

Nova Astronomics Releases Major New Version of ECU

Dear **Earth Centered Universe** Owner:

This letter informs you of the availability of the new V5.0 of "**The Earth Centered Universe Pro**" (ECU) Planetarium and Telescope Control Program for Microsoft Windows — our records show that you are a registered owner.

Those who enjoy using ECU because of its rich feature set, lightning speed, intuitive ease of use, efficient use of computing hardware, powerful telescope control functions, etc. will not be disappointed with this new version. **It is a major upgrade** that builds on the strengths of earlier versions. If you have any questions about the upgrade before ordering just send me an e-mail at: **dave@nova-astro.com**.

Included with this letter is a complete list of enhancements made between V4.0 and V5.0. I hesitate to single out specific items in this letter — there are so many! In addition to the list, there is a demo-version available on our website (www.nova-astro.com). Changes made earlier to V4.0 can be found at **www.nova-astro.com/upgrade.html**.

<p>The upgrade to V5.0, which includes a CD-ROM, is priced at US\$25 plus postage and handling (US\$10 additional for the printed manual). ECU remains compatible with all versions of Windows, including 3.1, 95, 98, Me, 2000, and XP.</p>

To order the upgrade, you have the following options:

- Use the order form on the reverse side of this letter. Be sure to note any changes to your name or address in the space provided. For those in the United States, please remember to apply the correct postage for mailing to Canada.
- Order on-line with your VISA card using our Secure eStore. See **www.nova-astro.com/upgrade.html**.
- Order on-line with a variety of credit cards using the services of Digi-Buy. This service also allows you to fax or phone in your credit card information if you are uncomfortable sending this information over the Internet. See **www.nova-astro.com/upgrade.html**.

Thanks for your past support of my efforts with *The Earth Centered Universe*. I look forward to continuing work on further improvements to ECU in the future for your benefit.

Clear skies and happy computing,
Nova Astronomics

David J. Lane, Owner

Order Form to Upgrade to V5.0 of "The Earth Centered Universe"

To upgrade, fill out and mail this form with a check, money order, or VISA info to the address below. Note: Only VISA credit cards are accepted. You will be mailed a new CD-ROM (and optionally a printed User's Manual). Please allow 3 to 5 weeks for delivery.

Name	
Address	
Current Registration Number (required - see inside back cover of the User's Manual or on the CD-ROM)	
Fax	
Phone	
E-Mail	
Payment (without printed user's manual)	<input type="checkbox"/> [...] Americans: Personal Check for \$31US (\$25US + \$6 P&H) <input type="checkbox"/> [...] Canadians: Personal Check for \$35.95CDN (\$30CDN + \$3.60 P&H + GST) <input type="checkbox"/> [...] Americans: VISA \$31US (\$25US + \$6 P&H) <input type="checkbox"/> [...] Canadians: VISA \$29.96US (\$25US + \$3 P&H + GST) <input type="checkbox"/> [...] Overseas: VISA \$37US (\$25US + \$12 P&H)
Payment (with printed user's manual)	<input type="checkbox"/> [...] Americans: Personal Check for \$41US (\$35US + \$6 P&H) <input type="checkbox"/> [...] Canadians: Personal Check for \$48.79CDN (\$42CDN + \$3.60 P&H + GST) <input type="checkbox"/> [...] Americans: VISA \$41US (\$35US + \$6 P&H) <input type="checkbox"/> [...] Canadians: VISA \$40.66US (\$35US + \$3 P&H + GST) <input type="checkbox"/> [...] Overseas: VISA \$47US (\$35US + \$12 P&H)
VISA Info (charged in Canadian dollars at current US exchange rate)	Name on Card: Card Number: Expiry Date:

Mail or Fax (VISA only) this form to:

Nova Astronomics
 PO Box 31013
 Halifax, Nova Scotia, B3K 5T9, CANADA

Phone: 902-499-6196
 Fax: 902-826-7957

Changes Between V4.0 and V5.0A of "The Earth Centered Universe Pro"

Sky Display/Print Features

- The **galactic equator line** can now be shown on the sky display and on printed charts.
- The north and south galactic pole points can now be shown on the sky display and on printed charts.
- **Stars can now be drawn in (exaggerated) color** based on either their spectral type or B-V color. This feature works for Yale Bright Stars, SAO Stars, and Hipparcos/Tycho stars.
- The sky can now be rotated to any arbitrary angle specified by the user.
- The anti-Sun point can now be shown on the display and on printed charts.

Object Identify Dialog Box

- The Right Ascension and Declination coordinates are now also displayed in decimal hours and decimal degrees.
- The **galactic coordinates** of each object is now included.
- The **rates of motion**, in multiple formats, are displayed for comets, asteroids and planets.
- A **"copy"** button has been added used to copy the contents of the Object Identify dialog box to the clipboard.

Internet Features

- **Advanced web searching** has been added to the Database Search dialog. The user can do a traditional web search such as with Google, search for images using Google, search the AAVSO's variable star database, and search professional databases such as GCVS, NED or SIMBAD.
- **Advanced web searching** has been added to the Identify Object dialog box. The user can do a traditional web search such as with Google, search for images using Google, search the AAVSO's variable star database, and search professional databases such as GCVS, NED or SIMBAD. You can also automatically bring up an image of the selected object from the 48" Schmidt-based **Digitized Sky Survey**.
- A new feature has been added to automatically bring up an image, centered at the current sky display center, from the 48" Schmidt-based **Digitized Sky Survey**.
- A new feature has been added to automatically bring up your favourite **weather web page**.
- A new feature has been added to automatically find the nearest **Clear Sky Clock** web page based on your current Geographic Location (north america only - see cleardarksky.com/csc).

- New menu items in the Help menu to bring up the Nova Astronomic's website, ECU's support web page, and a page that checks for the availability of new versions of ECU.

Object Search Features

- The last 10 search strings are now saved and you can select one of these in the Database Search dialog box. These searches are automatically saved between ECU sessions.
- Database searches can now include, just the enabled databases and object types or all of the object databases.
- If a search fails when all of the object databases were not searched, the user is reminded about the above feature.
- The Database Search dialog box now includes internet searching - see Internet Features section above.

Usability

- The current daylight savings status is now included in the Sun and Moon Data dialog box.
- The **length of the day and night** and the amount of time of astronomical and nautical darkness are now included in the Sun and Moon Data dialog box.
- **Descriptive "hints" are now displayed on the status line** when the mouse hovers over toolbar and status line buttons.
- The **rates of motion for comets, asteroids, and planets** are now included in the object reports.
- A new Autowrap Toolbar feature has been added to enable/disable the wrapping of the toolbar to two lines (this is handy for small screens).
- Right-clicking the mouse on the n,s,e, and w toolbar buttons re-centers the sky by 10 degrees or 1 hour in the corresponding direction.
- The User's Manual can now be displayed from the Help... menu.
- The Angular Separation dialog box now includes the position angle between to the two measured points.
- When "clicking" on objects on the sky display, it is now much **easier to select large objects** because the search area is much larger than before. Searching occurs beginning at the mouse cursor and then outwards in larger and larger rings.
- When saving the 'default.cfg' configuration file (used by Set Defaults) the web address settings are also saved in 'defaults.ini'.
- The Set Defaults menu item now looks for the file 'default.ini' and uses this file to load the web address default settings.
- Local Sidereal Time can now be displayed on the Status Line.

Databases

- The **Principal Galaxy Catalog** database has been updated to the 2002 version, which now contains **980,947 galaxies** - about 10 times more galaxies than the previous version!
- A new dedicated **planetary nebulae database** has been added. This database, version 7 of the Wallace-SEC galactic planetary nebula database, contains 1143 planetary nebulae. It is maintained by planetary nebulae observer Kent Wallace and is based on the Strasbourg - ESO Catalogue of Galactic Planetary Nebulae.
- The **General Catalog of Variable Stars** database has been updated to V4.2 (2004 version), and it now contains 34,111 stars.
- The **Washington Visual Double Star** database has been updated to the 2005Jul08 version, and it now contains 102082 pairs of double stars.
- The stored resolution of the Washington Visual Double Star database has been increased, meaning they will plot more accurately.
- The "U" hotkey scans for changes to the USNO catalog (eg. a CD change) - this is also done whenever the "Stars..." dialog box is terminated (V4.0A).
- More Named Objects have been added.
- Many **more object images** have been added, thanks to ECU user Walter MacDonald.

Telescope Control

- Support has been added for the Orion Intelliscope digital setting circle device (V4.0A).
- The user is now optionally prompted to **confirm telescope sync operations**.
- The order of the telescope types has been re-ordered in the General Settings dialog box - more common telescopes are now near the top of the list.
- Native support for Celestron NexStar telescopes has been removed - please use the Celestron ASCOM driver instead (there is a way to re-enable these telescopes if necessary - contact the author for info).
- The east/west and/or north/south telescope motion buttons can be swapped.
- If the telescope stops responding (10 consecutive errors reading the telescope's position), the telescope interface can be optionally disabled.
- The menu item Center -> On Telescope Position has been added to center the sky display at the current telescope position. The T key is now assigned to this menu item.

Solar System

- The planet magnitude calculations have been adjusted slightly so that they exactly match the US Naval Observatory's Astronomical Almanac.
- A "sort" button has been added to the Center on Orbits... dialog box used to sort the orbit names into alphabetical order.
- The Animation and Center "On Comet/Asteroid... menu items have been moved up to the main level.

New Miscellaneous Features

- **Configuration files from versions 3.0, 3.1, 3.2, and 4.0 of ECU are automatically read and converted to V5.0 format.** This operation is totally transparent. Remember, however, that files written by V5.0 cannot be read by earlier versions.
- By default, galaxies are now plotted by their outlines (i.e. not filled).
- When querying a GPS receiver, ECU will now wait a user-specified time-out instead of waiting only five seconds for a valid position.
- The Flip Horizontal and Flip Vertical menu items have been moved to the Field -> Chart Mode menu.
- Added a Center -> On Solar System -> Anti-Sun menu item.
- Clicking the right mouse button on the geographic location display on the status line or on the geographic location toolbar button now brings up the GPS dialog box.
- Clicking the right mouse button on the UTC display on the status line now brings up the Julian Date/Sidereal Time dialog box.
- Right-clicking the mouse on the "grid" toolbar button now brings up the Custom Horizons... dialog box.
- A brief wait, with a mouse cursor change, was added to the Save, Save As..., Save Report File..., and Increase and Decrease animation step functions. These functions happened so quickly, it was hard to tell if the corresponding toolbar button was actually pressed.
- A "splash" window is now displayed when ECU starts up which includes registration information.
- ECU now requires to be "registered" with a valid registration code before it will run.
- Some users running ECU on Apple Macs (in a Windows emulator) are reporting problems with their mouse cursors, so a mode was added that does not change the mouse cursor from its default arrow.

Bug Fixes

- Fixed a bug which caused the Angular Separation dialog to report small errors for small angles.
- Fixed a bug which made it not possible to display User Objects which had negative magnitudes.
- Fixed a bug which made ECU excessively picky about denying access to 32-bit functions when running multiple copies of ECU.
- Fixed a bug which made auto updates (when the time was set to "Use System Time" mode) stop at midnight if the clock mode was set to UTC.
- Fixed a bug which caused non-enabled deep sky object types to be searched.

Upgrade at: www.nova-astro.com/upgrade.html

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