



pingUSB

uAvionix Ping ADS-B USB Receiver

QUICK START GUIDE

specifications

Input Voltage/Current	5V / 100mA
Size	34 x 19 x 8mm
Weight	5 grams
MTL 1090MHz Dynamic Range	-84 dBm -81 to 0 dBm
MTL 978MHz Dynamic Range	-93 dBm -90 to -3 dBm
Supported Interfaces	USB Serial 57600 bps

safety

- The Ping Receiver adds an additional layer of situational awareness to drone operations in the airspace. Accordingly, pilots must remain vigilant of surrounding air traffic at all times during flight to ensure safe operation.
- Never operate the software or vehicle in a way that could be dangerous to you, other people or property.
- It is your responsibility to ensure that you understand and comply with all local laws and regulations.

Quick Start Guide

The uAvionix PingUSB ADS-B Receiver provides high quality tracking data for use with software such as Virtual Radar Server and services including ADS-B Exchange. It allows tracking of aircraft on both 1090 MHz and 978 MHz.

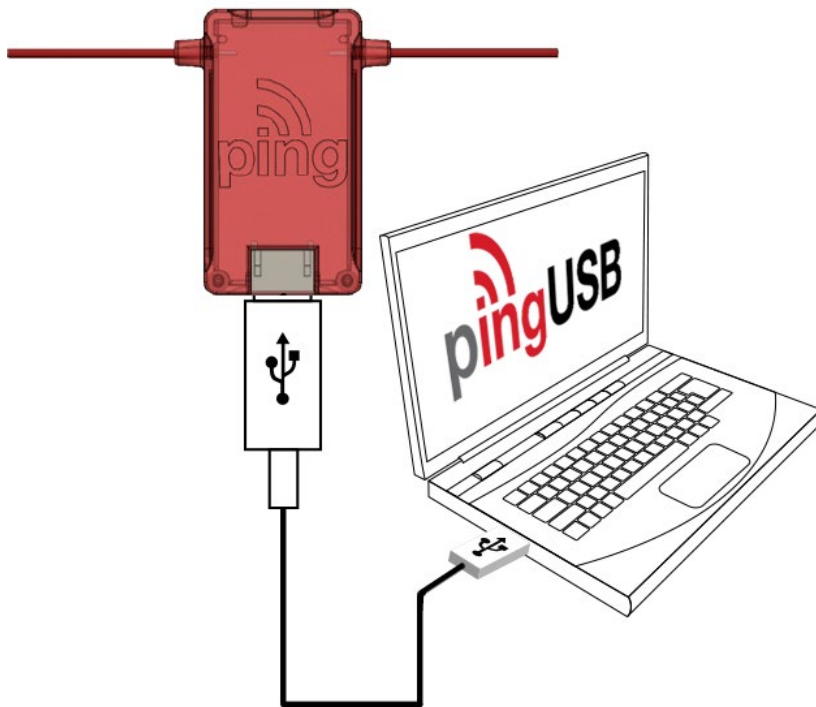
- 1. connect**
- 2. load**
- 3. launch**
- 4. track**



connect

1

Connect Ping to your Windows PC with a USB Micro-B to USB-A cable.





load software

2



Download PingUSB Installer (Windows)

<http://www.uavionix.com/products/pingusb/>



Download Virtual Radar Server (Windows)

<http://www.virtualradarserver.co.uk/Download.aspx>

install

- Unzip the PingUSB Installer. Run PingSetup.msi and follow the on-screen setup instructions.





load software

2

install

- Install Virtual Radar Server
- Run Virtual Radar Server
 - Select “Tools -> Options” and add a Receiver with the following options

The screenshot shows the 'Options' dialog box in the Virtual Radar Server software. The 'Preset Configurations' tree on the left has 'Receivers' expanded, with 'Ping' selected. The main configuration area is as follows:

- Enabled:** Enabled
- Name:** Ping
- Format:** Compressed VRS
- Location:** (empty dropdown)
- Connection type:** Network
- Options:** Normal, Hide from web site, Merge only
- Network:**
 - Push receiver
 - Address:** 127.0.0.1
 - Port:** 20000
 - Passphrase:** (empty text box)
 - Send keep-alive packets
 - Idle timeout:** 60 (seconds)
- Access Control:**
 - Default access:** Unrestricted
 - Allow these addresses:** CIDR, From address, To address

Buttons: Wizard, Test Connection, OK, Cancel.



launch

3

Ensure the PingUSB device is connected to a USB port, and run the Ping application. Select the appropriate Serial Port from the dropdown menu. Once selected, press “Start”.

The screenshot shows the uAvionix Ping application window. The 'Serial Port' dropdown is set to 'COM11'. The 'Start' button is highlighted with a red box. The 'Port' field is set to '20000'. The application is displaying a table of aircraft data and a log of raw data.

Type	ICAO	Latitude	Longitude	Altitude	Heading	Hor. Velocity	Ver. Velocity	Callsign	Time since last contact
ADB	846A5B	41.9847648	-87.7796608	1386.84	75.31	109.06	4.87	NCA159	1

```
ADB: 846A5B | 41.9818304 | -87.7938560 | 1325.880 | 73 | 101 | 3 | NCA159 | 3 |
ADB: 846A5B | 41.9826240 | -87.7902208 | 1341.120 | 73 | 103 | 4 | NCA159 | 1 |
ADB: 846A5B | 41.9828800 | -87.7889984 | 1341.120 | 73 | 103 | 5 | NCA159 | 1 |
ADB: 846A5B | 41.9832000 | -87.7875072 | 1348.740 | 74 | 104 | 5 | NCA159 | 1 |
ADB: 846A5B | 41.9834752 | -87.7861952 | 1356.360 | 74 | 105 | 5 | NCA159 | 1 |
ADB: 846A5B | 41.9837504 | -87.7848192 | 1363.980 | 74 | 106 | 5 | NCA159 | 1 |
ADB: 846A5B | 41.9840256 | -87.7834496 | 1371.600 | 74 | 107 | 5 | NCA159 | 1 |
ADB: 846A5B | 41.9842528 | -87.7823168 | 1371.600 | 74 | 108 | 5 | NCA159 | 1 |
ADB: 846A5B | 41.9844864 | -87.7810688 | 1379.220 | 74 | 109 | 5 | NCA159 | 0 |
ADB: 846A5B | 41.9847648 | -87.7796608 | 1386.840 | 75 | 109 | 4 | NCA159 | 1 |
ADB: 846A5B | 41.9847648 | -87.7796608 | 1386.840 | 75 | 109 | 4 | NCA159 | 1 |
```

Notes:

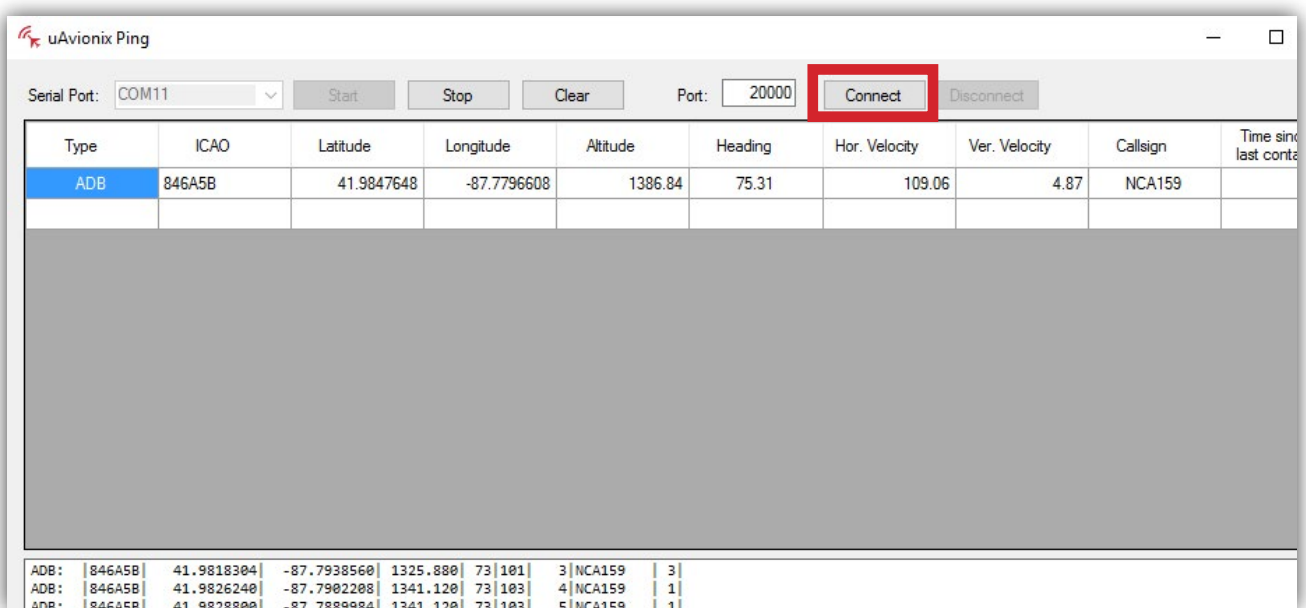
- If the port number is unknown, you can verify the correct port using Windows Device Manager. Ping USB will appear as a “USB Serial Port” under “Ports (COM & LPT)”.
- Once operational, ADS-B compliant aircraft within range will appear in the table.



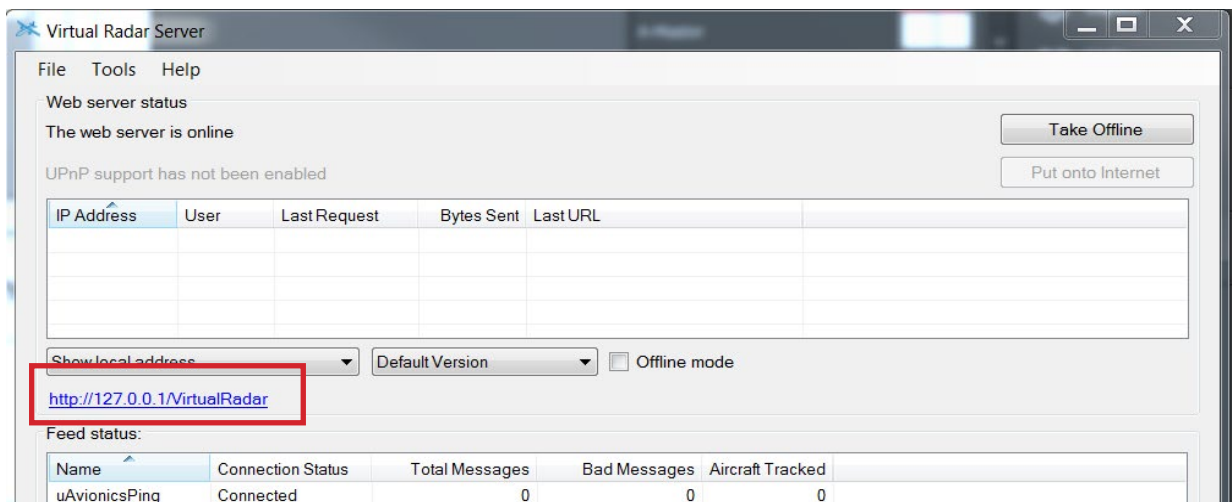
track

4

To start streaming data from Ping USB to Virtual Radar Server, press "Connect" in the Ping application. If the connection to Virtual Radar Server is successful, the "Connect" button will be disabled and the "Disconnect" button will be enabled.



Open the Virtual Radar Server map view in your browser by clicking on the link in the Virtual Radar Server application.





track

4

ADS-B broadcasting aircraft in range will now appear on the map. Range will vary depending on a number of factors. For the best reception, PingUSB should be placed in a location offering the least obstructed view of the horizon.

The screenshot shows the Virtual Radar software interface. The main window displays a map of Southern California with various aircraft tracks and icons. The data panel on the right provides detailed information for the selected aircraft, N846VA.

N846VA **AB97FF** **VRD918**
Virgin America United States Civil A320
Airbus A320 214
Altitude: 4600 ft Vertical Speed: 0 ft/m Speed: 268.0 kts Heading: 263.6° Distance: 4713.86 nmi Squawk: 6777 Engines: Twin jet
Species: Wake Turbulence: Landplane Medium
Route: KSFO San Francisco, United States
KLAS McCarran, Las Vegas, United States

www.airport-data.com :: www.airliners.net :: www.airframes.org
Show on map :: Enable auto-select :: Submit route correction

Silhouette	Flag	Reg.	ICAO	Callsign	Route	Altitude	S
			A62F93	UAL1606		0 ft	0
		N257UP	A2734F	UPS961		28100 ft	504
		N611NK	A7F3AB			26549 ft	375
		N610FE	A7EF40			36975 ft	0
		N846VA	AB97FF	VRD918	KSFO-KLAS	4600 ft	268
		N203NN	A19E61			28450 ft	0
		N824NW	AB40F8	DAL84	KDFW*-EGLL	35775 ft	518
		N66814	A8D489			36000 ft	397
			3187A1			0 ft	9
		N583UP	A782DD			35000 ft	454
		N904NN	AC7F41	AAL223	KBOS-KLAX	18200 ft	316
		N355UP	A3F930	UPS2860		32000 ft	418
			318134			0 ft	13
		N543UW	A6E4E8	AAL650	KLAX-KPHL	8775 ft	317
		N8624J	ABD932			36000 ft	395
			318161			0 ft	6
		N69885	A94BFC	UAL307	KSAN*-KBWI	23774 ft	381