Astrolog

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1 Copyright Notice

2 Description Of Each Command Switch

Astrolog allows command line switches to be invoked with either the leading dash (‘-’) standard to Unix users, or a leading slash (‘/’) that PC users are more accustomed to. Not only that, but the leading character is actually optional. For example, the command

```
astrolog -i chartfile -R -u -U -Z -Xs 300 -Xi -XB
```

can be done as

```
astrolog /i chartfile /r /u /U /Z /Xs 300,
```

or can be abbreviated as just

```
astrolog i chartfile R u U Z Xs 300 Xi XB.
```

(This is subject to a couple of minor limitations, in that one can't have the ‘-1’ or ‘-3’ option follow a ‘-R’ restriction list of numbers, since the ‘-1’ will be considered a number.)

Many switches in their standard form are technically a ‘toggle’ instead of a ‘set’ for the particular feature in question. For example, ‘astrolog -v -g -g’ will only result in the ‘-v’ chart being printed; an aspect grid won't, because the first ‘-g’ turned it on while the second ‘-g’ turned it off again. This can be useful, in say the ‘-e’ everything switch. If you want all of Astrolog's charts except the astro-graph, you can do ‘astrolog -e -L’, where the ‘-e’ turns everything on and the ‘-L’ turns the astro-graph chart, already on because of ‘-e’, off. In another example, to get a chart with only the stars in it, one can do ‘astrolog -R0 -RU’, where the ‘-R0’ restricts everything, and the ‘-RU’ unrestricts all the stars. The various ‘-X’ switches which set a mode in graphics are also toggles – a combination like ‘-Xr -Xr’ which with one instance will just go into reverse video mode, will remain out of it because the first ‘-Xr’ put you in and the second toggled you back out.

Command switch flags may actually be forced on or off regardless of their current setting with special character prefixes. Many switches (such as ‘-s’) represent on/off flags and their setting is toggled when the switch is encountered. However this alone doesn't allow one to force the setting to be a value, as we don't know if it needs to be toggled or not. Prefixing any flag switch with ‘_’ will reset its state even if already off, while prefixing with ‘=’ will always make it on. For example, putting ‘_s’ on a command line will always set tropical zodiac, while ‘=s’ will always set sidereal. The standard ‘-’ and ‘/’ prefixes, along with no prefix at all, always toggle the current setting. This is useful for configuration files where we want to set various flags to particular values. There's one more obscure switch prefix which is ‘:’, which doesn't affect the setting at all, but still affects any subsetting parameters. For example, ‘:I 80’ won't affect the interpretation setting at all, but will still set the default screen width to 80 columns. This is slightly simpler than the ‘-I 80 -I’ double toggle hack that would have to be done to do such a thing otherwise.

The various static help listings that may be generated, such as the lists from ‘-H’, ‘-H0’, ‘-HI’, and so on, may be combined with each other and even the actual charts. For convenience the program will terminate right away and not prompt for chart info if the only thing specified is one of the tables, e.g. just ‘-H’ will print the help list and exit, but ‘-H -i file -g’ will print the help list followed by an aspect grid chart.

In the command list below, greater than/less than symbols (‘<’ and ‘>’) are used to denote a command switch parameter to be replaced by the appropriate value, brackets (‘[’ and ‘]’) are used to denote an optional parameter, and commas are used to separate either/or choices. For example, the specification of the ‘-I’ switch is ‘-I [<columns>]’, meaning that one can specify the ‘-I’ switch, followed a parameter for the number of screen columns, but that this extra parameter is optional. The specification of the ‘-Xs’ switch is ‘-Xs <100,200,300,400>’, meaning it can be used as either ‘-Xs 100’, ‘-Xs 200’, ‘-Xs 300’, or ‘-Xs 400’. An ellipsis (‘..’) generally refers to a variable length list of values or an abbreviation for something already indicated in related switches.

Correct parsing of strings is done on the command line (and in files since they are technically command lines) in addition to when the user is being prompted for data within the program. For example, to do the natal chart for the alt.astrology newsgroup using the ‘-qa’ switch, one may enter the intuitive

```
‘-qa Jul 29 1991ad 6:23pm -10 151e13 33s52’.
```

The items may be entered in other standard and simpler forms as well, such as just

```
‘-qa 7 29 1991 18.23 -10 -151.13 -33.52’.
```

Any command switch that takes an index number as a parameter may have it specified by its actual name instead of a hard to remember value. For example, the switch sequence ‘-c 1 -R 6 -A 5 -F 7 10 0’ may also be entered as the more understandable ‘-c Koch -R Jupiter -A Sextile -F Saturn Capricorn 0’. Any string may be abbreviated to its first three characters. Aspects should be based on their formal abbreviations, e.g. ‘ssx’ instead of ‘sem’ for Semisextile. (Presently only the first three characters are ever looked at, so some star objects may still need to be specified as a number since they have the same first three letters.)

2.1 Overview Of All Command Switches

2.1.1 Command Switches

-H: Display this help list.
-Hc: Display program credits and copyrights.
-HC: Display names of zodiac signs and houses.
-HO: Display available planets and other celestial objects.
-HA: Display available aspects, their angles, and present orbs.
-HF: Display names of astronomical constellations.
-HS: Display information about planets in the solar system.
-HI: Display meanings of signs, houses, planets, and aspects.
-He: Display all info tables together ('-Hc-H-Y-HX-HC-HO-HA-HF-HS-HI').
-Q: Prompt for more command switches after display finished.
-Q0: Like '-Q' but prompt for additional switches on startup.
-M <1-48>: Run the specified command switch macro.
-M0 <1-48> <string>: Define the specified command switch macro.
-Y: Display help list of less commonly used command switches.

2.1.2 The Type Of Chart To Display

-v: Display list of object positions (chosen by default).
-v0: Like '-v' but express velocities relative to average speed.
-w [<rows>]: Display chart in a graphic house wheel format.
-w0 [..]: Like '-w' but reverse order of objects in houses 4..9.
-g: Display aspect and midpoint grid among planets.
-g0: Like '-g' but flag aspect configurations (e.g. Yod's) too.
-g0: For comparison charts, show midpoints instead of aspects.
-ga: Like '-g' but indicate applying instead of difference orbs.
-gp: Like '-g' but generate parallel and contraparallel aspects.
-a: Display list of all aspects ordered by influence.
-a0: Like '-a' but display aspect summary too.
-a[0]a: Like '-a' but indicate applying and separating orbs.
-a[0]p: Like '-a' but do parallel and contraparallel aspects.
-m: Display all object midpoints in sorted zodiac order.
-m0: Like '-m' but display midpoint summary too.
-Z: Display planet locations with respect to the local horizon.
-Z0: Like '-Z' but express coordinates relative to polar center.
-Zd: Search day for object local rising and setting times.
-S: Display x,y,z coordinate positions of planets in space.
-j: Display astrological influences of each object in chart.
-j0: Like '-j' but include influences of each zodiac sign as well.
-L [<step>]: Display astro-graph locations of planetary angles.
-L0 [..]: Like '-L' but display list of latitude crossings too.
-K: Display a calendar for given month.
-Ky: Like '-K' but display a calendar for the entire year.
-d [<step>]: Print all aspects and changes occurring in a day.

`-dm`: Like '`-d`' but print all aspects for the entire month.
`-dy`: Like '`-d`' but print all aspects for the entire year.
`-dY <years>`: Like '`-d`' but search within a number of years.
`-dp <month> <year>`: Print aspects within progressed chart.
`-dpy <year>`: Like '`-dp`' but search for aspects within entire year.
`-dpY <year> <years>`: Like '`-dp`' but search within number of years.
`-dp[y]n`: Search for progressed aspects in current month/year.
`-D`: Like '`-d`' but display aspects by influence instead of time.
`-E`: Display planetary ephemeris for given month.
`-Ey`: Display planetary ephemeris for the entire year.
`-EY <years>`: Display planetary ephemeris for a number of years.
`-e`: Print all charts together (i.e. '`-v-w-g0-a-m-Z-S-j0-L0-K-d-D-E`').
`-t <month> <year>`: Compute all transits to natal planets in month.
`-tp <month> <year>`: Compute progressions in month for chart.
`-t[p]y`: <year>: Compute transits/progressions for entire year.
`-t[p]Y`: <year> <years>: Compute transits for a number of years.
`-t[py]n`: Compute transits to natal planets for current time now.
`-T <month> <day> <year>`: Display transits ordered by influence.
`-Tp <month> <day> <year>`: Print progressions instead of transits.
`-T[p]n`: Display transits ordered by influence for current date.
`-P [<parts>]`: Display list of Arabic parts and their positions.
`-P0 [<parts>]`: Like '`-P`' but display formulas with terms reversed.
`-P[z,n,f]`: Order parts by position, name, or formula.
`-I [<columns>]`: Print interpretation of selected charts.

2.1.3 How The Chart Parameters Are Obtained

`-n`: Compute chart for this exact moment using current time.
`-n[d,m,y]`: Compute chart for start of current day, month, year.
`-z [<zone>]`: Change the default time zone (for '`-d-E-t-q`' options).
`-z0 [<offset>]`: Change the default daylight time setting.
`-zl <long> <lat>`: Change the default longitude & latitude.
`-zt <time>`: Set only the time of current chart.
`-zd <date>`: Set only the day of current chart.
`-zi <name> <place>`: Set name and place strings of current chart.
`-q <month> <date> <year> <time>`: Compute chart with defaults.
`-qd <month> <date> <year>`: Compute chart for noon on date.
`-qm <month> <year>`: Compute chart for first of month.
`-qy <year>`: Compute chart for first day of year.
`-qa <month> <date> <year> <time> <zone> <long> <lat>`:
    Compute chart automatically given specified data.
`-qb <month> <date> <year> <time> <daylight> <zone> <long> <lat>`:
    Like '`-qa`' but takes additional parameter for daylight offset.

-qj <day>: Compute chart for time of specified Julian day.
-i <file>: Compute chart based on info in file.
-o <file> [..]: Write parameters of current chart to file.
-o0 <file> [..]: Like '-o' but output planet/house positions.
-os <file>, > <file>: Redirect output of text charts to file.

2.1.4 What Information Is Used In A Chart

-R [<obj1> [<obj2> ..]]: Restrict specific bodies from displays.
-R0 [<obj1> ..]: Like '-R' but restrict everything first.
-R1 [<obj1> ..]: Like '-R0' but unrestrict and show all objects.
-R[C,u,U]: Restrict all minor cusps, all uranians, or stars.
-RT[0,1,C,u,U] [..]: Restrict transiting planets in '-t' lists.
-RA [<asp1> ..]: Restrict aspects by giving them negative orbs.
-C: Include angular and non-angular house cusps in charts.
-u: Include transneptunian/uranian bodies in charts.
-U: Include locations of fixed background stars in charts.
-U[z,l,n,b]: Order by azimuth, altitude, name, or brightness.
-A <0-18>: Specify the number of aspects to use in charts.
-Ao <aspect> <orb>: Specify maximum orb for an aspect.
-Am <planet> <orb>: Specify maximum orb allowed to a planet.
-Ad <planet> <orb>: Specify orb addition given to a planet.
-Aa <aspect> <angle>: Change the actual angle of an aspect.

2.1.5 How A Chart Is Computed

-b: Use ephemeris files for more accurate location computations.
-b0: Like '-b' but display locations to the nearest second too.
-c <value>: Select a different default system of houses.
-s [..]: Compute a sidereal instead of the normal tropical chart.
-sr: Compute right ascension locations relative to equator.
-s[z,h,d]: Display locations as in zodiac, hours/minutes, or degrees.
-h [<objnum>]: Compute positions centered on specified object.
-p <month> <day> <year>: Cast 2ndary progressed chart for date.
-p0 <month> <day> <year>: Cast solar arc chart for date.
-p[0]n: Cast progressed chart based on current date now.
-pd <days>: Set no. of days to progress / day (default 365.25).
-x <1-360>: Cast harmonic chart based on specified factor.
-1 [<objnum>]: Cast chart with specified object on Ascendant.
-2 [<objnum>]: Cast chart with specified object on Midheaven.
-3: Display objects in their zodiac decan positions.
-f: Display houses as sign positions (flip them).

-G: Compute houses based on geographic location only.
-F <objnum> <sign> <deg>: Force object's position to be value.
-+ [<days>]: Cast chart for specified no. of days in the future.
-- [<days>]: Cast chart for specified no. of days in the past.
-+[m,y] [<value>]: Cast chart for no. of months/years in future.

2.1.6 Relationship And Comparison Charts

-r <file1> <file2>: Compute a relationship synastry chart.
-rc <file1> <file2>: Compute a composite chart.
-rm <file1> <file2>: Compute a time space midpoint chart.
-r[c,m]0 <file1> <file2> <ratio1> <ratio2>: Weighted chart.
-rd <file1> <file2>: Print time span between files' dates.
-rb <file1> <file2>: Display biorhythm for file1 at time file2.
-r0 <file1> <file2>: Keep the charts separate in comparison.
-rp[0] <file1> <file2>: Like '-r0' but do file1 progr. to file2.
-rt <file1> <file2>: Like '-r0' but treat file2 as transiting.
-y <file>: Display current house transits for particular chart.
-y[b,d,p,t] <file>: Like '-r0' but compare to current time now.

2.1.7 Accessing Graphics Options

-k: Display text charts using ANSI characters and color.
-V <25,43,50>: Start up with text mode set to number of rows.
-X: Create a graphics chart instead of displaying it as text.
-Xb: Create bitmap file instead of putting graphics on screen.
-Xb[n,c,v,a,b]: Set bitmap file output mode to X11 normal, compacted,
very compact, ASCII (bmtoa), or Windows bmp.
-Xp: Create POSTSCRIPT stroke graphic instead of bitmap file.
-Xp0: Like '-Xp' but create complete instead of encapsulated file.
-XM[0]: Create Windows metafile stroke graphic instead of bitmap.
-Xo <file>: Write output bitmap or graphic to specified file.
-XB: Display X chart on root instead of in a separate window.
-Xm: Create monochrome graphic instead of one in color.
-Xr: Create chart graphic in reversed colors (white background).
-Xw <hor> [<ver>], _ge[..]: Change the size of chart graphic.
-Xs <100,200,300,400>: Change the size of map or characters by %.
-Xi: Create chart graphic in slightly modified form.
-Xt: Inhibit display of chart info at bottom of graphic.
-Xu: Inhibit display of a border around graphic.
-Xl: Inhibit labeling of object points in chart graphic.
-Xj: Don't clear screen between chart updates, drawing trails.

-X1 <object>: Rotate wheel charts so object is at left edge.
-X2 <object>: Rotate wheel charts so object is at top edge.
-Xd <name>, -di[..] <name>: Open X window on specified display.
-XW: Simply create an image of the world map.
-XW0: Like '-XW' but do a non-rectangular Mollewide projection.
-XG [<degrees>]: Display the image of the world as a globe.
-XP: Like '-XG' but create the globe from a polar projection.
-XF: Display maps as constellations on the celestial sphere.
-Xn [<mode>]: Start up chart or globe display in animation mode.
-HX: Display list of key press options for screen graphics.

2.1.8 Obscure Command Switches

-Y: Display this help list.
-Yn: Compute location of true instead of mean node.
-Yd: Display dates in D/M/Y instead of M/D/Y format.
-Yt: Display times in 24 hour instead of am/pm format.
-YC: Automatically ignore insignificant house cusp aspects.
-Y8: Clip text charts at the 80th column.
-YQ <rows>: Pause text scrolling after a page full has printed.
-Yo: Output chart info and position files in old style format.
-YP <-1,0,1>: Set how Arabic parts are computed for night charts.
-YE <obj> <semi-major axis> <eccentricity (3)>
<inclination (3)> <perihelion (3)> <ascending node (3)> <time offset (3)>:
Change orbit of object to be the given elements.

-YR <obj1> <obj2> <flag1>..<flag2>: Set restrictions for object range.
-YRT <obj1> <obj2> <flag1>..<flag2>: Transit restrictions for range.
-YR0 <flag1> <flag2>: Set restrictions for sign, direction changes.
-YAo <asp1> <asp2> <orb1>..<orb2>: Set aspect orbs for range.
-YAm <obj1> <obj2> <orb1>..<orb2>: Set max planet orbs for range.
-YAd <obj1> <obj2> <orb1>..<orb2>: Set planet orb additions for range.
-Yj <obj1> <obj2> <inf1>..<inf2>: Set influences for object range.
-YjC <cusp1> <cusp2> <inf1>..<inf2>: Set influences for house cusps.
-YjA <asp1> <asp2> <inf1>..<inf2>: Set influences for aspect range.
-YjT <obj1> <obj2> <inf1>..<inf2>: Set transit influences for range.
-Yj0 <inf1> <inf2> <inf3> <inf4>: Set influences given to planets
in ruling sign, exalted sign, ruling house, exalted house.

-YI <obj> <string>: Customize interpretation for object.
-YIa <sign> <string>: Customize interpretation adjective for sign.
-YIv <sign> <string>: Customize interpretation verb for sign.
-YIC <house> <string>: Customize interpretation for house.
-YIA <asp> <string>: Customize interpretation for aspect.
-YIA0 <asp> <string>: Customize aspect interpretation statement.

-YkC <fir> <ear> <air> <wat>: Customize element colors.

-YkA <asp1> <asp2> <col1>..<col2>: Customize aspect colors.

-Yk0 <1..7> <1..7> <col1>..<col2>: Customize 'rainbow' colors.

-Yk <0..8> <0..8> <col1>..<col2>: Customize 'general' colors.

-YXG <0-2><0-2><0-2><0-3>: Select among different graphic glyphs for Capricorn, Uranus, Pluto, and Lilith.

-YXg <cells>: Set number of cells for graphic aspect grid.

-YXf <val>: Set usage of actual system fonts in graphic file.

-YXp <-1,0,1>: Set paper orientation for PostScript files.

-YXp0 <hor> <ver>: Set paper size for PostScript files.

-YX <hi-res> <lo-res>: Set modes to use for PC screen graphics.

-;: Ignore rest of command line and treat it as a comment.

2.2 Astrolog (version 4.40) command switches

-H: Display this help list.

This option displays a list exactly like the one given above on the screen. **Note:** Concerning the list itself, PC users are accustomed to seeing command switches with a leading slash '/' instead of a dash '-'. To accommodate this, this list of options available does, if the program has been compiled for a PC, display all the switches with a leading '/' instead of a '-'. (On Unix and other systems they will be displayed with the standard leading '-'.)

-Hc: Display program credits and copyrights.

This help switch displays a full page of credits, listing the names of those who programmed Astrolog or parts of it, and important copyright information and other legal items. Every time the program is invoked, the '-Hc' switch is mentioned to use to see this info.

-HC: Display names of zodiac signs and houses.

The '-HC' switch will display a list of the 12 signs of the zodiac, and the 12 houses, listing their standard and traditional names. This is similar to switches like '-HO' or '-HA' below, in that it displays lists of things (objects, aspects, or in this case the signs) that Astrolog uses in its charts.

-HO: Display available planets and other celestial objects.

Similar to the '-HA' option below, the '-HO' option will list the planets and other celestial objects used by the program, and their numbers as recognized by the '-R' restrictions (mentioned later). This list will also show the zodiac signs that planets rule, fall in, are exalted in, and debilitated in. Stars are printed in the list along with their azimuth, altitude, and brightness values. Note that this list shows only those items that aren't restricted when its displayed; if you want to show all 87 objects regardless of restriction status, just use the '-R1' switch to activate them all and combine it with '-HO'.

Concerning objects the program can do, Astrolog can do the position of Lilith, often called the 'Dark Moon'. This Lilith is the point in space of one focus of the Moon's elliptical orbit around the Earth (Earth itself being in the other of the two), and not the asteroid or hypothetical planet by the same name. Lilith is object number 17 in Astrolog, and in graphics charts its glyph is a small circle with a forward slash through it. If preferred, one can use the '`-YXG`' glyph selection switch (described later) to choose the 'European' version of the glyph which is like the glyph for the Moon but smaller and flipped horizontally.

Astrolog computes the position of Lilith as provided by the accurate PLACALC formula set. This means that the '`-b`' ephemeris switch (covered later) needs to be in effect to get Lilith's positions. When the '`-b`' setting is off, Astrolog will display the position of the South Node for object 17 instead. We tweak the name of the object to be 'S.Node', change its rulerships and interpretation string appropriately, and change the graphics glyph to be the standard 'upside down horseshoe' (a third glyph selectable via '`-YXG`'), although we won't automatically update everything again if you toggle the '`-b`' flag while the program is running.

Astrolog can do the position of the East Point as well, which is technically the same as the position of the Ascendant at the equator for whatever time. This is object number 20 in Astrolog, and its graphics glyph is a simple 'EP' abbreviation.

`-HA`: Display available aspects, their angles, and present orbs.
The '`-HA`' command switch gives a list of all 18 supported aspects, their abbreviations as used in the aspect grids, their angles, and their orbs. It will list the number of each aspect in addition to all the other info (e.g. conjunct = 1, opposition = 2, etc.) so one can see what number to pass to the '`-A`' switch when changing the number of aspects used (see later). Finally, it will print a brief description of what each aspect glyph looks like. This is in case one doesn't know what aspects the weird symbols in the '`-g -X`' graphic displays are referring to.

`-HF`: Display names of astronomical constellations.
This will display a text table of all the constellations, listing their traditional names, their astronomical abbreviations as used in the graphics above, their English meanings, and even their genitive or possessive form (e.g. 'Lyra' is the name of the constellation, but the star Vega in it is called Alpha 'Lyrae').

`-HS`: Display information about planets in the solar system.
This is a another static table which will display some astronomical information about the main planets (and Earth's Moon) in a simple form. For each planet is shown its distance from the Sun (or Earth) in Astronomical Units (AU), its orbital period in Earth years, its rotational period (i.e. day) in hours, its diameter relative to the Earth (Earth being 1), its mass relative to the Earth (Earth being 1), its average density with respect to water (water being 1), the tilt of its axis with respect to its orbit, and finally the number of known moons or satellites it has.

`-HI`: Display meanings of signs, houses, planets, and aspects.

This will display the general meanings of each sign, each house, each planet, and each aspect, on the screen. This shows more or less the database the program uses to base its interpretations on (see the '`-I`' switch setting for charts later).

`-He`: Display all info tables together ('`-Hc-H-Y-HX-HC-HO-HA-HF-HS-HI`').

This switch will print out all ten of Astrolog's static table help listings, like what '`-e`' does for actual charts. Specifically, this will show the '`-Hc`' copyright screen, the '`-H`' switch list, the '`-Y`' obscure switch list, the '`-HX`' graphics key press list, the '`-HC`' sign and house list, the '`-HO`' object list, the '`-HA`' aspect list, the '`-HF`' constellation list, the '`-HS`' planet information list, and the '`-HI`' core interpretation list, for over 500 lines of informational output.

`-Q`: Prompt for more command switches after display finished.

Usually when Astrolog finishes printing the specified chart or charts, or when we leave a graphics screen mode, the program will terminate. However, sometimes one wants to display or work with lots of charts or options, which would normally cause them to have to invoke the program over and over again from their shell, using many processes, and can be slow loading over and over from a slow disk. Auto-termination is also bad when automatically starting up the program in an X window or DOS box – once the program finishes, the container will exit right away too, not allowing reading of the text charts. The '`-Q`' switch causes the program to enter a looping mode environment where (after the first chart is displayed) the user will automatically be prompted to enter a new set of command switches (using the no SWITCHES interface described later) which will be processed. This will go on and the program will run until you enter `.` on a line for the switches to really terminate it.

Program errors which normally cause Astrolog to exit right away, will (unless 'fatal' errors) return the user back to this outer loop. What's more is that being in the loop doesn't cause all the minor program variables to be reset every time. The main things like what info to use and what charts to display must be specified each time, but minor modes (such as the present '`-x`' harmonic factor) won't, so say specify '`-x 5`' once, and you will be casting fifth harmonic charts until you specify otherwise or exit the loop, not having to include '`-x`' each time.

`-Q0`: Like '`-Q`' but prompt for additional switches on startup.

This is just like '`-Q`' above except that the user will first be prompted for command switches right upon entering the program. Note that these will be in addition to whatever else was on the command line where the '`-Q0`' itself was specified. This is mostly useful when running on a Windows system (see later) where one can have '`-Q0`' as a default switch to pass to the program. Upon activation, the user will be in a loop with Astrolog asking for switches right away before proceeding to generate or prompt for any chart information.

`-M <1-48>`: Run the specified command switch macro.
`-M0 <1-48> <string>`: Define the specified command switch macro.

Astrolog has a feature to run 'switch macros', or a whole command line with one small switch. The '`-M`' switch takes one parameter, which is the number of the macro to run. When encountered, the switches it represents will be processed. This is similar to loading in a generic command file with '`-i`', except macros are limited to one command line. Macros however don't require separate files, and may even call command files themselves with '`-i`'.

The switch '`-M0`' is the option that defines a macro. It takes two parameters: the index of the macro to define, and a string representing the command line to assign to it. (The command string probably needs to be in quotes to ensure it's treated as one parameter to '`-M0`', instead of many items which will get processed right away.) There are 48 macro slots available to define or run. Macros may do anything and even call or define other macros. It's possible to get in a infinite loop if you make a macro (or command file) call or load itself; such cases aren't detected and will make the program terminate with some unusual error.

Macros are very powerful and their uses are nearly endless. A bunch can be defined in the '`astrolog.dat`' config file for your most common switch sequences, hopefully preventing things such as batch files that would have to be created otherwise. Suppose you often want to see the transits of outer planets only to the house cusps in your natal chart for the current month. The command line for this is

```
-i yourchart -tn -RT0 6 7 8 9 10 -R0 -RC -C.
```

You can assign this to the tenth macro slot with:

```
-M0 10 "-i yourchart -tn -RT0 jup sat ura nep plu -R0 -RC -C".
```

That line can be put in your '`astrolog.dat`' and you can do this month's transits by just typing '`astrolog -M 10`'. Here's another example: Suppose you want a feature to bring up the chart of the spouse of whoever's chart you are viewing at any time. You can define a special macro, say in slot 5, in each of your chart info files which does a '`-i`' on the file of their spouse, or does nothing if they're unmarried. Now when in graphics mode, you can press `F5` anytime and Astrolog will bring up the spouse's chart! You could define a bunch of macros to set various color sets or aspect orbs and switch among them quickly using the function keys. You could even make a simple chart database by having each chart file load the next one in sequence in some macro, and then cycle through your charts by running that macro in a '`-Q`' loop or from the graphics screen.

`-Y`: Display help list of less commonly used command switches.

This displays a list of available command switches, like the '`-H`' option but showing only 'less common' switches that would clutter things up if they were in the main list, and are usually only specified in configuration files. Hence almost all of those switches begin with '`Y`'.

2.3 The Type Of Chart To Display

`-v`: Display list of object positions (chosen by default).

This is just a formal specification for the standard chart listing of the planetary positions. One will get this chart by default if they don't specify any other chart types, and they will get it along with everything else in the '`-e`' option (see below). Although it isn't necessary, it must be included if one wants this type of chart to be displayed along with some of the other chart types described below.

`-v0`: Like '`-v`' but express velocities relative to average speed.
This switch is just like '`-v`' except that it modifies the planet velocities fields slightly. (See later for a description of these velocity fields.) The '`-v`' switch normally expresses velocity values as an **absolute** quantity in degrees per day that the object appears to have moved through the zodiac. This means that outer planets will generally always have lower values, e.g. although a velocity of 0.010 degrees/day for fast moving Mercury means it's about to turn retrograde, the same velocity value is normal for slow moving Pluto. As it is useful to know when a planet is about to change direction, the '`-v0`' switch will divide the actual velocity values by how fast each planet moves with respect to the Sun, meaning that all planets will have an average **relative** velocity value of 1.000, and in all cases, a velocity of 2.000 means the planet is moving twice as fast as normal, and one of 0.010 means the planet is about to turn retrograde.

Note: The '`-v0`' switch which expresses planetary velocities relative to average speed has a known incompatibility will cause some applying vs. separating aspect orbs to be inverted, i.e. displayed as applying when the reverse is true or vice versa. This affects app/sep aspect grids and aspect lists ('`-ga`', '`-ma`', and '`-D`' charts, but not the '`-T`' transit influence charts). This is because the velocities are used to determine applying vs. separating to see if one planet is overtaking another. The bug comes with the program thinking that, for example, Pluto moving 2 times faster than normal, will soon overtake Mars, slightly ahead of it in the zodiac, moving half normal speed. When the values are expressed as absolute speed, it's apparent that the outer planet Pluto always moves much slower than the more inner planet Mars even when Mars is moving half normal speed. This problem is at least not likely to come up much since only explicitly combining '`-v0`' with '`-ga`', '`-ma`', or '`-D`' will cause a problem.

`-w [<rows>]`: Display chart in a graphic house wheel format.
Display of the chart in a nice wheel format is supported using the '`-w`' switch. (If one of the houses gets too 'full' of planets, the planet will be put at the beginning of the next house.) The same chart header information as is at the top of the standard '`-v`' chart is printed in the middle of the wheel. In addition, the day of the week that the date falls on, as well as the Julian day corresponding to the date and time of the chart, is shown.

Note that this switch takes an optional parameter to specify the size in text rows of each house printed. By default this is four, but one may increase (realize this will make the chart require more than 24 lines to print) or decrease (don't know why you would want to, but you can) this value to their preference. The parameter may range from 1 to 10, and with this you can nicely generate a text wheel chart with all 87 objects in it, without overflowing all the houses.

`-w0 [..]`: Like '`-w`' but reverse order of objects in houses 4..9.

In the '`-w`' text wheel option, the objects in each house are printed from top to bottom in order from earliest in the house to latest. This looks good except for in houses 5..8 where this would appear backwards (e.g. a planet having just entered the 6th house from the 5th would be displayed right under the Descendant.) Therefore the objects from houses 4 through 9 are reversed and printed in order from bottom to top, making a more flowing looking wheel chart. If however, one always wants each house to be filled from its top to bottom regardless of which house, replace the '`-w`' with the '`-w0`' switch

`-g`: Display aspect and midpoint grid among planets.

Aspects and midpoint display are supported: Invoke as '`astrolog -g`' and a rectangular grid showing the midpoint locations for each planet, and showing if any aspects are present and how accurate they are, is displayed. The planets are labeled down the main diagonal of the grid, with the aspects to the lower left and the midpoints in the upper right. This is of course often used along with the '`-A*`' switches. Both the aspect orbs and midpoints are displayed to the nearest minute, and on the main diagonal (or edges if a relationship aspect grid) is displayed the sign and degree of the planet in question in addition to the planet name itself.

`-g0`: Like '`-g`' but flag aspect configurations (e.g. Yod's) too.

Search through the aspect grid for major aspect configurations, including Grand Trines, T-Squares, Grand Crosses, Yod's, Cradles, and Stelliums, with the '`-g0`' option. (In a Stellium, three objects must all be conjunct with each other.) This option will produce the same aspect grid that '`-g`' displays, but afterwards will go through the grid and list any of these aspect configurations and what objects are forming them. (Of course, to see any Yod's, one has to '`-A 6`' or more so that Inconjuncts will be included in the aspect grid.)

`-g0`: For comparison charts, show midpoints instead of aspects.

For relationship aspect grids, the '`-g0`' switch will display a midpoint grid instead of an aspect grid between the planets in the two charts e.g. '`-r0 chart1 chart2 -g0`'. (See later for descriptions of the relationship charts.)

`-ga`: Like '`-g`' but indicate applying instead of difference orbs.

Ability to determine whether an aspect is applying or separating (is about to happen or just happened) is included in the '`-g`' option. Normally the aspect orbs are flagged as being '`+`' or '-' based on whether they are greater or less than the exact amount (e.g. a 91 degree Square has a `+1` degree orb while a 89 degree one a -1 orb.) If one, however, invokes the '`-g`' option as '`-ga`' instead, an orb printed as 'a' will indicate an applying aspect while an orb with 's' a separating one. (To estimate applying vs. separating, the program examines the planetary positions and their relative velocities at the time in question.)

`-gp`: Like '`-g`' but generate parallel and contraparallel aspects.

Astrolog can do parallel and contraparallel aspects. Two planets are parallel when they have the same declination with respect to the equator, and are contraparallel when their declinations are the same amount but on opposite sides of the equatorial plane. The '-gp' switch will turn on the aspect grid just like the '-g' option, but will also set it so the grid contains parallel and contraparallel instead of normal aspects. This feature works for the '-g' aspect and relationship aspect grids, and the graphics versions of them. The graphic glyph for the parallel aspect is two vertical parallel lines, while the glyph for contraparallel are two sets of two lines crossing each other, like a tic-tac-toe grid. In '-gp' affected charts, the parallel takes the place of conjunction, and contraparallel the place of opposition; all aspect orb settings affecting conjunction and opposition will affect the '-gp' aspects in the same way. (Note that the best orb for parallel aspects is only a degree or so, hence the default conjunction orb will likely be too high, and should be decreased with the '-Ao' switch for '-gp' grids.) The '-A' and '-RA' aspect selection switches will also affect '-gp', but all aspects beyond the first two are ignored as only the parallel and the contraparallel aspect are considered.

`-a`: Display list of all aspects ordered by influence.

Aspects may be displayed in a nice ordered list, instead of only in the '-g' aspect grid. Use the '-a' switch and get a list of every aspect from the aspect grid printed out one per line. The order in which they are printed is based on the total 'power' in the aspect, i.e. the influence of the two planets in question, the aspect in question, and the orb. The same info and data from the '-j' influence charts (see later) are used here, so changing any default influences there will affect this ordering. The two planets are printed, the aspect they make, their orb, and then the power of the aspect used in ordering. Any power number more than 10 is a very major aspect. An exact Sun Moon conjunction can exceed 25. So, if you want to know, say, if that exact Mars Jupiter conjunction is more powerful than that wide Sun Moon sextile, try a '-a' chart and find out what Astrolog's opinion is.

`-a0`: Like '-a' but display aspect summary too.

This is just like the '-a' aspect list ordered by influence chart, except that summary information will be displayed afterward. The sum of all the aspect powers and their average is printed, the total number of aspects of each type is printed, and the total number of aspects to each planet is printed.

`-a[0]a`: Like '-a' but indicate applying and separating orbs.

This is a shorthand way to bring up the '-a' or '-a0' sorted aspect chart, with the aspect orbs shown as applying or separating, instead of positive or negative offsets to the exact aspect size. This is like how '-ga' does the same thing with the '-g' aspect grid switch. (To get the functionality of '-aa' without this, one can use the '-ga' switch itself along with '-a', and then include '-g' by itself again, e.g. '-a -ga -g', to toggle the aspect grid back off but leave the applying vs. separating setting on!)

`-a[0]p`: Like '-a' but do parallel and contraparallel aspects.

The '-a' aspect list can be made to list all parallel and contraparallel aspects if invoked as '-ap' or '-a0p', turning on the same flag as the '-gp' switch above. When in effect, the parallel aspect setting will also affect '-D' and '-T' transit influence charts, having them show their aspects in parallel too.

`-m`: Display all object midpoints in sorted zodiac order.

True midpoint charts are supported in addition to the midpoints that can be seen in the '`-g`' aspect grid. Use the '`-m`' switch and get a list of all midpoints printed out sorted in zodiac order. This will show both the actual midpoint location, as well as the angular difference between the two objects displayed to the nearest minute. So if you want to see, say, if any important midpoint is close to your Sun, this is a much easier chart to use than scrutinizing the midpoint/aspect grid.

`-m0`: Like '`-m`' but display midpoint summary too.

This is just like the '`-m`' midpoint list ordered by zodiac position chart, except that summary information for it will be displayed afterward. The average number of degrees spanned between each planet pair is printed, and the total number of midpoints in each zodiac sign is printed.

`-Z`: Display planet locations with respect to the local horizon.

The text display switch '`-Z`' prints out where each object is on the local horizon in terms of altitude and azimuth. For each object, the following is displayed: Its altitude on the local horizon from +90 degrees (straight up) to -90 degrees (straight down), and its azimuth from 0..360 degrees, where 0 = due east, 90 = north, 180 = west, 270 = south. To make visualizing the azimuth easier, an 'azimuth vector' with a N/S component and a W/E component is displayed, e.g. (1.00s 0.33w) means that the object is mainly south, with its true angle being formed by an vector component west that's 1/3 the strength of the south component, i.e. the object is about 18 degrees west of south. This along with the altitude should make it easy to physically point to where any planet is at any moment, making it easy to locate planets in the night sky. This feature can also be used to determine the times that a planet rises and sets. Also displayed are altitude and azimuth differences between each object and the Sun and Moon, first showing the number of degrees that the Sun/Moon is 'ahead' (or farther east in the zodiac) of the object in question, and then the number of degrees that the Sun/Moon is above the object in question. This feature can be used to roughly predict eclipses! Both the Sun and Moon span about 0.5 degrees in the sky, therefore if both the azimuth and altitude differences are < 0.5 (or 1.0 if the difference is between the Sun and Moon themselves) then the object in question is probably being occulted somewhat by the Sun/Moon. Note that there are three types of planetary position displays: Right ascension and declination showing the object's position with respect to the stars, longitude and latitude showing where on the Earth the object is straight up (as in the astro-graph zenith locations), and finally azimuth and altitude showing the positions of the object relative to the local horizon.

`-Z0`: Like '`-Z`' but express coordinates relative to polar center.

This will do a text chart just like the '`-Z`' local horizon switch above except that it will print the location of each planet in prime vertical coordinates, instead of altitude and azimuth. Prime vertical coordinates are measured with its 'azimuth' around the 360 degree circle, with 0 degrees due east on the local horizon, going down with 90 degrees straight down, 180 degrees due west and so on; declination 'altitudes' are measured with positive values toward the north and negative toward the south.

`-Zd`: Search day for object local rising and setting times.

One can display the rising and setting times of the Sun, Moon, and planets with this feature. Specifically, when this switch is included, the program will, for the entire day specified in the chart information, display whenever a planet rises (specifically conjuncts the local horizon while in the eastern hemisphere), sets (conjuncts horizon in west), reaches its zenith point (or specifically conjuncts the meridian while in the southern hemisphere, i.e. is due south from the observer), and reaches its nadir point (conjuncts meridian in north). Note that some stars may be high or low enough that they will never rise or set, but instead will just 'zenith' or 'nadir' twice in a day as they spin around the pole.

`-S`: Display x,y,z coordinate positions of planets in space.

Solar system space based charts are available with the '`-S`' switch, which give the astronomical positions of each planet in terms of x, y, and z coordinates. Although not directly useful astrologically, it does give one a good view of how the planets actually were positioned at the time in question. For example, normal astrology doesn't make the distinction between the four different 'forms' of say, a Mercury Venus Conjunction, i.e. they can either be Conjunct on the near side of the Sun, Conjunct on the far side of the Sun, or one can be on one side and the other on the other side. When the chart is actually displayed, for each body the following information is printed: The relative angle of the planet with respect to the central body, i.e. its zodiac position converted to the appropriate number from 0..360. This is followed by the x, y, and z coordinate positions of the object, in astronomical units from the central body. The x-axis increases in the direction of 0 degrees Aries (tropical zodiac), the y-axis increases in the direction of 0 degrees Cancer, and the z-axis is with respect to the Earth's orbit (meaning that the Sun and Earth always have a z-axis value of 0.0). Finally the overall length from the central body in AU is printed, which is just the diagonal as indicated by the x, y, z vectors. (The Earth and Sun are of course always about 1.0 AU from each other.) The Moon circles the Earth and isn't a part of the solar system proper; therefore, it is never in these charts. The '`-e`' everything option will include this chart in its listing of all the chart displays. (Note that the Earth doesn't have a formal object index of its own. Hence there's no real way to directly restrict it from these '`-S`' space charts either in text or graphics format. Only the '`-R0`' (and '`-R1`') restrict everything switches will affect this body, as they do all the others.)

`-j`: Display astrological influences of each object in chart.

Another chart type is available – interpretation of influences. This is the simplest part of the general interpretation ability of the program. What this part does is calculate the relative 'power' of each planet's placement, giving a general idea of the prominent areas of a chart. When such a chart is printed, each planet is given a point value, larger numbers indicating more strength. Each planet's strength is divided between two fields: the positioning in and of itself, and the power of the aspects it makes with the other planets. In addition to each field, the total of these two areas is printed, as well as the relative percentage of the planet in question with respect to all the planets combined. Each planet gets a ranking for its positioning, aspects, and total power as well, with the strongest getting #1, the next strongest #2, etc. The '`-e`' option will include this chart along with all the others as well in it's listing of all the chart displays.

To determine the strength of the positioning of a planet, various things are taken into account: 1) The power of a planet in and of itself, e.g. the Sun and Moon are more powerful then the other planets. 2) The house placement of a planet, e.g. a planet in the 1st house is more powerful than one in the 2nd. 3) Whether a planet is in the sign it rules or is exalted in, e.g. Jupiter in Sag results in more power to Jupiter. 4) Whether a planet is in the house corresponding to the sign it rules or is exalted in, e.g. Jupiter in the 9th house. 5) Planets get more power if the signs they rule are occupied, e.g. a bunch of stuff in Aquarius gives more power to Uranus. 6) Planets get more power if the houses they rule are occupied, e.g. a bunch of stuff in the 11th house gives power to Uranus. 7) Finally, planets get power according to what houses the cusps of which fall in the signs they rule, i.e. the ruler of the Ascendant (and to less extent the Midheaven, and so on) gets lots of influence. Determining the strength of a planet's aspects is much easier, and is basically composed of the sum of the strength of each aspect the planet makes. Taken into account are: 1) The influence of the planet being aspected to, e.g. Sun conjunct Jupiter gives more influence to Jupiter than Mercury conjunct Jupiter would. The planet's placement as described above plays a role, too, e.g. Venus opposition Mars in Aries gives more influence to Venus that it would be if Mars were in Taurus. 2) The influence of the aspect itself, e.g. Oppositions are more powerful then Sextiles. 3) Finally the orb of the aspect, i.e. exact aspects are more powerful than wide ones. (The influence of the orb varies linearly from max power at exact to zero power at the limit of the orb – sorry Maggie M. and Mark K. – no complex aspect wave functions, at least for this version :)

Special thanks goes to Mark K. who initially presented this idea of interpreting overall influences to me. I basically just took his ideas, polished them a bit, and put it into the code. Interestingly, while programming this feature, I had a dream about him, in which he elaborated upon some of the ideas and even gave me suggestions for some of the planets' default power values (astral visitation?) And, while on the subject, I've had a couple of other Astrolog dreams; I had one neat one while working on the '`-h`' feature (described later) about a far distant future version of Astrolog that could actually teleport one to the places which they cast charts for :)

`-j0`: Like '`-j`' but include influences of each zodiac sign as well.

The '`-j`' planet influences in a chart feature can be expanded to include signs as well. Invoke it as '`-j0`' instead of just '`-j`', and in addition to getting the influence of each planet in a chart, one will get the influence of each sign in the chart as well. To determine sign influence, we use the planet powers already determined; a sign gets influence if: (1) There is a planet in it, (2) there is a planet in the house it corresponds to, and (3) if any planet that rules or co-rules it is in the chart. For example, with my 11th house Venus in Sagittarius, for me: (1) Sagittarius gets more power because Venus is in it, (2) Aquarius gets more power because Venus is in the 11th, and (3) Libra and Taurus get power because Venus itself rules these signs. The exact power given is based on the total influence of Venus already determined. Any sign that has over about 175 points or 20% of the total is a really powerful and a fundamental part of the psyche. We also sum up the influences of all the signs (which will logically total up to the sum of all the planets), and display the influence of each element as well, and each mode as well, all this being perhaps a more accurate version of the element table in the '`-v`' chart.

`-L [<step>]`: Display astro-graph locations of planetary angles.

The '`-L`' option will take the standard chart information and generate the astro-graph positions of the planets. In other words, this does the exact same thing that Jim Lewis' Astro*Carto*Graphy maps do. It will display the longitude of where on the Earth at the time in question each object was on the midheaven and on the nadir, and the latitude of where the planets actually appeared at zenith. Also, for latitude increments of 5 degrees, the longitude of where the objects appeared on the ascendant and descendant is displayed. For text screens, one can pass an optional parameter to this '`-L`' (or '`-L0`') option to change the default latitude step rate at which the Ascendant and Descendant lines are computed. Again, this value is by default 5 degrees, although one can may increase or decrease it to any integer (subject to the restriction that the number 160 is divisible by it.)

`-L0 [..]`: Like '`-L`' but display list of latitude crossings too.

Determination of latitude crossing points is included in the astro-graph routines! The '`-L0`' option will do the same thing as the '`-L`' option, except that after displaying the longitude and latitude locations of the Asc/Desc/MC/IC lines, it will then search among the lines and display (in order from farthest North to farthest South) the latitude of any points where lines cross each other. This includes the curvy Asc/Desc lines crossing the straight MC/IC lines as well as cases where different Asc/Desc lines cross themselves. And unlike Jim Lewis' Astro*Carto*Graphy, Astrolog will also display the longitude of the crossing (useful for Asc/Desc crossings) in addition to the latitude (as well allowing more planetary bodies to be included in the scan, and going farther North and South than Jim Lewis' printouts go.) Note however, that there is presently a small (very rare) minor omission glitch in the code, where if a crossing is within a couple of degrees of 180 deg W/E, it may not be displayed.

`-K`: Display a calendar for given month.

The '`-K`' switch generates a simple calendar for the month specified in the current chart. This is a standard type of chart generatable from a date so the '`-e`' everything switch includes this '`-K`' chart along with all the others. Note that this is technically a non-astrological chart, but generic calendars are useful and easy to generate with all of Astrolog's date determination features, so the option to create them using Astrolog is included. The calendars are compact, with one text row per week. The day specified in the current chart will be highlighted in green assuming '`-k`' ANSI color is active, e.g. '`-n -K`' will generate a chart for this month, with the number of today's date highlighted.

`-Ky`: Like '`-K`' but display a calendar for the entire year.

The '`-Ky`' switch is just like '`-K`' except that it will generate a calendar for the whole year. All twelve months will be displayed on the screen, each just like the individual monthly calendars above but printed in four rows of three months each.

`-d [<step>]`: Print all aspects and changes occurring in a day.

The '`-d`' option will take the standard chart information, and for the day in question, display the exact times of all aspects that occur. This is just like the aspects-per-day as displayed in Jim Maynard's Celestial Guide books. (Displayed in local time as defined by the default zone, with accuracy based on the searching divisions setting, described below.) This will tell any time two planets make aspects with each other, a planet changes its sign, or a planet goes retrograde or direct. Both the '`-d`' (and '`-t`' listed later) options will display the signs that any planets aspecting each other are in, in addition to the aspect itself (e.g. instead of just 'Jupiter Trine Uranus', we have `Jupiter (Vir) Tri (Cap) Uranus`. If a particular object is going retrograde, then its sign will be displayed in brackets instead of parentheses, and if an object is about to or has just gone retrograde or direct, then its sign will be in `<>`'s.

This switch accepts an optional accuracy parameter, a value which tells how many 'segments' we should divide each day or whatever, when doing these aspect searches. More segments is slower but can be more accurate by a few minutes. This command line change of the step rate can also be done for other charts such as the '`-t`' transit search by using the switch toggle feature to turn '`-d`' off but still leave the divisions value set, e.g. '`-d 100 -d -t`' will set the value to 100 but not actually display the '`-d`' chart. Or better yet just use the colon switch prefix to not affect the '`-d`' setting at all, e.g. '`:d 100 -t`'. In general, I suggest this value be set to 24 for Unix systems and 8 for PC's, but it is easy to experiment to see what is best for the speed of your computer. One may increase this value up to 2880 (if they don't mind the wait) which will mean a chart every 30 seconds for '`-d`' aspect in day charts and one every 15 minutes for '`-t`' transit search charts.

`-dm`: Like '`-d`' but print all aspects for the entire month.

The '`-d`' option can search the entire month for aspects between planets if one so desires. Specifying it as '`-dm`' instead of just '`-d`' will go through the entire month instead of just the current day. (Combining this one with '`-R`' allows searching for important aspects, sign changes, etc.)

`-dy`: Like '`-d`' but print all aspects for the entire year.

The '`-d`' option can search the entire given year for events as well, if it's specified as '`-dy`' instead of just '`-d`' or '`-dm`'.

`-dY <years>`: Like '`-d`' but search within a number of years.

The '`-d`' search may also do a range of years all at once. Invoke the switch as '`-dY`', and give a parameter indicating the number of years to span, and it will be done, starting with the year in the current chart. For example, to display the times of all New and Full moons for the rest of the century (1995 through 2000), do '`astrolog -n -dY 6 -R0 sun moo -A opp`'. (This is similar to the '`-EY`' and '`-tY`' features which also allow doing a range of years in addition to a single year or month.)

`-dp <month> <year>`: Print aspects within progressed chart.

Another progression feature allows determining aspect times of progressed planets among themselves. The '`-dp <month> <year>`' switch will, like the '`-d`' option, display times of aspects and sign changes, for the time around the chart in question, except that they will be progressed throughout the month specified. Progressed planets move very slowly ('year for a day') so therefore there will usually be, if any, only a couple of aspects in a given month. Also, since they move so slow, the accuracy is cut down, so the dates given are probably only accurate about to the nearest day, in spite of the times given to the minute. Note that Astrolog can scan for aspects of: transiting planets among themselves ('`-d`' switch), transiting planets to natal planets ('`-T`' switch), progressed planets to natal planets ('`-Tp`'), and progressed planets among themselves ('`-dp`'). Only thing Astrolog can't directly do is do progressed planets to transiting planets, although that may change in a future version :)

`-dpy <year>`: Like '`-dp`' but search for aspects within entire year.

Since progressed planets move so slow and only a few aspects in a progressed chart will appear each month, one might want to instead scan the whole year. To do this, use the '`-dpy`' switch, which takes only one parameter for the year. This switch is consistent in format to how with the '`-T`' and '`-E`' switches one specifies an entire year.

`-dpY <year> <years>`: Like '`-dp`' but search within number of years.

Related to above, the '`-dp`' option may also be done for a range of years. Invoke the switch as '`-dpY`', and pass in not only the year to search within as with '`-dpy`', but the number of years to scan from then. For example, do display the times of all aspects within your progressed chart for the next decade, do '`astrolog -i yourchartfile -dpY 1995 10`'.

`-dp[y]n`: Search for progressed aspects in current month/year.

The '`-dp`' progression event search option can be invoked as '`-dpn`' to search the current month, or '`-dpyn`' to search the entire current year. For example, if I want to search for the exact times of all aspects in my natal chart, progressed to any time this month, I simply do '`-i mychartfile -dpn`'.

`-D`: Like '`-d`' but display aspects by influence instead of time.

This switch will display a chart listing all aspects in effect within the chart in question, in order by influence based on their power when transiting. This chart focuses upon and gives precedence to aspects of outer planets with each other, as opposed to common inner planet configurations. For example, at the time in early January 1994 the most influential aspects in effect were the Uranus Neptune conjunction and the Saturn Pluto square. This chart is very much like the format of the '`-m0`' aspect list chart, except that we are using the transit as opposed to natal influences of the planets. The '`-m0`' chart is most appropriate for a person's natal chart, in that the inner planets are focused upon, such as a Sun Moon square will be near the top of the list. This '`-D`' chart is more appropriate for times as opposed to people, since it focuses upon rare outer planet configurations. This chart is also very similar to the '`-T`' transit influence chart, in that it shows the aspect, applying or separating orb, and power of the event with its present orb, except that this does influences of transiting planets among themselves as opposed to aspects to a natal chart. If you want to see what major events are coming up, and don't want things such as Uranus Neptune conjunctions to 'sneak by', use this chart and watch the configuration gradually rise to the top of the list as its orb narrows over time. This chart may be combined with others and is included in the '`-e`' everything switch.

`-E`: Display planetary ephemeris for given month.

The '`-E`' option will generate a quick ephemeris of the planet positions each day for the month indicated in the given chart, as taken from the standard interface. This is useful if you just want to see an overview of what's happening some month in the sky. Any dots after a planet location in the list indicate the planet was retrograde at the time that day. For example, to see the ephemeris for someone's birth month, one can do the convenient '`-i chartfile -E`', or to see the ephemeris for this month, do '`-n -E`' (see '`-i`' and '`-n`' options later).

Note: The ephemeris listings obtain the time (and time zone) to cast each day's chart for (e.g. noon, midnight) from the chart information given it, instead of always defaulting to something like midnight in the default time zone. This is a bit more flexible since one may want to specify a noon or 6:00am or whatever ephemeris which wouldn't be possible otherwise. The '`-qm <month> <year>`' switch (see later) always uses midnight for the time and the default for the time zone, so when using this switch with '`-E,`' the results will be a midnight ephemeris in this default zone. However, something like '`-i yourchart -E`' to do an ephemeris for your birth month will display the positions each day at your birthtime instead of at midnight.

`-Ey`: Display planetary ephemeris for the entire year.

To display an ephemeris for all twelve months in an entire year, invoke the '`-E`' switch as '`-Ey`'. For example, to get an ephemeris for all of last year, one can do '`-qy 1992 -Ey`' (see '`-qy`' and '`-qm`' options below).

`-EY <years>`: Display planetary ephemeris for a number of years.

The '`-E`' ephemeris list feature may also do an ephemeris for a range of years all at once. Invoke the switch as '`-EY`', and pass a parameter indicating the number of years to span with the ephemeris, and it will be done, starting with the year in the current chart. For example, to do an ephemeris for all this century from 1900 through 1999, do '`astrolog -qy 1900 -EY 100`'.

`-e`: Print all charts together (i.e. '`-v-w-g0-a-m-Z-S-j0-L0-K-d-D-E`').

There are thirteen main different formats of chart display available: The standard listing of planet positions which you get without any switches or with the '`-v`' option, the house wheel you get with '`-w`', the aspect/midpoint grid you get with '`-g`', and the charts generated with the '`-a`', '`-m`', '`-Z`', '`-S`', '`-j`', '`-L`', '`-K`', '`-d`', '`-D`', and '`-E`' switches. The '`-e`' 'everything' option will display the chart in all thirteen of these formats for about 1200 lines and 75K bytes of text! Note that one can even include the '`-t`' and/or '`-T`' transit options below and include yet a couple more chart formats in the list (however transits require a time parameter to do transits for so they aren't really a single chart display and hence aren't included in '`-e`' by default).

`-t <month> <year>`: Compute all transits to natal planets in month.
The '`-t <month> <year>`' option will scan the entire month specified, and print out any transits that happen, in that month, to the planet positions as listed in the current chart, as taken from the standard interface. There will be quite a few, even though fast moving objects like the Moon aren't looked at by default (unless specified in the default parameter file or with the '`-RT`' switch), so you might want to use this with the '`-R`' option to limit this to just certain planets. (The times are displayed in the local time zone, and are generally accurate to within a half hour or so; Try doing it for your birth month and your own chart – All planets should conjunct their natal positions at about the time of your birth.) To determine transits to natal house cusps other than the Asc and MC, i.e. when does a planet change house in your natal chart, include the '`-C`' switch described later. See the '`-RT`' option, as well as the 'smart cusps' default, described later, for options which directly affect this feature.

`-tp <month> <year>`: Compute progressions in month for chart.
Determining dates of transits of progressed planets to natal planets can be done with the '`-tp <month> <year>`' option. This is just like the '`-t`' option, except that the exact aspects of progressed planets (rather than transiting planets) to the planets in the chart are displayed. Progressions occur much less often than transits, and there will only be a few, if any, in a given month, so one might to invoke this as '`-Tpy`', as described below.

`-t[p]y <year>`: Compute transits/progressions for entire year.
To display transits for an entire year, invoke the '`-t`' switch as '`-ty`' ('`-tpy`' for progressions), which only takes one parameter, the year. For example, '`-i chartfile -ty 1995`'.

`-t[p]Y <year> <years>`: Compute transits for a number of years.
One may also search an arbitrary number of years at once for transits. One uses the '`-tY <year> <years>`' switch like the '`-ty <year>`' switch above, except that '`-tY`' takes an extra parameter for how many years to search. For example, '`-tY 1995 10`' will search the ten years from 1995 through 2004 for whatever transits. With a negative value for the years to scan, it will start that many years before the given year, e.g. '`-tY 1994 -10000`' will scan the previous 100 centuries for transits, starting with 8005 B.C.! Note that this switch may also be invoked as '`-tYn <years>`', in which case it will start from the current year and be an equivalent shorthand to '`-tY 1995 <years>`' for this year at least.

`-t[py]n`: Compute transits to natal planets for current time now.
This feature is a quick shorthand way to generate transits for the current month. For example, instead of '`astrolog -i chartfile -t 1 1995`', one can do '`astrolog -i chartfile -tn`'. To do transits for the entire current year, invoke it as '`-tyn`'.

`-T <month> <day> <year>`: Display transits ordered by influence.

The '`-T`' switch is a transit influence chart. Given a date, it will take the transiting planets on that date, and determine how they interact with the generic natal chart specified with '`-i`' or however. The information will be printed as a list of transits, sorted in order from most significant to least significant. For each transit in effect, the transiting and natal planets (and the signs they are in) are displayed, along with the aspect and the orb, and whether the transit is applying and going to happen in the future, or just passed exactness and the orb is separating. The computer computed power value of each transit will be printed too – anything over 100 is a very major transit. Any transit that's a return, i.e. a transiting planet conjuncting the same one in the natal chart, will be flagged with a capital '`R`' at the end of the line.

The things which affect how Astrolog computes the influence of a transit are: The power of the object that's doing the transit, e.g. transiting Pluto conjunct your natal Ascendant is much more powerful than the transiting Moon conjunct your Ascendant. The power of the object being transited affects the power too (but not as much as the transiter) e.g. Jupiter transiting your Sun is more powerful than Jupiter transiting an asteroid. Finally, the orb plays a role as well, in that a transit that will be exact in a couple of days from the given date passed to '`-y`' is more powerful than one won't be exact for another month. Note that the power of a planet when transiting is different than its influence in the natal chart: Although Sun conjunct Moon is more powerful in a natal chart than Saturn conjunct Moon, when transiting, Saturn transiting Moon is much more influential than Sun transiting Moon. Hence there are two lists of object influence values in the '`astrolog.dat`' file (described later) that can be customized. There's the generic list of standard influences (which have items like Sun, Moon, and Ascendant most powerful), and a parallel list of transit influences (which have the slower moving bodies the most powerful).

This switch is in compliment to the '`-t`' transit search list, and you may find this one more useful. The '`-t`' chart prints the times when a transit is exact, which is useful to know, but doesn't really help when you want to know when a transit enters orb enough to be significant, and it won't flag a major year long transit that will be exact next month, listing it among a bunch of less significant aspects for the following month. With '`-T`', you can see a major transit first enter orb at the bottom of the list, and then slowly rise to the top as it becomes more exact through the days. And you can answer the question as to which is more influential: say an exact transit of Mars to a minor house cusp, or a major transit of Saturn to an angle that's still a month away from exactness.

Also notice the resemblance between '`-T`' and the '`-r0 -m0`' combination. Both display aspects ordered by influence. In fact, '`-i chart -Tn`' will look almost identical to '`-y chart -m0`', except that '`-T`' is designed and formated for doing transits to a particular chart. (Doing '`-T`' will always use applying vs. separating orbs, generate powers using the transit influences, and allow the transiting and natal planets to be restricted separately with '`-RT`' and '`-R`'.) Astrolog allows transit charts to be done between transiting planets and natal planets, as well as charts among transiting planets to themselves, both of which can be expressed as searches for exact times, or displays of influences of each aspect at a particular time, as summarized in the following organized list:

- `-t` switch: Display exact times of transits to natal planets.
- `-T` switch: Display influences of transits to natal planets.
- `-d` switch: Display exact times of aspects among transiting planets.
- `-D` switch: Display influences of aspects among transiting planets.

`-Tp <month> <day> <year>`: Print progressions instead of transits.

The '`-T`' transit influence switch can also (like the '`-t`' transit search) display all aspects between progressed planets and natal planets in influence order, if it's invoked as '`-Tp`' instead of just '`-T`'. This works like '`-T`' in every way except that a switch combination like '`-i mychart -Tp 1 31 1995`' will display aspects between my natal planets, and those in my natal chart progressed to the end of the month, and their influence and orbs at that time, instead of between my natal planets and the actual positions of the planets at the end of January.

`-T[p]n`: Display transits ordered by influence for current date.

The '`-Tn`' switch is a shorthand way to pass the current date today and time now to the '`-T`' switch. If you want to see what transits are most affecting your natal chart presently, just do '`-i yourchart -Tn`'.

`-P [<parts>]`: Display list of Arabic parts and their positions.

Astrolog has the ability to display the positions of 177 Arabic parts! The `ARABIC` compile time option in '`astrolog.h`' may be commented to leave this feature out if you don't want it. Display a chart with the '`-P`' switch to show each part and its position, one per line for the chart in question. The listing contains five columns: First is the full name of the part, i.e. the part of whatever. Second is its position in the zodiac (which will be shown to the nearest arc second when the '`-b0`' setting is active). Third is the house the location falls in.

Fourth is the formula used to compute the part, given so one knows what the program is doing and to aid in interpretation. The formula is expressed in the form <term1> - <term2> + <term3>. Also included is a flag indicating whether the formula should be flipped for night births, i.e. charts where the Sun is below the horizon in houses 1 through 6. For night charts where the flip status is 'Y', the real calculation done is <term1> + <term2> - <term3>. Each <term> consists of an 'object' plus a 'modifier'. The object is usually given as the abbreviation of a planet, or it may be a number from 1 to 12 indicating that house cusp. The object may also be '`For`' or '`Spi`' meaning it's the position of the Part of Fortune or Part of Spirit, or it may reference an actual degree in the zodiac. The modifier indicates how to get the actual position of the term from the object. It's usually blank meaning the term is just the position of the object. It may be '`H`', meaning the term is the location of the house the given object is in; it may also be '`R`', meaning the term is the location of the planet ruling the house the given object is in; it may be '`D`', meaning the term is the location of the planet that's the dispositor of the given object, i.e. ruler of its position; or it may be '&', meaning the term is 10 degrees beyond the position of the given object.

The last column is the 'type' of Arabic part. Most parts are normal psychological indicators like the Part of Fortune, and don't have anything listed here. Seven parts reference elements and weather and are used for charts cast at the time of equinoxes, solstices, and New and Full moons, and are indicated by `Evnt`. 21 parts reference crops and are parts used in the commodities market for prognostication, and are indicated by '`Comm`'. Finally 16 parts are specially used for Horary questions and are indicated by '`Hora`'.

The '`-P`' switch accepts an optional parameter to indicate how many of the Arabic parts to show. When given, only the first 'n' parts will be displayed. As the special part types are shown after all the standard ones, this may be used to restrict parts you don't care about. For example, '`-P 161`' will leave off the horary parts, '`-P 140`' will leave off the horary and crop parts, and '`-P 133`' will leave off the horary, crop, and event parts. Related to this, standard '`-R`' object restrictions will affect the parts shown; if a planet is restricted, than any parts referencing it in its formula will be left out.

`-P0 [<parts>]`: Like '`-P`' but display formulas with terms reversed.

If the '`-P`' switch is invoked as '`-P0`' (or '`-Pz0`', etc) the output will be identical to before, except that the formula column will exchange the positions of the second and third terms, i.e. instead of showing as <term1> - <term2> + <term3>, '`-P0`' will show <term1> + <term3> - <term2>. This isn't too useful in itself, unless combined with '`-Pf`' below, where '`-Pf`' and '`-Pf0`' sort differently giving different terms priority. Here's how to conceptualize formulas: if the planets were rotated through the zodiac so that object2 is at the position of object1, then the new position of object3 is the part. For example, with the Part of Fortune being Asc - Sun + Moo, if you rotate your chart so that the Sun is on the Asc, then the Moon's position is the POF, Mercury's position is the Part of Commerce, its formula being Asc - Sun + Mer, and so on. The default '`-Pf`' sorting allows one to easily see, if one rotates this planet on the Asc, what parts indicate the positions of the other planets. The '`-Pf0`' ordering allows one to easily see, where is the position of a particular planet, after all rotations where some other planet is on the Asc.

`-P[z,n,f]`: Order parts by position, name, or formula.

As with the fixed stars, the Arabic part listing may also be sorted in various useful orders. Invoke the '`-P`' switch as '`-Pz`' and they will be displayed in order of position, with parts in Aries first and Pisces last. Invoke it as '`-Pn`' and the parts will be sorted by name, with the part of Accomplishment first and Worldliness last. Finally, invoke it as '`-Pf`' and they will be ordered by formula, where the ordering reflects the contents of each term, with Ascendant and early planet terms first, and cusp and other special ones last. Note that regardless of the ordering, passing a value to '`-P`' will still leave off the same parts as in the standard display. Especially with '`-Pz`' and '`-Pf`', notice that several parts may have the same position. Some formulas differ only in their night flip flag, meaning they will be the same for day charts, while a few parts of different category types can even have the same formula period.

`-I [<columns>]`: Print interpretation of selected charts.

The '`-I`' display an interpretation option is a powerful, expansive feature to generate interpretations of many of Astrolog's charts. Simply include the '`-I`' switch to get an interpretation of any particular type of chart that the program would display otherwise. If Astrolog doesn't support interpretations for it, the normal chart will be shown instead.

For example, A brief interpretation of the meaning of the positioning of each planet in its sign and house is supported when the '`-I`' switch is invoked with '`-v`' (or by itself since '`-v`' is the default). If one does this, then instead of the standard '`-v`' listing of planet positions, the positions will be listed with a brief interpretation of what they mean. I have to say that this is a pretty limited version of interpretation, being nothing more than a combining of phrases representing the planet, sign, and house in question; nevertheless, people who don't know how to interpret charts might find this to be of use (or at least amusing. :)

Another common interpretation one would want is the ability to give a brief interpretation of each aspect in the aspect grid. When the '`-I`' switch is combined with '`-g`', the standard '`-g`' aspect grid will be replaced with a list of each aspect occurring and a brief listing of what it means. Again, this is mainly just a lookup of the general meanings of each planet and the aspect in question, but still might be found of interest by some. (**Note:** only the first 11 aspects, out to the Bi-Quintile, can be considered.)

Synastry relationship charts may be interpreted too, with the '`-r -I`' combination. Actually, they could be technically interpreted without any special code, since the output of a synastry chart is a technical 'chart' with planet and house positions, but it would just be an interpretation of Person2's planets in Person1's houses as if that were a natal chart. This interpretation feature recognizes charts generated with '`-r`' as synastry charts and interprets them appropriately. For each of Person2's planets, the interpretation of how and where it affects Person1 is displayed.

Eight more interpretations just as useful can be done:

1. `-r0 person1 person2 -g -I` is a legal combination, and will display meanings of aspects between planets in two charts in a relationship aspect grid.
2. `-i person -m0 -I` is legal, and will display the meanings of aspects in a chart; this is like '`-g -I`', but the aspect meanings are printed in sorted order based on how powerful Astrolog thinks each aspect is, so this is probably more useful.
3. `-r0 person1 person2 -m0 -I` is legal, and will display the meanings of aspects in a relationship aspect list, like '`-r0 -g -I`', but in the improved sorted order.
4. `-d -I` is legal, and will display the meanings of aspects among transiting planets occurring during a day, as well as of sign and direction changes.
5. `-T -I` is legal, and will display the meanings of aspects from transiting planets to natal ones.
6. `-y -I` is also legal, and will display the transit interpretations in sorted order by influence. Finally,

7. `-m -I` is a legal combination, which will do an interpretation of a midpoint chart, printing each midpoint in the same order as without the '`-I`', but with each midpoint as an interpretation sentence instead. Relationship midpoint charts may be interpreted in the same manner using the '`-r0 person1 person2 -m -I`' combination.

This interpretation toggle switch accepts an optional parameter to specify the number of screen columns in which to format the interpretation paragraphs, i.e. what column to break lines at when formatting and printing. One may change this from the default of 80 to accommodate narrower or wider screens or printers.

2.4 How The Chart Parameters Are Obtained

`-n`: Compute chart for this exact moment using current time.

For those with systems who can handle time calls (If your system pukes on trying to compile them, simply comment out the `#define TIME` line at the beginning), the program supports displaying the chart for the time at the current moment! In other words, invoke as '`astrolog -n`' and see where the planets are right now. (This is fun – the house cusps change 1 minute about every 4 seconds!) You will need to change the `#defines` for the default longitude and latitude in '`astrolog.h`', or else specify where you are explicitly by using the '`-l`' switch to change the default location. To figure out the time zone, the program uses the default value in the '`astrolog.dat`' file or as defined in the `DEFAULT_ZONE` constant set at compile time.

Note that the default time zone setting or passing values to '`-z`', won't affect the positions of the planets, as expected since they are where they are 'now' no matter how time is expressed. The default zone is merely used to determine what to express the local time to when displaying the current time. It is important however to realize that the time zone setting on your system can affect the actual raw time the program gets internally for 'now'. If the '`-n`' switch seems to always generate times an hour or more off to what you have your time zone set to, it's likely that your time zone environment variable is uninitialized or set incorrectly. You will need to set the '`TZ`' environment variable, setting it to a value such as '`xxxnyyy`', where '`n`' is the hours your zone is before GMT, '`xxx`' is a three character string indicating the abbreviation of the zone (required, but doesn't need to be set to anything more than '`xxx`' if you prefer) and '`yyy`' is the abbreviation for the zone when/if ever in Daylight Time. For example, if running Astrolog on a PC in Eastern Time, put the line `set TZ=EST5EDT` in your '`AUTOEXEC.BAT`' file.

`-n[d,m,y]`: Compute chart for start of current day, month, year.

These switches are like the '`-n`' generate chart for current moment now feature, except that they will respectively generate charts for the midnight on the current day, midnight on the first of the current month, and midnight on the first day of the current year.

-z [<zone>]: Change the default time zone (for '-d-E-t-q' options).

The '-z <value>' option can be used to change the default time zone to the value in question. For example, you can force the '-E' ephemeris and '-t' transit lists to be displayed at midnight GMT time instead of the local time with '-z 0'. If Daylight time is in effect, you should set the separate Daylight time default below. Note that one can technically get by without changing the Daylight setting, by subtracting one from the time zone itself, e.g. for EST where the time zone is '5', you can do '-z 4' or '-z EDT' during Daylight time to properly display transits, aspects in day, and other lists in the local DST zone.

Normally the '-z' switch takes an argument which will then become the default time zone. If one, however, invokes it by itself, it will subtract one hour from whatever the default time zone presently is. This is useful since it is equivalent to adjusting any times printed to Daylight time, i.e. it will add one hour to any times displayed. Again, this is archaic as it's better to just use the '-z0' switch below. Without the '-z0' setting, when entering the birth time for charts, one would have to subtract one hour if Daylight time were in effect, or subtract one hour from the time zone which will do the same thing. For example, over here on the West Coast, I have my default time zone compiled to be '8'; when Daylight time is in effect here, I can do '-z 7' or just '-z' to decrease the default time zone when I make say a '-t' transit list, which will in effect add one hour to the local times displayed, or in effect 'Spring ahead' the clock for me. (For a better way of adjusting Astrolog for Daylight time without having to specify '-z' all the time, recompile the program, or add one hour to times in your head, use the 'defaults' file described later to edit the default time zone or the Daylight setting.) Remember that the '-z' (and '-zl') switches should be before any other switches they modify (such as '-n') in order for the new default to take effect.

-z0 [<offset>]: Change the default daylight time setting.

This switch sets the contents of the default Daylight time setting, and sets the value in the current chart as well, taking one optional parameter. When present the parameter will be used for the Daylight hour offset, which will almost always be '0' or '1', but can technically be set to something else for Daylight offsets that 'Spring ahead' amounts other than one hour. When omitted, the '-z0' switch will toggle the Daylight setting on and off between 1 and 0.

-zl <long> <lat>: Change the default longitude & latitude.

Similar to the '-z' switch, the '-zl' option can be used to change the default compile time world coordinates used in certain options, such as the '-n' cast chart for right now switch. Note that both the '-zl' default longitude and latitude, and the '-z' default zone switches affect the time and location of the current chart in memory in addition to the default setting. Confusion could result otherwise if changing a default after chart info was already obtained, e.g. '-z -n' would be different from '-n -z', where the latter wouldn't change the zone for the chart because it was seen after the '-n' was processed and the old zone used. The correct thing will happen regardless of ordering. This means you can easily do a relocated chart with this

'-zl' switch, e.g. '-i yourchart -zl 122W20 47N36' will cast your chart relocated to Seattle.

-zt <time>: Set only the time of current chart.
This simple switch will set the time and only the time of the current chart in memory to the given value. For example, to cast a chart for 3:00pm today, do '-n -zt 3:00pm'. Without this one would have to cast a whole new chart using the '-q' switch and respecify the month, day, and year. Note that placement of this switch is important, as any other switch after it which also sets a time will clobber the setting, e.g. '-zt 3:00pm -i chartfile' will be the same as just '-i chartfile' because the file has its own time value.

-zd <date>: Set only the day of current chart.
This is just like the '-zt' switch above except that it takes one parameter for and sets the day of the current chart. For example, to see the aspects taking place on the 15th of the current month, do '-n -zd 15 -d', which does the chart for the current month and year but the day scanned is the 15th instead of the current day.

-zi <name> <place>: Set name and place strings of current chart.
This switch sets on the command line the contents of the name and city string fields of the current chart. Note that this switch is actually put into present style chart info switch files generated with '-o' to reload the name fields. You can convert an old style file created before version 4.20 to new style and add in the name fields for it with: '-i file -zi "the name" "the city" -o file'. (Note that you may also want to correct the time or time zone if Daylight time was in effect though.)

-q <month> <date> <year> <time>: Compute chart with defaults.
The '-q <month> <date> <year> <time>' option takes the four parameters and casts a chart for the time in question. The time zone and location are taken from the default compiled values. This is just yet another useful shorthand way to quickly make a chart. Note that the '-qa' option which takes all seven chart parameters can be duplicated with '-q' along with the '-z <zone>' and '-l <long> <lat>' options.

-qd <month> <date> <year>: Compute chart for noon on date.
The '-q <month> <day> <year>' option can be used to cast a quick chart for 12 noon on a particular date, using the default longitude and latitude, and time zone. One example where this is useful is with the '-d' option, e.g. to see the times of exact aspects on a particular date, like your next birthday, your finals, etc, without having to specify unnecessary data. Note that this is just like the '-q' switch except that '-q' requires a specific time on the day in question as well.

-qm <month> <year>: Compute chart for first of month.
-qy <year>: Compute chart for first day of year.
A quick chart cast for midnight on the first of a month can be generated with the two parameter '-qm <month> <year>' switch. A chart cast for midnight on the first of January of a year can be generated with the one parameter '-qy <year>' switch. Both of these use the default time zone and location. These switches are most useful for charts that don't require all the standard information. For example, to get an ephemeris for December, 2000, do 'astrolog -qm 12 2000' and avoid having

to enter in a day, hour, or location that wouldn't have any effect. These options are in similar to the '-qd <month> <day> <year>' switch above that will do a chart for noon on the given date, and the '-q <month> <day> <year> <time>' switch that takes a time as well.

-qa <month> <date> <year> <time> <zone> <long> <lat>:
: Compute chart automatically given specified data. Normally one generates a new chart by entering the data coordinates interactively. A fast typist familiar with the program might prefer to give all the info at once, which can be done with this option. Simply list the seven parameters above, in the exact format as they would be given to the program were the user being prompted for them. (Note that it's probably better to use the '-qb' switch below because of its extra parameter; the '-qa' switch will automatically assume Daylight time is off.)

-qb <month> <date> <year> <time> <daylight> <zone> <long> <lat>:
: Like '-qa' but takes additional parameter for daylight offset. This switch is just like the '-qa' switch above except that it takes one extra parameter for the Daylight Saving time flag. In order, the eight parameters for '-qb' are Month, Day, Year, Time, Daylight offset, Time Zone, Longitude, and Latitude. (Like '-zi' this switch is also put into chart info files by '-o'.)

-qj <day>: Compute chart for time of specified Julian day.
: This switch will automatically cast a chart for the given Julian Day. Unlike the other '-q' switches which take standard months, days, and years, this switch takes one parameter for the Julian Day (which may be fractional to specify a time within the day in question). For example, another way to cast a chart for Midnight, GMT, on New Year's day of 1994 is with '-qj 2449353.5'. (Julian Day 0 refers to Noon GMT, January 1, 4712 BC.)

: Known bug: If the extended PLACALC formulas aren't compiled into the program it will have to use an older version of the Julian day conversion routines which will result in these '-qj' charts giving incorrect results for dates in the Julian Calendar, i.e. before October 1582, which can be seen by casting a chart with '-qj' specifying a day less than 2299161.5, in which case the Julian Day displayed for the date of the chart cast will be ten days greater than what was passed to it.

-i <file>: Compute chart based on info in file.
: See the '-o' option below.

: Note that there is a 'virtual file' named 'set' which can be passed to the '-i' and '-r' switches. Instead of looking for an actual disk file, this represents the 'last' set of chart information dealt with, and is useful to avoid having to manually enter information in certain cases. (Other 'virtual files' Astrolog can use are 'now' which means the current time at the default location, and 'tty' which means prompt the user for the info.)

: This is best used within a '-Q' loop. For example, you first manually enter the time for a chart and it's displayed. Now, this time in the loop, you want the same chart in an aspect grid, and don't want to have to enter the data again or create a file to read from. Entering '-i set' will use this chart info now matter how it was entered. For graphics charts this 'last' chart will be set to the initial chart or whatever animation situation was saved via the `0` key. Perhaps the most useful ability of the '`set`' chart however is that it will set itself to times that appear in '`-t`' and '`-d`' transit and aspect in day searches. For example, if you want to cast a chart for the New Moon last January, first do a combination like '`-qd 1 11 1994 -d -R0 1 2 -A 1`', which will scan the 11th for Conjunctions involving the Sun and Moon, and display the time. Before, to get a New Moon chart one would then have to manually specify the time displayed. Now, just '`-i set`' will bring it up!

The initial contents of the 'previous' chart, i.e. what you get by directly doing something like '`astrolog -i set`' are initialized to the astrological 'chart' for the release of this version 4.40 of the program itself, which is the exact time of the Aquarius New Moon, specifically for 2:48pm PST (8 hours before GMT) on Monday, January 30, 1995 for here in Seattle, WA (122W20, 47N36).

This is one more 'virtual file' that's obscure and only useful in certain circumstances, named '`nul`' which may be passed to the '`-i`' file input or '`-r`' switches which take chart info files for parameters. The file '`nul`' means to not change the chart info parameters any, but rather leave them with whatever current settings they may have or were set to before. This is mainly useful with the '`-r`' switches if you don't want to have to create two actual files to pass in, or use the virtual file '`tty`' and have to enter in data interactively. For example, to see what your biorhythm is like for the beginning of December, do '`astrolog -qm 12 1995 -rb nul yourchart`' on the command line and no further input is needed.

`-o <file> [..]`: Write parameters of current chart to file.

The program supports directing chart information to, and reading output from, data files. The '`-o`' option will dump all the birth data (the date and location, not the planet positions) to the specified file. The '`-i`' option will cast the chart based on the info in the file. (This allows you to put your birth data into a specific file, and cast your chart whenever you want to after that without having to reenter your birth data all the time.)

Another file output feature, the ability to concatenate 'comment lines' at the end of a data file, is included with both the '`-o`' and '`-o0`' options, as you may wish to say keep track of info other than the program supported name and city. After scanning the filename, the '`-o[0]`' option will then write any parameter that follows it at the end of the file, until a parameter beginning with a '`-`' or '`/`' (the next obvious command switch) is reached. For example: '`-o <file> "Birth certificate" Family`', will add extra info indicating the source of my birth data, and a general category for the chart, in two separate lines at the end of the file. (On most systems, quotes can be used to allow spaces within one parameter.)

`-o0 <file> [..]`: Like '`-o`' but output planet/house positions.

Ability to write the actual sign and house positions of a chart to a file (instead of just the time and place) has been implemented via the '`-o0 <file>`' option. This option can be used interchangeably with the '`-o`' output to file switch. The information written includes the zodiac position of all unrestricted objects, their retrograde velocity, declination, and distance, as well as the positions of the house cusps. This file information can easily be passed into another program, and can be read back into Astrolog with the '-i' option. The '-i' option will automatically determine which type the file is, and will either use the given positions, or else calculate them as needed. (Note that some switches, such as the '-c' house system selection, will have no effect for this file type.) Check an example of one of these files to see the precise format (a zodiac position is recorded as three numbers: degree in sign, sign as number 1 through 12 or three letter abbreviation, and floating point minute within the degree.) When the files are read back in, they will be flagged as 'having no space or time' like the composite charts in the chart header displays.

This file format can allow one to do things such as transits to composite charts (send the composite chart to file with '-o0' option and then read in the file with '-i' when using the '-t' switch) composites between two composite charts (use '-rc' between two composite charts sent to a file) and even, if one is willing to do a small amount of editing, to do transits to midpoints or the 0 degrees Aries point. Note that one can easily edit the positions in the '-o0' position file to be whatever they like, so one could replace some unimportant object (e.g. the vertex) with 0 degrees Aries or an important midpoint value. Note that trying to still use the '-o' time and space output with a chart in memory that doesn't have space/time will confuse the program; it will either say it can't make the file or else will output the time/space of the most recent parameter file it read in.

Note for old style '-o0' position files created before version 4.20 that aren't based on command lines (see '-Yo' switch later): the positions of the eight uranians may be output to those planet position files in addition to the 20 main objects, but only if the uranians are actually calculated with '-u' in effect. Hence those position files can be of two different lengths, but the program will be able to read in both formats, leaving the uranians uninitialized at zero Aries if they aren't also in the file.

`-os <file>, > <file>`: Redirect output of text charts to file.

This switch, given a file, will output the contents of a text chart to that file. This is just like output redirection (i.e. "`> textfile`" at the end of a command line) except that it's implemented within the program. Hence unlike output redirection it will work from within a '-Q' loop, from the File Run menu in Microsoft Windows, and on systems whose shells don't allow redirection at all. This also has the advantage in that prompts and user messages won't be sent to the file, hence things can be done such as '`astrolog -os textfile`', where the program will still prompt you on the screen for the chart info, but the chart itself will still go to the file.

The '-os' switch may also be expressed as '->', which is included as a convenience with its similarity to the '>' output redirection featured in many shells. As with all switches, one may leave off the dash and invoke it as just '>'. When just '>' is included on the command line, the system's own output redirection will tend to be used. This switch allows one to also include '>' when prompted for command lines within the program, or when running from MS Windows, where the shell plays no part.

2.5 What Information Is Used In A Chart

`-R [<obj1> [<obj2> ..]`: Restrict specific bodies from displays.

The ability to restrict the transit ('`-t`') and daily aspect ('`-d`') scans to just certain bodies has been implemented with the '`-R`' switch. Using '`-R`' by itself will prevent the asteroids, Chiron, Lilith, the Part of Fortune, East Point, and the Vertex from being in any of the charts. One may also give a list of one or more numbers representing planets to be ignored (e.g. 1 = Sun, 2 = Moon, 3 = Mercury, etc) or specify planet abbreviations directly, so that a complete custom setup can be obtained (e.g. '`-R 1 2 3 4 5`' or '`-R sun moo mer ven mar`' will cause all of the inner planets to be ignored). More than one '`-R`' switch can be combined (e.g. '`-R -R 16`' will cause the asteroids, etc, and the North Node to be ignored; the first '`-R`' gets rid of the asteroids, etc, and the second one deletes the North Node.) Also, specifying the same particular body more than once will cause it to be included again, or in other words, '`-R <objectnum>`' complements the status of whether it is to be ignored or not (e.g. '`-R -R 15`' will cause all of the asteroids, etc, excluding Vesta, to be ignored; the first '`-R`' makes causes the asteroids to be ignored, and specifying Vesta in the second '`-R`' makes it reappear.)

Note that Astrolog will compute charts faster when objects are restricted, since it doesn't bother to compute locations that aren't needed or used. For example, the search of a year for a Solar Return ('`-i chart -ty year -R0 sun -RT0 sun`') is about twice as fast than when the restrictions are omitted, since we're only looking at Sun locations.

`-R0 [<obj1> ..]`: Like '`-R`' but restrict everything first.

The '`-R0`' option will cause ALL of the bodies to be ignored, which is useful if you are looking for just the transits/aspects of a few planets (e.g. '`-R0 6 7`' will cause everything but Jupiter and Saturn to be ignored.) Combining all these methods can cause whatever you are looking for in transits and aspects to be quickly found without having to wade through lots of stuff you aren't interested in.

`-R1 [<obj1> ..]`: Like '`-R0`' but unrestrict and show all objects.

This will unconditionally UN-restrict all planets and other objects used by the program, a compliment to the '`-R0`' switch above which restricts everything. Note that this will also set modes, in that it does automatically activate the '`-C`', '`-u`', and '`-U`' sets of objects.

`-R[C,u,U]`: Restrict all minor cusps, all uranians, or stars.

These three switches are similar to the '`-R0`' option in that they initially restrict objects, i.e. all the minor cusps, Uranians, and stars, (described below) respectively from appearing. For example, if you want to include only the star Sirius in an X window chart without having to also include all the other stars (or having to enter a very long restriction list), do: '`astrolog -U -RU 48 -X`', which will include the stars, and then restrict them all except Sirius, before making the chart.

`-RT[0,1,C,u,U] [..]`: Restrict transiting planets in -t lists.

Transiting planets may be restricted from charts independently of those planets being transited to. In '`-T`' charts, the '`-R`' option only affects the natal planets. To restrict transiting planets, one must use the '`-RT`' option. The '`-RT`' option is exactly like '`-R`', and any subswitches of '`-R`' can be used with '`-RT`' as long as the 'T' immediately follows the 'R'. For example, '`-RT`' by itself restricts transiting asteroids from appearing in '`-T`' charts, '`-RT0`' restricts all transiting bodies, '`-RTu`' restricts the Uranians, and so on. This is a really useful feature, and allows one to pretty much be able to generate exactly and only those transits one is interested in. For example, if you want to see if anything is transiting your natal Jupiter or natal Saturn this month, do: '`astrolog -i yourchart -T 3 1993 -R0 6 7`'. If you want to see if Chiron is transiting anything this year (excluding asteroids), do: '`astrolog -i yourchart -Ty 1993 -RT0 11 -R`'. If you are only interested in transits of outer planets to your Sun or Moon, do: '`astrolog -i yourchart -T 3 1993 -RT0 6 7 8 9 10 -R0 1 2`', and so on. By default, only the transiting Moon is restricted. To get it back, merely unrestrict it with '`-RT 2`'. These default transit restrictions are in the '`astrolog.dat`' defaults file described later, and are right after the standard restriction table, both of which may be modified however you please.

`-RA [<asp1> ..]`: Restrict aspects by giving them negative orbs.

The '`-RA`' switch will restrict the given aspect or list of aspects from appearing in charts, like how the '`-R`' switch does for objects. Technically, an aspect will be restricted if it's given a negative orb. The '`-RA`' switch just gives the specified aspects negative orbs, and is a shorthand for having to explicitly use the '`-Ao`' orb setting switch. (This means that '`-RA`' won't toggle an already restricted aspect back on however.)

`-C`: Include angular and non-angular house cusps in charts.

This option must be indicated to include the 12 actual house cusps (i.e. Ascendant, et al) in the various chart options, such as the '`-g`' aspect grids, '`-t`' transit searches, the graphics wheel chart, etc. This option of course won't have any effect on certain charts where only physical bodies are shown (e.g. '`-Z`', '`-S`', '`-L`') or where all house cusps are already indicated in the chart (e.g. '`-v`', '`-w`'). The house cusps technically have actual object indexes like the planets, and are objects 21 through 32 in order (add 20 to a house to get its index). You can deal with and restrict these individually for transit and other charts, e.g. to turn on just the Ascendant and MC, do '`-C -RC 21 30`' Concerning rulerships, each cusp object is set to "`rule`" the sign corresponding to it (e.g. Ascendant 'rules' Aries) while each cusp 'exalts in' the next sign after it of the same element (e.g. Ascendant 'exalts in' Leo).

`-u`: Include transneptunian/uranian bodies in charts.

Display the locations of the 'Uranian' planets with the '`-u`' switch. Transneptunian or Uranian planets are an interesting subset of astrology which includes various objects alleged to be beyond Pluto. (Do: '`astrolog -u -O`' to list the eight Uranian bodies.) Anyway, Astrolog will display the zodiac positions of these planets as well if one includes this option, and will print their positions after the main planets, or include them in the other chart types.

`-U`: Include locations of fixed background stars in charts.

Astrolog has the ability to display the positions of 47 of the brightest and most important stars in the sky. To include these stars in a chart, use the '`-U`' 'universe' option. The 43 brightest stars, i.e. all those with apparent magnitude values < 2.0 are included, in addition to four dimmer 'stars' which are considered significant, i.e.: Polaris the North star, the Pleiades (specifically the star Pleione within it) star cluster (home of our extraterrestrial cousins), Zeta Reticuli (home of the Grey aliens), and the Andromeda (M31) Galaxy (closest galaxy to our own Milky Way, and home to various extraterrestrial hierarchies.) One bright star is called 'Orion', which is formally Alnilam, the middle star of Orion's belt. Since stars are fixed in the sky, they will never change position in the '`-s`' sidereal zodiac, although they will slowly precess forward in the normal tropical zodiac. The '`-R`' restriction option can be used to determine which stars are actually included, although the '`-U`' option still needs to be included to get any stars at all. (With on screen graphics, the stars are labeled by three letter abbreviations, and are colored according to their brightness: orange for stars brighter than (less than) magnitude 1.0, and dark red for the dimmer remaining stars with magnitudes greater than this value.)

`-U[z,l,n,b]`: Order by azimuth, altitude, name, or brightness.

In the '`-v`' standard chart, '`-Z`' horizon chart, and in the '`-O`' object list, where all the stars are printed sequentially, it can sometimes be confusing to locate the star you want among 42 others. The '`-U`' option can be modified to sort the stars in various ways. If one uses '`-Ub`' instead of just '`-U`', the stars will be listed in order from brightest to dimmest. Doing '`-Un`' instead of '`-U`' will alphabetize the stars by name. '`-Ul`' will sort them by their altitude from highest in the sky to lowest, while '`-Uz`' will sort them by their zodiac position. Note that any star ordering will have no visible effect in X windows, and one must still use the default ordering when passing numbers to the '`-R`' option to restrict various stars.

`-A <0-18>`: Specify the number of aspects to use in charts.

If you like many aspects, or only desire the major ones, to be included in the aspect grids, specifying '`-A <number>`' will limit or extend the number of aspects (e.g. '`-A 2`' will make charts with only conjunctions and oppositions listed in them, while '`-A 18`' will include all 18 aspects that Astrolog supports.)

`-Ao <aspect> <orb>`: Specify maximum orb for an aspect.

Change the default orbs of the various aspects with the '`-Ao <aspect> <orb>`' switch. Do you not like the 7 degree orbs for conjunctions that are in there by default? Given an aspect number and an orb value, the orb used for that particular aspect is updated accordingly. Non-integer orb values are allowed of course. Use negative orb values to completely eliminate an aspect from ever appearing. For example: '`astrolog -Ao 2 4 -Ao 4 -1`' narrows the orb for Oppositions, and completely eliminates Trines, leaving all the other aspects at the default values. Note that for very wide orbs more than one aspect may apply for a particular angle, in which case the more fundamental aspect is chosen. Also for wide aspects the fractional value of the orb may be lost in the '`-g`' text grid (due to too many characters) and their might be some slight overlap in the X window '`-g`' cells.

`-Am <planet> <orb>`: Specify maximum orb allowed to a planet.

Ability to explicitly specify maximum orbs that any aspect can make to a particular planet is supported with the '`-Am`' switch. This is used for objects like the North Node which require narrower orbs than what the aspects themselves normally allow. The '`-Am`' switch takes two parameters: the first to indicate the index of the object, and the second to indicate what the maximum orb allowed to it will be. By default, the only objects with restriction are the Node, Part of Fortune, Vertex, and stars, which allow a 2 degree max orb to them. With this option, one can change these limits or impose restrictions for other planets too. The '`astrolog.dat`' file (described later) will read in these default planet orbs for the first 20 objects.

`-Ad <planet> <orb>`: Specify orb addition given to a planet.

Ability to widen an aspect orb for any planet is supported with the '`-Ad`' switch. This is used for objects like the Sun and Moon for which one might want wider orbs to them than what the aspects themselves allow. Like the '`-Am`' switch, this '`-Ad`' switch takes two parameters: the first to indicate the object, and the second to indicate how much wider orbs allowed to it will be. By default, the only objects which have orbs widened for them are the Sun and Moon, each of which adds one degree to the orb of any aspect to it. With this option, one can change these additions or allow other objects to have them, too. The '`astrolog.dat`' file will also read in defaults for these orb additions for the first 20 planets. (Note that these object orb additions can be added to a negative orb for an aspect making it valid, so if you really want to restrict an aspect with '`-Ao`', it should be a large enough negative value so that the sum of any additions between two objects won't make it go positive.)

`-Aa <aspect> <angle>`: Change the actual angle of an aspect.

This option is used to change the actual angle of a particular aspect. This is useful if one wants to search for some unusual angle not already available in Astrolog's aspects or accessible through the '`-x`' harmonic charts. For example, if I want to know when any planet enters a 2.5 degree orb of any planet in my natal chart, I would do a transit search along with '`-Aa 1 2.5`', where '`1`' is the index of the conjunction aspect, and '`2.5`' means the 'conjunction' is now exact when any two objects are 2 degrees and 30 minutes apart.

2.6 How A Chart Is Computed

`-b`: Use ephemeris files for more accurate location computations.

Astrolog has a set of calculation routines which are much more accurate than the standard MATRIX software routines that are usually used by default. One may choose between these calculation methods with the '`-b`' switch. With '`-b`', Sun through Pluto, the North Node, and Chiron will be computed more accurately (although it will take slightly longer). The other asteroids, uranians, stars, and house cusps are always generated with the MATRIX routines.

This advanced calculation uses ephemeris files for some planets which must be in a directory specified at compile time in order to work. The advanced routines are valid based on how many of the ephemeris files one has. With all of them, the formulas will cover and deliver accurate positions for nearly 8500 years from -5260 BC through 3237 AD! There are 62 ephemeris files total. Each file covers a range of 100,000 days, or about 273 years. Altogether they take up 2.8 megabytes of disk space, but each segment of 273 years only takes up 90K. For each time segment, there is an ephemeris file named 'LRZ5_n' containing the positions of Jupiter through Pluto (at 80 day increments) and a file 'CHI_n' containing the positions of Chiron. The 'n' refers to span of Julian Days covered by it (divided by 100000). For example, Julian Days 1,200,000 through 1,300,000 are in the files 'LRZ5_12' and 'CHI_12' (the 'm' character in some files refers to negative/minus Julian Days). You don't need all the files to use '-b', just those that cover the dates you want to use. If you try to use '-b' with a date not covered by an available ephemeris file, an warning message will be printed and the MATRIX positions will be used. The files 'LRZ5_24' and 'CHI_24' cover the years 1859 through 2131 AD, which is good for most modern purposes and only take up 90K of space. (These two files are included in the standard zip archive release file of Astrolog. For Unix users who want any ephemeris files, and PC users who want to cover more years, the complete set of files is at anonymous ftp sites such as `hilbert.maths.utas.edu.au`.) The following is a list of the precise dates covered by each ephemeris file:

```
  The Files             cover            through
-------------------------------------------------------
LRZ5_m2 and CHI_m2  Jun  6, -5260 BC  Mar 20, -4986 BC
LRZ5_m1 and CHI_m1  Mar 20, -4986 BC  Jan  1, -4712 BC
LRZ5_0  and CHI_0   Jan  1, -4712 BC  Oct 14, -4439 BC
LRZ5_1  and CHI_1   Oct 14, -4439 BC  Jul 28, -4165 BC
LRZ5_2  and CHI_2   Jul 28, -4165 BC  May 10, -3891 BC
LRZ5_3  and CHI_3   May 10, -3891 BC  Feb 21, -3617 BC
LRZ5_4  and CHI_4   Feb 21, -3617 BC  Dec  4, -3344 BC
LRZ5_5  and CHI_5   Dec  4, -3344 BC  Sep 17, -3070 BC
LRZ5_6  and CHI_6   Sep 17, -3070 BC  Jun 30, -2796 BC
LRZ5_7  and CHI_7   Jun 30, -2796 BC  Apr 13, -2522 BC
LRZ5_8  and CHI_8   Apr 13, -2522 BC  Jan 25, -2248 BC
LRZ5_9  and CHI_9   Jan 25, -2248 BC  Nov  7, -1975 BC
LRZ5_10 and CHI_10  Nov  7, -1975 BC  Aug 21, -1701 BC
LRZ5_11 and CHI_11  Aug 21, -1701 BC  Jun  3, -1427 BC
LRZ5_12 and CHI_12  Jun  3, -1427 BC  Mar 17, -1153 BC
LRZ5_13 and CHI_13  Mar 17, -1153 BC  Dec 28,  -880 BC
LRZ5_14 and CHI_14  Dec 28,  -880 BC  Oct 11,  -606 BC
LRZ5_15 and CHI_15  Oct 11,  -606 BC  Jul 24,  -332 BC
LRZ5_16 and CHI_16  Jul 24,  -332 BC  May  7,   -58 BC
LRZ5_17 and CHI_17  May  7,   -58 BC  Feb 18,   216 AD
LRZ5_18 and CHI_18  Feb 18,   216 AD  Dec  1,   489 AD
LRZ5_19 and CHI_19  Dec  1,   489 AD  Sep 14,   763 AD
LRZ5_20 and CHI_20  Sep 14,   763 AD  Jun 27,  1037 AD
LRZ5_21 and CHI_21  Jun 27,  1037 AD  Apr 10,  1311 AD
LRZ5_22 and CHI_22  Apr 10,  1311 AD  Jan 31,  1585 AD
LRZ5_23 and CHI_23  Jan 31,  1585 AD  Nov 16,  1858 AD
LRZ5_24 and CHI_24  Nov 16,  1858 AD  Aug 31,  2132 AD *
```

```
LRZ5_25 and CHI_25  Aug 31,  2132 AD  Jun 16,  2406 AD
LRZ5_26 and CHI_26  Jun 16,  2406 AD  Mar 31,  2680 AD
LRZ5_27 and CHI_27  Mar 31,  2680 AD  Jan 14,  2954 AD
LRZ5_28 and CHI_28  Jan 14,  2954 AD  Oct 30,  3227 AD
LRZ5_29 (no CHI_)   Oct 30,  3227 AD  Aug 15,  3501 AD
-----------------------------------------------------
```

Astrolog uses the formulas from the PLACALC program package to generate its precise positions. PLACALC's accuracy is about the same as Mark Pottenger's `CCRS` routines, and those used in Nova (it even fixes some accuracy problems Nova has, in some of its earlier versions at least). PLACALC's integrated outer planet positions represent the standard of the Nautical Almanac, the international astronomical standard, as published in the Astronomical Almanac, for its computations as computed before 1984. (Since 1984 the standard has been the DE200 integrations by JPL.) The Sun's position implements the Newcomb theory for all terms > 0.01", the positions of Mercury through Mars are done to all terms > 0.05", while 'Brown's improved lunar ephemeris' is used such that the Moon is within 3" of DE200. PLACALC's fraction of second precision, is of course much more accurate when compared to the MATRIX positions, which are only accurate to about one minute (and several degrees for Chiron, as well as the four asteroids) for this century only. For example, at 1800 AD, the MATRIX positions for the outer planets are off by 2 degrees, and about 1 degree for 2100; by 1500 AD, MATRIX is off by 14 degrees for Pluto while Chiron is barely in the right hemisphere any more.

There is a flag to 'Use ephemeris files' in the '`astrolog.dat`' file, which when set, will always use the PLACALC routines and is the same as just including '`-b`' all the time, in which case '`-b`' will toggle them back off. There is a compile time option `#define PLACALC` in the '`astrolog.h`' which can be commented out to disable the '`-b`' switch and the new formulas.

Note that this calculation method is not compatible with allowing the '`-v0`' switch to express planetary velocities relative to average speed work with it, and nor will central planetary bodies other than the Sun or Earth (standard Geo and Helio centric charts) via '`-h`' work. It will however display velocities for the Moon and the Node, which aren't available with the MATRIX routines.

Special thanks goes to Dr. Alois Treindl who kindly allowed his formulas to be used in Astrolog. Mr. Treindl is the founder and owner of Astrodienst Zurich, second largest astrological computer service in Europe, and is well known for his work with Liz Greene. Astrolog basically treats his PLACALC routines as a library which we link into, in that code that knows about both programs is kept to a minimum. In fact, any changes made to the PLACALC '`.c`' and '`.h`' files are under `#ifdef ASTROLOG`, so by reverse applying this, one can regenerate the original files that came with the PLACALC package.

`-b0`: Like '`-b`' but display locations to the nearest second too.
The ability to display zodiac positions to the nearest degree second is supported with the '`-b0`' switch. Normally all positions are displayed just to the minute (which was all that is useful due to the accuracy available in the MATRIX formulas). With the

Placalc routines accurate to within seconds, this switch, in addition to turning on the more accurate formulas like just '-b' above does, will also turn on the more accurate display.

When this setting is on, the planet and house positions in the '-w' text wheel chart, and the sidebar positions in graphic wheel charts, will be to the nearest second. The '-Z' local space chart will display the altitude and azimuth to the nearest second, while the other three vector columns will be displayed with an extra digit of precision. The '-S' orbital position chart will have all five of its columns displayed to an extra four digits of precision. The '-L0' astro-graph chart with latitude crossings will display the latitude crossing intersections to the nearest second.

Finally the standard '-v' listing will display the zodiac positions and declinations to the nearest second, and the velocity values will have an extra four digits of precision. Note however this doesn't leave room to the right anymore for the house cusp positions and element table normally shown. They will be left out for '-b0', however when the '-C' switch is in effect, the house cusp positions will be displayed in their own separate rows, which normally isn't ever done since there's always the list to the side. (One more thing is that '-b0' combined with '-v' will display an extra column at the end showing the decan positions of each object, allowing viewing of each planet alongside its decan without having to actually change positions with the '-3' switch.)

-c <value>: Select a different default system of houses.

```
0 Placidus     4 Meridian          8 Topocentric      12 None
1 Koch         5 Regiomontanus     9 Equal (MC)
2 Equal        6 Porphyry         10 Neo-Porphyry
3 Campanus     7 Morinus          11 Whole
```

Thirteen different house systems are supported in the program: Invoke as astrolog '-c <number>' to change the system from the default of Placidus. Note that certain house systems (i.e. Placidus and Koch) aren't defined for locations inside the Ant/arctic circle. If the user attempts to cast a chart using them with a latitude beyond about 66 degrees N or S, the program will halt and print an appropriate error.

House system number 9 is the Midheaven based Equal house system. This is just like the more common standard Equal house system ('-c 2') except that we start with the 10th cusp being the same as the MC and disassociate the 1st cusp from the Ascendant, instead of starting with the 1st cusp being the same as the Ascendant and disassociating the 10th cusp from the MC.

House index 10 is the Neo-Porphyry system of house division. This is a new system similar to Porphyry houses except that it's 'smooth' around the zodiac with the MC/Asc difference being spread in a continuous sinusoidal manner from expanded to compressed quadrants.

House index 11 is the Whole system of houses, where the first cusp is at zero degrees of the sign of the Ascendant, and the others are all at the beginning of the succeeding signs. This is basically the same as the Equal system with all positions shifted back to the start of their sign. Thanks to Andy Gray for telling me about this system and how it's computed.

House system 12 refers to no houses at all, or in other words where the Ascendant will always be 0 degrees Aries, the Nadir 0 degrees Cancer, etc, which is useful for the extended chart animations as described later, where having houses at all can tend to get in the way; one can even observe the precession of the equinoxes with this system if used in conjunction with the '`-s`' sidereal chart option.

`-s [..]`: Compute a sidereal instead of the normal tropical chart.

With this option, the chart will be just like the normal charts as most commonly used in astrology, except that all the zodiac positions will be shifted (to be about 24 degrees earlier). This is because the option casts sidereal charts which are based on the positions of the fixed stars (i.e. Aries starts at the constellation Aries) rather than the seasons (i.e. Aries starts at the Spring or Vernal Equinox.) Due to the 'precession of the equinoxes' the position of the Sun at the Equinoxes has been gradually happening at an earlier point in the sidereal zodiac each year (taking about 2100 years change signs.)

This switch accepts an optional parameter of an offset for the start of the zodiac. This value, when non-zero, will be added to all zodiac positions, and effectively allows one to choose any starting point for the sidereal (or tropical) zodiac, which is useful for Hindu or other systems whose sidereal zodiacs have zero Aries at a different location than the standard Western sidereal zodiac. This value is initialized to a zodiac offset value setting in the '`astrolog.dat`' initialization file, which is by default zero.

`-sr`: Compute right ascension locations relative to equator.

This will display planetary positions relative to the Earth's equator instead of the ecliptic i.e. Earth's orbit. This is the way more commonly used in astronomy, and results in real right ascension notation, especially when combined with the '`-s`' sidereal zodiac and '`-sh`' hours and minutes display format. This switch makes the declination values in the standard '`-v`' listing also relative to the equator, instead of the ecliptic latitude displayed by default. (Without this the only way to get such information is from the zenith latitudes in the '`-L`' astro-graph chart which show the same thing.) Note that this setting isn't fully integrated with all of Astrolog's charts; specifically it will distort the values in the '`-Z`' local horizon, '`-S`' orbit, and '`-L`' astro-graph charts which assume ecliptic positions, and hence '`-sr`' shouldn't be combined with these options.

`-s[z,h,d]`: Display locations as in zodiac, hours/minutes, or degrees.

For astronomers out there, the '`-sh`' switch will express all planetary positions in the right ascension hours/minutes format instead of the sign/degrees/minutes astrologers are accustomed to. This will affect how the objects are listed in the '`-v`' display, and how star azimuths are displayed in the '`-HO`' list. For example, 0 degrees Aries is represented as 0 hr, 0 min; 0 Cancer goes to 6 hr, 0 min, and so on through the 24 hour clock. The '`-sd`' switch will cause zodiac positions to be displayed as a simple degree value in the 360 degree circle. To return to the default of displaying as a degree within a zodiac sign, use the '-sz' switch.

-h [<objnum>]: Compute positions centered on specified object.

Normal astrology charts are based on the positions of the planets relative to the Earth. However, this option allows seeing of the zodiac positions with respect to the Sun's (or any other planet's) point of view. The '-h' option when invoked by itself will display a heliocentric chart: the Sun in the original listing will be replaced with the Earth's position as seen from the Sun in the heliocentric chart, with the other planets' positions modified accordingly. For bodies other than the Sun, the option takes a parameter to indicate which planet to center the chart on, e.g. do '-h 5' to cast a Mars centered chart. (Moon centered charts aren't allowed; in fact, note that the '-h' option won't ever affect the Moon, which will always be displayed as seen from the Earth, no matter what the center body is set to, since it's not a formal planet.

-p <month> <day> <year>: Cast 2ndary progressed chart for date.

A secondary progression chart for a particular date can be cast using the '-p <month> <date> <year>' command switch. (**Note:** I'm not sure if the house cusps are progressed correctly for all methods of computation, but they are reasonably close to what is expected using most of them.) The precise time within the given day progressed to is midnight in the default time zone.

Hackers note: this setting to progress charts to the specified time, may be turned off by invoking the '-p' switch as '_p' with the underscore reset prefix. Unlike the standard '-p' switch, '_p' take no parameters. This is a command switch trick only useful when doing multiple charts in a '-Q' loop, or when passing extra command lines to a graphics screen with the return key or through macros.

-p0 <month> <day> <year>: Cast solar arc chart for date.

Solar arc progressions are supported in addition to secondaries. Invoke the '-p <month> <day> <year>' switch as '-p0' instead, and a chart will be generated with all planets and house cusps progressed forward an amount equal in degrees to the number of years that have passed between the specified date and the chart in question. The '-pd' option here (see below) specifies the number of days that have to pass per zodiac degree to progress forward; by default this is 365.25. To generate a solar arc chart for the current moment now, invoke the '-pn' switch as '-p0n'.

-p[0]n: Cast progressed chart based on current date now.

The '-pn' switch is like the '-p <month> <date> <year>' switch except that (like the '-n' switch) it assumes the current moment now to cast the progressed chart to. This is just another shorthand convenience to see what ones progressed chart is like presently; just do: 'astrolog -i file -pn'.

-pd <days>: Set no. of days to progress / day (default 365.25).

User definable progression rates can be specified with this option. When using the '-p' progression option, Astrolog assumes you want the standard 'year for a day' rate of progressions. By passing different values to the '-pd' switch, one can change the default '365.25 days for a day' to any value they want for some less often used method of progression. For example, one can do '-pd 7 -pn' to do a week for a day, '-pd -365.25 -pn' to get negative year for day progressions, and so on. For tertiary progressions, do '-pd 29.530588'. (Note that '-pd 1 -p...' would be the same as if no progression were done at all.)

-x <value>: Cast harmonic chart based on specified factor.

Harmonic charts (i.e. where all the planet positions are multiplied by a factor and the chart recast) are supported via the '-x' option (e.g. '-x 3' will make all trines conjunct in the chart displayed.) The parameter passed in may range anywhere from 1 (i.e. no harmonic factor) to 30000 for those who want to explore extreme harmonics.

-1 [<objnum>]: Cast chart with specified object on Ascendant.

The '-1 <obj>' option can be used to change the houses to force a particular object to be on the ascendant. This is useful in casting Solar charts or for when the time of birth is not exactly known. For example '-1 2' will case a normal chart, but the house cusps will be rotated so that the moon is on the ascendant.

-2 [<objnum>]: Cast chart with specified object on Midheaven.

Just as the '-1' option is used to cast a chart with an object on the Ascendant, the '-2 <object>' switch will cast a chart with the specified object on the Midheaven. The house cusps will be rotated so that the object in question is conjunct the 10th house cusp. As with the '-1' option, if '<object>' is not specified, the Sun will be assumed by default.

-3: Display objects in their zodiac decan positions.

Decan displays are supported in Astrolog, and one can display a decan influenced chart with the '-3' switch. The decan theory is that each sign in the zodiac can be divided into three parts: The first 10 degrees (i.e. the first decan) is mainly influenced by the sign in question, the second 10 degrees (second decan) although still influenced by the sign in question is also somewhat influenced by the next sign of the same element, while the last decan is influenced by the third sign of the same element. The '-3' switch applied to a chart will move each object into the sign of its decan. For example, if the Sun is at 29 degrees Aquarius and the Moon at 5 degrees Virgo, in the resulting chart, the Sun will go to Libra (26 degrees) and the Moon will remain in Virgo (although be at 15 degrees now since it was previously in the middle of the first decan of Virgo.)

-f: Display houses as sign positions (flip them).

The '-f' option can be used to 'flip' the signs and houses, i.e. display the house as a sign position and vice versa. For example having the Sun at 26 degrees Scorpio, 2/3 way though the 10th house, will cause the resulting Sun under the '-f' option to be at 20 degrees Capricorn, 26/30th the way through the 8th house. This can be used to determine how far a planet is through a particular house, as well as for domal chart analysis that Mark Kenski has informed me about. Domal analysis is based on the fact that for synastry comparisons, for example, a planet in Gemini and one in the 3rd house can be considered related in a way similar to a conjunction.

`-G`: Display houses based on geographic location only.

This switch generates a special type of locational analysis chart, called a geodetic chart, in which the house cusps are computed from a different source, i.e. as a function of only the longitude and latitude. This basically gives every spot on the planet a different unique set of house cusps, and can be used to analyze the characteristics of different areas, and their influence on you if you insert your own planets in the houses. This type of chart was described in the January 1992 issue of Dell Horoscope magazine, from which I learned how to generate these charts. Basically, the Midheaven is approximately the longitude value converted from degrees into the appropriate zodiac sign; for example 0 degrees E goes to 0 degrees Aries, 30 degrees E goes to 0 degrees Taurus, etc.

`-F <objnum> <sign> <deg>`: Force object's position to be value.

The '`-F`' option is used to force a particular object's position to always be a particular location in the zodiac. This feature can be used as an easy way to manually include things Astrolog normally doesn't in various charts. For example, this can be used to force the position of some minor thing, like the Vertex, to always be the location of whatever you prefer, like the 0 degrees Aries point, or an important midpoint. Then you can do an aspect grid, transit search, or whatever, and calculate aspects to midpoints or transits over midpoints. The '`-F`' switch takes three arguments: first is the index of the object to replace, next is the sign from 1..12 to force it to be, and third is the degree within the sign. For example, if I want to see if anything is making an exact aspect today with my Sun Moon midpoint at 6Sag28, I could do '`astrolog -n -d -F 16 9 6.28`', which would replace the North Node with my Sun Moon midpoint in the aspect search.

`-+ [<days>]`: Cast chart for specified no. of days in the future.

The '`-+ <#ofdays>`' option will cast a normal chart, but one for '`#ofdays`' in the future (or past if a negative value is given). One use for this is in combination with the '`-n`' and '`-d`' options. For instance, I often invoke the program as '`astrolog -n -d`' to see the exact times of today's aspects. However, just before midnight I might want to see what's going to happen in the following day, so I would do '`astrolog -n -d -+ 1`' to see the exact times for tomorrow's aspects. The '`#ofdays`' parameter is optional, and will default to one if left off, so the above command can be done as just '`astrolog -n -d -+`'.

Note that for such a chart, the chart header will show the correct date of the actual new chart, instead of the original one. For example, today (9-11), if I do '`astrolog -n -+ 2`' I will get the chart for two days from now, and the chart header will display 9-13. This has some special uses. For example, if you want to know what the date was/will be when you are 10000 days old, do '`astrolog -i yourchart -+ 10000`' and see what the date in the resulting chart header is.

`-- [<days>]`: Cast chart for specified no. of days in the past.

This 'dash minus' option is just like the 'dash plus' ('`-+`') option described above, except it subtracts instead of adds the specified number of days from any chart cast. This is only for convenience, in that '`-- 1`' is the same as '`-+ -1`'.

`-+[m,y] [<value>]`: Cast chart for no. of months/years in future.

The '`-+m`' switch is just like the '`-+`' switch above except that it will add one month (30 days) to whatever chart instead of one day. The '`-+y`' switch will add one year (365 days) to whatever chart. The '`--`' 'dash minus' switch is extended in a similar manner, in that '`--m`' and '`--y`' will do as expected. These switches also have the optional parameter to specify how many months or years to move forward or back.

2.7 Relationship And Comparison Charts

`-r <file1> <file2>`: Compute a relationship synastry chart.

Computing the relationship between two charts is supported. Invoke the program as '`astrolog -r <file_of_person1> <file_of_person2>`' and the program will give you the relationship between the two charts. In other words, the program will use the positions of '`person2`''s planets and '`person1`''s houses. Use this with the '`-w`' option to get a wheel chart and you can do synastry. Note that transits can be computed with this by comparing your chart with the positions of the planets at the current moment (as in '`-n`' switch). To make this easier, you may specify the filename '`now`' for any file and the computer will use the current planet positions instead of looking for a like named file. (e.g. '`astrolog -r me now`' will compute transits for file '`me`'.)

Hackers note: if the '`-r`' switch is invoked as '`_r`' with the underscore reset prefix, whatever relationship mode will be canceled. Unlike the standard '`-r`' switches, '`_r`' takes no file parameters. This is a command switch trick only useful when doing multiple charts in a '`-Q`' loop, or when passing extra command lines to a graphics screen with the return key or through macros. Astrolog's '`-r`' relationship chart switches set relationship chart mode, and without this there's no easy way to return to single chart mode. Yes when a graphics screen is up, the `C` key will toggle relationship comparison mode, but that's not available from the command line.

`-rc <file1> <file2>`: Compute a composite chart.

The '`-r`' option can be used to generate composite relationship charts. Simply invoke it as '`-rc <person1> <person2>`' instead of just '`-r`' and a composite chart (i.e. composed of the midpoints of the planets, etc. of the two charts in question) will be generated. (**Note:** when the house cusps in the two charts are nearly 180 degrees apart, simply taking the midpoints of all the cusps may result in them being out of order in the resulting composite. In such a case we give priority to the composite midheaven, and invert the midpoints of any of the other cusps or the Ascendant by 180 degrees if leaving them that way would have things out of order.)

`-rm <file1> <file2>`: Compute a time space midpoint chart.

Time-space midpoint relationship charts are supported: Doing '`-rm chart1 chart2`' will calculate the time and location exactly half way between the times and locations as indicated in the two files. Unlike all other types of relationship charts, this one actually exists in space and time, and therefore can be treated like a single chart and can be output to a file with the '-o' option.

-r[c,m]0 <file1> <file2> <ratio1> <ratio2>: Weighted chart.

The '-rc' composite and '-rm' time-space midpoint relationship charts may be weighted to give more influence to one of the charts. When the switches are invoked as '-rc0' or '-rm0' they accept two additional parameters which are the ratio weights to give to the two chart files in question. For example, the sequence '-rm person1 person2 2 1' will still do a time space midpoint chart, but the time and location that the chart is cast for will be biased at a 2:1 ratio toward 'person1', i.e. will be 2/3 of the way from 'person2''s chart info closer to 'person1''s info.

Note that the '-rc0' switch can be used to generate multiple composite charts between more than two people! A composite chart between two people can already be done and saved to a file with '-rc person1 person2 -o0 composite12'. A third person can now be merged in by doing a composite between it and the composite of the first two, but giving the first result a 2:1 ratio because two charts have already gone into it, by '-rc0 composite12 person3 2 1 -o0 composite123'. A fourth person can then be merged in at a higher ratio with '-rc0 composite123 person4 3 1 -o0 composite1234' and so on. Actually this method won't always generate a 100% correct multiple composite chart in cases where the objects are spread out over 180 degrees and the initial composites put the current midpoint in the wrong half, e.g. if the Suns of 'person1' through 'person3' are 1Can, 29Sag, and 0Ari, then the true composite Sun is at 0Ari, but 'composite12' is at 0Lib and hence the final composite is at 0Leo or 0Sag, in the wrong 'quadrant' biased toward the earlier results. Still the results are useful and the method can be used with '-rm0' to get the correct average between multiple chart locations.

-rd <file1> <file2>: Print time span between files' dates.

One useful non-astrological function in the program is the ability to determine how much time has passed between two dates, with the '-rd' switch. As with the '-rb' option below, this is considered a relationship 'chart' because it requires the input of two different dates, and when '-rd' is in effect, again the standard '-v' planet position listing will be replaced by a line telling how much time has passed in the interval. The time difference is expressed in seven ways: to the nearest year, month, week, hour, minute, and second. For example, '-rd person1 person2', will display how many years, days, etc 'person1' is older than 'person2' (or the other day around). Want to say know how many years older your mother is than you? Just do '-rd momchart yourchart'. Want to find out how many days old you will be on Jan. 1, 2000? Do '-rd yourchart tty', and type in the first date of the next millennium, and see what you get!

-rb <file1> <file2>: Display biorhythm for file1 at time file2.

Biorhythm charts are supported by Astrolog with the '-rb' switch. Although not directly related to Astrology, the concepts are similar, and adding this didn't require much extra code, and since some are interested in this, I felt I'd add it in. The biorhythm theory says that we have three main types of energy: Physical, Emotional, and Intellectual. These three run in continuous wave cycles from high to low, each of which repeats about every 30 days or so. Therefore, a biorhythm chart for a particular day should describe how much energy one has or how they are feeling in this area. Now, Astrolog considers biorhythm charts as a type of relationship chart, because in order to generate one, two dates or charts are needed: the birth date of the person, and the date to cast their chart for. Technically the program will replace the standard '`-v`' listing of planet positions with the biorhythm chart when '`-rb`' is in effect. As an example, '`-rb file1 file2`' will cast the chart for the birthday signified by '`chart1`' or '`chart2`' (whichever is older) for the date in the other file. Remember that one can substitute the pseudo filename '`tty`' to mean get the chart info from the terminal instead.

The actual biorhythm chart itself will display, for the day in question, what the percentages of the physical, emotional, and intellectual cycles are, as numbers from -100% (low ebb) to +100% (happy and full of energy). In addition, the biorhythm percentages for the seven days before (T-7 days) and the seven days after (T+7 days) the date in question will be listed, too, so one can see if the cycles are rising or falling. Finally, as a cute way to help in interpretation, the program prints the appropriate smiley, medium, or sad face after each percentage. (BTW, it takes over 58 years for all three cycles together to synchronize and repeat themselves.)

`-r0 <file1> <file2>`: Keep the charts separate in comparison.

There is a distinction between any of the above types of particular relationship charts and the actual comparison between two separate charts. The '`-r0`' option is used to generate actual comparison charts. For example, combining '`-r0`' with the '`-g`' switch will cause a full grid chart of the aspects between all the planets of the two charts (with person1's planets on the vertical axis and person2's on the horizontal) to be displayed. (Unfortunately, if all 20 of the default objects are left unrestricted here, the grid will exceed 80 columns, unless the 80 column clip feature (described later) is turned on.) The '`-r0`' option can also be used with the '`-X`' switch to generate true relationship wheel charts, (described later). The '`-r0`' option will act like the '`-r`' synastry option in certain displays that can't compare two charts; for example, '`-r0 -v`' will act the same as just '`-r -v`'. (**Note:** the '`-t file`' current transit option is basically a shorthand way of doing '`-r0 file now`'.)

Comparison relationship charts may also be generated for the '`-m`' midpoint and '`-m0`' aspect list options. Combining '`-m`' with '`-r0`' will yield an ordered list of all midpoints between all combinations of one planet from chart1 and another planet from chart2. Combining '`-m0`' with '`-r0`' will yield a list of all aspects between planets in the two charts, in order based on what Astrolog think their influences are. So, if you really want to know if your Sun widely trining your SO's Moon, will override the effect of your Saturn closely squaring their Mars, do '`astrolog -r0 yourchart sochart -m0`' and see the influence given to each aspect.

`-rp[0] <file1> <file2>`: Like '`-r0`' but do file1 progr. to file2.

This switch is a form of the '`-r0`' relationship comparison charts. This switch, given two files, will compare the natal chart in file1, to the chart of this natal chart progressed to the time specified in file2. This is a shorthand way to the commonly desired comparison of a progressed chart to a natal one. The '`-y`' switch may be invoked as '-yp <file>' which will automatically compare the chart to the current time now. For example, to get a dual graphic wheel chart with your natal planets in the inner wheel, and your current progressed chart on the outer wheel, simply do '-yp yourchart now -X'. (There is no easy way to do this otherwise, short of using '-o0' position files, since the '-p' progression switch will affect all charts.) The '-rp' switch may also be invoked as '-rp0', which will do the same thing but as a solar arc progression instead of a secondary progression.

-rt <file1> <file2>: Like '-r0' but treat file2 as transiting.
The '-rt' switch will behave exactly like the existing '-r0' chart comparison option but with one difference: transit restrictions will affect the second chart. With '-r0', both charts are treated as natal charts and hence the normal '-R' restrictions apply to both, but one may want to have different sets of planets active in the two charts, such as in a wheel chart where transiting planets are being compared to natal. The '-y' switch which is like the '-r0' switch but assumes the current moment now for the second chart, may be done as '-yt' in the same way. For example, to do a graphic bi-wheel showing your complete natal chart in the inner wheel, and only the current transiting outer planets on the outer wheel, do 'astrolog -yt yourchart -X -RT0 jup sat ura nep plu'.

-y <file>: Display current house transits for particular chart.
The command switch '-y <file>' can be used as a shortcut way to compute the current transits for the chart in '<file>' (unless the TIME features are compiled out), which saves you from having to mention the 'now' in the '-r0' option.

-y[b,d,p,t] <file>: Like '-r0' but compare to current time now.
The '-y' option is extended based on the '-rb' and '-rd' features. The '-yb <file>' switch will display the person indicated in file's biorhythm for today. The '-yd <file>' switch will display how many months, days, etc old the person in the file is right now. Want to know how many minutes old you are? Just do '-i yourchart -yd'. Do the same command again right away and see that you are now a couple seconds older than the first time! There are also switches '-yp[0]' and '-yt' which similarly behave like '-rp[0]' and '-rt' above but automatically compare to now.

2.8 Accessing Graphics Options

-k: Display text charts using ANSI characters and color.
With this option, the text charts may be displayed in color, as well as with real graphics characters instead of with things like dashes and pluses. This makes the text charts look almost as neat as their color graphics counterparts. All that's needed is a terminal that accepts ANSI escape sequences. You will get garbage if you include '-k' on a non-Ansi terminal. (For this reason, the default for this flag is off, although it can be made on all the time by setting the appropriate flag in the 'astrolog.dat' configuration file.) Most PC's are in ANSI mode, so if you have a PC this should work. Include the '-k' switch on the command line, and the program

will display all charts as before, but change the color appropriately for every part of any chart printed! Just try a '`-w`' chart, a '`-g`' grid, or a '`-t`' list and see the difference of how much easier it is to find a planet or aspect among a large chart! I highly recommend this setting be made on by default in the '`astrolog.dat`' file if your system will support it, especially for PC users who display text charts on the screen more often than they print one out.

Color isn't used randomly but is based on logic. Most colors are very similar to the ones chosen in the color X charts. In general, everything is based on the following rules for elements: Fire is Red, Earth is Yellow, Air is Green, and Water is Blue. Zodiac signs and positions are printed in the color of their element. Houses are printed in the color of their corresponding sign. Planets are printed in the color of the sign they rule. As for the other objects, we have the following colors: Asteroids are in bright purple (magenta), Uranians are in dim purple, and non-physical points like the Node, Fortune, and Vertex are in a bluish gray (dark cyan). Stars are either orange if they are bright (magnitude `<` 1.0) or a dark red if dimmer. For aspects we have the following: Conjunctions are Yellow, Oppositions are Blue, Squares are Red, Trines are Green, Sextiles are Light Blue (Cyan). For the minor aspects we have magenta for inconjunct/semisextile, orange for semisquare/sesquiquadrature, dark cyan for all the quintiles, dark purple for all the septiles, and dark red for all the noviles.

`-V <25,43,50>`: Start up with text mode set to number of rows.

For PC's compiled with screen graphics, the '`-V`' switch will change the text screen to have the specified number of rows, assuming the hardware available supports it. Legal values are 25, 43, and 50. This most useful as an initial parameter when running the program from Microsoft Windows (see later) to give more text rows to work in, or in the '`-Q`' loop mode (see later), as well as being another way of getting to the functionality of the DOS `mode` command. Note that for Astrolog builds made using the Borland compiler, only the 25 and 50 line modes are available; attempting to enter a 43 line mode will go to 50 rows.

`-X`: Create a graphics chart instead of displaying it as text.

This is the general switch, which means display a chart in an X window instead of on the screen in some form. For example, the command '`astrolog -i mychart -X`' will open a new window and display the chart in question in it. (Of course, all the other switches, e.g. '`-R`', '`-c`', '`-1`', etc, can be used to change what info is actually displayed.) If you use the '`-L`' astro-graph switch in addition to this, the appropriate Astro*Carto*Graphy map will come up in a window instead of the earlier boring list of longitudes. (e.g. '`astrolog -i me -X -L`') The '`-Z`' and '`-g`' switches will produce their own chart types as well, although, of course, only one type of chart can be in a window at any given time.

`-Xb`: Create bitmap file instead of putting graphics on screen.

This switch will cause a bitmap file to be produced and written to a file instead of putting the graphics on the actual screen. This is useful if you want to convert the graphics to different formats, e.g. so they can be displayed on alternate systems, etc. Note that '`-Xb`' (or any other '`-X<letter>`' switch) automatically assumes the

'-X' switch above, so 'astrolog -i file -Xb' is sufficient (and you don't also have to include the '-X').

Bitmap files may be generated at any size without running out of memory. If any particular sized bitmap it too large to fit in memory all at once, Astrolog will generate it in multiple stages, using available memory to do one section at a time, writing each piece to the file as we go along. (This is similar to the banding method often used to print large images to printers.) For versions of PC Astrolog before 4.20, there was barely enough memory in the 640K available to generate even the standard 640x480 color bitmap. Now one will always be able to do any size allowed, even the maximum of 2730 by 2730 yielding a file nearly four megabytes in size! We do however have to draw the chart once for each band, so if a bitmap is done in two stages, it will take nearly twice as long to generate. Larger bitmaps require more stages and more time, but we can at least always make them. This banding is only done for the Windows bitmap format; the other formats still need to be done in one shot, however the other formats are usually done on non-DOS systems where memory isn't limited to 640K.

-Xb[n,c,v,a,b]: Set bitmap file output mode to X11 normal,
compacted, very compact, ASCII (bmtoa), or Windows bmp. The bitmap file can be written in five different formats; by default whatever format specified at compile time is used. One can change this mode by putting an extra character on the command line after the '-Xb' switch. Specifically, to override the compile time mode, use '-Xbn' for a standard X11 bitmap, '-Xbc' for an X11 bitmap with some white space removed, '-Xbv' for a very compact X11 bitmap (which may not be able to be processed correctly by all X programs), '-Xba' for a one character per pixel ASCII dump identical to the result generated from the X11 bmtoa program, and finally '-Xbb' for the Windows '.bmp' bitmap described below.

One of the available bitmap formats are the '.bmp' extension bitmap files commonly used on PC's running under Microsoft Windows. If you have a PC running Windows, you can set your root background to be one of these monochrome Astrolog bitmaps by: use the '-Xb' option to create a bitmap file, then rename it to have the extension '.bmp' and put it in your Windows subdirectory, then go into 'Program Manager/Control Panels/Desktop' and select this file to be your 'wallpaper'. These bitmap files may be generated in either color or black and white. By default, all graphic charts will be in color, unless specified otherwise. Color is most useful for these PC bitmaps ('-Xbb'), although a color bitmap will take up more disk space. X11 bitmap files will always be output in monochrome format, since color '.xbm' files don't exist. A color ASCII file ('-Xba') will have the color value of each pixel converted to a hexadecimal number, instead of being in the format generated by the Unix bmtoa utility in the case of monochrome charts.

-Xp: Create PostScript stroke graphic instead of bitmap file.
-Xp0: Like '-Xp' but create complete instead of encapsulated file.

Astrolog can generate PostScript graphics files! PostScript is a graphics format different from bitmaps in that it's based on 'strokes' as opposed to 'pixels'. With a stroke graphic, an image is defined in terms of 'circle here, line there, etc' instead of a large array. This means PostScript graphics can be printed at any size without losing accuracy or becoming 'blocky', and look perfectly smooth when printed to a laser printer. A PostScript file is also about an order of magnitude smaller in size than a corresponding bitmap file.

To generate a PostScript chart, use the '`-Xp`' switch. This will work just like bitmap files for all Astrolog's graphics charts, in that you will be prompted for a file to write the graphics to unless you explicitly pass a file to the '`-Xo`' switch. The type of file generated will be an encapsulated PostScript graphic (which are usually seen with a '`.eps`' extension) meaning that it's made to be inserted into a document and scaled and so on and printed from there. A true independent PostScript file which can be sent directly to a printer can be generated by specifying '`-Xp`' as '`-Xp0`' instead. As with bitmaps, it is recommended to include '`-Xm`' for a monochrome graphic unless you have a color printer, and to include '`-Xr`' so the chart is black on a white background (so that you don't cover 90% of the page with ink when printing)!

There is a compile time option `#define PS` in the '`astrolog.h`' which can be commented out to disable the '`-Xp`' switch and all PostScript features. Note that on an X window system one may directly print out a bitmap to a PostScript printer even without this internal support. One simply brings up an Astrolog chart in an X window, or creates a bitmap and displays that bitmap in a window using some other graphics program, and then uses the Unix command `xdpr` to print it, with a line such as `xdpr -P<postscriptprintername> -device ps`, and then clicking on the window to print it to the specified printer. Of course, the native PostScript charts will look much smoother.

Special thanks goes to Mr. Brian D. Willoughby (who BTW also lives really close to where I work, and who helped me restore the files on my NeXT optical disk after it crashed thereby recovering my only copies of Astrolog versions 1.00 through 2.00) who wrote the routines and parts in the '`xgeneral.c`' file which deal with PostScript (e.g. what's the PS command to draw a line, ellipse, filled rectangle, etc.) Basically, if it's inside `#ifdef PS`, Brian likely gets credit for it, for anything else (except the '`placalc.c`' file of course, and the Matrix routines which are marked as so) I'm the one to blame. :)

`-XM[0]`: Create Windows metafile stroke graphic instead of bitmap.

'`-XM`' switch: Yet another graphics format, Astrolog can generate Windows metafiles. Metafiles are those files (usually with extension .wmf and often called 'pictures' for users) that are frequently used in Microsoft Windows for clipart and other such things. (Astrolog is one of the few non-Windows programs which can generate metafiles internally without relying on Windows itself.)

Like PostScript, metafiles are a 'stroke' graphic format. Metafiles are in binary format unlike the human readable ASCII text in PostScript files, and hence are smaller in size for the same image. Although the same chart generated in PostScript and metafile format will more or less look the same, for PC and Windows users, metafiles are preferred. (For Unix systems PostScript is preferred since there aren't many Unix apps out there that know or care about Windows metafiles, while PostScript is a standard used everywhere.) A metafile can be inserted as a picture into Word, CorelDraw, and pasted into Windows Write and many other applications. Unlike PostScript, a metafile can be displayed on the screen in your document, instead of like most EPS files which when displayed by Windows just indicate that 'this is an PostScript image' and have to be printed to be seen. A metafile can actually be edited in MS Draw and many other drawing applications where one may modify the Astrolog chart, change colors, add text, and so on before printing!

Metafiles (and PostScript graphics) have the option to include actual system fonts for text, as well as even zodiac sign, planet, and aspect glyphs! This will look smoother than having Astrolog fake all the characters with 45 degree line segments. There is a setting in the '`astrolog.dat`' file which when set by the user will always use system fonts instead of simulating them. If the '`-XM`' switch is invoked as '`-XM0`' instead, the status of this flag will be toggled for the chart generated. (This switch can be used with PostScript charts by specifying '`-XM0 -Xp`'.) In the PostScript charts, the following printer fonts are used: Courier for text, Times Roman for house labels, and Astro for Sign, Planet, and Aspect glyphs.

For these metafiles, the following Windows TrueType fonts are used: Courier-New for text, Times New Roman for house labels, Wingdings for sign glyphs, and Astro-SemiBold for Planets and Aspect glyphs. All of these fonts should be installed in your system already except likely Astro-SemiBold. This font, created by Kenneth Hirst, is available from the `hilbert` ftp site in the directory '`/pub/astrology/Fonts`' in the file '`6ttfont.zip`'. To install it on Windows, `unzip` this file, then go into the Windows Control Panel and select the `Fonts` icon. Click on the `Add` button and select the file '`astro-se.ttf`' that was in the zip archive, and the font will be installed on your system. If it's not installed, the planet and aspect glyphs will appear as letters. (**Hack:** If you can't get access to the Astro font, but still want all the other fonts to be included, one can set the value of the '`-YXf`' 'use actual fonts' setting in '`astrolog.dat`' to '`2`' instead of '`1`', which will cause only the planet and aspect glyphs to be simulated by Astrolog.)

It is possible that a metafile using all the system fonts may print perfectly to a PostScript printer, but an PS file itself won't find the Astro font. This is because the Astro font may be installed on your Windows system, but not on the printer itself, and because when printing a metafile to a printer, Windows will conveniently automatically embed the necessary font information in what it sends to the printer if the font isn't already there. Note that one may actually generate a PostScript chart from a metafile in Windows by using the Print Manager (or the Setup dialog button available from within those Windows host applications that use the standard Print dialog) to set printing to be to an encapsulated PS file instead of directly to a printer. Of course doing this won't likely be needed since Astrolog can generate PS files natively.

Like bitmaps, creating metafiles is also efficient in how it uses memory. Astrolog will attempt to allocate a large buffer for them, and keep decreasing the amount until it succeeds. (Note that the related PostScript charts don't need any memory buffers because they're written to disk while being generated.) There is a compile time option `#define META` in the '`astrolog.h`' which can be commented out to disable the '`-XM`' switch and all metafile features.

`-Xo <file>`: Write output bitmap or graphic to specified file.
This switch is used in conjunction with the '`-Xb`', '`-Xp`', or '`-XM`' options, to specify the name of the file to write the graphic image to. If not included the program will prompt you for the filename before writing to disk.

`-XB`: Display X chart on root instead of in a separate window.
For X window systems only, this switch will cause the chart graphics to be displayed directly on the root window. This action occurs very quickly since the program does not have to write a separate bitmap file and call `xsetroot -bitmap` on it (although one could easily do this if they want to). For example, one could put the line '`astrolog -n -XB`' in their '`.xsession`' file and whenever they log in, their background will be set to a chart of the current state of the planets!

`-Xm`: Create monochrome graphic instead of one in color.
For systems without color monitors, the '`-Xm`' switch will create all charts in monochrome B/W mode. One can still generate color bitmap files on a monochrome system, just can't properly display them of course.

`-Xr`: Create chart graphic in reversed colors (white background).
Normally the charts comes up white on a black background. To get the chart or bitmap displayed in reverse video (black on white), use this '`-Xr`' switch.

`-Xw <hor> [<ver>], -ge[..]`: Change the size of chart graphic.
The default graphic chart size is 480x480 units. This can be changed with the '`-Xw`' switch. '`-Xw`' with one argument '`n`' will make an '`n`' by '`n`' chart; '`-Xw`' with two arguments '`x`' and '`y`' will make an '`x`' by '`y`' image. Note that this switch will not affect astro-graph or aspect grid windows; to change the size of these use '`-Xs`' below.

For X window systems only, Astrolog accepts the standard '`-geometry`' switch (which can be abbreviated as '`-geom`' or anything starting with '`-ge`'). This is only an alias to this '`-Xw`' chart size switch, in that it takes the same parameters in the same way. PC graphics charts may be automatically sized to the dimensions of the screen by passing zero to either or both parameters of the '`-Xw`' switch. (Without this, to fill the screen or prevent clipping, one would have to find out the dimensions of whatever graphics mode beforehand, or manually press the `B` key to do the same thing.) If '`-Xw`' is passed zero under X Windows, it will use the compile time default window size.

`-Xs <100,200,300,400>`: Change the size of map or characters by %.
Note that the size of the planet and sign glyphs don't change when you change the size of a graphics chart. This can cause problems for very small charts where the glyphs overlap the rest of the chart and for very large charts where there is lots of excess space. The '`-Xs`' switch can be used to change the size of all glyphs. The valid values that can be passed to it are 100, 200, 300, and 400 where 200 is the

default. Note that this switch is used to change the size of the astro-graph (and aspect grid) graphic charts (because the world map is considered to be one giant glyph by the program.)

`-Xi`: Create chart graphic in slightly modified form.

Certain people have asked that some of the graphics charts be modified in various minor ways, i.e. in either adding or removing certain information. Rather than add a new hard to remember minor option for each change, I have added one major switch which covers all the charts. The '`-Xi`' switch will invoke this 'induce/inhibit information' option, and pressing the `I` key in a window will accomplish the same thing by toggling the mode's status. By default, all the charts are as before, but when this bonus option is set, it affects each graphic chart in a different way, as follows:

- For the standard '`-v`' and relationship '`-r0 -v`' wheel charts, it will inhibit the display of the aspect grid in the center – useful for speed or when doing large time lapse animations when it would get in the way.
- For the '`-g`' aspect grid, it will flip the aspects and midpoints across the center diagonal, i.e. the midpoints will be below it and the aspects above it, instead of the other way around. For the '`-r0 -g`' relationship aspect grid, the entire grid will be replaced with one showing all midpoints between all the objects in the two charts. **Note:** The '`-g0`' switch when combined with '`-r0`' will also generate a relationship midpoint (as opposed to aspect with just '`-g`') grid. However, this will revert back to the aspect grid if both '`-Xi`' and '`-g0`' are in effect with '`-r0`'.)
- For the '`-Z`' horizon chart and '`-S`' space chart, it will, for the major planets, increase the size of the 'points' showing where each object actually is, making a brighter 'spot', for easier viewing; combine this in the horizon chart with the `L` key label inhibitor and get a very realistic view of the night sky, with planets brighter and all.
- For the '`-L`' astro-graph chart, this will eliminate the display of the Ascendant, Descendant, and Nadir lines, leaving just the vertical Midheaven lines and zenith points, for a remarkable increase in speed and much less clutter when including many objects.
- For the '`-XW`' world map display, this will show the Earth's ley line locations by drawing them on top of the map. Familiar with ley lines? They are lines of energy crossing the Earth. I was experimenting earlier with the master ley line grids on the Earth (in the pattern of an overlapped 20 sided Icosahedron and 12 sided Dodecahedron) and I figured Astrolog with its world map would be an interesting program to explore this with. Actually this is mainly a hack, and belongs more to the field of dowsing than to astrology, but I figured I would leave it in there for amusement and inspiration.

  Hackers note: there is an interesting 'bug/feature' that can arise with the '`-XW`' as well as the '`-XG`' (and '`-XP`', described below) switches: These displays can be brought up in a window without having to specify an actual chart. Now suppose one presses V, L, etc. to bring up a chart – what will be displayed? The answer will be whatever initial values were already there, and if you're curious, it's set to be my own birth data: 11:01am PST (8 hours before GMT) on Friday, November 19, 1971 in Seattle, WA (122W20 47N36). This info can also be brought up by accessing the '-i nul' virtual chart straight from the command line before any other switches.

- For the '-XP' polar globe view, this will show the southern hemisphere instead of the northern.
- For the '-XG' globe display, it will display the zenith locations of all planets (and stars if '-U' in effect) on the globe, i.e. where on the Earth each object could be viewed by looking straight up. This on the globe display is almost identical to the astro-graph chart without its various lines, except of course that the projection of the world map is different. It's also similar to the '-Z' horizon display, except that it's free from the distortion of projecting the celestial sphere upon a plane, so it has use to star gazers. However, animation mode here will still only affect what part of the Earth is viewable, and won't update the chart from which the zenith locations were obtained.
- For the '-E' and '-Ey' graphical ephemeris displays, it will exclude showing the Moon, which is commonly desired because its line moves across the ephemeris chart so much faster than any of the other planets.

-Xt: Inhibit display of chart info at bottom of graphic.

Normally, at the bottom of any chart graphic is printed some header information listing the date, time, and location of the chart in question (unless the info is already being shown in a sidebar). One can inhibit this display by specifying the '-Xt' switch.

-Xu: Inhibit display of a border around graphic.

This switch toggles off the border setting that is also interactively toggled by pressing the B key when a graphics screen is up. This switch allows one to toggle the border for graphics files as well as set the default for this in the 'astrolog.dat' file.

-Xl: Inhibit labeling of object points in chart graphic.

This switch will inhibit labeling with glyphs or text abbreviations, the spots indicating the positions of planets in the various graphics charts. This is just the command line counterpart to the existing functionality accessed by the L key.

-Xj: Don't clear screen between chart updates, drawing trails.

This switch will toggle on a flag which will cause the graphics screen to not be cleared on new chart draws. Pressing the J key interactively will toggle the same setting. This feature is used to draw 'jet trail' streaks on the screen for some charts, such as the '-S' orbit and '-Z' local horizon. If you bring up one of these charts, turn on the setting, and then animate forward, a 'time exposure' can be done showing the orbits of planets or an object's path across the sky. (When this is active, entering animation won't automatically jump to the flicker free mode on PC's, because that would make us flip back and forth between two pages breaking the continuity of our 'streaks'.)

`-X1 <object>`: Rotate wheel charts so object is at left edge.

Yet another graphics feature, this allows one to effectively rotate one of the graphic wheel charts so that a particular object is hinged to the left hand (east) edge of the chart. Given the '`-X1`' switch with the index value of an object, the wheel is drawn but always rotated so that the object in question is at the left side of the chart. By default we have the ascendant at the left edge, of course. This is useful for tracking important planets so one knows where they are, but yet doesn't distort the house cusps as the '`-1`' switch does.

`-X2 <object>`: Rotate wheel charts so object is at top edge.

This is identical to the '`-X1`' switch above except here we rotate the entire graphic wheel so the object in question is always at the top of the chart. Note that during a day, the degree difference between the Ascendant and Midheaven varies in most house systems, so that with the Ascendant hinged at the left edge, the Midheaven will wobble back and forth near the top of the wheel. If you prefer, '`-X2 18`' will fix the Midheaven at the top of the screen, and the chart will be like before except the Ascendant will be the one to wobble near the left edge of the chart.

`-Xd <name>, -di[..] <name>`: Open X window on specified display.

For X windows only, the '`-Xd <display>`' switch can be used to change the display to bring the window up on. Normally, the X window will always come up on the current display, but we can do things like '`astrolog -Xd machine:0.0`' and have the window appear there. In addition, the program will accept this string through the standard '`-display`' (which can be abbreviated as '`-disp`' or anything starting with '`-di`') switch common to most X11 applications.

`-XW`: Simply create an image of the world map.

Believe it or not, I painstakingly entered the data for the world map used by the program by hand using an Atlas during a long week. If you just want to see the map of the world by itself without any astro-graph lines on it, use the '`-XW`' switch.

`-XW0`: Like '`-XW`' but do a non-rectangular Mollewide projection.

The '`-XW0`' switch is just like the normal '`-XW`' switch in that it just displays the world map and nothing else, except that this '`-XW0`' map generated will be in what's called the Mollewide projection, a good looking form often used for maps of the world, as opposed to the standard rectangular map projection used in '`-XW`' which distorts the polar regions of the globe across the top and bottom of the screen. (The Mollewide projection pinches the polar regions together, generating a elliptical map, which is similar to the '`-XG`' globe displays, but which shows the whole world instead of just half.)

`-XG [<degrees>]`: Display the image of the world as a globe.

Once we have the data for the map of the world, there are several neat things we can do with it; for instance, with a little trigonometry and clipping, we can bring up a view of a globe, which is what the '`-XG`' switch does. An optional argument will specify a rotation value in degrees to display different parts of the globe. (The globe seems to look best for a '`-Xw`' window size of around 350.)

Note that the '-XW' and '-XWO' maps can be animated like as this '-XG' globe display can. Animation of these maps are done by shifting the whole map to one side or the other. In fact, such a feature can be used indirectly to shift one of the X window astro-graph charts (which are drawn on the world map) from the normal case of having the date line on the edges of the screen: Go into the world map or globe display, animate it a bit, and then change graphic modes to display the astro-graph chart, and it will be shifted by the corresponding amount. (Note that animating the astro-graph screen itself will change the chart info, not how the screen itself is done.) Because the '-XW' world map, and '-XP' polar globe display, can be animated just as the '-XG' general globe display can, the '-XW' and '-XP' switches accept optional parameters on the command line that will specify what degree (from 0 to 359) to start the map at, just like the '-XG' switch does. In addition, the '-XG' option itself accepts a second optional parameter, which is the starting angle for the globe's tilt, from -90 to +90 degrees.

-XP: Like '-XG' but create the globe from a polar projection.

The '-XP' option will generate a polar view of the Earth as a globe. This is like the '-XG' globe option except that the view is always from the top (or bottom). By default, the view is looking down on the north pole with 0 deg W/E toward the bottom of the screen. (Animation mode will cause the view to spin about the center of the screen.) To see a view of the south pole hemisphere, go into the bonus information mode described above (I key). Again, like with all the other X window display modes, one can enter this display with a keystroke: press P in any Astrolog window and it will revert to this display.

-XF: Display maps as constellations on the celestial sphere.

A graphics chart showing all 88 of the astronomical constellations is available with the '-XF' switch. When this mode is active, the '-XW' world map and '-XG' and '-XP' globe chart modes will draw the outlines of the constellations on the celestial sphere instead of continents on the Earth. Pressing the F key when a graphics screen is up will toggle this setting on. (If you aren't already in one of the map graphics modes, '-XF' and the F key will switch to one.) The constellation maps may be rotated, tilted, and animated and can do everything else just like the world maps, and depict the sky as if you were looking up at it from Earth. In the '-Xi' display modification mode, the locations of the planets in the current chart will be shown among the constellations. The constellations are labeled with their correct abbreviations, and you can see the familiar image outlines such as the Great Bear, Cygnus, and all the others, as well as the constellations named after the twelve signs of the zodiac, and how these astrological signs compare with their corresponding constellations. I happen to have four planets in my own natal chart in the constellation Ophiuchus, while there are several other constellations very close to the ecliptic which planets (other than the Sun) often enter, e.g. the Moon will technically be in Orion on September 27th. As with Astrolog's map of the world, I entered the data describing the irregular shape of each constellation myself, and the boundaries are accurate although rounded to the nearest degree. This is a unique feature that isn't in any astronomical programs that I know of much less astrological! For a demo of this, do '`astrolog -i yourchartfile -XF -XG -Xi -Xn -U`' and see a rotating celestial sphere of the constellations and stars, and where the planets in your natal chart are located within them.

`-Xn [<mode>]`: Start up chart or globe display in animation mode.

The '`-Xn [<value>]`' option can be used to start up an X window in animation mode. It a window, one would have to explicitly press `N` or a `SFT-<NUMBER>` key to start the window animation. Without a parameter after '`-Xn`', the option will start it up in continuous update to 'now' mode (which is like pressing `N` in that any chart will be erased with the current chart now.) The switch can accept parameters from 1..9, corresponding to the animation rates obtained by pressing `SFT-<1..9>` in the window, i.e. update whatever chart is passed to it seconds, minutes, hours, days, months, years, etc. later each time.

`-HX`: Display list of key press options for screen graphics.

This switch prints out the list of keys one can press when a graphics screen is being displayed. This list may also be obtained by pressing the `?` key interactively when graphics are actually up. With '`-HX`', this may be done anytime and be printed out or sent to a file like all other Astrolog tables.

2.9 Obscure Command Switches

`-Y`: Display help list of less commonly used command switches.

This switch was already described in an earlier section.

`-Yn`: Compute location of true instead of mean node.

This switch allows you to set whether the North Node in Astrolog (object number 16) is the Mean or the True node of the Moon. The mean Node is the default, but toggling on the '`-Yn`' flag will do the True node. (The default may also be set at compile time via the `#ifdef TRUENODE`.)

`-Yd`: Display dates in D/M/Y instead of M/D/Y format.

This is a switch which determines whether dates are displayed in Month/Day/Year order or in the more 'European' Day/Month/Year format. Toggling on or off this flag will specify the DMY or MDY format everywhere in the program from text wheel charts to transit charts to the chart info displayed in graphics charts.

`-Yt`: Display times in 24 hour instead of am/pm format.

This is another option which is just like the above except that it affects how times are displayed throughout the program. When clear, times will be printed in am/pm format, while when set they will be in the more 'European' 24 hour clock.

`-YC`: Automatically ignore insignificant house cusp aspects.

This option toggles on a useful flag to automatically prevent display of irrelevant or redundant aspects involving house cusps, processing them in a more intuitive manner. This affects charts such as '`-t`' transit search lists, '`-T`' transit influence charts, and '`-a`' aspect lists. First, aspects other than conjunctions to minor cusps will be ignored, e.g. a sextile to the 12th house cusp is redundant and isn't really useful, as we are more interested in the conjunction to the 2nd house. Minor aspects to the angles such as the Ascendant and Midheaven are left alone. The setting also prevents redundant aspects to two items that are always opposite each other, e.g. if a transit list shows a trine to the Midheaven, it won't show a sextile to the Descendant right next to it.

`-Y8`: Clip text charts at the 80th column.

This setting when active will stop printing lines of text within charts if they're long enough to go beyond the right edge of the screen. This can be used to prevent text from wrapping around the screen to the next line. By default, with all objects unrestricted, certain charts will have rows more than 80 columns wide, which can break up the chart making it difficult to read, e.g. the '`-r0 -g`' relationship aspect grid, the '`-E`' ephemeris listing, and the '`-L`' astro-graph columns when uranians are included. With this option on however, these and any other charts that can go beyond column 80, will always be displayed on one line, with columns that would go beyond the 80th not getting printed. Note that this setting can actually clip at any column instead of just the 80th, where the screen width value used is the same as used for interpretation formatting, i.e. the optional parameter to the '`-I`' switch.

`-YQ <rows>`: Pause text scrolling after a page full has printed.

This feature gives you the option to have Astrolog automatically stop whenever the screen gets filled with text and prompt before scrolling to the next page. It takes one parameter to define the number of rows to print before prompting the user to press return to continue. If set to zero, the feature will be turned off and Astrolog will print continuously until done. This helps those who may be concerned about the program scrolling things off the screen before they can read it. Without this one would have to press `CTRL-S` to have the system pause printing, send output to a file, or be on a system with scrollbars to see everything. This feature is on by default and set to 24 lines, although this can be changed easily in the '`astrolog.dat`' file. When the program is paused, one can type a couple things before pressing return: Entering `Q` will terminate the program, entering `Q` will turn off the feature and scroll until done, `8` will toggle the right hand column clipping setting, and `K` will toggle the ANSI color setting.

`-Yo`: Output chart info and position files in old style format.

Astrolog can still read in all old style '`-o`' info and '`-o0`' position chart files generated by previous versions of the program without problem. Not only that, but it will write out these old formats too if the '`-Yo`' switch is put into effect. When set, it will output '`-o`' and '`-o0`' files exactly as in version 4.10 and before, in simple lists of numbers in fixed fields instead of in generic command files.

`-YP <-1,0,1>`: Set how Arabic parts are computed for night charts.

This is an obscure option allowing one to force whether night chart formula inverting is done in the '`-P`' Arabic part chart list, since sources differ on which parts are best inverted. This option takes one parameter, either -1, 0, or 1. Zero is the default setting, meaning the program will invert only those parts that have the flip flag set, for charts cast at night. If the setting is 1, then no inverting will ever be done for any part, even in night charts. If the setting is -1, then inverting will always be done for every part, even in day charts. The last setting will even invert the computation of the Part of Fortune, i.e. object 18, in the main object list. Note that the POF does appear both in the '-P' full part list, as well as being the only part that's also a standard object, meaning it's the only part one may automatically do aspects or transits to. Note also that the '-P' list POF inverts for night charts, while the standard object doesn't; the '-P' full part feature was introduced in Astrolog later and I didn't want to change the computation of the older POF.

-YE <obj> <semi-major axis> <eccentricity (3)>
<inclination (3)> <perihelion (3)> <ascending node (3)> <time offset (3)>

Change orbit of object to be the given elements. This feature allows one to 'define their own planets', by changing the orbital elements of one of Astrolog's objects. This switch takes 17 parameters, which specify all the data needed for any elliptical orbit around the Sun. The parameters are as follows: First is the object to redefine; second is the semi-major axis of the new orbit, in AU; next are three parameters for the eccentricity of the orbit's ellipse; next are three parameters for the inclination of the orbit with respect to the ecliptic, in degrees; next are three parameters for the argument of perihelion, which is the 'rotation' of the orbit in degrees or how far away its perihelion is from zero Aries; next are three parameters defining the ascending node, which is the 'tilt' of the orbit or how far away the point where the orbit intersects the ecliptic is from zero Aries; finally are three parameters for the 'mean anomaly' which is basically where on the orbit the planet is at a reference time and how fast it moves along it. Many of the above element settings take three values when it seems like only one is needed. The second and third values are used as linear and quadratic error factors to the first, and can be zero unless every last bit of accuracy that can be provided outside of ephemeris files is needed. Note that these parameters basically replace the same elements as used in the old MATRIX formulas. This means the '-YE' switch settings are ignored when the '-b' ephemeris flag is in effect. Note also that the MATRIX formulas have special error factors applied on top of their main elements for Jupiter through Pluto, hence it's recommended to only redefine asteroids, uranians, or inner planets. The following example will roughly move Venus into Earth's orbit: '-YE 4 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 23000'.

-YR <obj1> <obj2> <flag1>..<flag2>: Set restrictions for object range.

This is like the '-R' switch except that it explicitly sets the restrictions for a range of Astrolog objects instead of just one. The first two parameters specify the lower and upper object bounds, and are followed by zero or one flag parameters to clear or set the restriction status of each object within the range.

-YRT <obj1> <obj2> <flag1>..<flag2>: Transit restrictions for range.

This behaves exactly like the '-YR' switch above except it affects transit restrictions, like how the '-RT' switch is to '-R'.

-YR0 <flag1> <flag2>: Set restrictions for sign, direction changes.

This sets the restriction status for sign and direction changes. It takes two parameter flags, with the first setting for sign changes, and the second direction changes. This affects the '-d' daily event searches, and works like the '-R' restrictions but for all types of these special events, instead of all aspects or all events containing a particular object.

-YAo <asp1> <asp2> <orb1>..<orb2>: Set aspect orbs for range.

This is like '-Ao' but sets the orbs for a range of Astrolog aspects instead of just one. The first two parameters specify the lower and upper aspect index bounds, and are followed a list of orb values for each aspect in the range.

-YAm <obj1> <obj2> <orb1>..<orb2>: Set max planet orbs for range.

This is like '-Am' but sets the maximum aspect orbs allowed to a range of objects instead of just one. Again, the first two parameters are the lower and upper object indexes, followed by the list of max orb values.

-YAd <obj1> <obj2> <orb1>..<orb2>: Set planet orb additions for range.

This is like '-Ad' but sets the planet orb addition values for a range of objects instead of just one. Again, the first two parameters are the bound indexes, and are followed by the list of planet orb additions.

-Yj <obj1> <obj2> <inf1>..<inf2>: Set influences for object range.

This sets the powers or influences of the given range of planets, when considered in a natal chart, as used in charts such as the '-j' influence chart, '-a' aspect influence list, and '-T' transit influence list.

-YjC <cusp1> <cusp2> <inf1>..<inf2>: Set influences for house cusps.

This sets the influences for the given range of houses, as used in charts such as '-j'.

-YjA <asp1> <asp2> <inf1>..<inf2>: Set influences for aspect range.

This sets the influences for the given range of aspects, as used in charts such as the '-j' influence chart, '-a' aspect influence list, and '-T' and '-D' transit lists.

-YjT <obj1> <obj2> <inf1>..<inf2>: Set transit influences for range.

This sets the influences of the given range of planets, just like '-Yj', except here for when the planets are transiting, as used in charts such as the '-T' transit and '-D' external planets influence lists.

-Yj0 <inf1> <inf2> <inf3> <inf4>: Set influences given to planets

in ruling sign, exalted sign, ruling house, exalted house. This switch takes four parameters and sets respectively, the extra influences given to a planet when it's in the sign it rules, when it's in the sign it exalts in, when it's in the house corresponding to the sign it rules, and when it's in the house corresponding to the sign it exalts in. These values are used in examples such as the '-j' influence chart.

-YI <obj> <string>: Customize interpretation for object.
-YIa <sign> <string>: Customize interpretation adjective for sign.
-YIv <sign> <string>: Customize interpretation verb for sign.
-YIC <house> <string>: Customize interpretation for house.
-YIA <asp> <string>: Customize interpretation for aspect.
-YIA0 <asp> <string>: Customize aspect interpretation statement.

You can customize the core phrases as used in Astrolog's interpretations. All these switches take two parameters: the index of the item to change, and the string to set it to. (You probably want to enclose any strings in quotes so they are treated as a single parameter and not split at the spaces.) The things that can be changed and the switches to do them follow:

- -YI <obj> <string>: This sets the meaning for the given planet or object, i.e. the part of one's mind the planet represents. For example, the default setting for Jupiter would be:

  '-YI 6 "enthusiastic, faithful, wise, expansive, spontaneous nature"'.
- -YIC <house> <string>: This sets the meaning for the given house, i.e. the area of life that house represents. For example, the default for the first house is:

  '-YIC 1 "establishment of personal identity"'.
- -YIa <sign> <string>: This sets the characteristics for the given sign, i.e. adjectives describing it. For example, the default for Gemini is:

  '-YIa 3 "inquisitive, witty, perceptive, adaptable"'.
- -YIv <sign> <string>: This sets the desires for the given sign, i.e. verbs describing what something characterized by it seeks. For example, the default for Virgo is:

  '-YIv 6 "works toward perfection"'.
- -YIA <asp> <string>: This sets the meaning for the given aspect, i.e. the type of interaction going on when the aspect is in effect. For example, the default for the Trine is: '-YIA 4 "is in harmony with"'. **Special note for hackers:** If the optional characters '"%s"' appear in the given string anywhere, Astrolog will replace them with an appropriate adverb indicating how strong the effect of the aspect is (and include the trailing space). For example, the real default for Trine is: '-YIA 4 "is %sin harmony with', where the '%s' will is replaced with 'always ', 'somewhat ', etc, as appropriate.
- -YIAO <asp> <string>: This sets the conclusion for the given aspect, i.e. an additional sentence about it. For example, the default for the Opposition is:

  '-YIAO 5 "Adaptation is required by both sides"'.

-YkC <fir> <ear> <air> <wat>: Customize element colors.
-YkA <asp1> <asp2> <col1>..<col2>: Customize aspect colors.
-YkO <1..7> <1..7> <col1>..<col2>: Customize 'rainbow' colors.
-Yk <0..8> <0..8> <col1>..<col2>: Customize 'general' colors.

Astrolog can customize the colors as used for almost anything in the program. A color may be set to any one of 16 values, represented by the numbers 0 to 15, which are:

0	Black	4	DkBlue	8	DkGray	12	Blue
1	Maroon	5	Purple	9	Red	13	Magenta
2	DkGreen	6	DkCyan	10	Green	14	Cyan
3	Orange	7	LtGray	11	Yellow	15	White

When entering a color as a parameter, use the correct number above, or else type the color's name as printed above (which may be abbreviated to the first three characters). The switches to change color settings are below.

- -YkC <col1> <col2> <col3> <col4> switch: This switch defines the colors used for the four elements, and takes four parameters, for fire, earth, air, and water, in that order. The colors used for planets are based on the element of the sign they rule, so this affects the colors of the main planets too. For example, to make earth be green and air yellow, instead of the other way around as Astrolog used to always force, do '`-YkC 9 10 11 12`' or '`-YkC Red Green Yellow Blue`' or just '`-YkC red gre yel blu`'.

- `-YkA <asp1> <asp2> <colors>` switch: This defines the colors used for a range of aspects. The first two parameters are the lower and upper indexes of the aspects to modify, and are followed by one color parameter for each aspect in the range. For example, to highlight Trines by making them white and all the other major aspects dark blue, do '`-YkA 1 5 dkb dkb dkb whi dkb`'.
- `-Yk0 <val1> <val2> <colors>` switch: This sets a range of colors used other places in the program (excluding elements and aspects) whose default colors are one of the colors of the rainbow. The first two parameters are values from 1 to 7 indicating the lower and upper bounds of the default colors to redefine, and are followed by new actual colors to use instead. The seven indexes represent the colors Red, Orange, Yellow, Green, Cyan, Blue, and Purple. For example, if you want to change the color used for the Uranians from their default of purple to orange, do '`-Yk0 7 7 orange`' and you've effectively 'redefined the color purple'.
- `-Yk <val1> <val2> <colors>` switch: Like '`-Yk0`' above this also sets a range of colors as used many places in the program, except this allows one to redefine all the standard or obscure colors (i.e. the other nine that aren't one of the rainbow colors covered above). Again the first two parameters indicate the range of colors to change which are from 0 to 8, and are followed by the new colors to use. The nine indexes represent in order the colors Black, White, LtGray, DkGray, Maroon, DkGreen, DkCyan, DkBlue, and Magenta. For example, to change the highlight color as used in graphics charts to draw borders and the like from LtGray to Yellow, do '`-Yk 2 2 yellow`'. (Note that you can use this to even 'change' the colors Black and White to draw graphics on whatever background color you want.)

`-YXG <0-2><0-2><0-2><0-3>`: Select among different graphic glyphs for Capricorn, Uranus, Pluto, and Lilith. Astrolog has the ability to choose between different common glyphs for various astrological symbols. One may optionally display charts with the 'European' version of the Capricorn glyph, instead of the more twisty 'American' type glyph. One may display charts with the 'astronomical' version of the Uranus glyph using a dotted circle with an ascending arrow, instead of the more astrological 'Herschel' glyph with the crescent bounded cross over a circle. One may display with the 'astronomical' version of the Pluto glyph as the 'PL' initials, instead of the more 'astrological' version with the circle over crescent over cross. Finally one may choose to display Lilith as a small reversed crescent instead of as a circle with a line through it. The '`-YXG`' switch changes the glyphs to use for these signs and planets that may be drawn in more than one way. It takes one parameter, a four digit number specifying the glyphs to use for Capricorn (1000's place digit), Uranus (100's place), Pluto (10's place), and Lilith (1's place). For each position, the digit '0' means to leave a glyph alone, while '1' means set to what's generally considered the 'American' form, and '2' means to what's generally considered a 'European' form. (For Lilith only, one may also choose the digit '3', which is the 'U' shaped South Node glyph.) For example, '`-YXG 0120`' leaves the glyphs for Capricorn and Lilith at their present setting, sets Uranus to be the 'Herschel' glyph, and Pluto to be the astronomical 'P' glyph. The default selection is '1111', but many astrologers on the Eastern side of the Atlantic may prefer '2222'.

`-YXg <cells>`: Set number of cells for graphic aspect grid.
: This sets the size of the graphic -g aspect and midpoint grids, i.e. the number of cell rows and columns available to draw items in. Aspect grids by default are always 20 by 20 cells (21 by 21 for the '`-r0`' relationship comparison grids counting the index row) to account for the default number of objects active. If this size value is too high (or objects are restricted), there will be unused rows at the bottom, while if it's too low (or objects are added), rows will be clipped off the bottom.

`-YXf <val>`: Set usage of actual system fonts in graphic file.
: This sets whether or not actual system fonts (instead of Astrolog's vector graphics) are used for glyphs and text in PostScript and Windows metafile graphics files. Zero means no system fonts, while one means use Courier, Wingdings for metafiles, and the Astro font. (This can also be set to the hack value of two if you don't have the Astro font, which means don't try to use this system font but do use all the others.)

`-YXp <-1,0,1>`: Set paper orientation for PostScript files.
: This allows one to set the page orientation for full PostScript graphics files as generated with the '`-Xp0`' switch. If the orientation parameter value is positive, that means the chart will be printed in portrait mode, while if negative, it will be in landscape mode. If the orientation value is set to zero (the default), then the program will decide based on the size of the current chart, with charts with wider horizontal sizes (e.g. astro-graph charts and wheel charts with sidebars) being in landscape, and charts with horizontal sizes less than or equal to the vertical (e.g. aspect grids and wheel charts without sidebars) being in portrait.

`-YXp0 <hor> <ver>`: Set paper size for PostScript files.
: One may also choose the paper size of full '`-Xp0`' PostScript graphics charts. There are two parameters given which specify the horizontal and vertical size in inches of the paper to be printed upon. By default this is 8.5" x 11". If you have say 8.5" x 14" legal size or A4 paper in your printer it can be used just as easily. (**Note:** It's possible that at least some systems or drivers may clip all graphics beyond 8.5" x 11", but excluding any external restrictions Astrolog's PostScript should allow one to go beyond these limits.)

`-YX <hi-res> <lo-res>`: Set modes to use for PC screen graphics.
: For PC's with graphics only, this sets the two graphics modes as used when displaying charts on the screen. The two parameters specify the mode number to use as the default 'hi-resolution' mode, and the 'flicker-free' mode used for animations.

`-;`: Ignore rest of command line and treat it as a comment.
: The '`-;`' 'dash semicolon' switch when encountered causes all the rest of the switches on a command line to be ignored and not processed. This allows the semicolon

(usually used by itself without the optional dash prefix of course) to be used to begin comments and for comment lines in the various command files.

3 Astrolog Graphics Screen Key Press Options

(**Note:** When a graphics chart is up, pressing a key which doesn't do any of the operations below will sound a beep.)

Press `H` or `?` to display this list of key options.

The most important key, of course. Pressing this will display a help list of all the key presses available in the text screen from which the window was invoked from.

Press `P` to toggle pause status on or off.

Press this to pause all automatic updates to the window or screen. This is mainly used to temporarily freeze any animation (see below) so a particular chart can be looked at without interruption. When animation is on but temporarily paused with this key, the mouse (inactive for the purpose of scribbling during animation) will come active again. Related to this, the number keys which set the rate of animation, but for PC's scroll the chart when not in animation mode, will do the scrolling instead of setting the rate when animation is paused then.

Press `X` to toggle fg/bg colors on screen.

Pressing this will invert the colors on the screen, or in other words will do the same thing as the '`-Xr`' switch on the command line.

Press `M` to toggle color/monochrome display on screen.

For color displays, pressing this key will toggle in and out of monochrome mode.

Press `I` to toggle status of the minor chart modification.

Pressing this key will toggle whether or not an alternate form of the present chart should be displayed. See the '`-Xi`' switch described earlier for more information on these alternate chart formats.

Press `T` to toggle header info on current chart on screen.

Pressing the `T` key will toggle whether or not the chart parameters are printed at the bottom of the window or in a sidebar. This corresponds to the '`-Xt`' switch mentioned earlier.

Press `B` to toggle drawing of a border around the chart.

This key, when pressed when a graphics chart is being displayed, will toggle whether or not a border is drawn around the graphic. Some charts, such as aspect grids, will always have a border regardless of the state of this flag, while others such as the globes will never have one. Most charts however, such as the wheel charts will look good either way and this key can be used to choose.

Press `L` to toggle labeling of object points in chart.

Press the `L` key in a window to inhibit the labeling of all planets in the various charts. Instead of drawing the actual little point and then the glyph near it (as well as sometimes a line from the glyph to the dot), just the point is displayed. This mode is mainly useful for the '`-Z`' horizon and '`-S`' space charts (and has little use for anything else) when in cramped quarters or to get a more realistic view of how the sky actually looks.

Press `J` to toggle not clearing screen between chart updates.

This key toggles on the 'jet trails / time exposure' flag which will cause the graphics screen to not be cleared on new chart draws. See the '`-Xj`' switch which affects the same setting for more info.

Press `V` to display current chart positions on text screen.

Press this key to dump back to the text screen the list of where all the planets currently being displayed in the window are. This display is the same as produced with the '`-v`' switch, and is useful if one wants text to show where everything in the chart is.

Press `R`, `C`, `U`, `U` to toggle restriction status of minor objects, minor house cusps, uranian planets, and stars.

Press the `R` (restrict) key in an Astrolog graphics screen and the chart will be redrawn with the restriction status of the asteroids and other minor objects toggled. Pressing the `C`, `U`, and `U` keys in the window will toggle the restriction status of the four minor house cusps, the uranian planets, and the fixed stars, respectively. These keys compliment the `R` key option and are the counterparts to the '`-C`', '`-u`', '`-U`', and '`-RC`', '`-Ru`', '`-RU`' switches. (Note that for the `C`, `U`, and `U` keys, toggling their state off will automatically restrict all the objects associated with them, while the `R` key can simultaneously restrict some and unrestrict other bodies.)

Press `C` to toggle relationship comparison chart mode.

This key, when pressed when a graphics chart is being displayed, will toggle the state of whether a relationship comparison chart ('`-r0`') is being shown. For example, pressing it when a wheel chart is up will revert to a dual wheel chart showing two sets of planets, while pressing it when an aspect grid is up will revert to a dual aspect grid between the planets of two different charts. When going from a comparison to a single chart, one of the charts will be used while the other thrown away. When going from a single to a comparison, the same chart information will be put in both (which won't be too useful until they are made different through animation or other keypresses).

Press `S`, `H`, `F`, `G` to toggle status of sidereal zodiac, heliocentric charts, domal charts, and decan charts.

Press the `S` key in the window to toggle whether or not the sidereal vs. tropical zodiac is used. Press the `H` key to toggle to a heliocentric based chart or back again to a geocentric one. Press the `F` key to toggle the status of whether or not the chart should be modified to correspond to the appropriate domal chart (where the house positions are represented as zodiac positions and vice versa). Press the `G` key to toggle the status of whether or not the chart should be modified to correspond to a decan chart (where each sign is divided in thirds representing the two other signs in its element). These keys of course correspond the '`-s`', '`-h`', '`-f`', and '`-3`' options, respectively.

Press `O` and `O` to recall/store a previous chart from memory.

Have you ever animated your natal or some other chart to some far distant future or past time, only then to wish you could somehow easily get back in time to the original chart? You can, by pressing the O key in a window, which will recall to the screen previously 'saved' chart parameters (which are by default set to whatever you started the window with.) Press the O key to change this default stored chart to be the chart that is presently in the window.

Press B to dump current window contents to root background.
: Press the B key in an X window to dump whatever is currently being displayed to the background root window. This is basically the corresponding keypress to the '-XB' option.

Press B to resize chart display to full size of screen.
: For PC systems, the B key does a different function that the feature shown above. See PC graphics section for its description.

Press Q to resize chart display to a square.
: One can manually resize the Astrolog X Windows using a window manager (except when a world map or aspect grid is displayed, in which case any resizing will have no effect). Pressing the Q key will automatically resize any (non-world map) window to be a square. This is useful, after resizing charts to approximately the size you want, to make them precise squares. Note that for PC's, this will take EGA and CGA mode pixel ratios into account, in that the horizontal and vertical sizes may be made different in order that the actual display looks square. This will also take into account wheel chart sidebars and only resize the actual visible chart to a square when one is being displayed to prevent distortion.

Press < and > to decrease/increase the scale size of the glyphs and the size of world map.
: This two keys will respectively decrease and increase the size of the sign and planet glyphs (as well as resize the astro-graph and aspect grid charts) through the three scale factors available. After resizing the window, you will probably want to use these keys if the glyphs are then too big or small for the new chart.

Press [and] to decrease/increase tilt in globe display.
: [,] keys: Not only can the globe display be rotated, but the poles can be tilted down at various angles! (This basically makes the '-XP' polar globe view option obsolete; it's still in there only for backwards compatibility.) Press the [and] keys when the globe is being displayed to respectively 'pull down' and 'push back up' the angle of the polar axis from which the globe is viewed. Combining this with the globe rotation allows one to move any point of the globe to the center of the screen.

Press + and - to add/subtract a day from current chart.
: These keys, when pressed when a graphics chart is being displayed, will update the current chart forward or backward one day (actually 1..9 days based on the current animation rate). When animation mode itself is active, these keys will jump by the current animation step, instead of only an amount in days.

Press N to set chart information to current time now.
: This key, when pressed when a graphics chart is being displayed, will change the current chart (or 'outer' chart when a '-r0' comparison chart is up) to the current time and place now. This interactively does the same as the '-n' command line

switch. The only other way to revert a graphics chart to the time 'now' is to enter animation mode via the `N` key and then leave it, so this is a shortcut convenience. (This feature is only available when the `TIME` compile time value is uncommented of course.)

Press `N` to toggle animation status on or off. Charts will
be updated to current status and globe will rotate.

Animation! This key will toggle in and out of a mode where the chart is continually updated in the window. Entering the animation mode will cause the chart being currently displayed to be replaced by the chart for the exact moment at the time you are running the program. Every second or two, the chart will be updated to reflect the new current state of the planets and houses. For large window sizes, one can actually see very minor changes in the chart every few seconds. With the text '`T`' mode in effect, the chart is basically an advanced version of xclock, and makes a good window to be left running on your display. If you are in the '`-XG`' globe display mode, pressing the `N` key will cause the globe to rotate for an impressive display!

Press `!`—`(` to begin updating current chart by adding times.
!: seconds, minutes, #: hours, $: days, : months, ^: years, &: years*10, *: years*100, (: years*1000.

These nine keys (i.e. `SFT` plus the number keys from `1`..`9`) enter into a different form of chart animation. Pressing them will cause the current chart being displayed (i.e. it will not revert to the current planet positions) to continually have a delta time added to it and be recast and shown. Pressing `!` will have one second added to the chart for every update (slow action unless you have a very fast system – the animation will be even slower than for the `N` key). Pressing `@` will have one minute added to the chart each time, which makes for a nice display (note that you will definitely want to be in the text '`T`' mode for these animations so you can see what times in the future these charts are being cast for. Pressing `#` will have one hour added each time (note that now the house cusps are starting to move quickly, so you may want to switch to a different system of houses (such as the Equal to keep the Midheaven from flopping back and forth) and/or use '`-1`' to put an object like the sun on the Ascendant.) Pressing `$` will have one day added each time (now you will probably want to start using '`-R`' to remove fast moving objects like the moon), and pressing `%` will have one month added for each update of the window. The final keys, `SFT-6`..`SFT-9` cause years, decades, centuries, and millennia to be added each time, and tend to only be used to look for long range actions (when will Neptune next enter Pisces, etc.) To exit these animation modes, press the `N` key.

Press `R` to reverse direction of time-lapse or animation.
Press this to reverse the direction of any animation taking place. For the `!`..`(` animation keys above, this will cause negative times to be added to the chart, e.g. pressing `#` then `R` on a chart cast for noon will cause the next chart to be displayed for 11am, then 10am, etc. For the Globe animation, this will cause the rotation to reverse direction.

Press `1`—`9` to set rate of animation to 'n' degrees, etc.

The nine number keys are used to set the relative 'rate' of animation to 'n' whatevers. For example, normally the `@` key means add one minute to the chart for each update, but press `5` and now we are adding 5 minutes each time. For the Globe animation, by default the Earth rotates one degree each time; however, the number keys can speed this up to nine degrees for each update.

Press `1`—`9` to determine section of chart to show if clipped.

For PC systems only, see the section on PC graphics for this additional feature accessed through the number keys. Note when pressing numbers to set the animation rate or the section of a PC graphics screen to view, the numeric keypad will work for PC's even if numlock isn't on. It would be annoying to press a number on the keypad only to pass some random characters to Astrolog because you forgot to turn on numlock.

Press `V`,`L`,`A`,`Z`,`S`,`J`,`K`,`E`,`W`,`G`,`P` to switch to

normal ('`-v`'), astro-graph ('`-L`'), grid ('`-g`'), local ('`-Z`'), space ('`-S`'), dispositor ('`-j`'), calendar ('`-K`'), ephemeris ('`-E`'), world map ('`-XW`'), globe ('`-XG`'), and polar ('`-XP`') modes.

There are basically eleven main modes in which the graphics screen can be in: There are the eight main charts

```
wheel              space view
astro-graph        dispositor
aspect grid        calendar
local sky          ephemeris
```

as well as the three world displays (the simple map by itself, the globe view, and the polar projection). These eleven keys can be used to switch between these modes in the middle of program execution. For example, you can bring up your own chart in a window, then press `L` to see the astro-graph chart for the same birth data. Then you can press `W` to just see the world map by itself, and `G` to see the globe view, after which you can press `V` to return to your original wheel chart.

Press `O` to toggle between '`-Z`','`-Z0`' & '`-XW`','`-XW0`' & '`-E`','`-Ey`' modes.

When graphics are up on the screen, pressing this key acts similar to the mode changing keys above that switch between the different graphic chart types. When pressed, the state of the program being invoked with '`-Z`' vs. '`-Z0`', as well as the state of '`-XW`' vs. '`-XW0`', and the state of '`-E`' vs. '`-Ey`', will be reversed. In other words, if I am viewing the '`-Z -X`' horizon chart, and I want to see the '`-Z0 -X`' sky graphic, then I press `O` to go to it. Similarly, this key will flip me back and forth between the '`-XW`' simple rectangular world map display and the '`-XW0`' Mollewide projection graphic, as well as the '`-E`' monthly ephemeris and the '`-Ey`' yearly ephemeris. A bit of a hack, but useful, and the only way to change these suboptions while the program is running.

Press `F` to toggle between world and constellation map modes.

This key toggles on the constellation charts where the map and globe modes show the celestial sphere instead of the Earth's continents. See the '`-XF`' switch which affects the same setting for complete info.

Press `F1..F12` [plus `SFT,CTRL,ALT`] to run macros 1..48.

For PC's, pressing the function keys `F1` through `F12` will execute macros when graphics are being displayed. Pressing `F1` through `F12` will run macros 1 through 12. Pressing `SFT-F1` through `SFT-F12` will run macros 13 through 24. `CTRL-F1` through `CTRL-F12` will run macros 25 through 36. Finally `ALT-F1` through `ALT-F12` will run macros 37 through 48. Executing a macro that hasn't been defined yet (either with a function key or the '`-M`' switch) will do nothing.

Press `SPC` to force update of current graphics display.

When a graphics chart is up on the screen, pressing the space bar will force a redraw of the chart. This is useful for say to cleanup after one has scribbled on it with the mouse button features (described below).

Press `BS` to clear the graphics screen and not redraw.

Pressing the delete key when a graphics screen is up will clear the screen, but not redraw the chart right away unless animation mode is on. This is most useful for the '`-Xj`' 'timed exposure' streaks in horizon and orbit charts if you want to start a new 'jet trail' while animating.

Press `TAB` to toggle between graphics resolutions.

This feature is only available on PC systems. See PC graphics section for its description.

Press `RET` to input a command line of general switches.

Pressing the return key when a graphics screen is up will pause and prompt you for a command line. This command line will be processed after which you will be returned back to the graphics state you left, allowing the changing on the fly of any setting that isn't already covered by pressing whatever key, without having to drop all the way back to a '`-Q`' loop or out of the program altogether. This can be used to redisplay the '`-H`' switch list too. (There are a couple of rare things you can't do in the middle of graphics, e.g. you aren't allowed to suddenly switch to one of the graphics file modes.)

Press `Q` to terminate the window and program.

Pressing this key will exit graphics mode or terminate the window (and leave the Astrolog program itself.)

`Left mouse button`: Draw line strokes on chart in window.
`Middle mouse button`: Print coordinates of pointer on world map.
`Right mouse button`: Terminate the window and program.

Mouse buttons: Pressing the mouse buttons in the X Windows (or on the screen for PC's) will do various functions. The left mouse button acts as a pen that allows one to actually draw on the chart: press it and drag the pointer to draw a line on the window – good for aiding in analysis or in presentations. (Any scribbles one makes will disappear the next time the chart window is updated, therefore this drawing is disabled in animation mode.) The middle mouse button (right button for PC's) will only work when the world map is shown, i.e. in the '`-L`' astro-graph or '`-XW`' world map displays: press it and get the approximate longitude and latitude of the place on the map where the pointer is, printed in the main window (or have the current chart's location set to this for PC's). For the four scale sizes of 100, 200, 300, and 400 percent, the accuracy is to the nearest degree, 30 minutes, 20', and 15', respectively. So, if you want to cast a chart for southern Madagascar, Africa, but don't know the coordinates, click the middle button on the map for a good approximation! Finally, the right button (middle button if any for PC's) acts just like the `Q` key, and will terminate the program.

Note that for X Windows, pressing the middle mouse button when a world map is up, in addition to displaying the longitude and latitude of the point clicked on in the parent window, will also set the current chart location to this point. This makes an easy interface for doing chart relocation! Say you want to relocate your natal chart to Tokyo, Japan. Just bring up your chart in graphics mode, press `W` to switch to the world map display, click middle button on Japan, then return to the wheel chart and there your chart is, as if you had been born at the same time but in Tokyo.

Control keys: Certain control keys can be pressed when a graphics chart is up to set the color of the 'pen' one can scribble on the chart with using the left mouse button. (Who knows, maybe Astrolog will contain a full featured drawing program someday. ;)

Usually, the scribbles are always in the gray highlight color. However, sixteen control keys can be pressed to change the pen to sixteen different colors, which are defined as follows: `CTRL-A` is White, `CTRL-Z` is Black, `CTRL-R` is Red, `CTRL-G` is Green, `CTRL-B` is blue, `CTRL-Y` is Yellow, `CTRL-O` is Orange, `CTRL-L` is Light gray, `CTRL-D` is Dark gray, `CTRL-V` is Magenta (Valentine pink), `CTRL-U` is Purple (pUrple), `CTRL-E` is Maroon (Dark red, next to `R` on keyboard), `CTRL-F` is Dark Green (Forest green, next to `G` on keyboard), `CTRL-N` is Dark Blue (Navy blue, next to `B` on keyboard), `CTRL-J` is Cyan, `CTRL-K` is Dark Cyan (Next to `J` on keyboard).

4 Data Entry And The Main Display

4.1 Interactive Prompting

The main part of the program is executed simply by entering '`astrolog`' (assuming that's the name of the executable), and the program will ask you for all the birth info and will give the planet/house positions. For example, for a chart in Seattle at the Fall Equinox (for September 11th, 1994 AD at 11:19pm Pacific Daylight Time, 7 hours before GMT) for the ten prompts one would enter: '`Sep, 22, 1994, 11:19pm, PT, Y, 122W20, 47N36, Fall Equinox, Seattle, WA`'. The program then calculates and displays the positions of all planets, Chiron, the four main asteroids, as well as items like North Node of the Moon, Lilith or the South Node, the Part of Fortune, the Vertex, and the East Point. (The Uranian bodies and fixed stars can also be listed if one includes the appropriate command switches described earlier.)

Two of the chart info fields interactively prompted for above are general text fields for the person's name or chart title, and the name of the city or location the chart is cast for. When set the contents of these fields will be displayed in the various charts, such as the '`-v`' listing, the '`-w`' text wheel, and in the graphic wheel chart sidebars. (You can prevent these two fields from being prompted for by setting the '`-Yo`' old style info switch described earlier.)

Another field explicitly prompted for is whether Daylight Saving time was in effect for the chart or not. (Without this one would have to subtract one hour from the time or time zone to indicate if Daylight time was in effect, which of course was limited in that it's not always clear whether a given chart was for say 11am Standard time, or really for noon Daylight.) As with the name and city strings, you will not be interactively prompted for the Daylight setting when the '`-Yo`' flag is active. Enter `0` or `S` for Standard time, and `1` or `D` for Daylight time (or War time). An indication of Standard or Daylight time will be shown in the headers of the '`-v`' listing and in the graphics charts.

4.2 How Astrolog Reads What You Type

The user interface where one manually inputs the chart information is 'smart' in various ways, as many of the chart info fields may be entered in several formats and be parsed correctly:

Months may be entered as numbers from 1 to 12 or as their true names. Case doesn't matter, and month names may be abbreviated to their first three letters.

Year values may be entered with an optional '`BC`' or '`AD`' suffix. (Periods may be interspersed, e.g. '`b.c.`' is allowed.) Years BC may also be entered as negative years, but if you do this note that you have to add one to the negative number since there's no formal year 0 BC or 0 AD, e.g. since 1BC is followed by 1AD, specifying '5BC' would be the number '-4'.

Time values may be entered with a 'pm' or 'am' (or just 'p' and 'a') suffix (periods may be interspersed), or in the standard 24 hour clock. The separator between hours and minutes may be a colon or a decimal point. For example, 6:30pm may be entered as 18:30, 6:30pm, or even 6.3p. 12:30am may be entered as 12.30a.m., 0:30, and so on.

Time zones may be entered as abbreviation strings, or numbers in hours before GMT (negative numbers for after GMT). For example, 'EST', 'PST', and 'GMT' are allowed. Note that this setting is still separate from the Daylight Time setting. In other words, strings such as 'EDT' or 'WT' may be entered, but that will only subtract one hour from the time zone number, and not turn on or off the Daylight setting. Hence it may be preferred to enter strings that don't imply such an assumption, i.e. Astrolog also accepts general abbreviations such as 'ET' or 'PT'. For that matter, some one letter time zone abbreviations are accepted, e.g. 'E' or 'P' for Eastern and Pacific. When specifying half hour time zones as a number instead of using an abbreviation, the correct way is as 'n:30' or 'n.30', since the parameter is processed as hours and minutes, and not something like 'n.50', which will be treated as a fifty minute after the hour zone. (If one does interactively enter a 'n.5' zone, the program will display a warning indicating that the input is unusual and not a half hour zone.) Below is a table of all zone abbreviations Astrolog accepts. Listed for each zone is its official name, its standard abbreviation, its hours before GMT, and its standard meridian. For some zones the program accepts special two and one letter shortcuts:

```
Time Zone Name          Abbrev.     Hours   Longit.
Hawaiian Standard Time  HST  HT  H  +10:30  157.5W
Central Alaska Time     CAT         +10     150  W
Alaska Hawaii Standard  AHS         +10     150  W
Hawaiian Daylight Time  HDT         + 9:30  157.5W
Alaska Hawaii Daylight  AHD         + 9     150  W
Yukon Standard Time     YST  YT  Y  + 9     135  W
Yukon Daylight Time     YDT         + 8     135  W
Pacific Standard Time   PST  PT  P  + 8     120  W
Pacific Daylight Time   PDT         + 7     120  W
Pacific War Time        PWT         + 7     120  W
Mountain Standard Time  MST  MT  M  + 7     105  W
Mountain Daylight Time  MDT         + 6     105  W
Mountain War Time       MWT         + 6     105  W
Central Standard Time   CST  CT  C  + 6      90  W
Central Daylight Time   CDT         + 5      90  W
Central War Time        CWT         + 5      90  W
Eastern Standard Time   EST  ET  E  + 5      75  W
Eastern Daylight Time   EDT         + 4      75  W
Eastern War Time        EWT         + 4      75  W
Atlantic Standard Time  AST  AT  A  + 4      60  W
Atlantic Daylight Time  ADT         + 3      60  W
Atlantic War Time       AWT         + 3      60  W
Brazil Standard Time    BST  BT  B  + 3      45  W
Brazil Daylight Time    BDT         + 2      45  W
West Africa Time        WAT         + 1      15  W
```

Greenwich Mean Time	GMT	GT	G	0	0
Western European Time	WET			0	0
Central European Time	CET			- 1	15 E
Eastern European Time	EET			- 2	30 E
Russia Zone 3	UZ3			- 4	60 E
Russia Zone 4	UZ4			- 5	75 E
Indian Standard Time	IST	IT	I	- 5:30	82.5E
Russia Zone 5	UZ5			- 6	90 E
North Sumatra Time	NST			- 6:30	97.5E
South Sumatra Time	SST			- 7	105 E
China Coast Time	CCT			- 8	120 E
Japan Standard Time	JST	JT	J	- 9	135 E
South Australian Time	SAS			- 9:30	142.5E
Guam Standard Time	GST			-10	150 E
Russia Zone 1	UZ1			-11	165 E
New Zealand Time	NZT	ZT	Z	-11:30	172.5E
International Date Line	IDL			-12	180 E
Local Mean Time	LMT	LT	L	Varies	Varies

Note: The special time zone setting 'LMT' allows one to do charts for times given in Local Mean Time. When encountered, the actual time zone setting will be set just so, doing the 'subtract four minutes for every degree west of the time zone's standard meridian' arithmetic, to make it work.

Longitude and latitude locations may be entered in the standard '<degree><direction><minute>' notation, e.g. '122W20' or '33S52'. The direction specifier may also be put at the end of the string, with a period or colon separator between degrees and minutes, e.g. '122:20W' or '33.52S'. The direction character may also be left off altogether in which case positive values indicate western and northern locations and negative eastern and southern, e.g. '122.20' or '-33:52'.

Note: One may enter seconds for times (and locations) as fractional minutes by including more than two digits for the minute after the decimal or colon separator. For example, '122:205' will be treated as 122 degrees and 20.5 minutes west. To specify the time of 4:05am and 45 seconds, enter the time as '4:0575am'.

Astrolog deals with the switchover from the Julian to the present Gregorian calendar system when accepting input and printing output. The calendar system changed (at least in Europe) from the Julian to the Gregorian calendar in 1582 when October 4th was followed the next day by October 15th. Throughout the program Astrolog uses the Julian Calendar for date and leap year specification for dates before 10/4/1582 and the Gregorian after. It will properly handle the change even in the middle of months in charts, e.g. in '-K' calendar charts, '-E' ephemeris charts, '-dm' aspect search charts, and graphics animations, ten days will be skipped in October 1582.

4.3 The Main Display

When the standard list of planetary positions is displayed, some additional pieces of information are shown along with the planetary locations: Whether or not each planet is in its ruling sign, or fall, as well as the same information for houses, is shown. Planets in their exalted and debilitated signs and houses are noted too. In addition to the '`(R)`' indicating a planet in its ruling sign, and an '`(F)`' for a planet in its fall, we have '`(e)`' if a planet is in its exalting sign, and a '`(d)`' for a planet in its debilitating sign (which is always opposite the exaltation, as how the fall is opposite the ruler). An element table indicating the sum of the signs in each element and mode and their totals is displayed in a grid form too.

Also in this main display, the total number of planets in each of the hemispheres of the wheel, as well the number of objects in yang/positive/masculine and yin/negative/feminine quality signs, are counted. To the right of the element table, we have a column of seven numbers labeled as follows: '`+`' is the number of 'yang' objects (i.e. in Fire or Air signs); '`-`' is the number of 'yin' objects (i.e. in Water or Earth signs); '`M`' is the number of objects above the horizon (i.e. in the 'Southern' hemisphere of the Midheaven); '`N`' is the number of objects below the horizon (in the 'Northern' hemisphere of the Nadir); '`A`' is the number of objects in the Eastern half of the sky (in the hemisphere of the Ascendant); and '`D`' is the number of objects in the Western half of the sky (in the hemisphere of the Descendant). Note that cusp objects are left out of hemisphere counts (but still included in the other object summaries) as they would skew things since they are always in a particular hemisphere. Finally we have a field indicating the division of objects into the first six and second six signs of the zodiac. The number of objects in the first six signs of the zodiac will be printed, labeled by the character '`<`'. (The number in the second half isn't printed; just subtract from the total if you want to know.) According to a book on the Kaballah, the emphasis of the first six signs on the zodiac is on 'what's to learn', and the emphasis on the second six signs is on 'what's to share'. Use or interpret this as you wish.

I have taken the liberty to define ruling and exalting signs for the asteroids (and the rest of the first twenty objects that don't already have them.) This won't affect much other than whether a '`R`', '`F`', '`e`', or '`d`' is displayed in the '`-v`' charts, but it will slightly affect the powers given to these objects in the '`-j`' influence chart since they can be in their ruling sign, etc. The '`-HO`' object list will display the list of ruling and exalting signs (and the fall and debilitating signs which are just opposite the above) for all these objects in addition to the planets; however, I have listed them below:

Chiron, the compassionate, experienced healer, is most similar in function to Pisces, hence Chiron rules here. Chiron expresses well in caring, feeling, Cancer, hence Chiron exalts here. Ceres, goddess of agriculture and representing the mothering, reproductive instinct, is similar in function to Taurus, hence Ceres rules here. Ceres expresses well in the nurturing, caring, sign of Cancer, hence Ceres exalts here. Pallas Athena, mentally acute and unemotional, is most similar in function to Virgo, hence Pallas rules here. Pallas expresses well in practical, disciplined, introverted Capricorn, hence Pallas exalts here. Juno, ability to sacrifice self-interests to maintain a relationship, is most similar in function to relationship oriented Libra, hence Juno rules here. Juno expresses well in sociable, crowd pleasing Leo, hence Juno exalts here. Vesta, with its orientation to directing hidden creative or sexual energy without fear, is most similar in function to Scorpio, hence Vesta rules here. Vesta expresses well in individualistic, quirky Aquarius, hence Vesta exalts here.

The North Node, with its emphasis on being able to break from the past routine and pursue the unfamiliar and personal growth, is most similar in function to society questioning independent Aquarius, hence it rules here. The Node expresses well in growth and sacrifice oriented Virgo, hence the Node exalts here. The South Node's ruling and exalting signs are set to be respectively Leo and Pisces, i.e. the opposite of the North Node's. The Part of Fortune is calculated based on the positions of the Sun, Moon, and Ascendant; if these three objects are in their ruling signs, then the Fortune will fall in Pisces, hence the Fortune should rule here. Similarly, if the Sun, Moon, and Ascendant are all in their exalting signs, then the Fortune will fall in Aquarius, hence the Fortune should exalt here. The Vertex, being always near the Descendant, corresponds to Libra, and hence has the same rulership and exaltation as Venus: Libra and Pisces. The East Point, being always near the Ascendant, corresponds to Mars, and hence has the same rulership and exaltation as Mars: Aries and Capricorn. Lilith has the rulership of Scorpio and exaltation in Pisces. House cusps and angles rule the sign corresponding to them, e.g. Aries for the Ascendant, Taurus for the 2nd Cusp, and so on. House cusp objects exalt in the next sign of the same element beyond the one they rule, e.g. Aries exalts in Leo.

Each uranian also has been assigned its own ruling and exalting sign, meaning uranians in their rulership, etc, will be flagged as such and have more or less influence and so on. I also came up with these myself and used the interpretation strings to decide what the most appropriate signs are. If you disagree, feel free to change them in the code, or I'll be willing to describe in more detail why I chose what I did for them. Specifically, Cupido rules Libra and exalts in Gemini, Hades rules Scorpio and exalts in Virgo, Zeus rules Leo and exalts in Aries, Kronos rules Capricorn and exalts in Sagittarius, Apollon rules Sagittarius and exalts in Aquarius, Admetos rules Virgo and exalts in Scorpio, Vulkanus rules Aries and exalts in Leo, and finally Poseidon rules Sagittarius and exalts in Pisces.

The standard chart listing of the planetary positions will also include an additional field for the 'velocity' of each planet. This velocity value approximates how fast the planet is moving through the zodiac with respect to the Earth (or whatever the central body is set to) in degrees per day. This value of course, goes negative when a planet goes retrograde. This is useful not only to get a feel for how fast each planet moves through the zodiac, but to determine when a planet is about to go retrograde or direct – the value approaches zero when the planet changes direction.

5 Files, Data Defaults, and Compile Time Options

Astrolog includes the ability to search an input file for various default settings to use in the program. This allows one to easily change major defaults without having to recompile the program, which is useful if, say, one receives a compiled executable from a friend who has a different configuration. The program looks for the file '`astrolog.dat`' in the current directory, and if not there, looks for it in the default directory (and in directories indicated by environment variables if set). Parameters in this file will override any defaults compiled into the program, although the highest priority is still given to the command line options. Note one doesn't *have* to have this file in order to run the program - if not found Astrolog will still run as before using compile time defaults.

The '`astrolog.dat`' config files from versions 4.10 and before won't work with version 4.40, because like the chart info files, the '`astrolog.dat`' file is also a series of command switches (see below). All the fixed '`astrolog.dat`' fields used in version 4.10 and before no longer exist, since there are command switches to do the same things as everything the old files could set and a whole lot more. Attempting to use any old '`astrolog.dat`' file will cause the program to complain that it's not in any valid format. If you have an old file, delete it and modify the one included with this release to correspond to your desired settings. Version 4.20 and 4.30 config files are however fully compatible with 4.40 and don't need to be changed.

–

As of Astrolog version 4.20, all files are a series of command switches that indicate the contents of the file and set the appropriate things when executed. This is very powerful, extendable, and general. Astrolog still has the ability to read and write the old chart formats. This affects -o chart info files, -o0 chart position files, and the '`astrolog.dat`' config file. In a sense there is no difference between the three formats, just they are generated or read in for different situations. Whenever any chart is read in, Astrolog simply reads in the file a line at a time and processes the switches as if they were on the command line or entered in a -Q loop.

The '`astrolog.dat`' config file is one of the files that is a series of command lines. This change makes the '`astrolog.dat`' file much more powerful and versatile than it would be otherwise. The file is not in a fixed format with fields that have to be in a certain order. You can move lines around, add as many lines as you want, or take lines out without problem. These config files shouldn't become out of date in future versions of the program either. Incompatibilities will only arise if the syntax of a switch changes, and even then it's obvious as to the small correction that needs to be made. It's important to remember that any switch can be put in the '`astrolog.dat`' file. For example, you can change the default behavior of the program when invoked without any switches, by say putting '`-n`' in it, to make the program always display the chart for now unless you specify otherwise. You may want to put '`-C`' in it if you want the house cusps to always be included in transit and other charts. If you are always doing graphics charts, you can put '`-X`' in there somewhere so you don't have to put it on the command line. Long or complicated switches like new planet definitions, and color or interpretation customizations, are good candidates to put in '`astrolog.dat`' so they don't have to be retyped all the time.

The file as generated with the -o switch is also just a couple of command lines to set the chart information appropriately. (Before version 4.20, the older file format hadn't changed a bit since files where first introduced in version 1.20!) Note that you can manually add additional switches to any chart info file, to have per chart settings. For example, if you are always displaying a particular natal chart's aspect grid, you can put a '`-g`' in that particular file so you don't have to include '`-g`' on the actual command line with the '`-i file`'. (Or you can put the '`-g`' in the '`astrolog.dat`' file and have all charts come up by default in the aspect grid instead of the '`-v`' listing.) Note also that the '`-i`' switch is technically a generic command file reader. You can read any switch file with '`-i`', and even reload the '`astrolog.dat`' defaults with a line such as '`-i "astrolog.dat"`'.

Since '`-i`' will read in and process any command file, you can make your own arbitrary command files and read them in whenever you want. You aren't limited to modifying just chart info files and '`astrolog.dat`'. Say you like to use a narrower set of orbs for transits. You can make a special file that just sets a bunch of orbs using the '`-A`' switches, and then read it in via '`-i narroworbfile`' and combine it with '`-t`' or whatever. Note that command files can even process other command files inside of them. Remember that '`astrolog.dat`' is just a special command file; the program basically just does a '`-i "astrolog.dat"`' internally on startup.

'`-@`' switch: All Astrolog switch files have to begin with the '`@`' character, which identifies them as such. The switch files as generated with '`-o`' and '`-o0`', and the default '`astrolog.dat`' file, have a couple numbers immediately following their '`@`' which indicate the file type and version, included for potential backward compatibility issues in the future. (For those interested, the first two digits indicate file type, where `01` is a '`-o`' chart info file, `02` is a '`-o0`' chart position file, and `03` is a configuration file like '`astrolog.dat`'. The second two digits indicate file version: Chart info files are `0102`, because version 1 of a chart info file was the pre-version 4.20 form. Chart position files are `0203` because version 2 was the pre-version 4.20 form, and version 1 was the pre-version 3.10 form of the old format. The '`astrolog.dat`' file is `0308` because versions 1..7 were all the different old fixed field versions of this dating back to when the config file was first introduced.) Note that the '`@`' happens to technically be a switch too, but is only dealt with internally by the program. If you make any of your own command files to read in with '`-i`', just be sure there is a '`@`' character (better yet the sequence of characters `@0308` to be like the default '`astrolog.dat`') at its very beginning and everything will work.

Chart position files as generated with the '`-o0`' switch are much improved over the format used in version 4.10 and before. The zodiac positions have an extra two digits of precision and the declinations have an extra one digit. The newer files include the velocity of the planet and its distance from the sun, so applying vs. separating aspects and '`-S`' orbit charts work perfectly. (Before the data would be lost.) These files may also include star positions unlike before, and are more complete with respect to house cusps. The actual house array is kept separate from the cusp object indexes, meaning that one for example can reload charts in the Equal house system that disassociate the Midheaven from the 10th cusp and remember both positions, and even save a '-r' synastry chart with '-o0' and remember both sets of house cusps on reload.

'-YF' switch: As '-o0' position files are a series of command lines, there is a switch to set the actual positions of a planet. This is the '-YF' switch which takes eight parameters, which are: the index of the object to set the positions of, the degree within the sign of its position, the zodiac sign of its position, the minute within the degree of its position, the degree of its ecliptic declination, the minute within the degree of the declination (which should always be positive, e.g. for a declination of -10.5 degrees, the parameters would be -10 and 30), the velocity in degrees per day (positive is direct motion, negative retrograde), and finally the distance from the Sun or central body in AU. This switch shouldn't really be used outside of '-o0' files as it causes the chart to be assumed to have no time or space, but is described here for completeness. Note that another advantage to the newer '-o0' files is that you can again add other switches to them (e.g. '-s' to indicate if it's a position file for a tropical or sidereal zodiac chart), and rearrange or delete lines without problem, unlike the older '-o0' files which required all the planets and in a fixed order.

Here's an example of one of the switch based command files, specifically a chart info file with the newer name, city, and Daylight fields in it. This is much easier to understand and modify than older files, and is the info for my own natal chart consisting of the three lines below:

```
@0102  ; Astrolog chart info.
/qb Nov 19 1971 11:01am ST +8:00 122:20W 47:36N
/zi "Walter D. Pullen" "Seattle, WA"
```

–

Astrolog 4.40 has several environment variables which may be set to indicate directories where to find the various files it may look for. Without them, the only place the program will look for chart files, the 'astrolog.dat' initialization file, and ephemeris files is in the current directory and default directories set at compile time. The program will look where all of these environment variables point, if they are defined. The three environment variables are named 'ASTROLOG', 'ASTR4.40', and 'ASTR'. On a PC you can set an environment variable from the DOS prompt with a command such as

```
set ASTROLOG=C:\PROGRAMS\ASTRO430\CHARTS
```

This command can be put in your 'AUTOEXEC.BAT' file to remain persistent. On a Unix system you can set an environment variable from the shell with a command such as

```
setenv ASTROLOG ~username/programs/astro430/charts
```

This line can be put in your '.cshrc' file to remain persistent. Note that the ASTR4.40 environment variable is version specific, i.e. the previous version looked in one called ASTR4.20 instead. This allows one to have a directory for version specific files such as the 'astrolog.dat' file, and have multiple versions of Astrolog on the system at once without them conflicting with each other. (Note that Unix systems running the ksh shell apparently don't acccept variables like ASTR4.40 with periods in them, but they will accept the other two.) I personally point ASTROLOG to my chart files directory, ASTR4.40 to my 'astrolog.dat' directory, and ASTR to my ephemeris directory, although any file may be found with any of the variables. Specifically, when Astrolog searches for a file, it will look in the following directories, in order: The current directory, the ASTR4.40 environment variable directory, the ASTROLOG environment directory, the ASTR dir, and finally the compile time default directory.

–

Some systems (for example, Mac's) don't directly accept parameter switches on the command line (such as Astrolog is being booted from a menu.) Therefore, such a limitation makes one unable to access many program features in the normal way. If this is the case with your system (or if you just don't like command line options), then comment out the #define SWITCHES line at the beginning of the 'astrolog.h' file. If you do this, then the program will ignore any switches and prompt you to enter them manually at the very beginning of program execution. You just enter one line containing all the parameters together, separated by one or more spaces, just like is done when typing in the command line, or when in the '-Q' loop mode. Astrolog will automatically parse the string and extract the parameters, just like the operating system shell does.

Related to this, the '-.' switch, when encountered on a command line, will immediately terminate the program, ignoring any modes or other command switches. This is the formal way how to really exit the program when in the '-Q' loop (and really only useful in this case). Remember, earlier it was said to enter '.' for the command line to exit the '-Q' mode. Astrolog internally interprets the '.' as a switch without a leading dash, i.e. '-.', which is a switch that will force program termination.

–

I often use Astrolog to look at and compare files containing charts of various people. I have many chart files, so I keep them in a separate directory. Since it is always a pain to have to cd into this special directory all the time, there is a DEFAULT_DIR string to be set at compile time. Whenever the program reads in a chart file with the '-i' option, it will first look in the current directory for it. If it's not found there, Astrolog will then look for a file of the same name in this special default directory (and in directories indicated by environment variables if set).

A couple of other compile time option variables are in the include file 'astrolog.h': For those people who don't like Placidus, a default house system can be set by changing the value of DEFAULT_SYSTEM to the value from 0 to 11 indicating what system to use if the user doesn't explicitly specify one with '-c' or in 'astrolog.dat'. A few other compile time options are in 'astrolog.h' which can be used to leave out certain parts of the program which you don't desire to have or just take up memory and make the executable larger. The #define INTERPRET can be commented out to remove all the '-I' interpretation routines and tables. The #define BIORHYTHM can be commented out to remove the non-astrological '-rb' biorhythm text and graphical charts. And the #define CONSTEL can be commented out to remove the '-XF' constellation graphics and '-HF' text constellation list. Finally, concerning the source code itself, all of Astrolog's functions have full ANSI prototypes, which can be turned off for older compilers by commenting out the PROTO #ifdef.

There is a special compile time variable dealing with graphics (in addition to the X11 and MSG / BGI ones) called GRAPH. One comments out the #define GRAPH line if they don't want any graphics at all, and not just if they don't have X windows or PC screen graphics. In other words, one can generate most of Astrolog's graphics charts even if they don't have X windows or a PC with graphics abilities. When GRAPH is defined, but X11 or MSG and BGI aren't, the program will generate the charts, but just never try to bring up a window; it will simply always assume that you are writing a bitmap file. The bitmap file will contain a (unfortunately always black and white for the X bitmap format) image of what would normally be in the window, just as the '-Xb' switch does. One can then use various graphics utilities to convert the image into something they can display on their system if they can't do so using any of the available bitmap modes. (Any system that can compile Astrolog should be able to compile in all the non-screen graphics features as well.)

A bitmap output mode other than the Windows '.bmp' bitmaps and standard ones that can be read with the Unix X11 xsetroot command is allowed in the graphics routines. If one changes the BITMAPMODE compile time option in 'astrolog.h' to the character 'A' when compiling, or invokes the '-Xb' switch as '-Xba', then all bitmaps output will be in a straight ASCII form, with one character corresponding to each pixel. This format is identical to the result produced by the Unix command bmtoa (when the chart is monochrome), and it can be converted back into a bitmap with the Unix command atobm. Although not as efficient spacewise, this is a simpler format, and is recommended for those without screen capabilities who still want to use Astrolog's graphics, if they want to write their own conversion program.

6 Description Of X Window Graphics Features

6.1 Display Features

One of the most impressive features of Astrolog are its graphics features available for X windows, which are generally accessed in the program via the '`-X`' switch and derivatives of it on the command line. There are seven different types of chart displays: A standard graphic display of a wheel chart in a window (with glyphs, aspects in the center, etc), graphic displays of the Astro-graph charts (which look almost identical to the Astro*Carto*Graphy maps from Jim Lewis) complete with all the labeled lines drawn on a map of the world (like the '`-L`' option), aspect/midpoint grids showing the aspects and orbs in effect between every body in a chart (like '`-g`' option), a local sky chart showing where each planet is located on a map of the local horizon area (as in '`-Z`'), a space chart showing an aerial view of the solar system (as in '`-S`'), a dispositor graph chart showing planetary rulership chains (accessed with '`-j`'), and a graphic ephemeris plotting position vs. time (as in '`-E`'), in addition to a couple of non-astrological charts such as calendar ('`-K`') and biorhythm ('`-rb`') graphics. The X wheel and aspect grid charts can also displayed in a different manner to accommodate relationship comparison charts showing two sets of planets at once. There are also other commands that can be given to the window once it is up and running, which can do other things, such as continually update the window every few seconds to the current status (i.e. an extended version of the '`-n`' option) as well as other forms of animation. Note that the program is still text based, and one can turn off all the X features by commenting out the `#define X11` in '`astrolog.h`' if they don't have X windows.

Probably the only thing more impressive than the graphics features are the graphics features displayed on color monitors. (Charts displayed in color are **much** more eye catching than the monochrome ones, in my opinion.) Here is how the colors have been assigned for the various charts: Four colors have been allocated for the four elements – Fire = Red, Earth = Brown, Air = Green, Water = Blue. The various sign glyphs (and the corresponding house labels) are in the color of their element. Planets are in the color of the sign of their main ruler. Chiron and the four asteroids are Pink, while the north node, and other non-physical objects like the fortune and vertex are Blue Grey. Representations of the Ascendant/ Descendant/ Midheaven/ Nadir (in the astro-graph map lines and elsewhere) are in the element color of the corresponding sign/house that the angular lines refer to, i.e. Ascendant = Red, Midheaven = Brown, Descendant = Green, Nadir = Blue. A few extra things have been added for color wheel charts only: dark gray lines marking off each house (in addition to the main lines on the horizon and meridian), and each degree instead of every 5th degree being marked in dark gray on the outer circle (every 5th degree being white). Aspects lines are colored too, as follows:

```
Conjunctions   Yellow
Sextiles       Light Blue
Squares        Red
Trines         Green
```

```
Oppositions    Dark Blue.
```

For the minor aspects we have:

```
Inconjuncts/Semisextiles         Pink
Semisquares/Sesquiquadratures    Orange
(Bi/Semi)Quintiles               Blue Grey
(Bi/Tri)Septiles                 Maroon
(Bi/Quatro)Noviles               Violet.
```

For color X terminals, the '-XG' globe display and '-XW' world map display are done with the continents in different colors, also making them look much better than monochrome maps. Each of the seven continents is in a different color of the rainbow, and the colors are chosen to correspond to the appropriate chakra (etheric energy vortex along the human spine) that goes with each land mass. They are:

```
Africa        - red    - Root chakra,
Australia     - orange - Navel chakra,
South America - yellow - Solar plexus chakra,
North America - green  - Heart chakra,
Europe        - blue   - Throat chakra,
Asia          - indigo - Third Eye chakra,
Antarctica    - violet - Crown chakra.
```

Major lakes are colored navy blue, of course.

6.2 Combinations of switches

'-v -X': The X wheel charts have their graphic information organized as follows: There's an outer circle showing the signs and sign glyphs, inside of which is a smaller circle divided up into 5 degree increments to make determining exact degrees easier. Inside of this is a circle divided up into the 12 houses labeled with numbers. The entire chart is divided by two dashed lines through the Ascendant/Descendant (which is always horizontal of course) and the Midheaven/Nadir. Inside the house circle are the planet glyphs in their appropriate positions. Small pointer lines run from each glyph to just before single dots. These dots indicate the precise locations in the zodiac of each object. The pointer lines (which are dashed if the object is retrograde and solid otherwise) are necessary so as not to have to draw planet glyphs on top of one another when planets are conjunct. Inside the ring of the single dots, are the aspect lines connecting these positions. Since the default number of aspects to use is just the 5 majors, one can determine which aspect is in place just by looking at the aspect line. The accuracy of the aspect is determined by the dashedness of the line: A solid line means the orb is < 2 degrees; a dashed line means the orb is 2 to 4 degrees; a really dashed line mean the orb is 4 to 6 degrees, and so on.

'-v0 -X': Astrolog's wheel charts will be labeled more extensively than just having the chart header information displayed at the bottom of the graphic like in other chart modes. The wheels will include full information on time, place, the chart's name and city fields if defined, house system, zodiac, central planet, element table info (including the count of objects in angular, succeedent, and cadent houses, and the count of objects in the first six 'learning' signs and the last six 'sharing' signs), as well as the actual positions of house cusps and planets as displayed in the wheel. All this information is in a 'sidebar' to the right of the wheel which includes a listing not unlike the '-v' text chart. (Note that the size of this sidebar is such that for the default 480x480 pixel chart size, including the sidebar will make it 640x480, which perfectly fills a VGA PC screen.) If you want a simpler style wheel with just the chart information at the bottom of the graphic, set the '-v0' flag, as in '-v0 -X' instead of '-v -X' or just '-X'.

'-w -X': A different way of formatting the graphical wheel charts described above is available by combining the '-w' switch with '-X'. Normally all of Astrolog's wheel charts are such that each zodiac sign is the same size. Due to different house sizes in most systems however, this makes the houses appear different sizes on the wheel, so that the Midheaven won't be the exact top of the chart for instance. Some users may instead prefer 'house oriented' as opposed to sign oriented wheel charts. Astrolog, with the '-w -X' combination, will make each house be the same size on the screen, and will compress or expand the signs instead (of course this means that such things as exact squares may not be between objects exactly 90 degrees apart on the circle any more). When graphics are displayed on the screen, the '0' key will toggle between the two forms of wheel chart.

'-L -X': The graphical astro-graph charts are organized as follows: A map of the world is shown. The edges of the map are labeled with ruler lines that are 5 degrees apart (with longer ruler lines for more important longitudes and latitudes, like those that are multiples of 10, 30, etc.) The equator is labeled with a dashed line. The polar regions of the world aren't shown; the map shown ranges from 60 degrees S latitude to 75 degrees N latitude. Note that each pixel on the screen represents exactly one half a degree on the world. (For '-Xs 100' the ratio is one pixel to one degree, and for '-Xs 400' the ratio is one pixel to 1/4 degree.) On this map are drawn the lines indicating where on the world the various planets are angular at the time in question. (Note: you might want to '-R' restrict some objects because otherwise the map tends to get pretty cluttered with lines.) As expected, Midheaven and Nadir lines are vertical, and the Ascendant and Descendant lines are curved. Little square boxes on the Midheaven lines indicate the exact zenith latitude location. Each line is labeled at the top or the bottom of the screen, showing what planet is in question and (sometimes) what angle is in question. All Ascendant and Midheaven lines are labeled at the bottom of the screen, and all Descendant and Nadir lines are labeled at the top. Each line goes a bit beyond to the top or bottom of the world map, and then another pointer segment (which is again dashed of the object in question is retrograde) goes and points to the planet glyph. The glyph for the Ascendant or Midheaven is under each of the glyphs at the bottom of the screen, explicitly indicating whether the line is an Ascendant or Midheaven line. At the top of the screen, however, there are only the glyphs, but one can still determine whether these lines are Descendant or Nadir lines based on whether they are curved or not. Note that not all the Descendant lines are labeled; this is because some of the Ascendant/Descendant lines actually connect near the top of the screen and don't actually cross it. This graphic astro-graph chart will display a small purple dot at the precise point on the world map for which the chart in question is being generated. This is useful to help see how close the various planetary lines are to you, if you live in the middle of the continent or someplace not easily determinable on the compact map of the world.

'`-L0 -X`': Graphic astro-graph charts will be done slightly differently if done by combining '`-L0`' with '`-X`'. A thin horizontal line will be drawn all across the map of the world at the latitude of the chart in question. Normally, there's only a small dot at the precise location. In astro-graph charts, intersections between lines anywhere at the same latitude of a natal chart, even if any number of degrees away longitudinally, will affect the person, in the same way but not as stong as if they are directly under the instersection itself. This small chart modification can make finding such intersections easier in the graphics chart, just as '`-L0`' for text charts actually lists the latitudes of all crossings.

'`-g -X`': Aspect grid graphics with the appropriate aspect glyphs can be displayed by combining the '`-g`' option with the '`-X`' option (`astrolog -g -X`). Both the split aspect/midpoint grids labeled down the diagonal, as well as the relationship aspect grids between two charts (`astrolog -r <file1> <file2> -g -X`) are supported. The aspects glyphs, objects, and the signs in the grids are in their colors as defined earlier. Like the astro-graph windows, these charts can't be resized in the normal way unless one uses the `>` and `<` keys. For anything less than the larger scale sizes (achieved with the switch '`-Xs 300`', or by pressing `>` within a window) all that will be displayed in each aspect grid cell is the glyphs of the aspect in effect, the planet being aspected, or the sign of the midpoint. However, once the largest scale size is reached, there is room in each cell to display the aspect orb to the nearest minute off of exact (with a plus or minus sign indicating whether the actual angle is slightly greater than or less than exact, or an 'a' or 's' if applying vs. separating orbs are to be shown instead); the degree and minute in addition to the sign for midpoints; and the degree and sign location for each planet that's in the grid, as with the '`-g`' text charts.

'`-m -X`': Combining the '`-m`' switch with '`-X`' will have the same result as '`-g`' with '`-X`', since the aspect grid shows both aspects and midpoints separated by the grid diagonal. However, doing a relationship midpoint chart ('`-r0 -m -X`') will result in the relationship aspect grid coming up but showing the midpoints instead of aspects, as desired. The '`-r0 -m -X`' switch combination implicitly does the results of the '`-g0`' switch, which for relationship charts puts midpoints instead of aspects in the grid.

'`-Z -X`': The '`-Z`' local horizon feature can be displayed in an X window as well (e.g. `astrolog -Z -X`), in which all the planets will be displayed in a window depicting the sky. The small dot above or below each glyph indicates exactly where each planet is. (Some of the glyphs may be overlapping, although the program tries to cut down on this.) There is a horizontal line dividing the window representing the local horizon; planets above this line are visible, while planets below it are set. There are three vertical lines dividing the window as well: The middle line represents the due south direction, the one to the left is due east, the one to the right is due west, and the edges of the window are due north. (These directions are labeled in the borders of the chart.) Like the standard chart display, this window or graphic may be resized to any proportion. At any time one can press the `Z` key when a graphic is up to enter this display type in that window.

'`-Z0 -X`': An additional graphics chart is available through the '`-Z0`' switch: local horizon charts suitable for stargazing. As we know, the normal '`-Z`' switch generates a listing of the planets with respect to the local horizon, and the '`-Z`' combined with the '`-X`' switch generates a graphic image of the planets and stars on the local horizon. This chart assumes one is facing due south, and is divided left to right by the horizon line, with straight up being toward the top of the screen and straight down toward the bottom. This is a good chart, especially for noticing the rising and setting of planets and other objects, but the fact that the meridian is split up causes distortion when trying to view objects high up in the sky. Therefore, if one combines this '`-Z0`' switch with the '`-X`' switch, a differently oriented local horizon chart will be displayed. Here, the zenith point straight up is in the center of the screen, and the horizon line is a surrounding circle. Due north is along the line from the center to the top of the screen, due south is on the line from the center to the bottom, east is to the left, and west is to the right. In other words, this is just like what one would see if they were lying on their back looking straight up with their feet to the south, so this should be better for stargazing. Outside the circle marks what's below the horizon, and the extreme corners of the screen mark the nadir – what's straight down. As with the normal '`-Z`' graphic chart, this one has the various axes marked at five degree increments.

'`-S -X`': The '`-S`' switch can be combined with '`-X`' to give a graphics chart of the solar system. This will be displayed as an aerial view of the entire solar system, with 0 degrees Aries to the left of the screen, 0 degrees Cancer to the bottom, etc. Note that this chart includes all possible planets, including the Earth (whose glyph is a cross inside a circle). Whatever object is chosen to be the central body is at the center of the screen, with all the others around it. This is a fun chart to animate – watch the planets go around the Sun, and *see* how they turn retrograde with respect to the Earth. In addition to the bodies themselves, twelve spokes are drawn from the center body to the edge of the screen, which delineate the zodiac with respect to it. Note that the scale of the solar system is large; attempting to fit all the planets out to Pluto on the screen at once will cause all the inner planets to be crammed together near the middle of the screen. To deal with this, the scale size as indicated with the '`-Xs`' switch and the `<` and `>` keys will affect how much of the solar system is viewed at once (in addition to the glyph sizes). For a scale size of 400, the viewing region will have a radius of 1 AU (just enough to cover out to the Earth's orbit). For a scale size of 300, the viewport will have a radius of 6 AU (about out to the orbit of Jupiter; useful for viewing the inner planets). For a scale size of 200 (default), it will have a radius of 30 AU (enough to include Neptune, and Pluto most of the time). Finally, a scale size of 100 will result in a radius of 90 AU, enough to easily include the entire solar system, as well as the orbits of the hypothetical Uranian bodies beyond Pluto. Note that this chart (and its text version as well) will usually leave the Earth's Moon out. The '`-b`' extended PLACALC formulas are required to be in effect (as well as either the Sun or Earth being the central body) in order for the Moon to be able to appear. At a 400% scale zoom with the Moon included as well, one can actually get a feel for the relative distance of the Sun from the Earth and the Moon from the Earth, although the chart will have to be over 1000 pixels wide for the Moon to even appear one pixel away from the Earth at all!

'`-j -X`': Graphic dispositor charts are available by combining the '`-j`' influence switch with '`-X`'. This is a another graphics chart format that can also be switched to whenever screen graphics are up by pressing the 'J' key. The dispositor of a planet is the planet that rules the sign it's located in. For example, if you have Venus in Aries, the dispositor for your Venus is Mars. A graph can be made showing an arrow from each planet to its dispositor. A final dispositor is a planet who is its own dispositor, i.e. in its ruling sign with no arrows pointing away from it. There can also be two planets in what's called mutual reception (or a reception loop of more than two) if they are each other's dispositor, e.g. Venus in Aries and Mars in Libra. Astrolog's dispositor chart will show four subgraphs, one in each quadrant. Both a sign dispositor graph, as described above, and a house dispositor graph, where each planet is linked to the planet ruling the house it's in, are shown. In addition, both types have the same information displayed in two different useful formats: a wheel with the planets around the perimeter, and in a hierarchy with final dispositors at the top and the other planets stacked based on how many levels they are from final ones. Final dispositors are circled in white, while those in reception loops are circled in gray, and dispositor arrows within the top level (i.e. in reception loops) are in white too instead of the color of the planet for easy identification. For a demo of the dispositors in your own chart, do

```
astrolog -i yourchartfile -j -X.
```

'`-K -X`': Graphic calendar charts are available by combining the '`-K`' calendar chart with '`-X`'. This is another graphics format that can be switched to whenever screen graphics are up by pressing the 'K' key. This shows a calendar for the month of the current chart, like the corresponding text chart but in graphic format with boxes for each day like a real calendar. The current day within the month will be highlighted in green (if the '`-Xl`' label inhibitor flag isn't on). The -Xi alternate display mode will put the date numbers in the middle of their box instead of in the upper left corner. Finally the '`-Xt`' chart info display flag for this particular chart will control how the date numbers are justified in their box.

'`-E -X`': A graphical planetary tracking chart is available by combining the '`-E`' switch with '`-X`'. This 'graphical ephemeris' will display the sign degrees of the zodiac along the horizontal axis, and the days in the given month along the vertical. The positions of the planets at each day are then graphed. The result is a bunch of wavy lines that make it easy to see all the planetary movements during the month. Wherever lines cross there's a conjunction on the day indicated on the axis at the same level as the crossing. Although this only looks at the month in the given chart information, the actual day will be highlighted on the vertical axis. Combining the '`-Ey`' yearly ephemeris instead with '`-X`' will generate a graphical ephemeris showing the movements for the entire year, with the months labeled along the vertical axis.

'-r0 -X': True relationship wheel charts can be displayed in a window, i.e. where the planets of both charts are displayed in separate rings of the same wheel. Use the '-r0' option to display this comparison type. For example, for the command 'astrolog -r0 person1 person2 -X', the following is displayed: The signs and houses as in person1's chart are drawn in the outermost part of the wheel. Inside this is a ring of person2's planets as displayed in person1's houses, and inside of this are person1's own planets. Finally at the very middle is an aspect grid, which shows those aspects that are occurring between the objects in the two charts. Basically this is just the standard wheel chart for person1, except that person2's planets are in an outer ring of objects and the aspect grid shows the aspects of the relationship. Putting such a chart in animation mode only affects person2's planets, so this is a great way to analyze transits: Doing 'astrolog -t yourchartfile -X' will show all your current transits, and allow you to easily animate the transiting planets through your natal signs and houses.

'-rb -X': Graphical biorhythm charts are available by combining the '-rb' (or '-yb') switch with '-X'. This will make a graph of one's biorhythm for the two weeks before and after the specified time, with days on the horizontal axis and the Physical, Emotional, and Intellectual percentages on the vertical. When any graphics chart is up, one may press the 'Y' key to revert to a biorhythm chart. (Note that as this is a relationship comparison chart, if you go to it from a graphics mode only showing one chart, it will show the biorhythm for them at their birth, and you will want to then animate or adjust it to get a useful display.)

–

A couple of conveniences for the graphics features exist. Note that the '-Xo <graphicsfilename>' option is only used in conjunction with the '-Xb' write output to bitmap switch (or the '-Xp' or '-XM' PostScript and metafile chart formats). Therefore, '-Xo' automatically assumes '-Xb' is set. (Invoking '-Xb' itself without '-Xo' will have the program prompt the user for the bitmap filename.) In other words, 'astrolog -Xb -Xo 'file'' is the same as just 'astrolog -Xo 'file''. Astrolog includes its own appropriate X bitmap (a rainbow over an opened Third Eye) if one iconifies its X window.

For X windows, one can animate a graphics chart on the root background by combining '-XB' with the '-Xn' switch. This will be just like the animations done in windows except the root is being used instead. Astrolog can be run in the background this way to continually update your root to the current chart representing the present moment. Limitations with this are that since there's no window, no keypresses can be processed so the program must be manually terminated, and that the continual updates will be as CPU intensive as the window animations are.

Hack: A fun thing to do is that a graphic wheel chart with '-I' interpretation on (the interpretation setting normally doesn't affect graphics in any way) will decorate the corners around the wheel! How its decorated depends on the screen width setting in 'astrolog.dat' or passed to '-I'. If this value is even, a spider web design will be put in each corner. If this value is odd, a moire pattern will be put in each corner. The decoration looks best when the screen width is around 79 or 80. The higher the value, the more dense the lines will be in the 'spider webs', or the less of the screen the moire will cover. (Don't make the moire value too low or you will cover the entire screen, which looks cool but doesn't aid reading the chart any! :)

7 Description of PC Graphics Features

Astrolog's PC graphics charts look and feel and are displayed just like the X window graphics already described. When compiling, one has a choice between four options:

1. choose no graphics abilities at all,
2. compile so that graphic chart bitmaps can be generated and output to a file,
3. compile allowing file graphics in addition to direct screen graphics in X windows, and
4. compile with file graphics and direct graphics on the screen of a PC. The addition of PC graphics in no way inhibits or affects the X window graphics already in place; it's merely a matter of which compile time options are set. Unix users don't need to look at this section.

Astrolog uses the Microsoft PC graphics library as defined in the file '`graph.h`' included with their C7 'C' language compiler. This file and the '`graphics.lib`' library is needed in order to be able to compile with these graphics options set, just as the X window libraries are needed to compile with those graphics included. If unavailable, one can still access these PC graphics with the library linked in, in the already compiled executable posted.

PC Astrolog is a DOS program and should be run from a DOS prompt, outside of any Windows system. To generate a graphics chart instead of a text one, include the '`-X`' switch just as one would do to bring up an X window. The expected graphic chart will be displayed on the screen unless the '`-Xb`' write bitmap to file switch is in effect. The colors chosen for the graphics are basically identical to those chosen in X window charts, and both of these in turn are based on the Ansi colors used in the ANSI text charts.

Now, there are many various types of PC monitors and resolutions. Astrolog will automatically try to determine and pick the highest resolution mode available on your system, so this need not be worried about.

The PC Astrolog charts may be animated in all the various ways, and the animation will usually be flicker free! Now, PC's do have limited memory, therefore there might not be room for more than one page of graphics at the highest resolution. Hence, animation at the highest (default) mode, may flicker; however, graphics at a slightly lower resolution may take enough less memory to allow enough to do flicker free animation. A special PC only feature for this has been added: Pressing the `TAB` key while the PC graphics are up will try to pick a lower resolution, where flicker free animation can be done. Specifically, we'll toggle to a 640x350 EGA mode. On my own system, the highest resolution I get is a 640x480 16 color VGA mode, however the charts can't be animated without flicker. When I hit `TAB`, I drop from 480 lines of graphics to 350, but now the animation will be perfectly smooth. The results with whatever graphics system you have may be different.

The chart that comes up will use as many pixels as is defined by the chart's size as specified with the '-Xw' and '-Xs' switches. The 'Q' change chart size to square key works just as before. However, on PC screens we will try to take in account the pixel size ratio. On EGA screens where the pixels are long and narrow, meaning a true 'square' chart looks tall and thin, we compensate by increasing the horizontal size of the chart. The B key, which for X window graphics will blast the current window contents to the root background, is a meaningless feature for a PC. This key, for PC graphics systems, will instead resize the chart to be the full size of the screen. Note that some charts however (such as wheel charts without sidebars, '-S' space charts, '-Z0' sky charts, and '-XG' globes) are distorted unless they are square. For these charts, the B key will resize the chart to be the largest square that will fit on the screen, i.e. will automatically do what pressing B followed by the Q force to square key would do. When the graphics mode is changed through TAB, the chart size will also be modified to be the largest 'square' that will fit on the screen.

If the size of the chart is less than the size of the screen, it will be displayed centered in the middle of the screen. If however the chart size is greater than the screen size, then the chart will take up the whole screen, and part of it will be clipped. By default we show the upper left corner of the chart if this is the case. Now, one can define and change which part of the chart gets shown. On PC's the meaning of pressing the number keys have been enhanced. Normally, number keys set the animation speed; they still do, but now only when animation is actually being done. If not in animation, the number keys from 1..9 will define which 'quadrant' or area of the chart gets shown. It's best to think of and use the number pad for this feature (make sure num lock is on!) Pressing the 7 key, i.e. the upper left number on the number pad, will set it so the default upper left part of the chart is seen. Pressing the 3 key, on the lower right corner of the pad, will show the lower right corner of charts larger than the screen size. Pressing 5 will show the middle area of the chart, with equal amounts of the chart clipped from left and right, and top and bottom. Pressing 6 will show the right end of the chart, vertically centered on the screen, and so on. Basically, we have a simple implementation of something like scroll bars, allowing viewing of all parts of the 'window'! One can generate and display on the screen even the largest charts producible with Astrolog. (Bitmap files are still limited to, i.e. will be clipped to, a maximum size of 728x720 pixels, however). Even on an 640x350 EGA, one can use this to generate and view all parts of a 300% scaled relationship aspect grid (883x883), or even a 300% scaled world map display (1082x545)!

7.1 PC Mice

Astrolog has support for the mouse and the mouse buttons when running graphics under DOS. Upon entering a graphics chart under DOS, a mouse pointer will appear. Holding down the left mouse button will allow you to scribble on the screen with the mouse as a pen, in the highlight color, just like how for Unix the left button is used to scribble in an X window. For PC's, the middle mouse button (if you have one – most mice such as Microsoft mice don't) will exit graphics mode and terminate the program, like pressing the Q key or like how the right mouse button does for X windows. The right mouse button does the same thing as the middle button for X: it will reset the current chart location to that clicked on. It won't actually display the new longitude and latitude, but you can easily see what it is by observing the chart information at the bottom of a graphics chart, or by pressing the `V` key to see the whole chart and its location in text mode.

The ability to use the mouse to sketch and scribble on the charts is extended for PC's. The right mouse button (on those non-world map charts where it doesn't already set the current location) will draw a straight line to the mouse pointer from the point where one last clicked the left button. Also, pressing `CTRL-t` will draw a rectangle from the point of the last click to the current mouse position. Finally, pressing `CTRL-x` will draw an ellipse inscribed within the bounds from the last click point to the current position. These are just more features to make Astrolog a better graphics drawing program. :)

Not all PC systems have mice. There is a `#define` in '`astrolog.h`' called `MOUSE`. If commented out, then all mouse functionality will be compiled out, even if compiling for Unix. Note that the mouse pointer and all PC mouse functions are temporarily disabled when running in an animation mode. If on a PC system a mouse isn't installed on a system and Astrolog is run with mouse features enabled, the mouse features will be ignored as if the functionality weren't even compiled in.

[There's a minor known bug with the PC mouse features in the program, which is that when in a flicker free graphics mode, the mouse pointer will only appear half the time. (You can still scribble and set location, just that the pointer won't be visible.) This is due to the fact that a flicker free mode is actually two pages switched back and forth between for smooth updates. If you don't see and want your mouse here, the update generated by pressing spacebar will revert you to the other page where the mouse pointer is.]

7.2 Astrolog and Windows

Although Astrolog is not a Windows program and doesn't have direct support for it with menus and all, at least not yet, Astrolog nevertheless can be run from the Windows environment, various features making this easier.

One can make a Program Manager icon which will run Astrolog in a DOS box. Using the '`-Q0`' switch here will prompt the user for whatever switches they want to use, as well as looping back when done to allow additional switches to be specified much like invoking the program over and over again from DOS. Upon exiting the program, the DOS box will also terminate, and although not as elegant as a true Windows interface with dialog boxes and all, this is just as if not more usable than the DOS interface.

To make a Windows Program Manager icon for Astrolog, first click in the program group you want the icon to appear in, then choose File New, and click OK to make a new program item. In the dialog, for the description field type something like '`Astrolog 4.10`'. For the command line field, type '`C:\ASTROLOG\ASTROLOG.EXE /Q0`', i.e. whatever the path name is to the executable file, and you probably want to include the /Q0. For the working directory field, type '`C:\ASTROLOG`', i.e. just the path to the directory where the astrolog files are. For the shortcut key you can leave it blank or press a key like `A`, meaning that pressing `CTRL-ALT-A` at any time when the Program Manager is active will start the Astrolog program.

Then click on the change icon button, OK the warning, and from the Change Icon dialog type `C:\ASTROLOG\ASTROLOG.ICO` (again the path to your Astrolog directory) in the filename field. This should load in Astrolog's own Windows icon file included in the zip archive, a yellow planet with red rings and two blue moons and stars around it. Click OK twice and you should be back in your group with a nice Astrolog icon that can be double clicked on to boot Astrolog whenever you want.

You may also want to include '`/V 43`' or something similar along with '`/Q0`' for the command line field, if you want to have more than just 25 rows in the DOS box to print the text charts in. One can also create additional icons that have certain other switches or directly display certain charts. For example, have another icon called '`Astrolog Now!`' which has '`/n /X /Q`' for its switches. Double click on this to see where the planets are right now. You can also use the PIF editor utility (usually '`PIFEDIT.EXE`' in the Windows directory) instead to create an '`astrolog.pif`' file. With the right system and settings, you can specify a created '`.pif`' file instead of the Astrolog executable directly, in the Program Manager icon, and run the program in a window in real time along with your other Windows apps, just like Astrolog on X windows!

7.3 Mode numbers

Finally, for PC's with graphics, the actual modes the program enters when in the 'normal' and the 'flicker free animation' modes can be customized and set in '`astrolog.dat`'. The values are the various mode numbers defined in '`graph.h`' for the Microsoft library. By default, the normal high-res mode is set to the value '`-3`', which means a mode with the highest resolution, which is usually 640x480 16 color VGA. The default low-res animation mode is set to '`16`', which corresponds to 640x350 16 color EGA (which on most systems is the highest resolution allowing multiple pages meaning animation can be done without flicker). Here is a complete table of the legal graphics modes, with their index values to specify them, their screen pixel resolution, their number of colors, and any comments as to what hardware are required for them. It is not recommended to attempt to enter a graphics mode here that your system doesn't support.

```
Num. Hor.   Ver. Col. Device.
```

```
 -3  640 x  480,  16 (‘highest resolution’ up to 640x480, usually #18)
 -2  320 x  200, 256 (‘most colors’, usually #19)
  4  320 x  200,   4 (MRES)
  5  320 x  200,   4 (4 grays)
  6  640 x  200,   2 (CGA)
  8  720 x  348,   2 (Mono Hercules)
 13  320 x  200,  16 (MRES)
 14  640 x  200,  16 (CGA)
 15  640 x  350,   2 (Mono EGA)
 16  640 x  350,  16 (EGA, maybe just 4 colors)
 17  640 x  480,   2 (Mono VGA)
 18  640 x  480,  16 (VGA)
 19  320 x  200, 256 (MRES)
 64  640 x  400,   2 (Olivetti, 1 of 16 colors)
256  640 x  400, 256 (VESA SVGA)
257  640 x  480, 256 (VESA SVGA)
258  800 x  600,  16 (NEC MultiSync 3D)
259  800 x  600, 256 (NEC MultiSync 3D)
260 1024 x  768,  16 (NEC MultiSync 4D)
261 1024 x  768, 256 (NEC MultiSync 4D)
262 1280 x 1024,  16 (NEC MultiSync 5D)
263 1280 x 1024, 256 (NEC MultiSync 5D)
```

8 Compiling Instructions

Compiling Astrolog is very similar to the process of compiling most other programs: First edit the top of the file '`astrolog.h`', commenting out any of the `#define`'s which set various features that aren't valid on your system or you don't want, and changing default values and directories to your preference. (Just see the self-explanatory section comments in this file.) Then in the same manner, also edit these default parameter values in the '`astrolog.dat`' file to your liking, at least the location and time zone values. (I also really recommend turning on the ANSI color feature if your system will support it – text charts look so much nicer in color!)

For Unix systems, just run the command `make` in the directory containing the '`Makefile`'. (You can also always compile by hand:

```
cc -O -c *.c; cc -o astrolog *.o -lm -lX11
```

will do it; just make sure to compile each source file and link them together at the end with the math library, and if applicable the X11 library.)

It is possible to compile Astrolog on a VMS system, even with its X windows functionality. There's an example of a simple VMS '`.COM`' file in the source code distribution which can automatically compile and link Astrolog on VMS, which should work for version 4.40, although you might need to include `/noopt` after the `CC`'s since some compilers may cause the program to pass parameters incorrectly with optimization on.

Compiling Astrolog on a PC is easy too. One can usually do it by simply compiling each file in turn and then linking them all together. In some cases you don't have to worry about explicitly mentioning things like the math library if your environments are set up properly. I used the Microsoft C7 compiler to generate the default ready to run PC executable, but I linked with the improved graphics.lib included with Microsoft Visual C 1.00 (C8) for the DOS graphics features. Note that the official PC executable for this version has also been run through the utility pklite which compressed the file size by more than half. If you have the nmake utility, the '`makefile`' included in the zip archive will nicely compile and link astrolog 4.30 on a PC, with properly set options and all. I compiled under the Large memory model, with 16K bytes of stack space. The default directory for chart info files, the '`astrolog.dat`' file, and the ephemeris files in the official PC executable are all set to '`C:\ASTROLOG`', although this location will be overridden with several environment variables if set. The time and location defaults are set to my own area, but you can easily override them with your own values in the '`astrolog.dat`' file.

8.1 MS-DOS

Astrolog may be compiled for DOS using the Borland Turbo C/C++ compiler, in addition to Microsoft C. Graphics support works too using the Borland BGI graphics libraries. If you want to compile in Borland graphics, uncomment the `#ifdef BGI` line in '`astrolog.h`' (instead of the `#ifdef MSG` for the Microsoft graphics.lib). If you don't want to compile in graphics, just make sure the `#ifdef PC` line is uncommented (there are some `#ifdef __TURBOC__` lines in the sources to do non-graphical Borland specific things).

To actually compile, use the '`makefile.bgi`' makefile, and invoke it with `make /f makefile.bgi` (or rename it to be just '`makefile`' and run just `make`). Note that the file '`makefile.cfg`' is also needed and is used during compilation by the main '`makefile`'. If you are compiling in graphics, you will need to have object files for all six of the BGI drivers in the directory you compile in. To make these files, go into your BGI directory (e.g. `CD C:\BORLANDC\BGI`) and do the command `BGIOBJ /F <file>`. Do this six times, where `<file>` is `ATT`, `CGA`, `EGAVGA`, `HERC`, `IBM8514`, and finally `PC3270`.

A Borland compile is fast and functionally identical to the Microsoft compilations in nearly every respect except for the '`astrolog.dat`' graphics mode indexes. The list of modes you can assign to the 'hi-res' and 'lo-res' graphics modes as switched to via the `TAB` key don't apply to Borland compiles. For Borland graphics, there are two options: a 'hi-res' mode for whichever driver expressed using negative values and zero, and a 'lo-res' mode expressed by positive values. Of course it's best to have the '`astrolog.dat`' graphics mode settings set to '0' for 'hi-res' and '1' for 'lo-res' so Astrolog does the expected thing and aligns with these two graphics modes available. Note that for standard VGA, 'hi-res' is a non-flicker free 640x480 resolution, while 'lo-res' is flicker free 640x350, as with Microsoft, while the default Microsoft settings of '-3' and '16' for the graphics mode nicely do the right thing for Borland builds too.

8.2 Mac

Astrolog is officially supported and runs on the Mac. The standard ready to run Mac executable is distributed in a `BinHex 4.0`'ed self extracting archive. To unpack it, use a utility that can `un-BinHex` such files to generate the self extracting archive, and then double click the archive program to unpack the executable, documentation, and other such files. I used `CompactPro 1.34` to create the Mac archive, a useful utility that can also `BinHex` and `un-BinHex` files. The executable should run on most any 68K processor Mac, and will run on PowerMacs in emulation mode. It requires 750K of heap to run, with 1.5M preferred.

The Mac Astrolog executable has the same icon as the PC version, a ringed planet with tilted red rings and surrounding stars, except the planet body is tan (gray in four bit color mode) instead of yellow. It and the other files are unpacked into their own '`Astrolog 4.40`' folder, where the folder's icon has the same ringed planet overlaying it. When the program is actually run, you'll be prompted to enter command switches in a terminal window. There aren't many options available on the Mac menu bar, although you can File Quit and copy selected text to the clipboard with it. The window doesn't have scroll bars for when text runs off the top of the screen, but the '-YQ' pager will prompt you to press return to continue scrolling if needed, and the '-os' switch can be used to send all the output to a file in your Astrolog folder. When the program terminates, the window title will prompt you to press return one more time to exit before the window actually goes away.

The program can read from the 'astrolog.dat' file, and will use the ephemeris files for very accurate calculations if '-b' is in effect. These and chart info files are the same and fully compatible with such files from PC and Unix versions. All files must however be in the Astrolog folder for the program to find them. The '-n' chart for now switch will work accurately provided the current time and zone are set up correctly in the Control Panels. The '-k' ANSI text feature does exist in Mac Astrolog, but the terminal won't be able to display the control codes properly, so this isn't really useful unless the output is sent to a file and later displayed in an environment that understands the codes and can show the colored text. Mac Astrolog doesn't yet support any interactive screen graphics. One can however create nice graphics files using all of the programs '-X' graphics switches. POSTSCRIPT, Windows bitmaps, or Windows metafiles generated may then be inserted into a program such as MS Word for the Macintosh and viewed or printed.

Astrolog's source code can be compiled and run on the Macintosh perfectly with no special modifications needed. In making the official Mac executable, I used the compiler Symantec C/C++ 7.0 for the Mac. When compiling, uncomment the new MAC compile time option in 'astrolog.h', and turn on the far data flag in the compiler. Other Astrolog compile time option settings should be SWITCHES off, ENVIRON off, and PROTO off. :)

```
#+#+#+#+#+#+#+#+#+#+#+#+#+#+#+#+#+#+#+#+#+#+#+#+#+#+#+#+#+#+#+#+#+#+#+#+#+#+#
+     Walter D. "Cruiser1" Pullen      !      astara@u.washington.edu     +
#+#+#+#+#+#+#+#+#+#+#+#+#+#+#+#+#+#+#+#+#+#+#+#+#+#+#+#+#+#+#+#+#+#+#+#+#+#+#
+ "Who am I, What am I?  As I am, I am not.  But as we are, I AM.  And to +
# you my creation, My Perfect Love is your Perfect Freedom. And I will be #
+ with you forever and ever, until the End, and then forever more." - GOD +
#+#+#+#+#+#+#+#+#+#+#+#+#+#+#+#+#+#+#+#+#+#+#+#+#+#+#+#+#+#+#+#+#+#+#+#+#+#+#
```

Master Index

The Master Index is still under development. :'(

Switches and Options Index

Keystroke Index

Z

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