



NextMAG User Interface Manual & Deployment

By Nextage

Welcome

- Welcome to the NextMAG User Manual Locally Hosted Software Configuration.
- Each NextMAG unit locally stores data and has a “.local” site. This allows for data to be stored locally offline and view the data prior to downloading to your PC.
- Let’s get the NextMAG powered on and walk through the 9 tabs and show what each is capable of providing.

NextMAG locally hosted browser

default site url “nextmag.local”

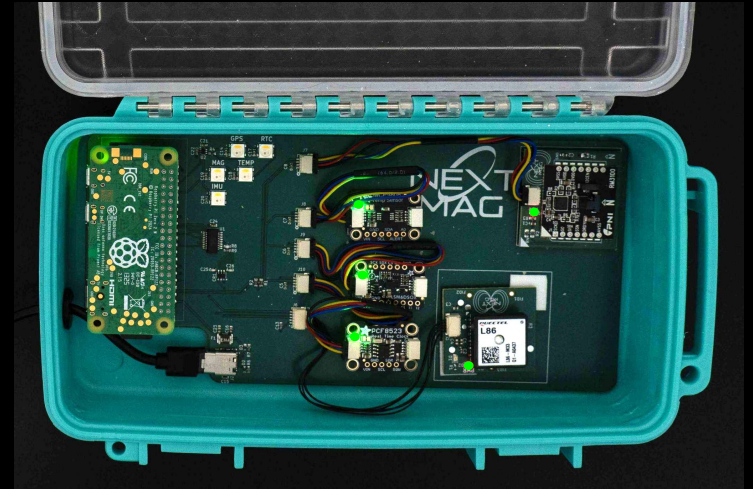
- Home
- Latest Data
- Data Archive
- Control Panel
- Diagnostics
- Disk Usage
- Configure Station
- Hostname
- Network Configuration

Note : If multiple NextMAG are being setup at the same time. To minimize conflicting Wi-Fi and Hostnames only power one nextmag at a time until (Configuration Station, Hostname and, Network Configuration) tabs are completed to eliminate network interference between NextMAG units.



Power On NextMAG Unit

- Take your assembled NextMAG unit and plug in the USB C cable to a USB C plug.
- Ensure multiple green LEDs light up across the board to indicate proper operation, there should be 5 total. The initial power up process can take up to 10 minutes.

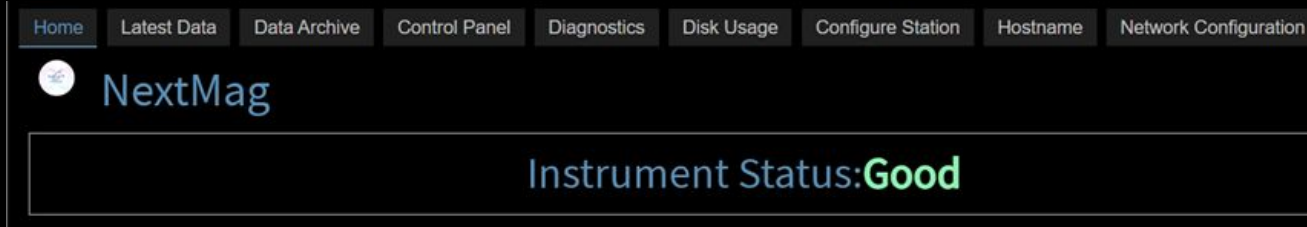
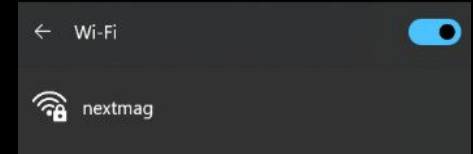


Note : If multiple NextMAG are being setup at the same time. To minimize conflicting Wi-Fi and Hostnames only power one nextmag at a time until ([Configuration Station](#), [Hostname](#) and, [Network Configuration](#)) tabs are completed to eliminate network interference between NextMAG units.



Power On NextMAG Unit

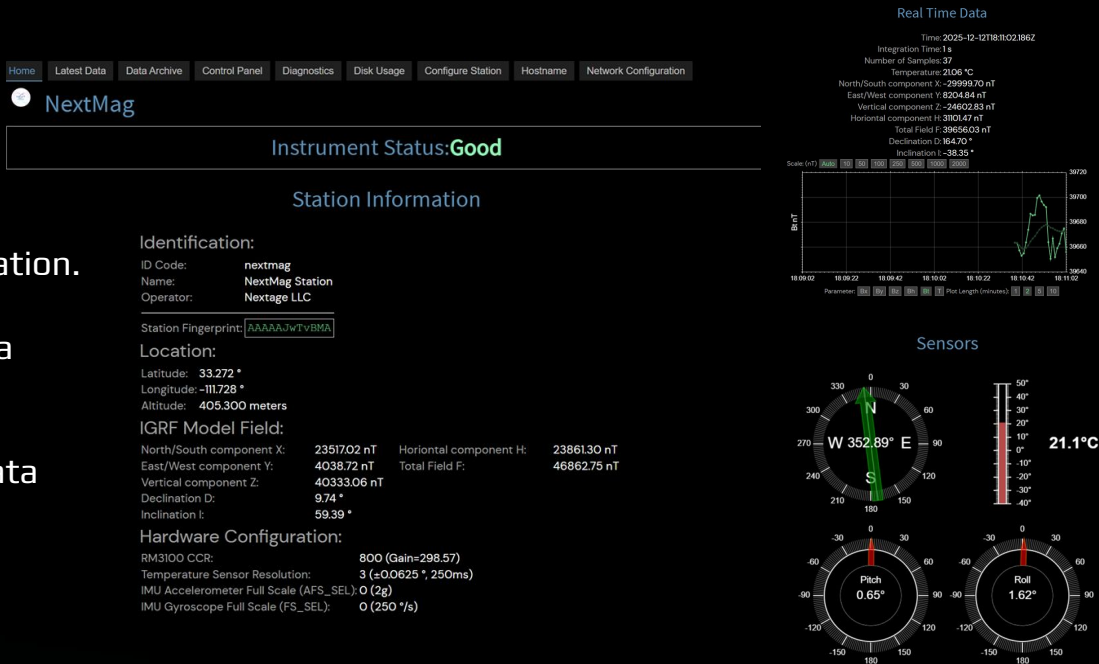
- On your PC go to Wireless connections and join
 - Wi-Fi network: “nextmag” no password required
- On your preferred PC browser “ex. Chrome, Edge, Safari, Mozilla Firefox) navigate to : `nextmag.local`
 - Welcome to your NextMAG Home Page
 - The “Instrument Status” banner shows you the status of the magnetometer:
 - You will see a green “Good” if the kit is functioning normally.
 - You will see a red “Bad” if there is a problem. “If you see this see the trouble shooting guide”



NextMAG Locally Hosted: Home Tab

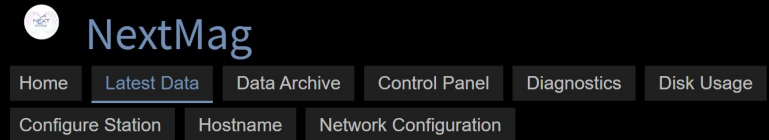
Welcome to your NextMAG Home Page

- Instrument Status
 - Shows status of the Magnetometer.
- Station Information
 - Shows NextMAG ID info and GPS location.
- Real Time Data
 - Shows Table version of real time data
 - Shows live data plotted vs time
- Sensors
 - Showing Compass, Temp and IMU data (Pitch, Roll)



NextMAG Locally Hosted: Latest Data Tab

- Latest Data allows for data to be downloaded from the last 24hrs. Data is a 1 minute average and has a single file for 1hr of data collected.
- Time in Universal Coordinated Time “UTC”
 - `yyyy-mm-dd hh:mm UTC`
 - `2026-01-06 17:00 UTC`
 - January 06, 2026 17:00 UTC



Latest Data Download

Time	Full Resolution	1 Minute Average
2026-01-05 16:00 UTC	Binary	ASCII Text/Annotated ASCII Text
2026-01-05 17:00 UTC	Binary	ASCII Text/Annotated ASCII Text
2026-01-05 18:00 UTC	Binary	ASCII Text/Annotated ASCII Text



NextMAG Locally Hosted: Data Archive Tab

- Upload Data to NextMAG repository here: [Data Upload](#)
 - If Network Configuration is set to Hotspot Configuration “[Data Upload](#)” Link will not work. This is because no internet connection is available in this mode.
- Viewing Data Locally:
 - [Collected Data](#) See next page for details
- Data Download Options:
 - [Download Previous Hour of Data](#)
 - [Daily Archive](#)
 - [Weekly Archive](#)
- Download data from NextMAG unit and upload to:
 - Directly upload the Zip file as it is downloaded from the NextMAG.
- <https://nextage-llc.com/products/nextmag/data-upload/>

NextMag

Home Latest Data **Data Archive** Control Panel Diagnostics Disk Usage Configure Station Hostname Network Configuration

Upload Data to NextMAG repository here:

[Data Upload](#)

Download Previous Hour of Data

	Full Resolution	1 Second Average	1 Minute Average
ASCII Text:	nextmag.smr.txt	nextmag.smr.1s.txt	nextmag.smr.60s.txt
Annotated ASCII Text:	nextmag.est.txt	nextmag.est.1s.txt	nextmag.est.60s.txt

Collected Data

Scale: (nT) Auto 10 50 100 250 500 1000 2000

Bit/s

39000
38500
38100
37600
37200
36800
36400
36000
35600
35200
34800
34400
34000
33600
33200
32800
32400
32000
31600
31200
30800
30400
30000
29600
29200
28800
28400
28000
27600
27200
26800
26400
26000
25600
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12800
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11200
10800
10400
10000
9600
9200
8800
8400
8000
7600
7200
6800
6400
6000
5600
5200
4800
4400
4000
3600
3200
2800
2400
2000
1600
1200
800
400
0

2025-12-11 18:09 UTC 2025-12-12 00:09 UTC 2025-12-12 06:09 UTC 2025-12-12 12:09 UTC 2025-12-12 18:09 UTC

Parameter: BA Bx Bz Bt Plot Length (hours): 72h 168h 48h 24h 12h 6h 3h 1h

Daily Archive

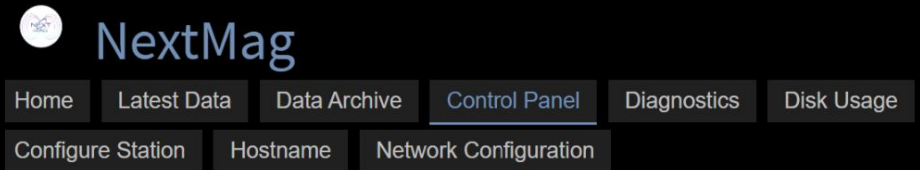
Date	Archive File
2025-12-09	nextmag_20251209AAAAAJwTvBMA.zip

Weekly Archive

There are no archive files to download at this time



NextMAG Locally Hosted: Control Panel Tab



- Control Panel
 - No changes required on this tab. Only use for troubleshooting.
 - Magnetometer and GPS can be toggled on and off.

NextMag Controls

MAGNETOMETER: ON OFF ON

GPS: ON OFF ON

Shutdown Raspberry Pi



NextMAG Locally Hosted: Diagnostics Tab

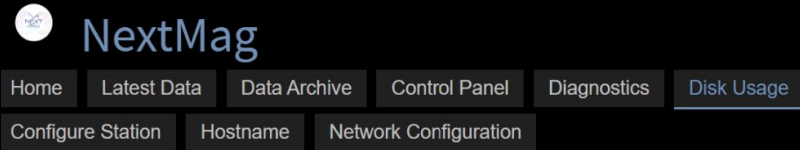
- Diagnostics
 - No changes required on this tab.
Only use for troubleshooting.

The screenshot shows the NextMag web interface. At the top, there is a navigation menu with buttons for Home, Latest Data, Data Archive, Control Panel, Diagnostics (which is highlighted), and Disk Usage. Below this, there are buttons for Configure Station, Hostname, and Network Configuration. The main heading is "Hardware Diagnostics". Underneath, there are three test options, each with a "RUN" button: "Test NEXT-Mag Sensors (I2C Bus)", "Test GPS System (gpsd,pps) (hwclock)", and "Test RTC clock". Below the tests, there is a "Results" section with a "SHOW" button next to the text "Show Latest Test Results". At the bottom of the interface, the "NEXTAGE" logo is displayed.



NextMAG Locally Hosted: Disk Usage Tab

- Disk Usage
 - Click on "SHOW" button and you will see your MicroSD card usage



Disk Usage

Internal Disk Usage

Checking Disk Usage

=====

Disk usage:

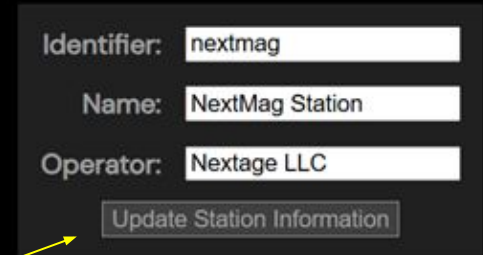
Filesystem	Size	Used	Avail	Use%	Mounted on
/dev/mmcblk0p2	115G	4.9G	105G	5%	/
udev	72M	0	72M	0%	/dev
tmpfs	209M	16K	209M	1%	/dev/shm
tmpfs	84M	2.2M	82M	3%	/run
tmpfs	5.0M	0	5.0M	0%	/run/lock
tmpfs	209M	8.0K	209M	1%	/tmp
/dev/mmcblk0p1	510M	74M	437M	15%	/boot/firmware



NextMAG Locally Hosted: Configure Station Tab

- Navigate to the Configure Station tab. With there being possibility of over 1,000 NextMAG units in the future. We need to be sure yours has a unique name.
- The Station Configuration is where the name is defined.
 - Identifier: nextmag "default"
 - Name: NextMag Station "default"
 - Make it unique and meaningful
 - Operator : Nextage LLC "default"
 - "Operator" fields to clearly identify yourself or your organization.
- Click Update Status Information button when complete.

Station Configuration



Identifier: nextmag

Name: NextMag Station

Operator: Nextage LLC

Update Station Information



NextMAG Locally Hosted: Network Configuration Tab

WLAN Configuration (optional)

- Can be used to connect the NextMAG to your local network via WiFi. (System will need a reboot once “Change Wireless LAN Configuration” is selected)

Hotspot Configuration (Default Setup)

- This will only allow for viewing and downloading of NextMAG data. No external web access.
- If there are more than one NextMAG using Hotspot configuration in range it is required to change the SSID if already used by another unit.
- You may change the SSID box from NextMAG to something of your choosing. SSID should only contain letters and numbers, no spaces or special characters.

WLAN Configuration

SSID:

Pass Phrase:

Show Pass Phrase

Wireless LAN Country: [US] United States

Hotspot Configuration

SSID: nextmag

Pass Phrase:

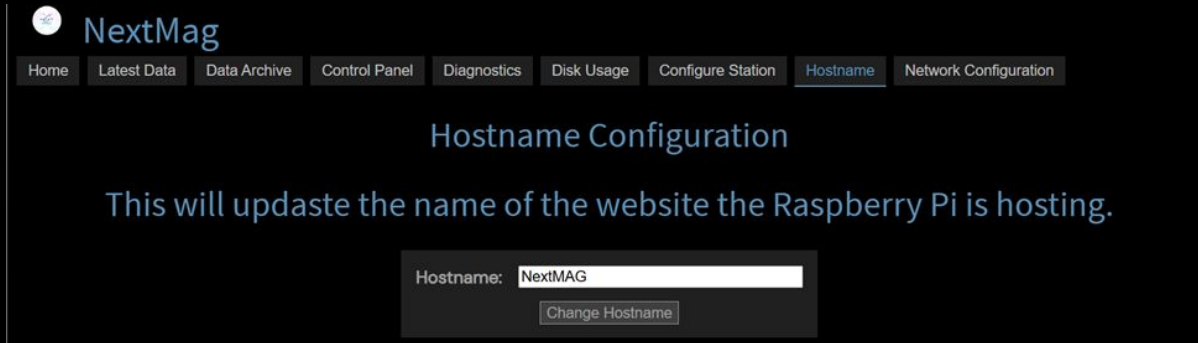
Show Pass Phrase

Wireless LAN Country: [US] United States

Note: System will need a reboot with any changes chosen. Use new credentials to rejoin host page.



NextMAG Locally Hosted: Host Name Tab



NextMag

Home Latest Data Data Archive Control Panel Diagnostics Disk Usage Configure Station **Hostname** Network Configuration

Hostname Configuration

This will update the name of the website the Raspberry Pi is hosting.

Hostname:

Host Name

- Option to change the Host Name. Is recommended if there will be more than one NextMAG on a Wi-Fi network.

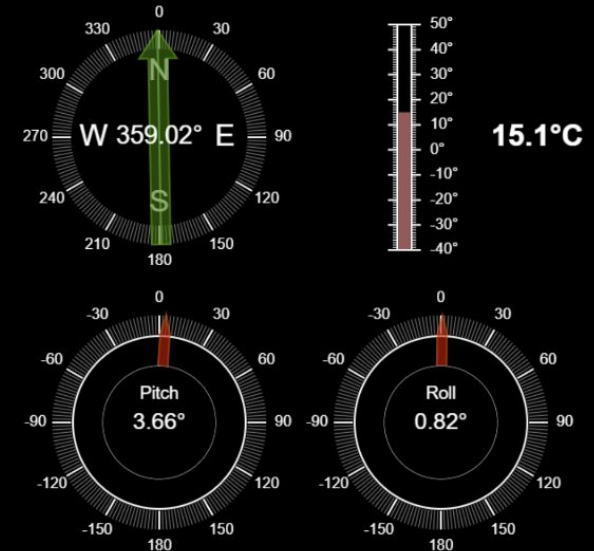
	Hostname	NextMAG browser:
Default	NextMAG	nextmag.local
Example change to	NextMAGaz006	NextMAGAZ006.local



Deploying Your NextMAG Part 1

- How to select a location?
 - Deploy your unit outside, away from anything that could cause electrical interference (lights, power lines, electronics, metal, etc.).
 - The kit is weatherproof, but not waterproof. Do not bury the NextMAG in damp soil, do not immerse in water, and avoid environmental exposure.
 - The magnetometer is temperature-sensitive so do not deploy it in direct sunlight and try to provide shade to avoid overheating.

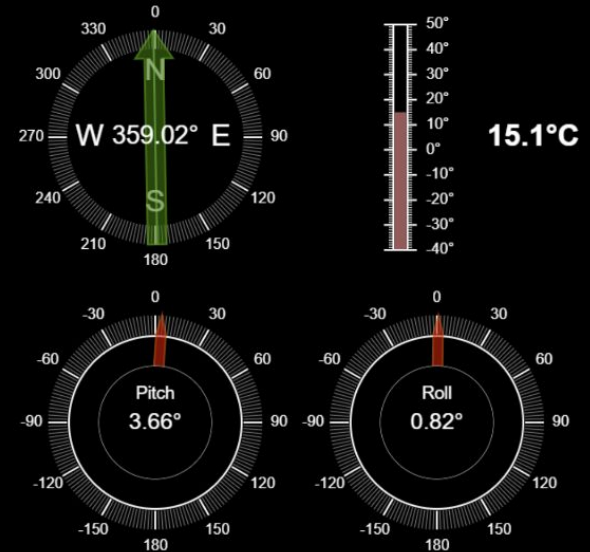
Sensors



Deploying Your NextMAG Part 2

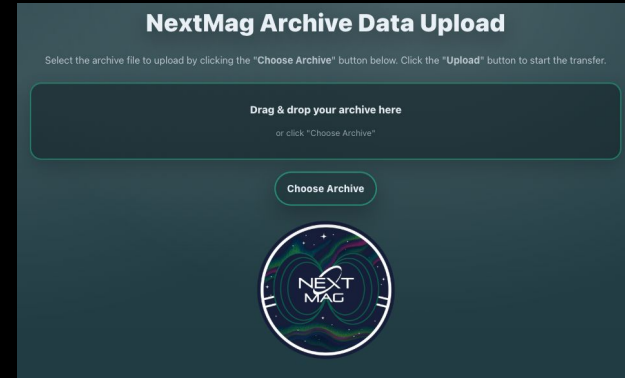
- Getting the NextMAG setup.
 - The kit must be deployed so that the compass on the NextMAG's website is facing north and as level as possible.
 - Keep the power cable away from the MAG Sensor.
 - Cover the NextMAG with something to protect it from the elements which will not interfere with the measurements, such as a plastic cooler or flowerpot. Goal being to have the unit in the shade.
 - Power on the unit and collect data.....

Sensors



Upload Data to the web

- Rejoin the Wi-Fi Network in use by your NextMAG
 - Default “nextmag” or User set per **Network Configuration Tab**
- Rejoin your NextMAG’s local host site.
 - Default “nextmag.local” or User set per **Host Name Tab**
- Navigate to the **Data Archive Tab** and download the daily archive that you want to upload
- Disconnect from your NextMAG’s wifi
- Connect to your normal internet
- Go to <https://nextage-llc.com/data-upload>
- Click “Choose Archive”
- Select the file you downloaded
- Upload



Celebrate!

Your kit is complete!

Visit the NextMAG website for more information if necessary.

