Welcome to International Space Station

Watch the Station Live

International Space Station allows to watch the International Space Station position over a zoomable map.

Calculation of the position is very accurate, we use the latest NASA code to calculate it.

If you are interested you can also get the iPhone / iPad version named ‘ISS Track’ on iTunes.
Search on iTuns for ‘ISS Track’ for it.
Getting Started

Easy of use

When you launch International Space Station it shows an a zoomable map the current position of the International Space Station.

It is calculated based on the current time. The calculation does not require an external connection (except to update orbital parameters data that usually changes once per day and are cached usually for 15 days in advance.

The zoomable maps is obtained from an OpenMap server and it does require a connection to be displayed.
Reference

International Space Station shows the position of the International Space Station, orbiting the earth, inside a zoomable map

The data you see displayed are the current and precise one. You can use this software to predict when the space Station will apes over your zone and watch the space station in the sky (at particular time of the day).

We personally did it many times and it always worked and well, the Station in the sky, in the first hours of the night is indeed a spectacle, a lot more bigger then a start and moving really fast in the sky

International Space Station Position

The International Space Station is orbiting over the surface at around 350 Km of height, 188 NM, over the earth surface. It moves at around 27.500 Km/h, 17.000 MPH. This speed allows to make a complete orbit of the earth in around 1 and half hour

This application calc the actual position projection of the space station over a earth map. In addition to the exact calculation of the ISS the app displays also current velocity and altitude and the predicted exact path of the next orbits.

From our test, comparing the data provided by our software with other sources, the returned result are precise. You can trust our application and the provided data.

You can select from the preferences to use the format and measure units you like for longitude, latitude, altitude and speed.

You can zoom in or zoom out the map using also the popup in the window toolbar to select a zoom level from the available one.

A double click zoom over the clicked point. Also using the mouse wheel you can zoom in or out, just rotating it over the map view.

You can select how much orbits to show in advance on the map, to see future position of the station up to the next 8 hours.
You can watch the places the ISS pass over also at a very high zoom level

The circle around the ISS indicates the area where it is possible to see the ISS in the sky.

You can choose from the toolbar to have the station always positioned at the center of the map.
As the station moves the map scrolls to keep it centered.

**Predicting position of the Space Station**

You can show the future path of the station and see if it will pass over your zone
It can predict up to 8 hours of orbits

You can control the prediction length from the ‘Time’ popup in the menu bar
Naked eye observation of the Space Station

The ISS is larger then 100 meters (330 feet) and at the start and the of the night when you are in the dark and the station is exposed to the sun (it is 400 Km, 225 NM over you) you can see it as a bright star in the sky without using any optical instruments. It is indeed a true spectacle, more brighter then a star and running fast in the sky, it takes few minutes to cover the sky from one side to the other if it is near your vertical on the passage.

If you see the path of the station near your position, if it happens a bit after the sunset or before the dawn you can see it at naked eye.

The best track is the one that happens exactly near you, in any case, if you are inside the gray circle you can see the station passing over you (in the right hours of the night).

We had the opportunity to see them many times. It is always a nice view especially to watch with others.

If the station passes over you during the day you can’t see it, because it’s sunny. If the station passes over you in the deep night you can’t see it because it is not exposed to the sun and it does not reflect light.
So again, the right time is after the sunset when you are in the dark and it is getting the last sun rays or before the sunset when you are still in the dark but the station gets the first sun rays.

**Position Calculation**

Calculation is realised using the last advanced algorithm in C and C++ that we adapted to Mac also creating some special Cocoa / Objective-C class for satellite algorithms management and orbital data update.

To obtain an exact ISS position calculation your computer clock needs to be correct, this should be alway true if you have the ‘Set date and time automatically’ checked in your preferences.

Another thing necessary to obtain the correct calculation is to use the right orbital data in the calculation, the app updates daily from our server the orbital data to ensure you have always the correct orbital data in use. Our server automatically updates the orbital data from NASA, in this way your app, that takes the data from our server in a proper standard format, has always the orbital data to use for a correct calculation.
In a word to ensure your orbital data is correct you have to do ... nothing... just launch the app and ensure you have a working internet connection.

The app knows when to contact our server to update the orbital data and knows when to use the next orbital data in the list. The app contact our server max once per day to avoid bandwidth waste, it usually obtain in background via internet from our server the orbital data for the next 7/15 days, ready to be used when necessary.

You can see which orbital data is in use for calculation, reading it in the upper part of the window the data specific.

You can see the app will change any day the Orbital data in use
As example as in the figure:
Sat is always 25444 which is the ISS satellite code and as in the figure EPOCH 14012.55742592
the first two number are the last two of the year (14 means 2014) the following 3 numbers are the day of the year 012 in the example means January 12 and the fractional part .55742592
means the fractional part of the day (24 hours) of validity when to start to use this orbital data (time of day is in UTC, not your local time, we are dealing on something in the space and we have to use a universal time, not something depending of your position)

For reference we report both your local time and the UTC time at the bottom of the window

**Connection ON required**

A connection to the internet is required for 2 reasons:
1) Update the orbital data from our server. It is done daily but data are cached for the next days. Our server get it daily from NASA and adjust them to the right format.
2) Display the map via OpenMap server (It is required all the time)

**International Space Station Cam window**

The application provides a link to the International Space Station cam, installed onboard

You can open it under the Window > Open in Browser > Station Web Cam menu.

The cam window will automatically connect to the stream coming from the International Space Station
Note that this Cam takes usually some time to connect too. Be patient and sometime, if it doesn’t work, retry. It works, it just requires some time to start.

Sometime you get direct streaming from the station, sometime images from ground from NASA, try many times and you will be lucky.

Some time a watch of the panel at NASA showing the Space Station position.

Sometime you can see the cam on the Space Station pointing to the earth

![Image of a map showing the International Space Station track](image)

When you watch at the cam pointing to the earth, consider that often it is not pointed to the vertical, so it can show point back on the track or forward or on the left or on the right, at 350 Km of altitude they have a very large view field!

**Other Links Provided**

Under Window > Open in Browser the application provides in addition to the Station web cam other links:

- Station page at nasa
- Station (Facebook)
- Station (Youtube)
- Station (Tweeter)
- Nasa HQ Photo
Preferences

General

General preferences allows you to change the coordinate format and the measure units to display altitude and speed.

You can also select to have ‘Keep Centered’ at startup or not.

Help

International Space Station provides a PDF guides under the Help Menu.

Support

You can also obtain support using the ‘Email Support’ command. An email will be prepared using your email client with the correct address to send to. Yes, we answer to your emails.

Credits

NASA - National Aeronautics & Space Administration
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