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## **This view**

Selecting this feature causes an updated map to be displayed. Any changes to the map's *Local* or *Options* menus will take effect.

## **Print this view**

Selecting this feature causes an updated map to be printed. Any changes to the map's *Local* or *Options* menus will take effect. Note: the new map is not displayed on-screen: if you have made any changes in the *Local* or *Options* menus the printed map will not match the displayed map (unless you select "this view" to refresh the display)

## **Printer Setup**

This selection causes a printer dialog box to appear: Select the printer you wish to print the map on and press "Ok" to make it the default (for sky). You may also configure the selected printer (if necessary) by pressing "Install..."

## Save Defaults

Selecting this feature causes the state of the settings in "Sky" to be used as defaults (they are recalled when "Sky" is started) all settings in the following dialog boxes are saved:

"Time," "Location," "Limiting magnitude," "Switches."

NOTE: Other settings in the "Date," "Magnification" and "Center" dialog boxes are NOT saved - the default date is the system date, the default Magnification is 1X, and the default center is at the Zenith.

## **Exit**

Select this to close "Sky."

## **Copy All**

Selecting this feature causes a copy of the map to be placed in the Clipboard.

## **Date**

Changes the date that the map is set for. The date is set to today's date when the program starts. Note: This doesn't take effect until "This view" is selected.



## **Time**

Changes the time the map is set for.

Note: This doesn't take effect until "[This view](#)" is selected.

## Location

Changes the location the map is set for. You may enter the Latitude and Longitude, or select a city near the desired location (note: time zones of cities are approximate)

Note: This doesn't take effect until "[This view](#)" is selected.

## **Magnification**

Changes the magnification of the map; 0 through 500 are valid.  
Note: This doesn't take effect until "This view" is selected.

## Limiting Magnitude

Changes the limiting magnitude of the map; -1 through 9 are valid.  
Note: This doesn't take effect until "This view" is selected.

## Switches

Selecting this feature causes a dialog box to appear.

Note: These settings don't take effect until "This view" is selected.

Switches are:

- NGC Objects (New General Catalog)
- Messier Obj. (Charles Messier's catalog)
- Const. Lines (all 88 IAU recognized const.)
- Coord. Grid (R.A./Dec. grid lines)
- Object Id. (NGC and Messier #'s)
- Sol. Sys. Id. (names: planets, sun, moon)
- Const. Id. (three letter abv. of const.)
- Star Name Id. (names of brighter stars)

## Center

Selecting this feature causes a dialog box to appear.

Note: These settings don't take effect until "This view" is selected.

Centering options include:

- On a Ra/Dec (hand entered coordinates)
- By a Constellation Name
- By a Star Name
- By a objects NGC#
- By a objects Messier#
- By a planets name
- On the Moon
- On the Sun
- On the Zenith

## Getting Started

Although "Sky" will print and display maps by simply selecting the appropriate menu items, the maps will not be accurate for your location here on earth. For "Sky" to do its job, you must first provide your location (longitude/latitude/time-zone). This is done by selecting the "Local" menu item, then the "Location" menu item. Now, you may select a city from the list, or if none of the cities are near your location, you may enter the location directly. You'll want to save these settings as defaults (so "Sky" remembers to use them the next time it's run) so select the "Display" menu item, then "Save defaults." After doing this a dialog box will notify you that the settings are saved.

Now, you're ready to display a map of the "Sky" as it appears tonight, (from where ever you are) - just select "Display" and "This view." After a short wait a map of tonight's "Sky" will appear.

## Mouse Features

Map centering:

Point the mouse at the area of the map you want to center on, then press the left mouse button.

Object identification:

Point the mouse at the object of interest and press the right mouse button - a description of the object will be displayed. If you wish to center the map on this object press the "Center" button, otherwise press the "Done" button.

Note: These don't take effect until "[This view](#)" is selected.



## **About**

**Sky Planetarium** for windows  
version 1.0

**unregistered shareware version**

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## **Astronomical Terms**

Absolute Magnitude

Albedo

Aphelion

Apogee

Apparent magnitude

Astronomical Unit

Celestial Equator

Celestial Sphere

Conjunction

Constellations

Declination

Ecliptic

Ephemeris

Equinoxes

Galaxy

Meridian

Meteorite

Meteoroid

Nadir

Nebula

Opposition

Parsec

Perigee

Perihelion

Phase

Precession

Quadrature

Radiant

Right Ascension

Solstice

Spectrum

Zenith

Zodiac

## **Absolute Magnitude**

A standard by which the actual luminosity of a celestial object may be compared to other celestial objects. This is also defined as the apparent magnitude an object would have at a distance of 10 parsecs.

## **Albedo**

The reflectivity of an astronomical object.

## **Aphelion**

The point of an orbit farthest from the sun.

## **Apogee**

The point of an orbit farthest from earth.

## **Apparent magnitude**

The brightness of an astronomical object as we see it. Brighter objects have lower magnitudes, dimmer ones have higher magnitudes. A Change of one magnitude represents a difference in brightness of roughly two and a half times. The dimmest stars visible (to the unaided eye) are magnitude 6.

## **Astronomical Unit**

A unit of space measurement equal to the average distance between the sun and earth, ie. 93 million miles.



## **Celestial Equator**

An imaginary line in the heavens created by the intersection of a projection of the plane of the earth's equator and the celestial sphere.

## **Celestial Sphere**

The imaginary representation of the night sky as a great globe.

## **Conjunction**

When a planet is in a position toward or beyond the sun. When in *inferior* conjunction a planet is between the earth and sun. When in *superior* conjunction a planet is beyond the sun.

## **Constellations**

The arbitrary groups into which stars are divided for easy reference and identification. For a complete list of abbreviations and names see the [Constellation Index](#).

## **Declination**

The angular distance of a heavenly body north or south of the celestial equator. These are represented (along with Right Ascension) by solid gray lines on the map.

## **Ecliptic**

The great circle projected on the celestial sphere by an extension of the earth's orbit. This roughly represents the path the planets, moon, and sun follow. (this is marked by a red dotted line on the map)

## **Ephemeris**

A table of predicted positions of celestial objects.

## **Equinoxes**

The two points at which the ecliptic intersects the celestial equator. The sun's passage from south to north is called the vernal equinox; from north to south, the autumnal equinox.



## **Galaxy**

Any of the great systems of stars that occupy space. A typical galaxy may have as many as 100 million stars. See also [Map Key](#).

## **Meridian**

The great circle on the celestial sphere which passes through the poles and the zenith and nadir of the observer.

## **Meteorite**

That part of a meteoroid that has landed on earth.

## **Meteoroid**

A small chunk of matter in space.

## **Nadir**

Position in the heavens 180 degrees away from the zenith

## **Nebula**

Applied properly to any interstellar cloud of gas or dust. Often loosely to an indistinct heavenly body. See also Map Key.

## **Opposition**

When the sun and another body are in opposite directions from the earth, the second body is in opposition.

## **Parsec**

An astronomical distance equal to 3.26 light years or 19,160 billion miles. Also defined as the distance an observer must be at for the Earth-Sun distance (93 million miles) to appear as one second of arc.



## **Perigee**

The orbital point at which the moon or any satellite is closest to earth.

## **Perihelion**

The orbital point at which any body is closest to the sun.

## **Phase**

The ratio of lighted and dark surface of the moon and planets.

## **Precession**

The wobbling motion of earth's axis which cycles once every 25,800 years. This is what causes the westward motion of the equinoxes.

## **Quadrature**

Position of a planet at right angles to the sun.

## **Radiant**

The point in the heavens from which the meteors in a given meteor shower seem to emerge.

## **Right Ascension**

The angular distance of a celestial body measured to the east of the vernal equinox. It may be expressed in degrees or time units. These are represented (along with Declination) by solid gray lines on the map.

## **Solstice**

One of two points on the ecliptic midway between equinoxes. The summer solstice is the longest day of the year; the winter, the shortest.



## **Spectrum**

A contiguous variation of electromagnetic radiation's wavelength.

## **Zenith**

The point in the sky directly above the observer.

## **Zodiac**

An area of sky, 8 degrees wide, along the ecliptic.










## Constellation Index

And	Andromeda
Ant	Antlia
Aps	Apus
Aqr	Aquarius
Aql	Aquila
Ara	Ara
Ari	Aries
Aur	Auriga
Boo	Bootes
Cae	Caelum
Cam	Camelopardalis
Cnc	Cancer
CVn	Canes Venatici
CMa	Canis Major
CMi	Canis Minor
Cap	Capricornus
Car	Carina
Cas	Cassiopeia
Cen	Centaurus
Cep	Cepheus
Cet	Cetus
Cha	Chamaeleon
Cir	Circinus
Col	Columba
Com	Coma Berenices
CrA	Corona Austrinus
CrB	Corona Borealis
Crv	Corvus
Crt	Crater
Cru	Crux
Cyg	Cygnus
Del	Delphinus
Dor	Dorado
Dra	Draco
Equ	Equuleus
Eri	Eridanus
For	Fornax
Gem	Gemini
Gru	Grus
Her	Hercules
Hor	Horologium
Hya	Hydra
Hyi	Hydrus
Ind	Indus
Lac	Lacerta
Leo	Leo
LMi	Leo Minor
Lep	Lepus
Lib	Libra
Lup	Lupus
Lyn	Lynx
Lyr	Lyra









Men	Mensa
Mic	Microscopium
Mon	Monoceros
Mus	Musca
Nor	Norma
Oct	Octans
Oph	Ophiuchus
Ori	Orion
Pav	Pavo
Peg	Pegasus
Per	Perseus
Phe	Phoenix
Pic	Pictor
Psc	Pisces
PsA	Pisces Austrinus
Pup	Pupis
Pyx	Pyxis
Ret	Reticulum
Sge	Sagitta
Sgr	Sagittarius
Sco	Scorpius
Scl	Sculptor
Sct	Scutum
Ser	Serpens
Sex	Sextans
Tau	Taurus
Tel	Telescopium
Tri	Triangulum
TrA	Triangulum Australe
Tuc	Tucana
UMa	Ursa Major
UMi	Ursa Minor
Vel	Vela
Vir	Virgo
Vol	Volans
Vul	Vulpecula

## Map Key

### Celestial Objects

-  Spiral galaxy
-  Elliptical galaxy
-  Irregular galaxy
-  Planetary nebula
-  Diffuse nebula
-  Open cluster
-  Globular cluster
-  Double star
-  Quasar

### Planets

-  Mercury
-  Venus
-  Mars
-  Jupiter
-  Saturn
-  Uranus
-  Neptune
-  Pluto

## Accuracy

### Sky's accuracy estimates:

#### Star positioning:

"Sky" compensates for precession (when necessary), but due to the limitations of the routines, accurate positions are provided only in the range of +/- 500 years. Beyond that positions are only approximate (and wreak havoc with the object identification function!)

#### Solar system:

These routines are accurate only in the near past or future (+/- 25 years, I'd guess).

#### The Planets:

within 1/4 deg. of Dec. & 3 minutes R.A.

#### The Moon:

within 1/5 deg. of Dec. & 3 minutes R.A.

#### The Sun:

within 1/20 deg. of Dec. & 10 seconds of R.A.