Coeli ~ Stella 2000™

&

A d a s t r a ™

A Guide to Mouse and Key Functions

In which we present your Coeli functions alphabetically and offer hints and tips on more effective use of the program.

Symbols employed in the text are:

| **Right-click menu entry**
~   **Brief description of function**
[]   **Shortcut keypress**

After most entries will appear the Coeli product from which the feature is present. Eg. *Adastra = from Adastra upwards; Stella 2000 = from Stella 2000 upwards.* The main sequence of Coeli products runs as follows: Adastra, Adastra Plus, Stella 2000, Stella 2000 Extended. Functions with no such product indication appended to them should be assumed to be present across the entire spectrum of Coeli software.

Key   Right-click menu

[a]   **||Objects|Stars|Autoresolve|**

~Auto-resolution on/off.

Default setting: on.

Auto-resolution exists to save you the trouble of manually altering both the number and apparent brightness of stars displayed in a given field at a given magnification.

We all know that when we turn a pair of binoculars on the heavens, we see many more stars than the naked eye can resolve; also, that the brighter ones look brighter still. When you zoom in with Stella's [z] key, auto-resolution attempts to achieve a similar effect while keeping proportional the ratio of stars displayed to the chosen magnification.

Compromises and personal preferences were inevitable here, which is why you can turn it off. It will be far more satisfying to achieve balance for a given starfield manually, but it demands time and practice. Our settings are a good compromise. Experience and experimentation will pay dividends with this function.

Adastra.

[A]   **||Lines|Aequator|Set on/off|**

~Celestial equator on/off.

Default setting: hidden.

This is particularly instructive if displayed along with the Ecliptic. The crossing points of both lines delineate the Vernal (spring) and Autumnal (fall) Equinoxes. The sun passes through the Vernal Equinox, or First Point of Aries, on March 21, the beginning of spring, on the first full moon after which we celebrate Easter. The Autumnal Equinox falls on September 23, the beginning of autumn. Moments in the year when day and night have equal length.

Adastra

[ctrl][a] ||Viewpoint|Projection|Auto-center

~Auto-centering on/off

Default setting: off

This function ensures that whatever object just clicked with the <left> mouse button becomes the centre of both the sky display and projection.

Most powerful when used in conjunction with the [f]ind facility. The object of your search will always be centered in the sky window if you keep auto-centering enabled.

Auto-center can prove confusing at times, especially to those with little practical familiarity with their local celestial 'geography', as viewpoints and directions in the sky window can switch with disorienting abruptness.

Adastra Plus.

[b] ||Settings|Effects|Tint|Whiten|

~Brighten all stars by 'whitewashing' the colour palette.

Pressing this key will brighten the stars until a certain threshold is reached, and then progressively drain each one of colour until eventually it appears white. The opposite of [D] below. Only individual taste will dictate when, or whether, you use this function.

This is one operation where the menu is best avoided, as the key needs to be kept depressed for a while until a difference in colour becomes discernible.

Restore Stella's original colours instantly with [R].

Stella 2000.

[B] ||Settings|Effects|Brightness|Increase|

~Brighten all stars by enlargement.

Auto-resolution ([a]) automates this for you.

Creates the effect of an increase in magnitude. Use of this key is part of the process of manually 'perfecting' a starfield. Only experience and experimentation will avail you here.

The complementary function is [d].

Adastra.

[ctrl][b] ||Lines|Constel|Boundaries|

~Constellation boundary lines

default setting: off

These boundary lines encompass the general area of the constellation in question, plotted as simple straight lines joining vertices, optimised for speed, as opposed to precise circles of RA/Dec. You may occasionally, therefore, notice a star falling just outside its group's allotted area, albeit rarely.

Adastra.

[c] ||Field|Centre

~Centre the display on the point last clicked.

Arguably the most important of all Stella's key functions. It is the principal means by which your view is moved about the visible sky-area. Use the stars as 'stepping stones' as you shift your gaze. The technique goes like this: click on the first point, centre the display, click on the next point, centre the display, and so on.

Stella, unlike its precursor Coeli, does not limit you to clicking on stars for the centre/zooming functions to operate: any point on the display may be made a centre for these operations.

It is, however, important to note that centering in this way does not centre the projection, merely the display. For the greatest accuracy in depicting the immediate surroundings of a given star, it is necessary to make that area the centre of projection, the more so if a horizon-view has been specified.

To centre the current celestial projection on a desired star or point, select the menu entry ||Viewpoint|Projection| Center on star|, or, if desired, set centering to automatic, which will have the effect of directing your line of sight immediately towards whichever object you click with the left button. For this effect choose ||Viewpoint|Projection| Auto-center.

For a more leisurely alteration of viewpoint - as if standing, turning, or raising one's eyes to a particular quadrant of the heavens - the versatile traverse and elevation tools are available. Access by keypresses [ctrl][d] and [ctrl][e], and the menu entries ||Viewpoint|Direction|Set and ||Viewpoint|Elevation|Set.

Adastra.

[C]   FOR FORTHCOMING RELEASE

~Rise/set/transit alarms on/off.

Default setting: off.

Stella provides you with an automatic early warning of optimal/ challenging observing conditions for any given star. Suppose you intend to observe a heliacal rising of Sirius one early autumn morning. First use the [i] key to switch on continuous information readouts, then select Sirius either byright-clicking on it or using [f] to locate the star for you.

Now, provided you have activated rise/set/transit alarms with the [C] key, you can get on with something else until Stella audio-visually advises you that the moment is right for the observation. You can similarly use the function to warn you when a desired star is approaching the meridian (transit), an ideal time to turn a telescope on it, or when it is about to set (another observational challenge).

However, these alarms can be a bore when you don't need them,especially when zooming and centering, so [C] also provides the means to turn them off.

[alt]+[c] ||Objects|Comets|Set on/off

~Comet displays on/off

Default setting: off

The registered version of Stella incorporates an extensive comet database, but the shareware release includes only a small selection of important periodic comets, such as Hale-Bopp and Halley.

In general, comets are automatically disabled if there are none of significant enough magnitude present in the sky for the time and place being displayed, an expedient which tends to improve the all-round responsiveness of the program.

Stella 2000.

[d] ||Settings|Effects|Tint|Deepen|

~Deepen each star's perceived colour.

The opposite of [B].

Pressing this key will darken the stars until a certain threshold is reached, and then progressively drain each one of colour until eventually it disappears in blackness. This is one function where the menu is best avoided, as the key

needs to be kept depressed for a while until a difference in colour becomes noticeable.

This tends to bring out a star's 'character' or essential hue, emphasising colour at the expense of brilliance, and as such is likely to be used more than its complementary function(which merely washes out colour). Again, whether any use is found for this keypress is a question of individual taste.

As regards spectral type and colour index, it makes for easier comparison between adjacent stars. It is also useful for bringing out colour on the DSTN screens of notebook computers.

Restore Stella's original colours instantly with [R].

Stella 2000.

[D] ||Settings|Effects|Brightness|Decrease|

~Diminish ('shrink') all stars.

The opposite of [b].

Creates an effect of dimming or reduction in magnitude.

Adastra.

[e] ||Viewpoint|Direction|East|

~Face east and update all star positions.

An alternative to using the [left/right] arrow keys, this will orientate you instantly to one of the four cardinal compass points. Your view's elevation is not affected.

East is on the left when Stella starts up.

Adastra.

[E] ||Lines|Ecliptic|Set on/off|

~Ecliptic line on/off.

Default setting: hidden.

A simple guideline in purple is drawn. At higher magnifications best switched off, as it only increases Stella's response-time (though not by very much).

The ecliptic is the path the Sun, Moon and major planets appear to follow in their peregrinations through the heavens. The stars straddling the narrow band north and south of the ecliptic are the 12 constellations - not to be

confused with signs - of the Zodiac.

These latter no longer correspond to those of astrology, which remains 'stalled' at the situation pertaining 2000 years ago, the Age of Aries! As you are doubtless aware, we now find ourselves at the end of the Age of Pisces, on the cusp of Aquarius. In other words, it is between the constellations of Pisces and Aquarius that you must today look for the sun at the spring equinox - March 21 - and not in Aries, where Jesus would have viewed it and where, for convenience, the astrologers still consider it to be.

Adastra.

[f] ||Find|by Name|

~Find any object by name

This will bring up a dialog with whose help you will be able to search for any named object currently in Stella's database: stars, planets, DSOs, and constellations. 4 check boxes allow you to specify which of these categories will appear in the selection list.

Use the mouse to select from the alphabetically-sorted dropdown menu, click the [find+] button, and the object will appear in the Sky Window circled red. If the red circle is not immediately visible, the object sought lies outside your current field of view (see next paragraph).

[Find] is most effective with auto-centering enabled. Activate auto-centering from the menu entry

||Viewpoint|Projection|Auto-center|

Auto-centering will ensure that the located object always becomes the centre of both the sky display and the projection.

With the Report window open simultaneously, the Find facility gains even more power. Full textual data for the located object is immediately available for perusal, editing and exporting.

A constellation-search will spotlight the desired star-group against a neutralised sky, and the window will centre on its principal star. To return from spotlight display mode a normal state (ie. all stars illuminated), select the item 'Not designated' from the dropdown list.

This function can be most useful for appreciating a star-group's true extent, something which constellation lines generally fail to reflect.

SHORTCUT: To return the sky to normal after constellation spotlight mode, simply click inside the Coeli icon in the Find by Name box.

A red ring will continue to circle the currently selected object (the one last searched for or clicked on) while the Find dialog remains on screen. Hiding the dialog will hide the circle.

Adastra.

[F] ||Find|by Designation|

~Find any star by designation

This will bring up a dialog with whose help you will be able to search for any star currently in Stella's database by the following nomenclature conventions: Bayer letter (Greek), Flamsteed number, Variable star letter(s), Henry Draper, Yale Catalog (HR), and SA0 numbers. Radio buttons are provided to select which form of designation is required.

Use the mouse to select from the dropdown menus, click the [find+] button, and the object, if found, will appear in the Sky Window circled red. If the red circle is not immediately visible, the object sought lies outside your current field of view (see next paragraph).

[Find] is most effective with auto-centering enabled. Activate auto-centering from the menu entry

||Viewpoint|Projection|Auto-center|

Auto-centering will ensure that the located object always becomes the centre of both the sky display and the projection. If the object found is below the current limiting magnitude, all stars down to the magnitude of the selected object will become visible, with a red ring around the located star.

With the Report window open simultaneously, the Find facility gains even more power. Full textual data for the located object is immediately available for perusal, editing and export.

A red ring will continue to circle the currently selected object (the one last searched for or clicked on) while the Find dialog remains onscreen. Hiding the dialog will hide the circle.

Stella 2000.

[H] ||Viewpoint|Elevation|Horizon|

~Horizon view.

The centre of your personal view (your line of sight) will be directly ahead. In other words, this key centres the current celestial projection at zero degrees altitude.

Please be aware that, although a horizon view is the one which most approximates the experience of standing and casually viewing whatever quarter of the heavens confronts you, it is also the one which introduces the most distortion into the sky representation as a whole. The distortion is of course most pronounced at the field's extremities: the top, bottom, and edges. If you use this viewpoint a lot, and you probably will, please remember to bring the required sector of the 360 degree horizon into the centre of your field by use of either [arrow keys] or || Viewpoint|Projection|Center on star/Auto-center.

Certain projections (the stereographic, for example) are better at coping with edge-distortion, but do this by compromising in other areas. The stereographic will always render the shapes of the constellations more or less faithfully, but with extreme enlargement at the limits. It is nevertheless probably the best projection to select when viewing the horizon closely, especially with constellation lines.

You will of course eventually reach a horizon view by using the 'elevation tool', but [H] is the fastest way to achieve this.

In many situations, and for accuracy, an intermediate view between zenith and horizon is the most effective. An intermediate (45 degree) view may be achieved most simply by selecting ||Viewpoint|Elevation|Intermediate| from the right-click menu, or by pressing [ctrl] [i].

Adastra.

[I] ||Settings|Effects|Sky|Invert|

~Inverted image on/off.

Default setting: off

Inverts the display in the y-axis. A convenience for telescopic observers.

Adastra.

[ctrl]+[i] ||Objects|Messier|ImageIcons|

~ImageIcons on/off

default setting: on

ImageIcons, as their name suggests, are iconised images of celestial objects (primarily planets & DSOs). In fully registered copies of Stella the icon is either a photograph of the object itself (in the case of Messier), or a true image of the object's type or class.

Adastra Plus.

[j] ||Objects|Stars|Designations|

~Star designation labels on/off

Default setting: off

You have the choice, as with [N], of a completely 'natural' display of the heavens or a map-like labelling. This key switches Bayer designations (Greek letters), Flamsteed numbers, and variable letters, on or off.

The size of the lettering can be adjusted through 3 levels by selecting ||Settings|Labels|Large/Medium/Small from the Sky window's right-click menu.

Please note that for labels to be available, the standard MS Windows Small Fonts font should be installed. Additionally, a 'Large Fonts' setting in the Control Panel's Display tab will always give the most satisfactory results in Stella 2000.

Adastra.

[k] |Settings|Effects|Sky|Brighten
[K] |Settings|Effects|Sky|Darken

~Sunshine/moonshine
Or Brighten/darken sky

Default setting: sunshine/moonshine off

The [k] key's dual function depends on whether you have enabled solar/lunar displays with [S].

In registered copies of Stella, with solar/lunar displays active, this key will alternate between a realistic reflection of the amount of daylight or moonlight present and a completely dark sky. The former will be an invaluable aid in gauging the likelihood of favourable observing conditions without actually having to venture outside. However, during daylight hours Stella's stars will be almost as hard to observe as the real ones, which is why wehave made it easy to revert to 'perfect' conditions!

In shareware versions, or with solar/lunar displays inactive, [k] manually brightens and [K] darkens the sky background. This mode may be of help, for example, in maximising contrast on certain types of LCD laptop displays. Another of those functions where only a prolonged press of the relevant key will produce a perceptible change, so - although available - the menu entries are best avoided.

Adastra.

[l] ||Viewpoint|Location|World Map|

~Location Browser.

One of Stella's special features is the ease with which it is possible to 'travel the world' and observe the sky from any earthly position. The Location Browser's operation is so simple, it scarcely needs explaining. You simply move the mouse-cursor around the world map until you're where you want to be, whether this happens to be Tierra Del Fuego or the Kola peninsula. Click the <left> button to look up once again and see the heavens as they appear from the place you have chosen.

The selected location will be marked by a circled red star (resizing the map window will erase it), and your new location will appear immediately in the Sky window's title bar and the Location panel of the Live Ephemeris.

A useful display of latitude/longitude and (putative) time zones will accompany your peregrinations as you move the mouse over the continents.

The readouts are not to be considered precise, and may vary by up to a degree from the atlas co-ordinates of the chosen point. In general, the higher the resolution (map size), the more accurate the result. In any case,   a position correct to the nearest degree will be sufficient for any but the most precise of telescopic purposes - and thus the Location Browser is the ideal general tool. An error in location of one degree corresponds to a change of about 4 minutes in an object's rise and set times. Such an error will not be discernible with the naked eye without years of training, and for most binocular views will be undetectable. So stick with the Location Browser unless ultimate precision is required.

Registration brings you complete customization to your precise home co-ordinates on startup, so you may never need to use either of Stella's location facilities.

Adastra.

[L] ||Viewpoint|Location|Set

~Set exact location
~Set daylight savings

The location dialog allows you to enter your precise geographic position (if known). A putative time zone will be set according to the longitude entered, but you may also change this manually after longitude entry, since we are not infallible!

If you enter the name of your location, for database compatibility we advise you to separate the locale from the country with a comma, as in 'Greenwich, England'

Many of us set our clocks forward or back in the autumn and spring, which is why the daylight savings adjustment is built into Stella. However, you may not need it if you live near the equator, or if you have 'travelled' there using the Location Browser. A checkbox has been supplied here for the purpose of switching the adjustment on or off.

A position correct to the nearest degree will be sufficient for any but the most precise telescopic purposes - and thus the Location Browser is the ideal tool. An error in location of one degree corresponds to a change of about 4 minutes in an object's rise and set times. Such an error will not be discernible with the naked eye without years of training, and for most binocular views will be undetectable. So stick with the Location Browser unless ultimate precision is required. The location dialog box is in any case only functional in registered versions of Stella.

Registration brings you complete customization to your precise home co-ordinates on startup, so you may never need to use either of Stella's location facilities.

Adastra.

[m] ||Clock|Forward|Month

~Advance Stella's date by (x) months.

Stella can situate you in time as easily as in space. [m] is a cyclic control, so if you keep pressing you will eventually end (start?) up at January again. The year will be advanced.

Using the numeric keys or the time-bar's spin control, (x) can be set anywhere from 1 to 10 months, thus permitting large leaps in single steps.

Adastra.

[ctrl][m] ||Objects|Messier|Set
[ctrl][n] ||Objects|NGC|Set

~Messier and/or NGC catalog objects

Display the position of all Messier catalog objects, and selected DSOs from the NGC (and other lists).

||Objects|Messier|Catalog|
||Objects|Messier|Names|
These sub-menu entries specify whether the object's designation and/or name and type appears along with its symbol

against the night sky. But please bear in mind that the more information shown onscreen at once, the slower zooming and moving about will become.

An ImageIcon of the DSO or its type will appear if this setting is active. Note that in shareware releases the image is a generic spiral galaxy but in registered copies the ImageIcon will reflect the object's true type. Indeed, in the case of Messier, it will be an iconised photo of the object itself.

Adastra.

[n] **||Viewpoint|Direction|North**

~Face north and update all star positions.

An alternative to using the [left/right] arrow keys, this will orientate you instantly to one of the four cardinal compass points. Your view's elevation is not affected.

North is in the window's upper portion when Stella starts up.

Adastra.

[N] **||Objects|Stars|Names**

~Label stars with their common names.

Default setting: on

In Stella 2000, each label will reflect the star's spectral type: thus 'Aldebaran' will print in bright orange, 'Procyon' in white, 'Capella' in pale yellow etc.

This option is tied to magnitude and magnification, so the closer you zoom, the more labels will appear.

Please note aditionally that for labels to be available the standard MS Windows Small Fonts should be installed. This will usually be the case. It is worth adding that a 'Large Fonts' setting in the Control Panel's Display tab will always give the most satisfactory results in Stella 2000.

Adastra.

[ctrl][o] **||Settings|Window|Log**

~Observing log

Uniquely, Stella 2000 offers a full-featured logbook in which to record your real-sky observations.

A notebook is an essential accessory for even the most occasional of stargazers, but keeping a regular observing log is something you will never regret. Indeed, on many occasions you will certainly regret not having kept one. So why not get into good habits from the start? - Stella makes log-keeping easy. The more mundane chores such as noting

the date and time, instrument used, and sky conditions, are either fully automated or reduced to merely selecting from a dropdown list.

Most Logbook actions are self-explanatory and accompanied by hints, but some essential guidelines follow:

[New entry] should be clicked whenever you wish to begin an observation. The date, start time, and place will be logged automatically, with alternative formats and preferences available in drop-down list form. Select/enter a default instrument at the beginning of your observing session, along with the overall seeing conditions.

The object to be observed will initially be locked to that selected in Stella's Sky window, but if this is not the required objective, just erase it. Record your observation and remarks in the upper of the two Edit boxes, the lower being the permanent log record, which is also editable.

[Add Entry] should be clicked when you are ready to append the current completed observation to the log record. The observation's end time will also be logged on pressing this button. With autosave enabled (from the form's right-click menu), the logbook will be saved every time you add an entry.

[View Log] is for perusing and editing existing records. A fresh Stella 2000 log is begun every calendar month. You may not add new entries to a record for a previous month, but you can refine, edit, or write up the logbook in the normal way in the lower portion of form.

A variety of editing, printing, and customizing options are accessible from the log window's right-click menu.

To standardize word-wrap, the entire window may be resized vertically but not horizontally.

Stella 2000.

[p] ||Objects|Planets|Set on/off

~Planet displays on/off.

Default setting: on

The nine planets are an integral part of Stella 2000. With planets enabled, you can use the mouse cursor with a left or right click to obtain up-to-the-minute readouts in exactly the same way as for stars.

With the Picture Window onscreen, clicking on a planet with the mouse will automatically display the image of the selected planet, provided one is present in your Images folder.

Adastra.

[ctrl][q]   View|Sky Quiz

~Sky Quiz

As far as we're aware, Stella is unique in offering the luxury of a fully-fledged online quiz for consolidating your knowledge of the heavens. It must be stressed that Sky Quiz is in no way sequestered from the rest of Stella: there is no 'quiz page' to move off to   -   the sky will still lie before you, the stars will still move in their courses, you can utilise all Stella's functions - apart from those which might enable you to cheat. Sky Quiz is integrated, seamless.

Go to the Setup tab in the Sky Quiz window and click the [New Quiz] button to start or reset a quiz. You may also use the Setup tab to tailor the Quiz as to the types of question it will include. Some types are more demanding than others, and carry higher points values when they are selected. Others, such as the 'Point out any star in the constellation of...', will carry only a single point as they are so easy!   Experiment.

The points structure for question-types is as follows:

Name the highlighted constellation	*1*	*point*	
Point out any star in the constellation...	*2*	*points*	
Name circled star	*5*	*points*	x *star's vmag*
Point out the star named...	*10*	*points*	x *star's vmag*
Designation of circled star...	*15*	*points*	x *star's vmag*
Point out the star designated...	*20*	*points*	x *star's vmag*

vmag = visual magnitude.

Your overall skill is then a measure of the average points attained per question. Therefore, for the highest skill award, you will be best served by selecting only the most demanding question-type(s) within your capabilities.

Now go back to the Quiz page to begin things in earnest. Click once in the navy blue question panel whenever you're ready for a new question. The type of question will be decided randomly, unless only one type (or no type) has been selected.

You can have as many attempts as you like at answering the current question, even indefinitely, or until you hit upon the right response. After all, it's only mouse-clicks. Stella will adjust your score downwards in accordance with the number of tries, but you'll get something provided you finally hit on the right answer. Running score totals, along with number of tries for the current question, will be displayed on the status bar in green.

Some Hints and Tips on Quizzes

Attempting to find out the answer to a question by clicking on the relevant object in the sky display will result in immediate cancellation of the current question, and concomitant increment of the question number. In other words, cheating will be looked upon in the same way as a mouse click in the question panel: a request for a new question, and loss of one question point.

To make the quiz easier, there are two techniques you can employ:

1) Zoom in so that only a limited number of bright stars are showing - this is an excellent way to familiarise yourself with a single constellation or just a very small area of sky.

2) Reduce the number of stars (ie. increase the limiting magnitude of the display) by pressing the [-] minus key, thereby reducing the sky to its essentials. Stella will only ever ask you questions on stars which are visible in the sky window.

Some of Stella's normal functions will be inhibited whenever the Quiz Window is present: these include

Find facilities
Lines and Grids
Constellations
All labels

If you need to check on the answer to a particularly challenging question during the course of a quiz, the way to go about it is to close the Quiz window temporarily. All Stella's functions, including realtime updates, will return until you reopen it. But bear in mind that, if a question is pending when you do this, you will lose the point unless the question has first been answered successfully.

If you cannot answer the current question, clicking the question panel again will inform Stella and get you another.

We believe that Sky Quiz alone is one of your best reasons for registering Stella 2000. (apart from lifetime support by mail, total personalisation, absence of reminder dialogs, and comprehensive reports). You'll be astonished at how quickly you attain familiarity with the stars. Through Sky Quiz, you will eventually 'read' the sky as effortlessly as you can read this.

Stella 2000 Xtended.

[r] ||Help|Register|

~Registration facility.

If you are not a registered Stella user, [r] for you means'Registration'.

At any time, simply press [r] to see how our convenient registration routine works.

What happens, briefly, is that you are asked to fill in some details onscreen, principally your name, address, and intended method of payment.

Stella will save a copy of your form as it stands under the name REGISTER.FRM in your current disk directory, where you can edit, peruse, or delete it at will. Ideally, you will want to print it out straight away. Stella will do this for you too.

We think registration is worth your while for precession and data extensions alone, but you'll discover yet more exclusive incentives when you contact us. Just slip the form into an envelope along with your payment. We look forward to hearing from you!

Maybe you'd like to register online right now?

- Just point your Web browser at

http://www.sci.fi/~elk/stelreg.htm

and follow the link to the special secure order forms.

We even welcome pre-registration enquiries. So just drop us a line or E-mail and we'll let you know we exist!

Adastra Plus.

[R] ||Settings|Effects|Tint|Restore|

~Restore Stella's original colour palette.

Useful if you make a mess of [B], [D], [K], or [G].

Stella 2000.

[ctrl][r] ||Settings|Window|Products

~Products window

Displays the Swimming Elk in bronze, providing useful contact information and instant access to our Web site. For the latter click the bottom panel. To close the window just click on the logo. *In **expired** shareware versions, clicking the Elk logo will always take you to our order pages on the WWW.*

Adastra.

[s] ||Viewpoint|Direction|South|

~Face south and update all star positions.

An alternative to using the [left/right] arrow keys, this will orientate you instantly to one of the four principal compass points. Your view's elevation is not affected.

South is the compass direction you face when Stella starts up, and is in the window's lower portion.

Adastra.

[S] ||Objects|Sun|Set on/off
** ||Objects|Moon|Set on/off**

~Solar/lunar displays on/off.

default setting: on

Readouts, reports, and the Live FM window will convey a plethora of useful data which includes solar and lunar co-ordinates, phase of the Moon, sunrise, sunset, hours of darkness and astronomical twilight.

In terms of the sky display, you will either see or not see the solar and lunar discs, depending on the setting of [S].

In Stella 2000, dynamic brightening of the sky background is directly tied to this setting (REGISTERED VERSION ONLY). If you switch solar/lunar displays off, [k], [K] will simply allow you to alter the sky colour manually. But if they are switched on, both sunshine and moonshine will be simulated. You will be able to watch the dawn, and await with anticipation the approach of night.

Adastra.

[ctrl][s] ||Settings|Window|Full Screen|

~Full screen mode

default setting: off

For the most breathtaking and realistic view of Stella's sky, select this mode. This is the way Stella's skies are meant to be viewed.

Adastra.

[t] ||Clock|Bar|

~Time bar on/off

Stella's time bar is a versatile tool for advancing and retarding the simulation time. Buttons are available for moving forward and backward by minutes, hours, days, months, years, with a check box beside them enabling you to alternate between sidereal or solar increments of these units.

The central spin control will adjust the unit increment (x) from 1 to 10. For example, a setting of x5 followed by a click of the [h>>] button will advance the clock 5 hours.

Clicking the mouse inside the clock panel itself will cycle through four varieties of time: Local (L), Greenwich (G), Greenwich Sidereal (GS), and Local Sidereal (S), the default being the Local time for your chosen geographical position.

In general, please notice that with the timebar displayed, access to sky functions via keypress will in general be disabled. Therefore, if you prefer the timebar constantly in view, all adjustments to Stella's display will have to be made via the right-click menu, which of course is considerably less efficient speed wise.

If you require constant temporal awareness while manipulating the sky display with the keys, a better alternative is to keep the Live Ephemeris window open - and possibly resized to minimum with just a single row of data visible - and 'on top', placed in, say, the lower right corner of your screen. All date and time increments are immediately reflected here, and readouts adjust instantly to reflect the changes occurring in the sky window behind it.

Adastra.

[T]   FOR FORTHCOMING RELEASE

~Track current object.

Simply stated, this function will attempt to keep your object of interest at the centre of Stella's display when in Temporal mode. A small red 'T' will flash in the bottom left corner to remind you that tracking is active.

Especially useful if the magnification is high, when otherwise stars might 'hop' out of view during a window update.

[ctrl][t] ||Settings|Window|List

~Observing list

Stella 2000's observing list facility allows you to compile a list of objects, along with their Equatorial coordinates and magnitudes, for eventual use at the telescope. The list may be used onscreen as is - with a notebook computer, for example - or a hardcopy can be output and taken to the observing site.

If your telescope's equatorial mounting is equipped with setting circles, as most are, you will be able to aim the instrument at the desired object fairly accurately with the Right Ascension and Declination figures alone, as given by the observing list.

To build a list of objects for observation, use either of the Find functions (name or designation) to locate the desired object, or simply click with the left button in the sky window to select a target. Once the selection has been made (the readout panels in the top left of the sky window will show which object is currently selected), clicking the button labelled [add selection] from the Observing List window will append the current object to the list.

You may toggle the RA/Dec format between h:m:s or decimal degrees by clicking once in the relevant column header. Your click will take effect for the next object added. So make your desired changes here before you embark on a new list

Stella 2000.

[u]   REGISTERED VERSION ONLY

~Advance Stella's clock by 1 sidereal day.

Automated by the [PAGE DOWN] function.

The reason for wishing to advance by this unit may not be immediately apparent. A sidereal day is slightly less than a solar day, being approximately 23h 56m. It is the time taken by the STARS to return to their exact positions of the night before. You thus have a way of holding the stellar backdrop steady while you watch the bodies within our Solar System shift against it.

The fleetest mover is of course the Moon, due to proximity, followed by the Sun and the inner planets, whose 'dance' can be very instructive to watch. The outer planets shift at a much more sedate pace.

For faster animation, a wide angle of view is necessary, preferably one encompassing the entire celestial sphere. A zoom factor well into negative figures is in order. Speed up still further reducing the visible number of stars with [-]. Between 0 and 100 should be ample for this effect, depending on processor speed, since it is not the stars themselves which interest us here.

Set the ecliptic line with [E] to better trace the path followed by the Sun, Moon, and planets with the passage of time. (but do note that setting lines of any sort will slow the animation down somewhat)

Return to your starting date by hitting the timebar's red [>>>] button and then clicking [reset].

Adastra Plus.

[ctrl][v] ||View|View bar

~View functions toolbar

This is a floating toolbar with docking capabilities (right or bottom of sky window). The view bar incorporates the

most common movement/orientation functions also accessible via menu or keypress, such as compass direction and zoom, and introduces **4 panning functions** unique to itself. These 4 **arrow buttons** will allow you to look up, down, left, or right, thus appearing to pan across the sky display.

Please note that these 'camera' pans are *not* equivalent to the actions of the traverse/elevation tools. Therefore the projection will not be centered to your line of sight, as with the tools, so beware of distortion at the periphery of the chosen projection. To avoid it, select the Stereographic, which distorts relative constellation area but not shape.

The Viewbar may be dragged anywhere on the screen and movement is not restricted to the sky window alone. When detached from its side- and bottom- docking points, it becomes a floating tool whose dimensions may be modified by means of the resizing arrows. To return to dock quickly, double-click in the tool window's caption area.

The Viewbar may be docked to any point along the right or bottom of the sky window. The dock - but not the position along the dock - will be saved automatically.

NB. Please try to avoid the use of the panning functions when auto-centering is active.

Adastra.

[w] ||Viewpoint|Direction|West

~Face west and update all star positions.

This will orientate you instantly to one of the four cardinal compass directions. Your view's elevation is not affected.

West is on the right when Stella starts up.

Adastra.

[ctrl][w] ||Settings|Window|Picture window

~Picture window for JPEG images

To complement Stella's Reports feature, this facility has been introduced to load full scale graphics in JPEG image format. With the Picture window onscreen, left-clicking an object in the sky such as a planet, comet, or DSO will display its image automatically, provided a corresponding graphics file for that object is present in Stella's "Images" folder on your hard disk.

A sampling of JPEG graphics has been included with the shareware and registered versions of Stella 2000, consisting of the nine planets, Sun, and Moon. Beautiful photographs by the Voyager probes and Hubble Space Telescope, to name but two sources, are available all over the World Wide Web and on many CD ROM collections. To be able to display these from within Stella 2000, all you   need is to keep two points in mind, the second of which is optional:

1) If not a JPEG file to begin with, ensure the image is first *converted to JPG* format using an art program such as Paint Shop Pro or LView before copying it into Stella's "Images" folder.

2) In order to enable Stella to load the correct image in response to a click in the sky window, the graphic file needs first to be *renamed* to that of the object as displayed by Stella. Suppose the object you want shown automatically

happens to be M31, then just make sure that the corresponding JPEG file is renamed to 'M31.jpg', and placed in Stella's "Images" sub-folder.

Right-clicking in the Picture window will bring up a file dialog box, permitting you to **load any JPEG** of any name from anywhere on your hard disk, with your "Images" folder as the place of departure.

Adastra Plus.

[x] ||Field|Unzoom

~Unzoom. Reduce magnification.

Unzooming widens your field of view. If you keep zooming out, you will eventually have the entire sky (both hemispheres) projected before you. This is of course highly unrealistic, worse than looking through the wrong end of a telescope, but extremely useful for finding your way around the heavens quickly.

Auto-resolution will continue to ensure the correct ratio of stars to view-field, so this can be a nice way of reducing the sky to its essentials.

Adastra.

[y] ||Clock|Forward|Year

~Advance Stella's clock by (x) years.

Stella can situate you in time as easily as in space. This key moves you forward by (x) years.

Using the numeric keys or the time-bar's spin control, (x) can be set anywhere from 1 to 10 years, thus permitting large leaps in single steps.

Adastra.

[Y] ||Clock|Back|Year

~Retard Stella's clock by (x) years.

Stella can situate you in time as easily as in space. This key moves you backward by (x) years.

Using the numeric keys or the spin control on the timebar, (x) can be set anywhere from 1 to 10 years, thus permitting large leaps in single steps.

Adastra.

[z] ||Field|Zoom

~Zoom. Increase magnification.

Zooming narrows your field of view. It achieves what a good telescope can: the brighter stars are brighter still and a myriad appear that weren't discernible before. Auto-resolution balances their number and their relative brilliance.

The manual warns you not to overdo zooms / unzooms and it bears repeating here. For your convenience and instruction, no great limit has been set on Stella's magnification, so there is also plenty of room for abuse. We cannot be held responsible for the latter's unforeseeable results.

~Zooming with the popup menu.

It is worth explaining that wherever the mouse crosshair happens to be when the popup menu is called will be the new central point for any zoom/centre/unzoom operation executed with its aid. So in effect the technique is very similar to zooming with the keys, namely first placing the cursor at the desired spot; the only difference being that, when zooming with the menu, you simply press the <right> button first instead of the left.

Stella's clock is automatically paused after zooming closely on a star field. This prevents the focussed area suddenly jumping out of view at the next position update. When you zoom back out to less than 6x magnification, real-time updates will automatically resume.

Adastra.

[Z] ||Viewpoint|Elevation|Zenith

~Zenith view.

The view presented when Stella starts up. In the centre are the stars directly above your head. The 360 degrees of your horizon lie on the 'bright circumference', delineated in teal if you have set your horizon line with the [_] key. On the outer or green circumference lie the unrisen (and perhaps unrising) stars of the opposing hemisphere.

The least realistic, due to the horizon's extreme curvature, but the best all round picture of the heavens, and the one used by all real planispheres.

A zenith view offers the least overall distortion of your visible sky area, and hence the most compromise, although the latter is distributed evenly. The two projections best tailored to a zenith viewpoint are the equidistant and equal-area (the default projection in Stella 2000).

If you advance the hour continuously on Stella's clock, the zenith view most effectively shows you the stars as they wheel about the celestial poles, Polaris and Ursa Minor in the north, Octans in the south.

Adastra.

['] ||Settings|Effects|Sky|Mirror|

~Mirror image on / off.

Default setting: off

Reverses the display in the x-axis, showing the sky as if in a mirror. A convenience for telescopic observers.

Adastra.

[@] ||Settings|Effects|Atmospheric|

~Atmospheric effects on / off.

Default setting: off

By 'atmospheric effects' we mean specifically the two phenomena atmospheric refraction and atmospheric extinction.

In practical terms, atmospheric refraction causes discrepancies between the position of the stars as viewed in the relative vacuum of space and that of the same stars as viewed through the distorting 'lens' of our atmosphere. The difference at the horizon, depending on temperature and atmospheric pressure and thus also on height above sea-level, can sometimes amount to several minutes of arc. Atmospheric refraction becomes negligible as we raise our eyes toward the zenith.

With atmospheric extinction, Earth's atmosphere causes a star's apparent magnitude (brightness) to diminish in proportion, again, to its proximity to the horizon. On Stella's textual readout the amount of reduction in brightness (a positive figure) follows the magnitude value when atmospheric effects are switched on. This effect can be very pronounced. Antares viewed from Finland is a different creature altogether from the Antares seen from Andalusia!

The reason you can ignore the first atmospheric effect for most practical purposes is that relatively few of us, unless we sail the high seas, climb mountains, or fly, are granted an unimpeded view of a flat horizon, where refraction is most pronounced.

Stella 2000.

[_] ||Lines|Horizon|Set

~Show/hide the horizon line.

Default setting: shown

The dark green 'unrisen' stars do a good job of delineating a contrast between those below and those above the horizon, but for extra emphasis, this colour-configurable horizon line is available.

It will slow zooms / unzooms / calculations down minimally. One of those functions which it is advisable to disable if you require peak responsiveness on sub-Pentium machines. Not particularly CRT-friendly, either.

A compass-point legend is available to accompany this display: just select ||Lines|Horizon|Legend| from the sky window's right-click menu to toggle the legend on or off.

Adastra.

[/] ||Grids|Horizon Alt/Az|Set

~Horizon grid (altitude/azimuth)

Default setting: off

Not just a question of aesthetics, a grid can also be instructive in revealing the underlying properties of the selected projection model (degree of distortion etc) and for basic orientation.

An altitude/azimuth grid remains fixed while the stars appear to move behind it. Unlike Equatorial co-ordinates, Horizon co-ordinates (Altitude and Azimuth) are time- and place- specific. They are, in fact, the Equatorial co-ordinates (see below under [=]) transformed and projected onto a sphere centred at the observer's location for a given moment in time.

Adastra.

[\] ||Lines|Constel|Set on/off

~Constellation lines.

Default setting: off

The staple fare of popular star atlases and Daily Telegraph style 'night sky guides', constellation lines appear to be an essential ingredient in most planetaria. 'Joining the dots' may occasionally help a neophyte, but more often confuses the issue, many if not most of the accepted patterns bearing little true resemblance to the objects they are meant to represent. It is probably far preferable for the aspirant observer to allow the star groups to settle into their own patterns, the better remembered because self-invented.

Stella's [f]ind constellation facility will 'spotlight' a group of stars against a neutralised star background, arguably a more efficacious means of discerning the extent of a constellation and its overall form.

Adastra.

[|] ||Lines|Constel|Names

~Constellation labels on/off.

Default setting: off

In order to avoid screen clutter, IAU abbreviations only will be displayed until sufficient magnification is reached via the [z]oom key. Thereafter, both abbreviations and the full constellation expansion will be given.

Adastra.

[,] ||Clock|Back|Hour

~Retard Stella's clock by (x) hours.

Stella can situate you in time as easily as in space. This key moves you backward in time by (x) hours.

Using the numeric keys or the spin control on the timebar (x) can be set anywhere from 1 to 10 hours, thus permitting large leaps in single steps.

Adastra.

[.] ||Clock|Forward|Hour

~Advance Stella's clock by (x) hours.

Stella can situate you in time as easily as it does in space. This key moves you forward in time by (x) hours.

Using the numeric keys or the time-bar's spin control, (x) can be set anywhere from 1 to 10 hours, thus permitting large leaps in single steps.

Adastra.

[<] ||Clock|Back|Day

~Retard Stella's clock by (x) days.

Stella can situate you in time as easily as it does in space. This key moves you back (x) days.

Using the numeric keys or the spin control on the timebar, (x) can be set anywhere from 1 to 10 days, thus permitting longer leaps in single steps.

Adastra.

[>] ||Clock|Forward|Day

~Advance Stella's clock by (x) days.

Stella can situate you in time as easily as in space. This key moves you forward (x) days.

Using the numeric keys or the time-bar's spin control, (x) can be set anywhere from 1 to 10 days, thus permitting longer leaps in single steps.

[[] or

[;] ||Clock|Back|Minute

~Retard Stella's clock by (x) minutes.

Stella can situate you in time as easily as in space. This key moves you back (x) minutes.

Using the numeric keys or the spin control on the timebar, (x) can be set anywhere from 1 to 10 minutes, thus permitting longer 'single step' advances.

[]] or
[:] ||Clock|Forward|Minute

~Advance Stella's clock by (x) minutes.

Stella can situate you in time as easily as in space. This key moves you forward (x) minutes.

Using the numeric keys or the spin control on the timebar, (x) can be set anywhere from 1 to 10 minutes, thus permitting longer 'single step' advances.

[=] ||Grids|Equatorial RA/Dec|Set

~Equatorial (RA/Dec) grid.

Not just a question of aesthetics, a grid can also be instructive in revealing the underlying properties of the selected projection model (degree of distortion etc) and for basic orientation.

If you prefer a grid visible during Stella 2000 sessions, the Equatorial is probably the best one to set, since it both moves with the stars and nicely reflects - through its tilt - any change in viewpoint or orientation.

Equatorial co-ordinates consist of Right Ascension (RA) and Declination (Dec).

If you visualise the constellations projected onto a translucent sphere whose centre is the centre of the Earth, then Right Ascension becomes the celestial equivalent of terrestrial longitude (0-360 degrees or 0-24 hours, E-W), and Declination of latitude (+90 to -90 degrees, N-S).

Star catalogue entries are normally given as Equatorial coordinates, since these are independent of time and place. Only the phenomena of luni-solar precession and the body's proper motion will cause these 'absolute' co-ordinates to change significantly, and then only over comparatively long spans of time.

Adastra.

[ctrl][e] ||Viewpoint|Elevation|Set
[ctrl][d] ||Viewpoint|Direction|Set

~Elevation and traverse tool

[ctrl][e] activates the elevation slider, which is then manipulated with the mouse or [arrow keys].

With its help your line of sight may be adjusted to within a degree in the vertical plane. The elevation marker takes the form of a 'sighting rectangle' through which pass the stars as you move it up or down. Use this tool to help you centre the projection precisely on a given region or heavenly body in conjunction with the traverse tool.

[ctrl][d] activates the traverse slider, which is then manipulated with the mouse or [arrow keys].

With its help your line of sight may be adjusted to within a degree in the horizontal plane. With a zenith view, this marker will most resemble the hand of a clock: the sighting rectangle (elevation 90) in the middle of your visible sky while the 'hand' sweeps the 360 degrees of your horizon.

From viewpoints intermediate between zenith and horizon, the 'hand' becomes a vector capped by the sighting rectangle: the greater its extent, the higher your sights are raised. With a horizon view, only the sighting rectangle will be visible, since your elevation is zero.

When you use the traverse tool, you are 'turning in place' to face whichever sector of the horizon you have chosen.

Along with the moving line and sighting rectangle will appear changing readouts of the degree of elevation or traverse (azimuth) currently set. In the case of traverse, the compass direction will also be indicated (S,SSW,SW,W through N, and back to S again).

Each tool is used separately, and the display should be redrawn to the new viewpoint between each 'swing' by clicking the 'set' button on the slider panel. Clicking the close (X) button will hide the panel and cancel any settings made with the tools.

||Settings|Projection|Auto-center achieves the above more quickly but in a way which may at first prove disorienting, and there is of course no fine control over the resultant facing. It is therefore always as well to have the horizon legend displayed while using this method.

The slider panel may be dragged to any convenient position in the sky window. Drag efficiency is improved by switching off grids, names, and lines.

Adastra Plus.

[ctrl][p]   **||Settings|Effects|Gravitational|Precession**

~Precession on/off

Default setting: off

Adastra Plus.

[F12]

~Recalculate all positions

This should be done whenever the sky display loses integrity in some way, or you have completed a series of zooms,

changed the projection, or altered your viewpoint, merely as a precaution against possible plotting inaccuracies.

Stella's star co-ordinates are being recalculated continually as a matter of course, but at times this mechanism is allowed to slip out of step with certain functions for the sake of responsiveness. The two operations most likely to put the calculations out of sync are [zoom] and [change viewpoint]. Unzooming and centering are quite safe in this regard.

You may, of course, simply prefer to let Stella catch up. Updates occur automatically every minute or so.

[backspace]   FOR FORTHCOMING RELEASE

~Return to your previous viewpoint (Undo).

This 'undo' feature is limited to your terrestrial orientation. Its primary purpose is to back out of presses of the following: [l,n,s,e,w,H,Z], all keys which drastically alter your viewpoint in some way. You are thus permitted to check another facing while retaining present settings.

It may be usefully employed as a toggle for comparing two widely differing skies. From your current position, press [l] to bring up the location browser and select, say, somewhere in Antarctica. You will instantly acquire a view of the Antarctic heavens, but pressing [backspace] will return you to your PRECISE previous observation point. This is best carried out with a fairly wide field, preferably the entire visible sky.

Note that this key will not undo zooms and may temporarily 'confuse' the location browser.

[home]   FOR FORTHCOMING RELEASE

~Return to your original time and location.

Settings will be as they were when Stella started, including facing, elevation, magnification, and projection. In fact, everything - apart from the time and possibly the date - will be as it was when Stella first loaded.

Best used to return 'home' quickly after extended travels in the Location Browser, lengthy journeys in time, or when simply a little confused.

If you have not yet registered Stella, please note that this key will not return you 'home' as set via the command line, but to Greenwich, England, which is always the pre-programmed setting unless you have a personal copy.

This will also cancel your current zoom, colour, and location settings, so make sure you have stored them with [F7] if they are important to you.

[INSERT]   FOR FORTHCOMING RELEASE

~Increase blue levels in the colour palette.

All monitors differ in their general colour cast, some more appropriate for astronomical displays than others. If you initially find the general effect unsatisfactory, this function may improve matters. The only advice is try it and see.

[DELETE]   FOR FORTHCOMING RELEASE

~Decrease blue levels in the colour palette.

See above.

||Clock|Animate|

~Auto animate

Default increment: 5 minutes.

Auto-animation saves you repeatedly pressing the [time advance] keys to watch the movement of the stars and planets with the passage of time. The clock will be repeatedly advanced by the unit last accessed via the keyboard [1-9] or via the timebar's central spin control.

There are 3 animation modes available: x-minutes, solar day, and sidereal day. The latter is activated by means of the [sidereal] checkbox on the timebar (disabled in shareware release).

In general, the animation mode will be determined by the last time-increment used, in the absence of which it will default to 5 minutes. For example, if you had just finished a sequence of day-advances, selecting Animate from the Clock submenu would result in animation proceeding by units of 1 solar day. To return to x-minute advances, you would have to perform a manual advance by x-minutes by means of the keyboard or the time bar before selecting Animate again.

All menus and actions are accessible during the animation sequence, which you may even leave running in the background for the duration if such activities amuse.

Most instructive (and fun!) when auto-advancing by sidereal and solar days, where the 'dance' of the Sun, Moon, and planets becomes very apparent against the backdrop of the stars.

When you activate auto-animation, all grids, the celestial equator line, and the ecliptic, will be switched off, and the number of stars reduced to nominal. You can of course switch all these on again while the animation is in progress, but this action would somewhat negate the purpose of disabling them in the first place, namely that of promoting smooth movement.

For the best frame rate when auto-animating, keep your zoom-index in the negative, ensuring at the same time that the Report and Live Ephem windows are closed. To really see the planets whizz by, you could banish the stars altogether by decreasing the limiting magnitude yet more. A final trick is to reduce window-size.

Conversely, if your system is a very fast one, you may need to do all you can to slow down the animation! Try increasing the number of stars displayed with [+], and, if in x-minute mode, reduce the time increment factor using keys [1..9] or via the time bar's central spin control. Perhaps the best way to put the brakes on is to enter full screen mode with [ctrl][S]

Animation may be started and stopped in two ways: with the timebar visible, click the button with the red [>>>] to toggle the effect; or simply select ||Clock|Animate| from the right-click menu.

NOTA BENE: the clock is not automatically reset to current time when animation stops. You will have to select |Clock|Reset| from the right-click menu to return to the present moment as simulated by Stella.

Adastra.

[F1] ||Settings|Window|Guide

~Online Guide

Comprehensive guidance on the most effective use of the program is provided in an easy-to-navigate textual format, complete with index, search facility, and its own popup menu.

Adastra.

[F2] ||Viewpoint|Projection|Equidistant

~Azimuthal Equidistant Projection.

A fine overall compromise, points along any straight line radiating from the projection's centre will preserve their relative positions. In other words, angular separations will reflect reality.

Stella 2000.

[F3] ||Viewpoint|Projection|Equal Area|

~Azimuthal Equal-area Projection.

The default celestial projection across the Coeli product spectrum.

Whether this beats the equidistant is a matter of taste. Certainly the compactness of the equal-area does much to commend it. Aesthetically, it probably has the edge. Switch to horizon view and negative magnification and you'll gain a fine impression of the 'arch of the sky'.

At zenith view there is little to choose between this and the equidistant. All constellations will preserve their relative sky area, but will be more compressed and elongated at the periphery.

Adastra.

[F4] ||Viewpoint|Projection|Stereographic

~Azimuthal Stereographic Projection.

Constellations will retain recognisable shapes even on the extreme periphery, but the further from the projection's centre a constellation lies, the more inordinately will its dimensions be exaggerated. Akin to looking down a tunnel which has astronomical murals: pictures to the immediate right, left, and above our heads seem large regardless of their true dimensions, while those ahead toward the tunnel's aperture approach compactness through perspective. The tunnel's end - the 'point at infinity' in painter's terms - is the projection's centre.

The stereographic is useful if you plan to set a horizon view and then concentrate on a particular area. Centralisation via the traverse tool is not quite so critical.

Stella 2000.

[F5] ||Viewpoint|Projection|Orthographic

~Orthographic Projection.

In Stella 2000, twin hemispheres are shown.

A classical 'globe'. Stella's orthographic is most appropriate for simultaneously displaying the antipodal sky. For example, if you dwell in the north, the 'globe' on the left will show the constellations of the southern celestial hemisphere (unrisen, in green) and vice versa. In fact, Stella's orthographic will simultaneously display the obverse of whatever viewpoint you have chosen: what you can't observe from your time and location will always be visible on the left hand face of the sphere. In this way, you can avoid the extreme distortion caused by the equidistant and equal-area projections to constellations which never rise at your position.

Only low magnifications (less than zero) are of any practical use with Stella's orthographic.

If you intend zooming in on your observable sky and the compactness this projection seems to offer appeals to you, we would always recommend the azimuthal equal-area [F2] over the orthographic.

At present, lines and grids are not included in Stella's orthographic projection.

Stella 2000.

[F7]   REGISTERED VERSION ONLY

~Store current settings.

All your preferences will be stored for retrieval at a later date. Use [SHIFT]+[F7] to retrieve them at any time. This function creates a permanent record, so it will work across sessions.

If you have a favourite view to which you would always like to return after other activities in Stella, or preferred settings that are not part of Stella's defaults at startup, such as personal colours or window sizes and positions, simply pressing [F7] will preserve them for instant retrieval.

Stella 2000.

[F9] ||Settings|Window|Print Sky|

~Print Sky.

Both mono and colour printing modes are available along with the two starplot styles of realistic and photoplate.

You may switch between these options via the right-click menu

||Settings|Window|Print Mode|>>
||Objects|Stars|Style|>>

The sky window's screen dimensions will determine the size of the printout, so if you require the printed map to cover the entire width of your paper, press [ctrl][s] to enter full-screen mode before printing.

[F10] ||Objects|Stars|Style|Realistic

~Realistic star mode

Stars are displayed as realistically as possible, as point-sources. This is Stella's default display mode.

[shift][F10] ||Objects|Stars|Style|Photoplate

~Photoplate star mode

Stars are displayed as if exposed photographically, ie. with diameters in proportion to their apparent magnitudes and not as point-sources.

This is the conventional method of indicating relative brightness on sketches and star maps, and it lends a more prominent appearance to hardcopy printouts.

||Data|Report|

~Report

Stella 2000 makes data available to you in various forms for various purposes. The report format is designed to facilitate the export of information on the currently selected object to both the observing log and to external programs for further processing. Simply select desired text with the mouse in the normal way and use the popup menus for cutting and pasting.

Whenever you click on something in the sky, the title bar of this window will tell you what category the selected object belongs to: either Sun, Moon, Planet, Comet, DSO, HR/Hipparcos star, Hipparcos star, or SAO star.

Reports are also an effective aid when continuously displayed against the sky. Just position and size the report window to your taste and let it reflect changes to the chosen object's properties as you manipulate settings in the sky window and retard/advance the clock. Please note, however, that its presence will slow down certain operations significantly, notably animations.

~Important Note

The Sky window's right-click pop-up menu and all its submenus are mirrored under |Options| in Stella's 'top strip' Main Menu, with the single exception that check (tick) marks do not generally appear against items in the top strip. So, for preference, please use the pop-up menu whenever possible.

Functions marked FOR FORTHCOMING RELEASE are already integral to Coeli ~ Electric Planisphere - our Super VGA DOS-based astronomy package - with which we are striving to maintain full compatibility. In short, we intend incorporating these features, but the new and innovative aspects of Stella 2000 must take precedence.

As a registered user you will continue to receive updates on request for the entire lifetime of the product.

Should a mouse click or keypress listed here have no effect, or its menu entry appear greyed out, you may safely assume that it is only available in the registered version or higher up the Coeli product line. You can **order instantly** by pointing your web browser at

http://www.sci.fi/~elk/stelreg.htm

and following the Order link.

The few major functions not included in the shareware release are marked here REGISTERED VERSION ONLY. Please note that, *on expiry of your shareware evaluation license, many operations will be accessible by keypress only*. Select |**Keys**| under the Help menu for a complete listing of Stella's keypress shortcuts. At the very least, this will provide effective training in the most efficient manner of using Stella 2000, since menus are only the second choice for seasoned Coeli hands!