

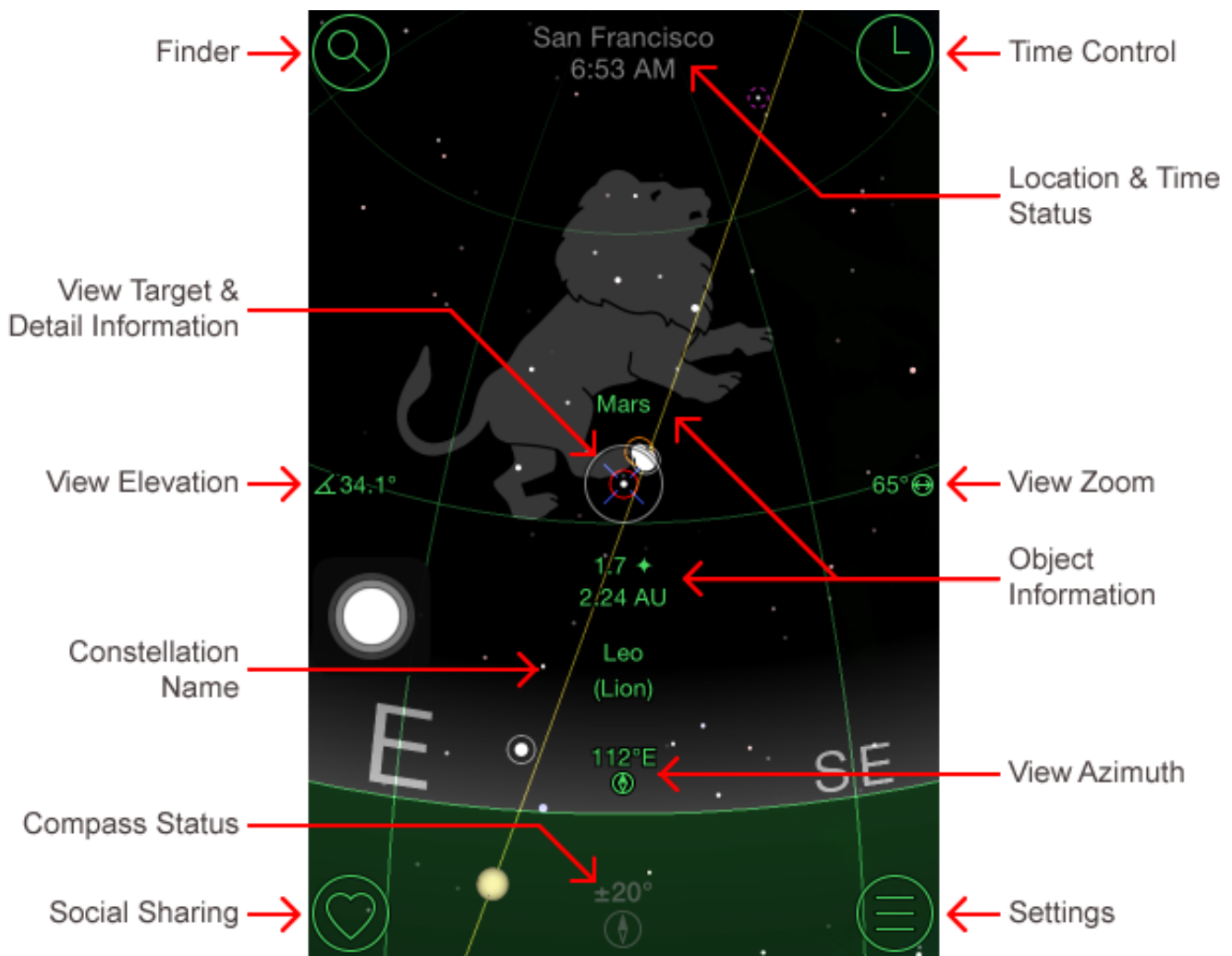
GoSkyWatch – User’s Guide

Version 9.4

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Display



Finder – Reveals the finder buttons to locate planets, stars and constellations. Tap the [GoTo] button on the detail information display to move to the selected object in the sky view.

Time Control – Enters time control mode to adjust the time or control time lapse animation.


Detail Information – Displays ephemeris information for the object in the view target.


Settings – Reveals the settings buttons to change the view location and preferences.


Location and Time Status – Displays the currently selected location, time and date. The status will highlight when a fixed date is selected. It will be shown in plain text (shown) when the current time is selected.



Compass Status – Displays the current accuracy of the compass. “Err” is shown when the compass reading is invalid often due to magnetic interference. The accuracy can often be improved by waving the device around in all directions. The compass status is only shown on devices which have a compass and when the motion control preference is enabled. Tapping the control will activate/deactivate motion control.

View Target – The reference point for the information displayed on the screen.

View Azimuth – The current view azimuth  of the display. North corresponds to a azimuth of zero degrees, east 90 degrees, south 180 degrees and west 270 degrees.

View Elevation – The current view elevation  of the display. An elevation of zero degrees corresponds to looking directly at the horizon and 90 degrees is directly above.

View Zoom – The current view zoom  of the display. The maximum zoom of 180 degrees is the full sky view.

Turning on the celestial grid changes the viewing direction display to equatorial coordinates by Right Ascension  and Declination .

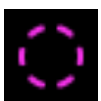
Object Information – Displays the name, brightness magnitude and distance to the object closest to the center of the target area. Distances to stars are shown in light years and distance to the planets in AU. 1 AU is the distance from the Earth to the Sun.

Constellation Name – Displays the constellation name and common name for the point in the center of the target area.

Object Symbols:



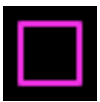
Galaxy



Open star cluster



Globular star cluster



Nebula



Planetary nebula



Comet



Target Information

Tapping the center target button of the screen or a popup image displays detailed ephemeris information for the object indicated in the view target.



Finder

Tap the find button to reveal the finder buttons. Tapping on a finder button will display a list of corresponding objects.

Objects that are visible and above the horizon are shown in white text. Objects above the horizon but too faint to be seen at the current magnitude setting are shown in light grey text. Objects below the horizon are shown in dark grey text. Tapping the [Visible] button will only display objects that are currently above the horizon. Tapping the [All] button will display all objects.

Tapping on an object will display a panel of detailed information on the object. Tapping the [GoTo] button will move the sky view to that object. In overhead navigation mode an arrow will appear guiding you to the object.



Solar System objects. Pluto can be optionally enabled in the preferences.



Constellations.



Deep Sky Objects of the full Messier and Caldwell catalogs. Can be sorted by name, distance or magnitude.



Stars. Can be sorted by name, distance or magnitude.

Star Light Date. Tap the date button to set your birth date. Stars are shown by



distance with how old you were for the star light seen. For star light older than you are, the date of the star light is shown. Tap the [Now] button to show the star light date of all stars.

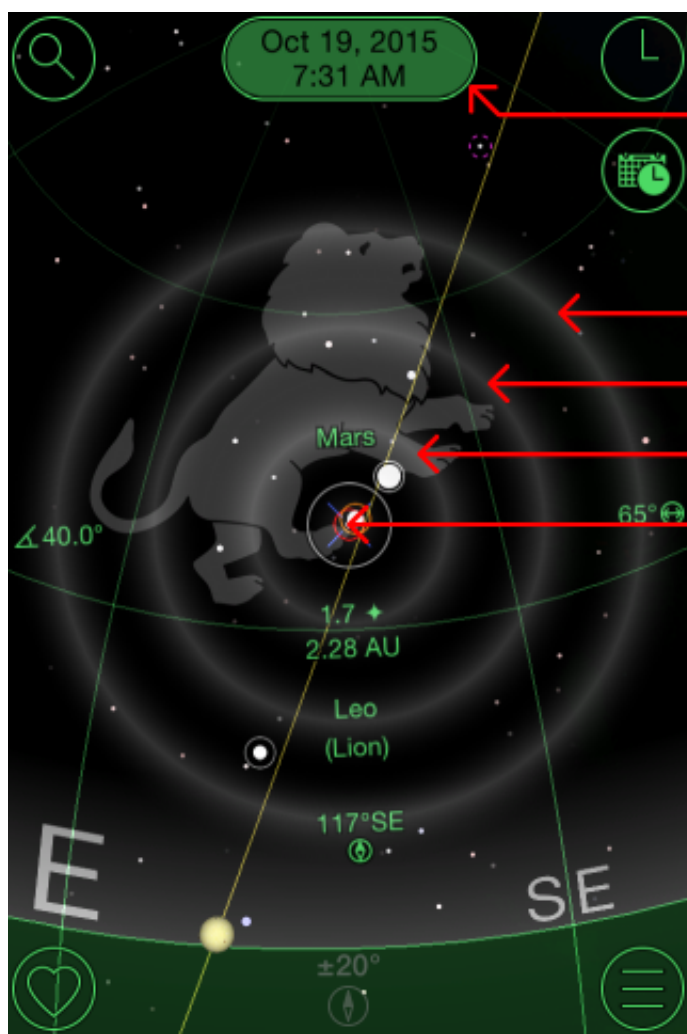


Comets. Can be sorted by name, distance or magnitude.

* Only available with the universal iPhone/iPad version.



Time Control



← Time control

← Location & Time Status

← Manual date and time set

← Hour/minute control ring

← Day control ring

← Sidereal day control ring

← Current time select

Time control mode is activated by tapping the time control button to reveal three time control rings. The display time is adjusted by touching and dragging a ring. Flick the ring to start time lapse animation. The speed is controlled by how fast you flick the ring.

The outer ring controls the time in hours and minutes. Dragging the ring clockwise one complete revolution advances the time by 12 hours.

The middle ring controls the time in days. Dragging the ring adjusts the date in day increments.

The inner ring controls the time in sidereal days. A sidereal day is the time it takes for the earth to complete one revolution in relation to the universe. It is slightly less than the 24 hour solar day. When time lapse is started with sidereal days the sky appears stationary while the sun and planets move.

Tap the center of the display or time status to return to the current time and date.

To track an object during time lapse animation, use the finder to go to the object and then start the time lapse animation. To track a solar system object just center the screen on the object and then start time lapse animation.

Tap the time control button again to exit time control mode.

Note that running time lapse animation changes the display time. The status bar will highlight (shown above) if the time is not set to the current time.



You can also use the date and time button to switch back to use the current time or set a specific date and time.

Tip: For fine time control touch the ring you want to control and drag out to the edge of the display to adjust the time or date.

Tip: For faster animation flick towards the center. For slower animation flick out.



Social Sharing

Tap the share button to reveal the social sharing button.



Post a message to e-mail or social media.

Motion Navigation (iPhone and iPad)

For devices with a digital compass GoSkyWatch enters tracking mode by holding the device above you so that the back points towards the direction of interest. The digital compass is used to orient the display in the direction you are pointing. Double tap to return to touch drag navigation mode. You can disable compass navigation from the preference settings for manual control.

Tip: To improve compass accuracy wave the device in all directions from time to time. This will help the iPhone calibrate the compass for your surroundings and increase accuracy.

Accelerometer Navigation (iPod touch, iPhone 1/3G)

For devices without a digital compass GoSkyWatch uses the position that the device is held to aid in the identification of objects. GoSkyWatch enters tracking mode by holding the device above you so that the back points towards the direction of interest. Start by facing north (south in the southern hemisphere) and holding the device in the standard portrait orientation. The view to the north (south in southern hemisphere) will then be displayed. Tilting the device towards you will adjust the view's elevation. The accelerometer will accurately determine your viewing elevation. Double tap to return to touch drag navigation mode.

Rotate the device like a steering wheel to pan left or right. Rotating the device clockwise pans the viewing direction to the right. Rotating anti-clockwise pans the viewing direction to the left. For locations in the northern hemisphere you will be looking east once you have rotated the device 90 degrees clockwise to the landscape orientation. Similarly you will be looking west once you have rotated the device 90 degrees anti-clockwise to the landscape orientation. When the device is upside down after rotating 180 degrees you will be looking to the south. With a bit of practice you will be navigating the sky with ease.

For locations in the southern hemisphere the default viewing direction is to the south.

Tips to finding north without a compass:

- In the northern hemisphere you can use the Big Dipper in the Ursa Major constellation which points to Polaris (the north star). Polaris is always directly above the north (shown below)
- In the southern hemisphere there is no easily identifiable south star. The Southern Cross and pointer stars can be used to find the south pole as shown below.
- Rotate the device and orient yourself so that the moon is aligned with the view displayed. GoSkyWatch will show the direction you are facing. You can use this as your starting point.
- Use the sun when you arrive at a location in daylight using the same approach as using the moon to note the direction of north before night falls.



Finding north in northern hemisphere



Finding south in southern hemisphere

Tip: Adjust the magnitude of the stars displayed so the display reflects your viewing conditions. This will make it easier for you to align the view displayed with what you see in the sky.

Touch Navigation

Common touch gestures can also be used with GoSkyWatch.

Touch and drag

Drag your finger around the screen to change the viewing direction. Dragging up and down adjusts the viewing elevation. Dragging from side to side adjusts the viewing azimuth (compass viewing direction).

Pinch

Use the pinch gesture to zoom in and out.

Double Tap

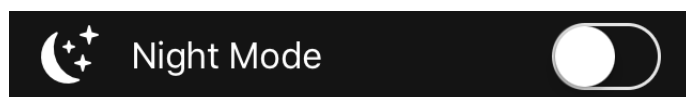
This will return the display to the full sky display in the default viewing direction. Double tapping again will show the below the horizon sky view.

Flick

Use the flick gesture to move quickly across the sky.



Adjust for the desired level of star brightness for your viewing conditions.



Changes the color of the display to shades of red for better night vision.



Displays the location all 110 Messier and 109 Caldwell deep sky objects. When off only those that are visible for the current magnitude setting will be displayed. Note that most deep sky objects cannot be seen with the naked eye and require binoculars or a telescope

to be seen.



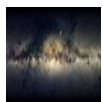
Colors the stars according to their B-V color index. Hotter stars with a negative B-V index are tinted blue. Cooler stars with a positive index are tinted red.



Displays a background image of the Milky Way.

Tapping the preference will allow you to download and select a variety of background images.

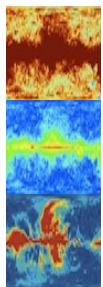
*** Only available with the universal iPhone/iPad version.**



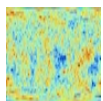
Milky Way (default).



Earth Projection. Shows what the earth would look like when viewed from the middle of the earth. The Earth will appear to be flipped. This view illustrates how the stars align with geographical coordinates for celestial navigation.



Cosmic Microwave Background (CMB) radiation images from the Wilkinson Microwave Anisotropy Probe (WMAP). For more information see [WMAP](http://en.wikipedia.org/wiki/Wilkinson_Microwave_Anisotropy_Probe) (http://en.wikipedia.org/wiki/Wilkinson_Microwave_Anisotropy_Probe).



Cosmic Microwave Background (CMB) radiation fluctuations. The belief is that this image made by the WMAP project is evidence of the big bang showing the remnants of the big bang.



Displays pop-up images for the sun, moon, planets and deep sky objects. The moon is shown shaded with the moon phase. Turning object images off will improve panning performance.



Displays the on screen information text.



Transitions the display color between night and day. The display is shown in blue when the sun is above the horizon. The sky will fade to black until astronomical twilight begins when the sun is 12 degrees below the horizon.



Displays comets.

*** Only available with the universal iPhone/iPad version.**



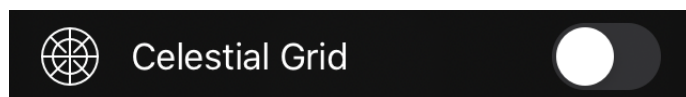
Displays planet positions as large scale planet images.

*** Only available with the universal iPhone/iPad version.**

Touching the preference will allow you to select the magnitude limit of the comets to be displayed.



Displays a horizon grid in 30 degree elevation and 45 degree azimuth steps.



Displays a celestial grid in 30 degree declination and 3 hour right ascension steps.



Displays the ecliptic path. The ecliptic is the orbital plane the earth orbits the sun on. When seen from earth it appears as a line across the sky. You find the sun, moon and planets on or near this line.



Shades the view below the horizon.



Displays the constellation line patterns.



Displays the constellation boundaries.

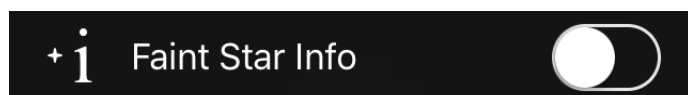


Displays images for the constellations. Turning images off will improve panning performance.



Animates the constellation images.

*** Only available with the universal iPhone/iPad version.**



When off only the brighter named stars will have their object information displayed.



Selects whether to include Pluto as a planet. When off Pluto is not shown in the sky or solar system finder.



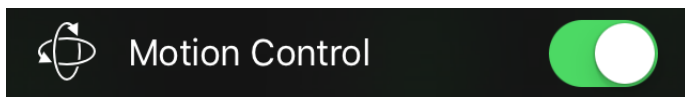
Selects whether to display distances in either kilometres or miles.



Displays the heads up information display text in a larger font.



Announces the names of planets when motion control is active. Only available with iOS 7 or later.



Enables motion control navigation. When off you can hold the device above your head and navigate manually with touches.

Location

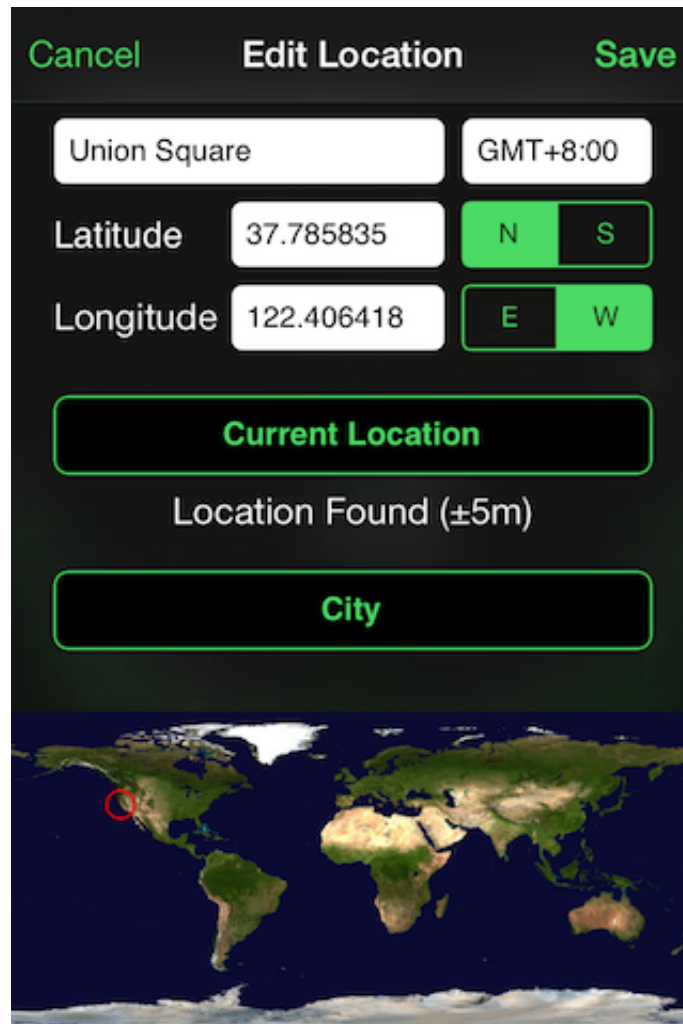
Tapping the Location button shows a list of user configured locations.

Use this screen to switch between commonly used locations.

When [Current Location] is selected the app will attempt to automatically determine the location when the app starts. A spinning wheel is displayed along the bottom while attempting to determine the location. Although the iPad, iPod touch do not have GPS, they

can often determine the location using WiFi. If no location can be automatically found you can manually set the location.

Tap [Edit] to add to, remove, or re-order the list of locations. When in editing mode, tapping a location opens the location edit screen.



You have several options on how to set or edit your location:

1. Tapping the [Current Location] uses iPhone location to attempt to find the latitude and longitude for the location. This will update the latitude and longitude and set the time zone to the iPhone's current time zone. GoSkyWatch will first attempt to find a location to within 1000m which is sufficient for most people. Tapping the button again will attempt to improve the accuracy. Tap stop once the desired location accuracy has been achieved. Although the iPod touch doesn't have GPS it can still sometimes use WiFi to get a location fix. GoSkyWatch will attempt to determine the location name from GPS

coordinates. You can tap the location name box to enter a customized name for the location.

2. Tap [City] to select from a built in list of cities. Selecting a city will automatically update the location name, time zone and coordinates for that city. You can still manually customize the location name.
3. Manually enter the location name, time zone, latitude and longitude. The latitude and longitude can be entered in either decimal (e.g. 12.34) or minutes and seconds (e.g. 12 34' 56").

Check the world map to ensure the location is set correctly.

Tip: Use [City] to select a city and then use [Current Location] to refine the latitude and longitude for the location within the city.



About

Displays an about screen with the version number and support information.