

Snipe

Ground unit for Raven onboard telemetry.



Manual version: 1.3

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Introduction

The Snipe unit is designed as ground unit for Raven onboard module. It produces the vario tone, voice announcements and transfers data to an Android tablet or phone running Apps (such as Albatross or SkyNavigator) to display data. It has also additional 3rd party telemetry connector where other telemetry data can be feed in and Snipe will forward it to Android application

Key features

- Stereo audio output
- Audio input
- 3rd party telemetry input
- Plug & play
- **FHSS** - Frequency Hopping Spread System on 433MHz telemetry channel.

Specifications

Unit Dimensions	80 mm x 41 mm x 16 mm
Weight	57 grams
Temperature Range ¹	-10°C ~ +60°C
Input Voltage Range	5.0 volts DC USB
Input Current	84 milliamps

¹ Specifications are taken from component ratings and system limits and may not have been tested to the full extent of the specified ranges.

Physical overview

Figure 1 and Figure 2 shows the Snipe module. It has an SMA connector for RF antenna, two 3.5mm audio stereo jack (top one for input and bottom one for output). Three buttons are used for selecting mode of operation (indicated by LED) and changing values (+ and -)

Onboard multi-color LED shows different status of operation:

At power on all LEDs are toggled (red, green, blue and white) to confirm its operation, during operation LED status are:

red – module is waiting for RF signal

green – module is ready for flight, pressing + an – will change Vario volume

blue – onboard logger is running, pressing + an – will change voice volume

white – not yet implemented.

Micro USB is used for updates and change of settings. The micro USB is also used to connect the Snipe to an Android tablet or phone to display the flight data thru an App such as “Albatross”. Snipe will get power from Android device via USB connection so Android device must support OTG mode to supply power to the unit.

Important: Be careful on polarity when connecting 3rd party telemetry cable to the unit. Improper connection can damage unit!



Figure 1: The Snipe module.



Figure 2: The Snipe module.

Using the Snipe module

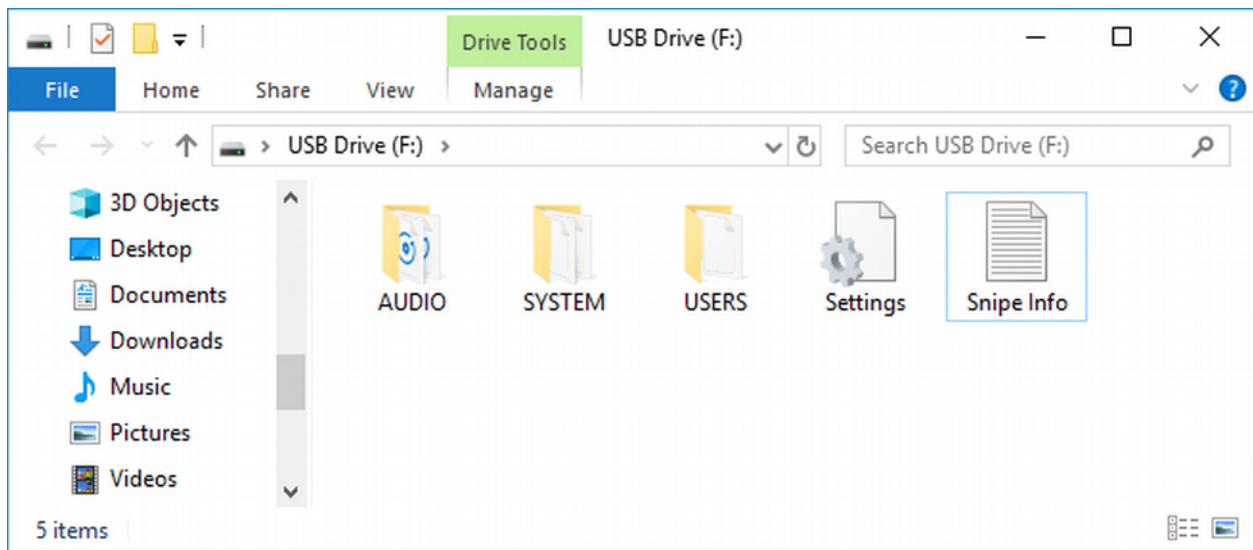
Powering the module

To power the Snipe module the user must provide 5 Vdc thru the micro USB connector. When connected to a tablet or phone the Snipe gets power from the tablet or phone. When used in standalone configuration, a USB power bank must to be connected to the module thru the micro USB connector.

Connecting module to PC

Connecting the Snipe module to PC with micro USB cable will power the module and will open up a flash disk. On that disk there are some system folders and files which can be modified or checked for its contents.

The “Snipe info.txt” file contains all information about the module (Name, Serial number, HW version, Settings used ...etc.) The “Settings.ini” file used to make changes to the setting by the user. After changing “Settings.ini” file, save the file and do a power reset (power off than back on). After reset check the “Snipe info.txt file” to see if new settings have been processed.



Snipe info.txt example:

Device: Snipe - device name
Serial No: 168001 - device serial no.
HW: 1.0 - HW version of device
Produced: 27.9.2018 - date of production
FW v: r.0.9.B100 - FW version installed
SkyNavigator enable: automatic - Snipe will automatically switch to SkyNavigator protocol if needed
TE Level: 0 % - TE level for electronic compensation
Filter: 1.5 s - vario filter (response time in seconds)
Servo trigger level: 30 % - Servo trigger for starting task (used in Raven IGC log file only!)
Stereo output: enabled - Ehen enabled audio is in stereo mode, else in mono
Negative beep value: -0.6 - Threshold when vario starts to beep. Indicating raising air
Listen pair key: 0 - if different than 0 then Snipe can simulate another Snipe / Finch so user can receive RF data on 2 separate devices from one source (Raven or Sparrow)

Settings.ini example:

//Electronic compensation value. Albatross setting will override this value.
TE Level: 0

//Vario response filter in seconds. Albatross setting will override this value.
Filter: 1.5

//Servo pulse for start/restart. Albatross setting will override this value.
ServoTrigger: 0

//Stereomode for earphones. Use 0 if mono earphone is used
Stereo output: 1

//Negative vario beeping offset. Has to be in rage from -1.0 to -0.1 m/s
//Value 0.0 means negative beeping disabled.
Negative beep value: -0.6

//Listening mode: When listen pair key is different than 0
//Snipe will be in listen mode, simulating different Snipe (serial nr)
//but will not transfer any WAN data to Raven/Sparrow
Listen pair key: 0

Firmware update

1. Download latest firmware for Snipe from our web site. Firmware should have name Snipe.rcu
2. Connect Snipe to PC via USB cable
3. Copy Snipe.rcu to Snipe flash disk and do a power reset.
4. Check in "Snipe info.txt" file that new version is installed.

Revision history

20.11.2019	v1.3	- Added Settings.ini file description - Description of latest Snipe info.txt file
18.10.2019	v1.2	- updated Snipe picture with signal and minus sign for 3 rd party connector
25.02.2019	v1.1	- Corrected Snipe photo with visible 3 rd party telemetry connector
23.01.2019	v1.0	- initial release