

This list of freeware, shareware, and trial Astro Software is provided for your information only. ASKC makes no guarantees or endorsements of the listed programs. Please contact the ASKC webmaster (refer to the contact information provided at the bottom of each page in the ASKC website) to report any broken links and/or with suggestions of additions to this list.

3D Solar System

Interactive 3D simulator in which, via a virtual video camera, the planets of the solar system and their satellites can be observed, and basic scientific data displayed.

<http://www.3dsolarsystem.com>

3D Space Tour screensavers

Animated 3D screensavers with cosmic scenes. Photo-realistic and scientifically correct graphics.

<http://www.fpssoftlab.com/products.htm>

Aberrator

Image generator that simulates a wide variety of distortions, such as coma, astigmatism, atmospheric turbulence, spherical aberration, etc.

<http://aberrator.astronomy.net>

Adastra FreeStar

Accessible free planetarium with multiple viewplanes, accurate reports, live orbital tracking, and astronomical dictionary.

<http://www.5star-shareware.com/Windows/Hobby/Astronomy/adastra.html>

Astra Image

Image processing for astronomical images.

<http://www.phasespace.com.au>

Astro IIDC

Astronomy and Microscopy oriented application developed from the ground up to make FireWire camera imaging easier on the Mac.

<http://www.outcastsoft.com/ASCASTROIIDC.html>

Astro Timer PPC

Pocket PC Software designed for recording the timings of lunar grazings, occultations, transits, meteor showers and any other astronomical observation that needs a record of the date and time to the nearest 10th of a second.

<http://www.itslifejim.btinternet.co.uk/DawesAstro/software.htm>

AstroCalc

Calculates the position of planets and give their appearance.

http://lastrophoto.fr/AstroCalc_en.html

AstroGrav

Allows you to study how astronomical objects move and interact under the force of gravity.

<http://www.astrograv.co.uk>

AstroImageBrowser

Front end to Digitized Sky Survey (DSS) internet repository of astronomical images.

<http://homepage.mac.com/astrod/software/astroimagebrowser/aib.html>

AstroMB

Manage astronomical images and catalogs, allow robotic observations, astrometry and photometry.

<http://astrosurf.com/astromb>

Astrometrica

Software for doing astrometry of asteroid and comets.

<http://www.astrometrica.at>

Astronomy Calculator

Provides sunrise, sunset, moonrise, moonset and lunar phase information for any location on Earth. Converts the measured values for the stars and planets.

<http://jumk.de/astronomie/astronomy-calculator.shtml>

AstroPlanner

Observation planning and logging with telescope control.

<http://www.ilangainc.com/astroplanner>

AstroSnap

Astronomical imaging programs especially designed for webcams.

<http://www.astrosnap.com>

AstroStack

A program with a flexible and professional format for combining astronomical images and extracting them from video.

<http://www.astrostack.com>

ATC Advanced Telescope Control

Telescope control and automated supernovae search.

<http://www.omegalab-atc.com>

AVIS FITS Viewer

FITS Image Viewers and Format Converters. The software packages display or manipulate the relatively simple class of FITS data files that containing 2-dimensional images, often of celestial objects in the night sky.

http://fits.gsfc.nasa.gov/fits_viewer.html

Binary Stars

Free astronomical software for Macintosh computers, complete with manuals, teaching binary star concepts, for classroom or personal use.

<http://www.uark.edu/misc/clacy/BinaryStars>

Blink Comparator

Program to visualize a series of images in succession. Useful for detecting changes, such as movement, between one image and the next, such as that expected for comets and asteroids.

<http://rbytes.net/software/blink-comparator-review>

C2A

A basic but effective planetarium that allows remote telescope control and the locating of both solar system and deep sky objects. Compatible with the principal stellar catalogues (UCAC2, UCAC3, USNO etc). Allows the overlay of your own images or those downloaded from the PSS.

<http://astrosurf.com/c2a/english/index.htm>

CADET

Image processing program specific to astronomical images that supports FITS, Bitmap and JPEG formats.

<http://www.terra.es/personal2/oscarcj/introeng.htm>

Cartes du ciel

Free sky atlas for windows that provides access to catalogs and photographs (Sky charts in English).

<http://www.stargazing.net/astropc/index.html>

Celestia

A scientifically accurate 3D space simulation (uses OpenGL), contains 3D positions of everything from stars to asteroids and artificial satellites (also a large amount of expansion add-ons are available).

<http://www.shatters.net/celestia>

Charon

Minor planet astrometry software.

<http://www.projectpluto.com/charon.htm>

CNebulaX

Deep sky astronomy software for star charts with 25 million stars and 1.25 million deep sky objects.

<http://www.uv.es/jrtorres/CNebulaX.htm>

CyberSky

Colorful, easy-to-use planetarium program.

<http://www.cybersky.com>

Deep Sky Database

Online resource for building customized observing lists.

<http://www.virtualcolony.com/sac>

Deep Sky Stacker

Freeware for astrophotographers that simplifies all the steps of combining images taken with CCD or DSLR cameras by automatically combining light, dark, bias and flat frames. Images can be saved in a variety of formats for subsequent editing, including fits. Available in several languages.

<http://deepskystacke.free.fr/english/index.html>

Delphinus

Freeware designed to control Canon DSLR Cameras by Serial Port (RS-232).

<http://www.softsea.com/review/Delphinus.html>

Desktop Lunar Calendar

Simple, fun and easy to use calendar. It is accurate anywhere in the world.

http://www.moonphasesoftware.com/moon_calendar

Digital Universe

Atlas for 3D visualisation of Galactic and extragalactic objects.

<http://www.haydenplanetarium.org/universe>

Distant Suns

Planetarium program that allows you to input the orbital parameters of any object.

<http://www.distantsons.com/downloads.html>

Dome View

Complete program for the observation of lunar domes.

<http://luna.uai.it/luna.htm>

DS9

Professional level, stand alone application for the visualization of fits format files. Supports binary tables, multiple frame buffers, color maps, mosaicing, blinking and much more.

<http://hea-www.harvard.edu:80/saord/ds9>

DSLR shutter

Utility to control the "B" shutter setting of digital SLR cameras. Exposure time, number of images and delay between one image and the next can all be set. Available for Windows and Mac.

http://www.stark-labs.com/DSLR_Shutter.html

EasySky

Star charting (planetarium software), 3D solar system, and animations.

<http://www.easysky.de/eng>

Eclipse

Freeware to calculate all the lunar and solar eclipses visible from a given location.

<http://www.eclipse.org>

Eclipsing Binary Simulator

Visualize the orbit and synthetic light curve of binary star systems.

<http://cosmion.net/software/ebs>

EfeCalc

Calculates the position, rise times, and set times of the Sun, Moon, Planets, Stars; Solar and Lunar Eclipses (with maps generation).

<http://www.mat.uc.pt/~efemast/netscape/efecalc/index.html>

Encyclopedia Galactica

Planetarium software, explore the moon features, 3D solar system.

<http://www.eureka.ya.com/javastro>

EquinoX

13 different filters for organizing deep sky objects and many controls to adjust the sky display, can run your astro-imaging webcam, has SBIG camera support, and will control your telescope with voice commands.

<http://www.microprojects.ca>

Find Orb

Determines the orbital parameters of solar system bodies, such as asteroids, comets or satellites, from astrometric observations.

http://www.projectpluto.com/find_orb.htm

Fireball

Program to calculate the atmospheric trajectory and orbit of meteoroids.

<http://www.fis.unipr.it/~albino/ITASN/documenti/fireball.html>

Fv

Graphical tool for viewing and editing fits files. Easy to use and very light in terms of disk space.

<http://heasarc.gsfc.nasa.gov/ftools/fv>

Gravitation3D

Uses OpenGL to simulate star fields, planet trails, sun lighting, gravity wells, and much more

<http://www.gravitation3d.com>

Gravity 3D

Simulates the gravitational interaction between galaxies in collision.

<http://www.mars3d.com/PWGravity3D.htm>

Gravity Simulator

Celestial mechanics simulator that uses numerical integration to create dynamical models of celestial bodies.

<http://www.orbitsimulator.com/gravity/articles/what.html>

Guide

Complete Star Charting software.

<http://www.projectpluto.com>

Guide Dog

Stand alone software for autoguiding with a webcam. Controls various mounts via the ASCOM platform. Works with Windows XP and earlier.

<http://www.barkosoftware.com/GuideDog>

Hallo Northern Sky

Planetarium complete with SAO, PPM and Tycho-2 catalogues. Supports the import of external catalogues and can control ASCOM compatible telescope mounts.

<http://www.hnsky.org/software.htm>

Helio

Suite of three programs for calculating the geometrical and physical parameters of sunspots.

<http://www.petermeadows.com/html/software.html>

HomePlanet

Astronomy, space, and satellite tracking package.

<http://www.fourmilab.ch/homeplanet/homeplanet.html>

INFO-MAC Science and Math

MoonClock, Moon Tool, NightSky, Planet, StarAtlas, MacAstro, MAIA, etc.

<http://www.info-mac.org/viewforum.php?f=94>

IRAF

Professional data analysis software.

<http://iraf.noao.edu>

IRIS

Complete program for the reduction and analysis of astronomical images.

<http://www.astrosurf.com/buil/us/iris/iris.htm>

JupSat

Calculates and displays the positions of Jupiter's four main (Galilean) moons.

<http://indigo.ie/~gnugent/JupSat95>

JupView PPC

The positions of Jupiter's satellites, Great Red Spot and a map of Jupiter's features.

<http://www.itslifejim.btinternet.co.uk/DawesAstro/software.htm>

K3CCDTools

Includes video-capturing, autoguiding, frame aligning and stacking and simple post-processing.

<http://www.pk3.org/Astro>

L.O.W. Lunar Occultation Workbench

Computes predictions of occultations by the Moon of the planets and stars.

<http://low4.doa-site.nl>

LunarPhase

Graphically displays the current phase of the moon and much more.

<http://www.nightskyobserver.com/LunarPhase/index.htm>

Mars MOLA Viewer

View the actual terrain of Mars, at any point on the surface, as a fly-through real-time 3D rendering.

<http://cgibin.starpower.net/mmacdonald31/demo3d/mars/index.html>

Maxclock 3.1

High-precision clock, displays sidereal and solar times, equation of time, Julian dates, Delta-T, aequatorial and ecliptic coordinates of sun and moon.

http://www.umark.de/maxclock/maxclock_main_e.html

Meteor Observation Log

Log is designed around a 3 hour observation session with the capability to record up to 20 meteors an hour.

<http://kf4yre.tripod.com/databases.html>

MicroObservatory

An astronomical image processing program that works with FITS and GIF files.

<http://mo-www.harvard.edu/MicroObservatoryImage>

Minor Planet Observer

MPO Connection and Canopus.

<http://www.minorplanetobserver.com>

MODAS

Modern Optical Design and Analysis Software.

<http://www.myoptics.at/modas>

MoonDock

Shows moon phase on desktop plus other info.

<http://www.macupdate.com/app/mac/6238/moondock-x>

Moovastar

Proper motion simulation, simulates star positions in the future and past.

<http://www.xs4all.nl/~sahjps/astro.html>

MPL3D Solar System

Explore the solar system and thousands of real extrasolar objects in a 3D interactive simulation of the close universe.

<http://www.mpl3d.com/solar.htm>

NASA World Wind

Freeware by NASA to monitor earthquakes, floods, seaquakes and other natural events all over the world.

<http://worldwind.arc.nasa.gov/java>

Night & Day

Calculates Sunrise and set times for any location on Earth.

http://www.marcomenichelli.it/programma_ND.asp

NightCal

Produces a single A4 sheet monthly calendar telling the user when it gets dark, when the Moon rises and sets and what the Moon should look like when it does make an appearance.

<http://www.nightcal.co.uk>

Open Universe

Real time 3D simulator of the solar system.

<http://www.openuniverse.org/index.php?pag=seccion&seccion=6>

OpTiX

Comprehensive optical design software

<http://www.optenso.de/index.html>

Orbit Explorer

Physics educational software for high school and college students and teachers.

http://www.ottisoft.com/orbit_x.htm

Orbiter

Flight simulator that takes the user beyond the terrestrial atmosphere.

<http://orbit.medphys.ucl.ac.uk>

OrbiterViewer

OrbiterViewer is an interactive applet that displays the orbit of small bodies (comets or asteroids) in the solar system in 3D.

<http://www.astroarts.co.jp/products/orbitviewer/index.html>

Orbitron

Satellite tracking software for visual observers and radio amateurs.

<http://www.stoff.pl>

Peranso

Period analysis software for variable stars.

<http://www.peranso.com>

Perseus

A vector engine-based planetarium, with USNO2 support, real images 'melt' into the background, 3D graphics for solar system bodies.

<http://www.perseus.it/it>

PHD guiding

Freeware autoguiding software. Carries out automatic axis calibration once the guide star is selected. Available for Windows and Mac.

<http://www.stark-labs.com/phdguiding.html>

PIXY system 2

Automated astronomical image examination system.

<http://www.aerith.net/misao/pixy/index.html>

PP3

Free tool for drawing celestial charts in resolution-independent format (PDF).

<http://pp3.sourceforge.net>

PixInsight

A modular, open-architecture, portable image processing platform available on Linux/UNIX and MS Windows.

<http://pixinsight.com>

Planetarium

Displays star charts and other astronomical data on Palmtops.

<http://www.aho.ch/pilotplanets>

Planetary, Lunar, and Stellar Visibility

Program that generates a 3-colour diagram showing when a planet, star or the

Moon are visible from a given point on the Earth.

<http://www.softpedia.com/get/Others/Home-Education/Planet-s-Visibility.shtml>

Pocket Stars PDA

A star chart, ephemeris, and Celestial Navigation calculator for the Pocket PC.

<http://www.nomadelectronics.com>

Registax

Excellent application for registering, summing and reducing images of the Sun, Moon and planets.

<http://www.astronomie.be/registax>

RSI New Moon

Easy-to-use educational software for middle school through college. 3D views of the Moon's phases, the Solar System, and more.

<http://www.riversci.com/newmoon.shtml>

RTGUI: Windows Real-Time Interactive Astronomy Software

Controls most 'goto' telescopes, rapidly locate planets, deep-sky objects, and bright stars from catalogs.

<http://www.debunker.com/astro/rtgui/page.html>

Satellite Tracking Software

Real Time Tracking of an Unlimited Number of Satellites, for many types of telescopes including the full line of Celestron, Meade, Astro-Physics, etc.

<http://www.nlsa.com>

Scope Calculator

Calculates and compares the magnification, field of view, and exit pupil of up to 7 eyepieces when used with a specific telescope.

<http://homepage.mac.com/nmonks/index.html>

Sideralis

Little application for mobile phones showing sky maps. Works on almost all new generation mobile phones except "blackberry".

<http://sideralis.free.fr>

SimSolar

Solar System Simulator with Moon Phase display & Galilean Moons of Jupiter Simulator.

<http://www.pwr-tools.com/simsolar>

Sky Atlas

A program for anyone that wants to know how to identify constellations and other space objects: stars, galaxies, nebulas, planets.

<http://www.skyatlas.eu>

Sky Charts

Program that produces personalised star charts. The database contains 16 star catalogues and asteroids, comets and planets can also be inserted.

<http://www.ap-i.net/skychart/start>

SkyMap

Planetarium software with telescope control features.

<http://www.skymap.com>

SkyORB VR

A real time visual space simulation with ephemeris

<http://www.realtech-vr.com/skyorb>

StarCalc

Professional astronomy planetarium & star mapping program for Windows 9x/ME/NT/2000/XP with plug-in support.

<http://homes.relex.ru/~zalex>

StarChartGL

OpenGL star chart with photo-realistic views of 110,000 stars, 110 messiers and all the planets.

<http://www.starchartgl.cjb.net>

StarStrider

A software planetarium, a virtual space-ship, an three dimensional star chart, and more.

<http://www.starstrider.com>

StellaNavigator

Astronomy Simulation Software.

<http://www.astroarts.co.jp/products/software.shtml>

Stellarium

Complete planetarium for realistic 3D visualization of the celestial sphere as it would appear to the naked eye, through binoculars or a telescope.

<http://www.stellarium.org>

Stig's Sky Calendar

Program that generates ephemerides in graphical form, implemented in a simple planetarium.

<http://www.skycalendar.com/download>

Sun and Moon Almanac

Graphical Sun and Moon Almanac.

<http://www.almanac.com/moon>

SUNDI

Designed to allow you to quickly and easy design and plan the most popular sundials.

<http://www.softpedia.com/get/Science-CAD/Sundi.shtml>

Swiss Ephemeris Info

High precision ephemeris.

<http://www.astro.com/swissep>

TachyonNET for PocketPC

A complete astronomical package for serious amateurs. It includes Meade Telescope Control.

<http://tachyonweb.net>

Terra et Caelum

Visualizer for terrestrial and celestial physical phenomena such as earthquakes, terrestrial rotation, the Doppler effect, expansion of the Universe, precession, nutation, lunar motion, cyclones etc. etc.

<http://web.tiscali.it/geoanim>

The Nine Planets

A collection of information, images, scientific and historical notes on the planets of the solar system.

<http://www.astrofilitrentini.it/tnp/>

TPoint

Telescope pointing analysis software.

<http://www.tpssoft.demon.co.uk>

Tria Image Processing

The Tria program enables fast and effective deconvolution and blind deconvolution, image math, and image registration. Version 2.0 provides faster processing, improved display, and unique image analysis tools.

<http://quarkt4.com/Tria.html>

TUMOL

Database che contiene un rilevante numero di informazioni su tutti gli oggetti di Messier. Ottimo supporto per coloro che desiderano trovare nel cielo gli oggetti del celebre catalogo.

<http://www.davidpaulgreen.com/tumol.html>

Uniview

Uniview is a realtime 3D computer graphics platform for astronomy- and Earth-based sciences, used by leading planetariums like Hayden (New York)

and Gates (Denver).

<http://www.scalingtheuniverse.com>

VirGO

Plug-in per Stellarium (in realtà dal link si scarica tutto il software, compreso Stellarium stesso) che permette di navigare i dati dell'archivio ESO (spettri e immagini).

<http://archive.eso.org/cms/tools-documentation/visual-archive-browser>

Virtual Moon Atlas

Excellent program for the exploration and study of the lunar surface.

<http://www.ap-i.net/avl/en/download>

VITO AstroNavigator

GPS application that displays sky map above you accordingly to your current position, time and direction of movement.

<http://www.vitotechnology.com/astronavigator.html>

VRMars-Spirit - The Red Planet Mars 3D

Virtual Reality Astronomy Software presenting the Mars Exploration Rover Spirit Mission, powered by the VRPresents technology. It gives the feel of being on the surface of Mars.

<http://www.vrmars.com/VRMars-Spirit-The-Red-Planet-Mars-3D.htm>

VSPEC

Program for the reduction of digital astronomical images.

<http://astrosurf.com/vdesnoux>

Where is M13?

Program to locate deep space objects with respect to our galaxy. Provides a lot of information for the objects in its database.

<http://www.thinkastronomy.com/M13/common/download.html>

Winjupos

Freeware for the reduction of images of the Sun, Moon and planets. Very rich in mathematical functions, including the possibility of producing real surface maps on which calculations can be performed.

<http://www.grischa-hahn.homepage.t-online.de/astro/winjupos/index.htm>

Winstars

Planetarium, showing you the appearance of the sky, as seen from anywhere on Earth, for any date.

<http://www.winstars.net/english/index.html>

Xephem

Star-charting, sky-simulating, ephemeris-generating software

<http://www.clearskyinstitute.com/xephem>

YoMama

Yale Observatory iMAge Manipulation Application

<http://www.physics.drexel.edu/~goldberg>

Zubot Suite

This is a group of programs which allow you to align, rotate, stack, and enhance astronomy pictures.

<http://www3.telus.net/public/blzubot/Programs.htm>