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Compass

Selecting this feature activates a compass - the pointer is set to "North" in relation to the star map.

Settings

Selecting this feature causes an informative screen to appear.   It contains the date/time and center R.A./Dec of the map.   Also displayed is any object the program might be tracking (like the Sun, Moon, or Planets).   Note that all settings are for the map being displayed.

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. Also saved are:
The main window's position and size (and scroll bar positions), and any sub-windows (the Compass and Settings windows) positions'.

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 it's job, you must first provide your location (longitude/latitude/time-zone).   This is done by selecting the "Local" menu item, then the "<u>Location</u>" 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 "<u>Save defaults</u>." 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 "<u>This view</u>."   After a short wait a map of tonights "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 "<u>This view</u>" is selected.

About

Sky Planetarium for windows
version 1.1

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 <u>celestial sphere</u>.

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 <u>celestial equator</u>.
These are represented (along with <u>Right Ascension</u>) by solid gray lines on the map.

Ecliptic

The great circle projected on the <u>celestial sphere</u> by an extension of the earth's orbit.   This roughly represents the path the planets, moon, and sun follow. (this is marked my 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 suns 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 <u>Map Key</u>.

Meridian

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

Meteorite

That part of a <u>meteoroid</u> 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 <u>vernal equinox</u>.   It may be expressed in degrees or time units.   These are represented (along with <u>Declination</u>) by solid gray lines on the map.

Solstice

One of two points on the <u>ecliptic</u> 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
- △ Queastar

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 reck 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.