

Astro Compass 1.3 – November 2000

The program allows to use the Palm like a real Compass. Put yourself in front to any celestial object of solar system (Sun, Moon, Mercury, Venus, Mars, Jupiter or Saturn): the program calculates its position on heavenly vault and then it will display a Compass. You will be able to find any correct geographical direction: North, East, South, West.

Version 1.1 uses also a small archive of stars:

"Achern", "Acrux", "Agena", "Aldebaran", "Alnair", "Altair", "Ankaa", "Antares", "Arneb", "Arturo", "Betelgeuse", "Canopus", "Capella", "Castore", "Deneb", "Fomalaut", "Fornacis", "Kiffa", "Mizar", "Peacock", "Phact", "Polare", "Procyon", "Regolo", "Rigel", "Sirius", "Spica", "Vega"

These are their Bayer designation:

SIRIO - α CMa, SPICA - α Vir, ALTAIR - α Aql, VEGA - α Lyr, ANTARES - α Sco, BETELGEUSE - α Ori, DENEK - α Cyg, ALDEBARAN - α Tau, MIZAR - ζ UMa, CASTORE - α Gem, CAPELLA - α Aur, ARTURO - α Boo, RIGEL - β Ori, REGOLO - α Leo, ANKAA - α Phe, ACHERNAR - α Eri, FORNACIS - α For, ARNEB - α Lep, PHACT - α Col, CANOPUS - α Car, ACRUX - α Cru, AGENA - β Cen, KIFFA - α 2 Lib, PEACOCK - α Pav, ALNAIR - α Gru, FOMALHAUT - α PsA, POLARE - α UMi.

Moreover the program gives topocentric coordinates (Azimuth and Altitude) and times of rise, transit and set of the celestial object (for the Moon, when the event occur the next day, it will be displayed "*****").

Near the object name you can see the azimuth and altitude values.

On the right the program shows the altitude of the object respect on the horizon.

Requested data

Once the procedure has been started, the user can modify the date, longitude, latitude and local time.

It is also possible to take in account daylight-savings time.

The values related to the current date and time (automatically located by the program) will be suggested by the program.

Date

By *date-control* (click on the date suggested by the program) you can insert any date from 1904 up to 2031.

Local time

The time is the local civil time of the time zone of the site. If you want to consider daylight-saving time you have to check DST box. It is possible to use time-control (click on the time suggested by the program).

If your Time Zone is not equal to "Longitude Time Zone" of your geographical site you can use TZ field.

If the value in this field is 0 it will not be used.

Latitude

There are no limits about the latitude of the site (of course when the user latitude is 90N or 90S the result can be strange).

You can insert values between -90 and +90. The format of the value is *DD.ddd*, where *DD* are degrees and *ddd* the fractional part of the number. It is also possible to use *DD.dddY* where *Y* can be N (North) or S (South).

Longitude

It is possible to insert value between -180 and + 180. Negative values indicate the longitude east of Greenwich. The format of the value is *DDD.ddd*, where *DD* are degrees and *ddd* the fractional part of the number. It is also possible to use *DD.dddY* where *Y* can be E (East) or W (West).

It is possible to store geographical coordinates by the option "Store geographical coord.". In this case the program will also store DST and TZ data.

If the difference between Time Zone and "Longitude Time Zone" is greater than 2 the program will show an error message. If the value in TZ field is 0, "Longitude Time Zone" will be used.

Option:

Equinoxes and Solstices

This command displays time of the March and September Equinoxes and June and December Solstices, for any year from 1000 a.D. up to 3000 a.D. You can see the role of the Precession of the equinoxes: on 1582 March equinox took place on March 10!

Earth's Surface

It is possible to calculate the distance between two points on the Earth's surface. Moreover the program allows to know other geographical information about the parallel of any latitude: distance from Earth's center, the radius of the parallel, the length of one degree of longitude and latitude, the linear velocity, the radius of curvature of the Earth's meridian at any latitude.

Install Compass.prc and run it.

The program is shareware; its cost is \$5.

In **Demo** version it is only possible to use *integer* time (without minutes), moreover it is not possible *to use* neither the Moon nor the stars. In Earth's Surface function the values of longitude and latitude are rounded (integer multiple of 5).

Developer

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