0, COFF, DOP, ADR, SSYNC, BSYNC, FSYNC, ERR_PHAS, ERR_CODE, NFEC, PR, CP, PR-CP, LLI, AZ, EL, RES.

-sig sig[,...]

GNSS signal type IDs (L1CA, L2CM, ...) or ALL to be plotted. If omitted, default signals are selected. [default]

-tspan [ts],[te]

Plot start time ts and end time te in GPST. The format for ts or te should be y/m/d_h:m:s, where _h:m:s can be omitted. [auto]

-tint ti

Time interval ti for plot in seconds. [all]

-range rng[,...]

Y-axis ranges as format ymax for range [-ymax...ymax] or ymin/ymax for range [ymin...ymax]. Multiple ranges correspond to multiple plot types. With NULL, the range is automatically configured by data values. [auto]

-color color[,color...]

Mark and line color(s). Multiple colors correspond to multiple plot types. With NULL, the color is automatically selected. sys or cn0 can be allowed for system or C/N0 colors in several plot types. [auto]

-style {-|.|.-|...}

Plot style as same as by matplotlib plot. [.-]

-mark size

Mark size in pixels. [2]

-stats

Show statistics in plots. [no]

-legend

Show legends in plots. [no]

-opt option [-opt ...]

Special options as string. Multiple options should be separated by spaces. ['']

MIN_CN0=cn0	: Minimum C/N0 (dB-Hz)
MIN_EL=el	: Minimum elevation angle (deg)
MIN_LOCK=lock	: Minimum lock time (s)
PLOT_SAT={S|E|L}	: Plot satellite positions in plot type 'SKY' (S: mark at start, E: mark at end, L: only label)
RFCH=ch[,...]	: Select specified RFCH(s)
RFCH_DIFF=ch,ch[,...]	: Make difference of RFCHs referenced by first RFCH

file ...

GNSS receiver log file(s) written by pocket_trk or pocket_sdr.py.

pocket_trk.py

Synopsis

pocket_trk.py [-sig sig -prn prn[,...] ...] [-p] [-e] [-toff toff] [-f freq] [-fi freq] [-IQ] [-ti tint]
[-ts tspan] [-yl ylim] [-log path] [-q] [file]

Description

It tracks GNSS signals in digital IF data and decode navigation data in the signals. If single PRN number by -prn option, it plots correlation power and correlation shape of the specified GNSS signal. If multiple PRN numbers specified by -prn option, it plots C/N0 for each PRN.

Options ([]: default)

-sig sig -prn prn[,...] ...

A GNSS signal type ID (L1CA, L2CM, ...) and a PRN number list of the signal. For signal type IDs, refer pocket_acq.py manual. The PRN number list shall be PRN numbers or PRN number ranges like 1-32 with the start and the end numbers. They are separated by . For GLONASS FDMA signals (G1CA, G2CA), the PRN number is treated as the FCN (frequency channel number). The pair of a signal type ID and a PRN number list can be repeated for multiple GNSS signals to be tracked.

-p

Plot signal tracking status in an integrated window. The window shows correlation envelope, correlation I-Q plot, correlation I/Q to time plot and navigation data decoded. You easily find the signal tracking situation. If multiple PRN number specified in -prn option, only the signal with the first PRN number is plotted. [no plot]

-e

Plot correlation shape as an envelop (SQRT(I^2+Q^2)). [I*sign(IP)]

-3d

3D Plot of correlation shapes. [no]

-toff toff

Time offset from the start of digital IF data in s. [0.0]

-f freq

Sampling frequency of digital IF data in MHz. [12.0]

-fi freq

IF frequency of digital IF data in MHz. The IF frequency is equal 0, the IF data is treated as IQ-sampling without -IQ option (zero-IF). [0.0]

-IQ

IQ-sampling even if the IF frequency is not equal 0.

-ti tint

Update interval of signal tracking status, plot and log in s. [0.1]

-ts tspan

Time span for correlation to time plot in s. [1.0]

-yl ylim

Y-axis limit of plots. [0.3]

-log path

A Log stream path to write signal tracking status. The log includes decoded navigation data and code offset, including navigation data decoded. The stream path should be one of the followings.

(1) local file file path without ':'. The file path can be contain time keywords (%Y, %m, %d, %h, %M) as same as RTKLIB stream.
(2) TCP server :port
(3) TCP client address:port

-q

Suppress showing signal tracking status.

[file]

A file path of the input digital IF data. The format should be a series of int8_t (signed byte) for real-sampling (I-sampling), interleaved int8_t for complex-sampling (IQ-sampling). The Pocket SDR RF-frontend and pocket_dump can be used to capture such digital IF data. If the option omitted, the input is taken from stdin.

pocket_acq.py

Synopsis

pocket_aqc.py [-sig sig] [-prn prn[,...]] [-tint tint] [-toff toff] [-f freq] [-fi freq] [-IQ] [-d freq] [-nz] [-np] [-s] [-p] [-l] [-3d] file

Description

Search GNSS signals in digital IF data and plot signal search results. If single PRN number by -prn option, it plots correlation power and correlation shape of the specified GNSS signal. If multiple PRN numbers specified by -prn option, it plots C/N0 for each PRN.

Options ([]: default)

-sig sig

GNSS signal type ID (L1CA, L2CM, ...). See below for details. [L1CA]

-prn prn[,...]

PRN numbers of the GNSS signal separated by ','. A PRN number can be a PRN number range like 1-32 with start and end PRN numbers. For GLONASS FDMA signals (G1CA, G2CA), the PRN number is treated as FCN (frequency channel number). [1]

-tint tint

Integration time in ms to search GNSS signals. [code cycle]

-toff toff

Time offset from the start of digital IF data in ms. [0.0]

-f freq

Sampling frequency of digital IF data in MHz. [12.0]

-fi freq

IF frequency of digital IF data in MHz. The IF frequency is equal 0, the IF data is treated as IQ-sampling without -IQ option (zero-IF). [0.0]

-IQ

IQ-sampling even if the IF frequency is not equal 0.

-d freq

Max Doppler frequency to search the signal in Hz. [5000.0]

-nz

Disable zero-padding for circular correlation to search the signal. [enabled]

-np

Disable plot even with single PRN number. [enabled]

-s

Short output mode. [long output]

-p

Plot correlation powers with correlation peak graph.

-l

Plot correlation powers along Doppler frequencies.

-3d

Plot correlation powers in a 3D-plot.

-h

Show usage and signal type IDs

file

File path of the input digital IF data. The format should be a series of int8_t (signed byte) for real-sampling (I-sampling) or interleaved int8_t for complex-sampling (IQ-sampling). PocketSDR and AP pocket_dump can be used to capture such digital IF data.

pocket_psd.py

Synopsis

pocket_psd.py [-t tint] [-f freq] [-IQ] [-h] [-n NFFT] file

Description

Plot PSD (power spectrum density) and histogram of input digital IF data.

Options ([]: default)

-t tint

Time interval for PSD and histogram in seconds. [0.01]

-f freq

Sampling frequency of digital IF data in MHz. [24.000]

-IQ

I/Q sampling type of digital IF data. [no]

-h

Enable histogram plots. [no]

-n NFFT

Number of FFT data points for PSD. [4096]

pocket_snap.py

Synopsis

pocket_snap.py [-ts time] [-pos lat,lon,hgt] [-ti sec] [-toff toff] [-f freq] [-fi freq] [-tint tint]
[-sys sys[,...]] -nav file [-out file] file

Description

Snapshot positioning with GNSS signals in digitized IF file.

Options ([]: default)

-ts time

Captured start time in UTC as YYYY/MM/DD HH:mm:ss format. [parsed by file name]

-pos lat,lon,hgt

Coarse receiver position as latitude, longitude in degree and height in m. [no coarse position]

-ti sec

Time interval of positioning in seconds. (0.0: single) [0.0]

-toff toff

Time offset from the start of digital IF data in seconds. [0.0]

-f freq

Sampling frequency of digital IF data in MHz. [12.0]

-fi freq

IF frequency of digital IF data in MHz. The IF frequency equals 0, the IF data is treated as IQ-sampling (zero-IF). [0.0]

-tint tint

Integration time for signal search in msec. [20.0]

-sys sys[,...]

Select navigation system(s) (G=GPS, E=Galileo, J=QZSS, C=BDS). [G]

-v

Enable verbose status display.

-nav file

RINEX navigation data file.

-out file

Output solution file as RTKLIB solution format.

file

Digitized IF data file.