

Astro Compass 2.2 for PocketPC or Windows Mobile – January 2009

The program allows to use device PocketPC or Windows Mobile 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.

The program also uses 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 stars can be used to find geographic direction.

In Demo version the user will be able to select only the first six stars.

The Bayer designation of these stars are:

SIRIO - α CMa, SPICA - α Vir, ALTAIR - α Aql, VEGA - α Lyr, ANTARES - α Sco, BETELGEUSE - α Ori, DENEb - 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 "*****").

Below you can see the azimuth, altitude, Right Ascension and Declination values.

On the right the program shows (graphically, by a small cross) the altitude of the object respect on the horizon (the minimum on the vertical axis is -90° , the maximum is $+90^\circ$, the step is 30°). The LST (Local Sidereal Time - that is the Right Ascension that transits on celestial meridian of the observer) is displayed on the left.

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 displayed.

Date

By *date-control* (click on the date suggested by the program) you can insert any permit date .

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. See the map "Time_zone_world_98.jpg" to find correct time zone limits.

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 South and 90 North. The format of the value is DD.ddY where DD are degrees and dd the fractional part of the latitude value; Y can be N (North) or S (South). In demo version the program will only use integer part (degrees) of the value.

Longitude

It is possible to insert value between 180 West and 180 East. The format of the value is *DD.ddY*, where *DD* are degrees and *dd* the fractional part of the longitude value; Y can be E (East) or W (West).

It is possible to store geographical coordinates by the option "Store geo coordinates". 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.

Options:

Equinoxes and Solstices

This command displays time of the March and September Equinoxes and June and December Solstices, for any year. In Demo version the program will only calculate values for current year.

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.

Your shadow

Do you want to know the length of your shadow and other information?.

This function calculates the direction and the length of your shadow at any time (if the Sun is above the horizon); moreover it displays the time when the shadow lies on your meridian (towards north or south depend on your latitude and Sun position) and the times when it is equal to your height. In Demo version the program will calculate the shadow for integer value of the time (without minutes).

Geo Sites

It is possible to use geographical coordinates of 388 towns in the world. The user can choose the site: the program will automatically use the corresponding coordinates.

Moon's Phases

The program calculates the phases of the Moon near the inserted date. It gives the time of the Full Moon, New Moon, First quarter and Last quarter. In Demo version the program will only calculate values for current month.

Easter

By this command the program calculates the Easter date for any year.

GPS

Astro Compass can use GPS (integrated or external) via COM1 up to COM9, baud from 2400 up to 19200 (standard is 4800).

Once fixed satellites, the program shows geographical coordinates, observer altitude and other information.

Astro Compass is able to use geographical coordinates found by GPS.

Who wants to know more about 'NMEA Sentences' can use 'NMEA_Logs' function, after checked NMEA Log check-box.

More information at the site '<http://gpsinformation.org/da/nmea.htm>'

Your position

This command allows to Send SMS (if possible - see installation note) or e-Mail with your GPS

coordinates.

'Google Maps' command allows to display, by your preferred browser, the geographic area where you are (it is possible to choose the map dimension).

Register

The program uses the registration based on activation code: in "About" menu you will find command

Register.

You have received from the sellers (Palmgear or Handango) the "Registration code": you have to insert it in the Code field.

It is necessary to register program Astro Compass to use it in full mode.

Demo version becomes Full version when you insert the correct Registration code.

Notice:

The program has been developed by using NS Basic 7.0.5

It uses screen resolution from 240x240 pixels up to 240x400 or greater. If your device has physical screen resolution smaller than 240x320 pixels, the program allows to use "Vertical bar scroll" to move window.

Please, try the demo version before to buy.

The program is shareware. Demo version has a lot of limits.

Its cost is 8 \$ U.S.

Installation

Uncrompress AstroCompass22.zip.

Run Activesync for Windows XP or Windows Mobile Center for Windows Vista and after connection install WinAstroCompass.exe from your PC MS-Windows.

It is possible to install the program by using CAB files: copy SetupAstroCompass22.cab and Basic.NS.cab on your device and run them.

You can install it in any folder (default is \Program Files\AstroCompass22).

If you device is a mobile phone it is necessary to install also SetupAC-Phone.cab.

Developer

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