

PLANETARY INDICATORS [PI]

VERSION 2010

**INDICATOR TOOLBOX MANUAL
FOR TRADESTATION 8.5+**

(DECEMBER 2009, PRELIMINARY VERSION)

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Install Instructions

1. Copy the ZIP file (PlanetaryIndicators.zip) to your desktop (recommended) and extract the embedded PlanetaryIndicators.msi file
2. Execute the PlanetaryIndicators.msi file
 - a. In Windows Vista/7, please make sure you execute the MSI as administrator; you find the option with a right mouse click on the PlanetaryIndicators.msi file

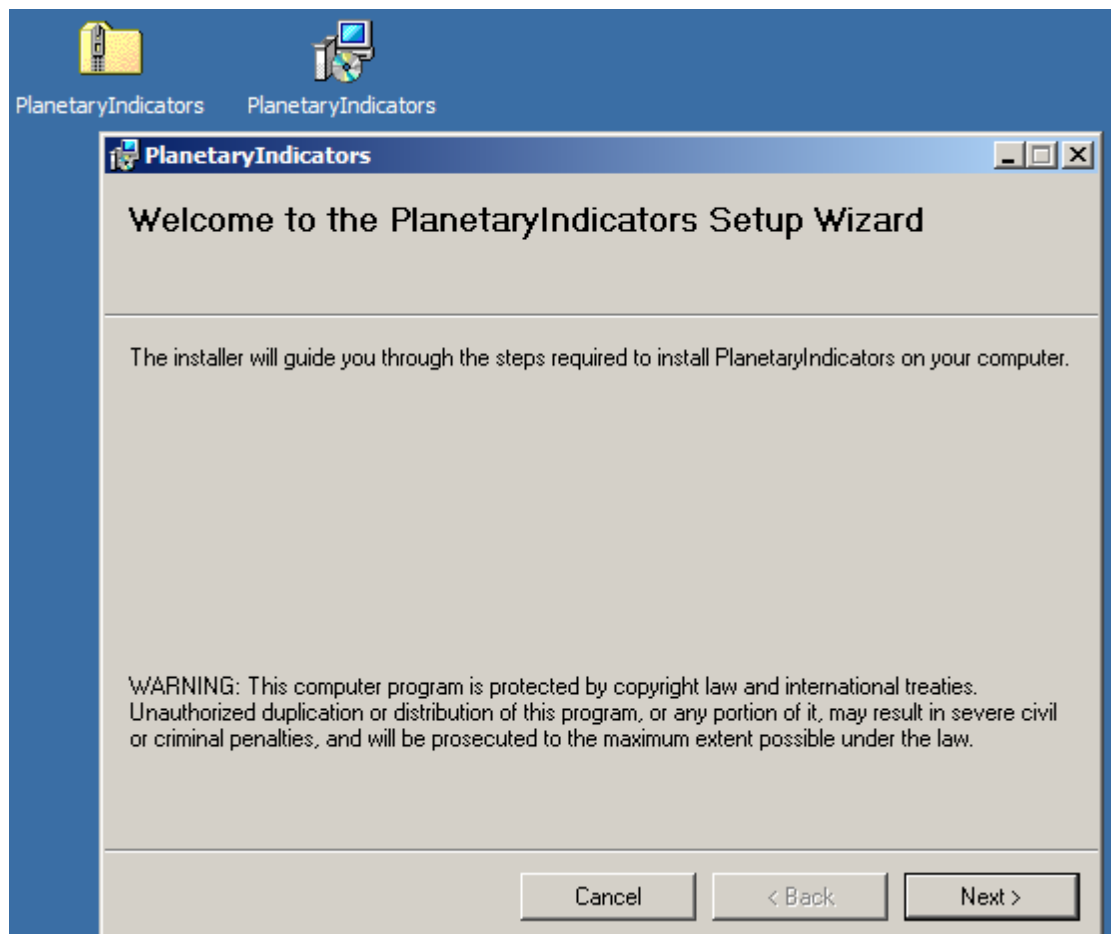


Figure 1: ZIP file in top left corner, install file right of it. After starting the install file you will see the first install dialog

3. At the end of the installation process the Import Wizard of TradeSignal (for TS8) should be opened.
 - a. If it does not open (sometimes under Windows VISTA) or the import process does not work, see manual import below

MANUAL IMPORT:

In TS8:

- a. In the Tradestation program select File/Import/Export EasyLanguage...
 - b. In the dialog chose the 2nd (Import EasyLanguage file (ELD, ELS, ELA))
 - c. Browse to the location where you installed NRT Tools (default: Program files\ PlanetaryIndicators\) and select the file 'PLANETARYINDICATORS.ELD'
4. Follow the Import Wizard (next, ok to all, and yes to all)
 - a. It is important that you also import all functions (Yes to ALL)
 5. After installation before you use the indicators for the first time, please execute the License Manager
 - a. You can find it in your Windows Start menu (Group PLANETARYINDICATORS)

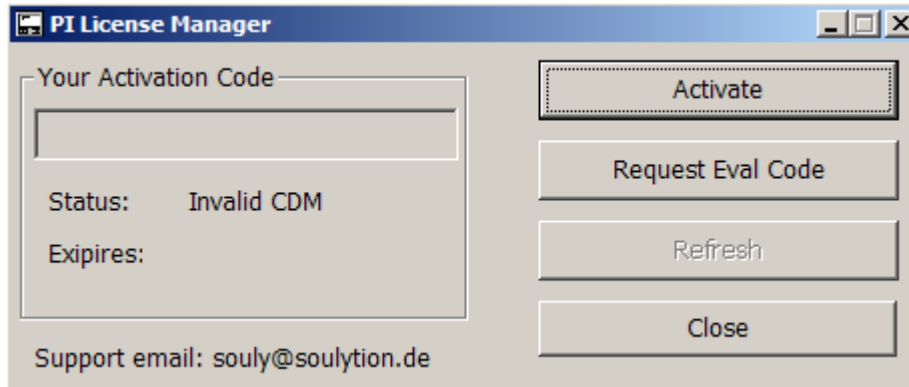


Figure 2: Starting the License Manager the first time you can Activate a code or Request an Evaluation Code

6. If you want to request an Evaluation Code, just press the button and enter your email-address. You will get the code within seconds.
7. For an Activation (for both Full version or Evaluation) push Activate
 - a. Enter your Code (16 characters)
 - b. If you activate for the first time enter a password (twice) and your email (twice)
 - You can chose the password yourself
 - If you forgot the password it can be sent to the email you enter here
 - c. If you reactivate your code, enter your old password and a new (never-used) password

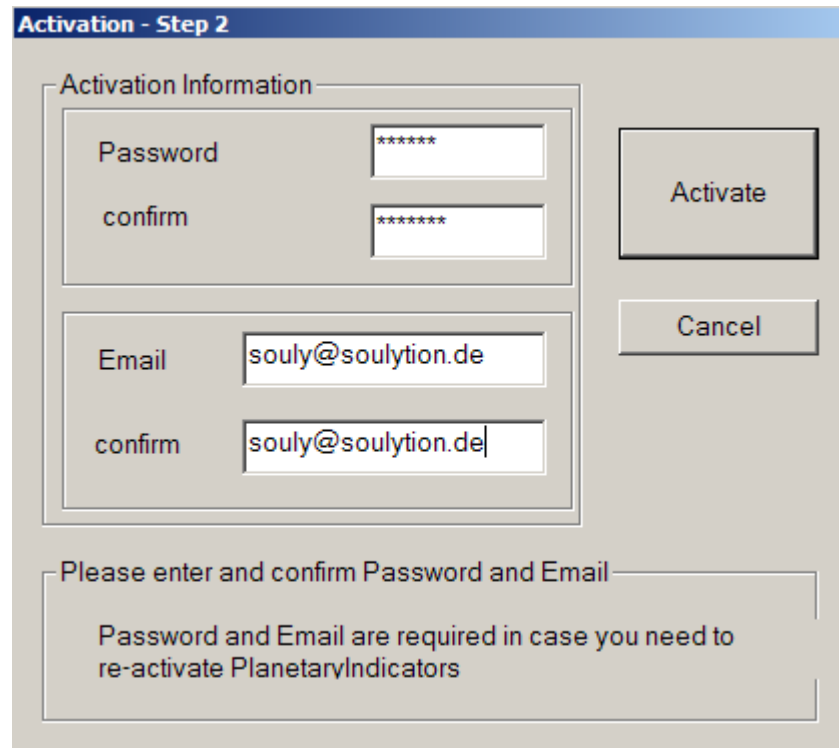
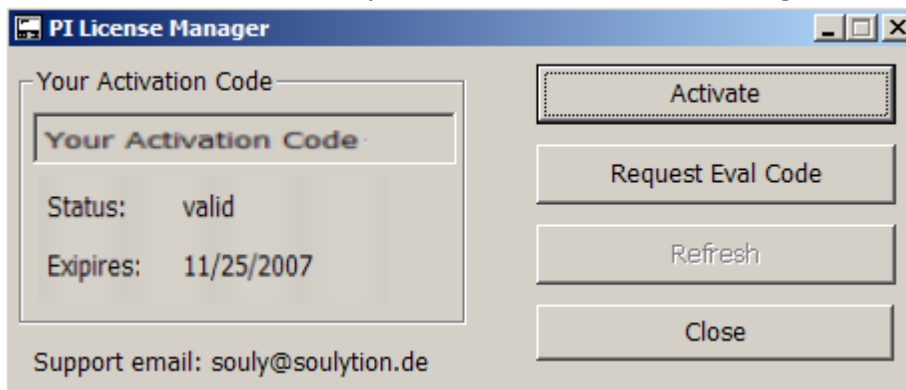


Figure 3: First time activation requires you to enter a password and your email

8. After successful activation you can close the License Manger



9. Use the indicators in Tradestation
 - a. In Tradestation open a Chart
 - b. Select Insert/Indicator...
 - c. In the Dialog you should see the [PI] indicators
 - d. Chose [PI] Ephemeris Chart
 - e. After pressing ok, you should the planetary lines in the Chart
→ Congratulations you successfully installed NRT tools

General Properties:

It is recommended to use the following properties (Format Symbol):

- Style:
 - o black background
 - o white (or light gray) bars, weight 2
- Scaling
 - o add sub-graph margin of 5 percent (or more) to top and bottom of chart
 - o **deactivate** expand range to include analysis technique

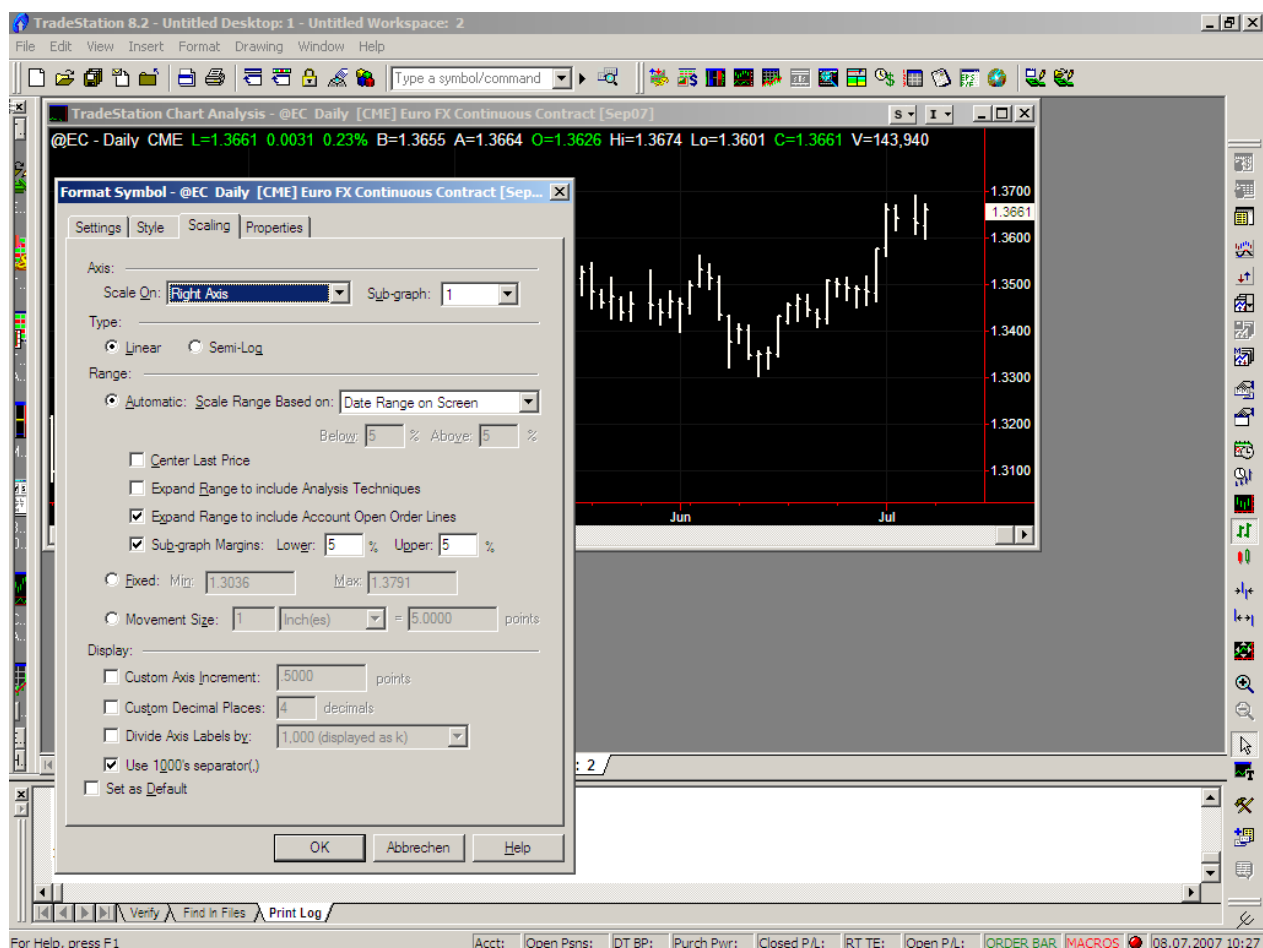


Figure 4: The Format/Symbol - Scaling dialog

- add at least 20 bars to the right (**Format – Space to the Right**)
- some indicators actively use the space to the right – so adding 200 bars or more allows a lot of future projection

Commentary Tool

Several indicators offer the function to see additional information for selected bars.

In the main menu select View – Analysis Commentary; then you can click on any bar to see additional information in a separate window

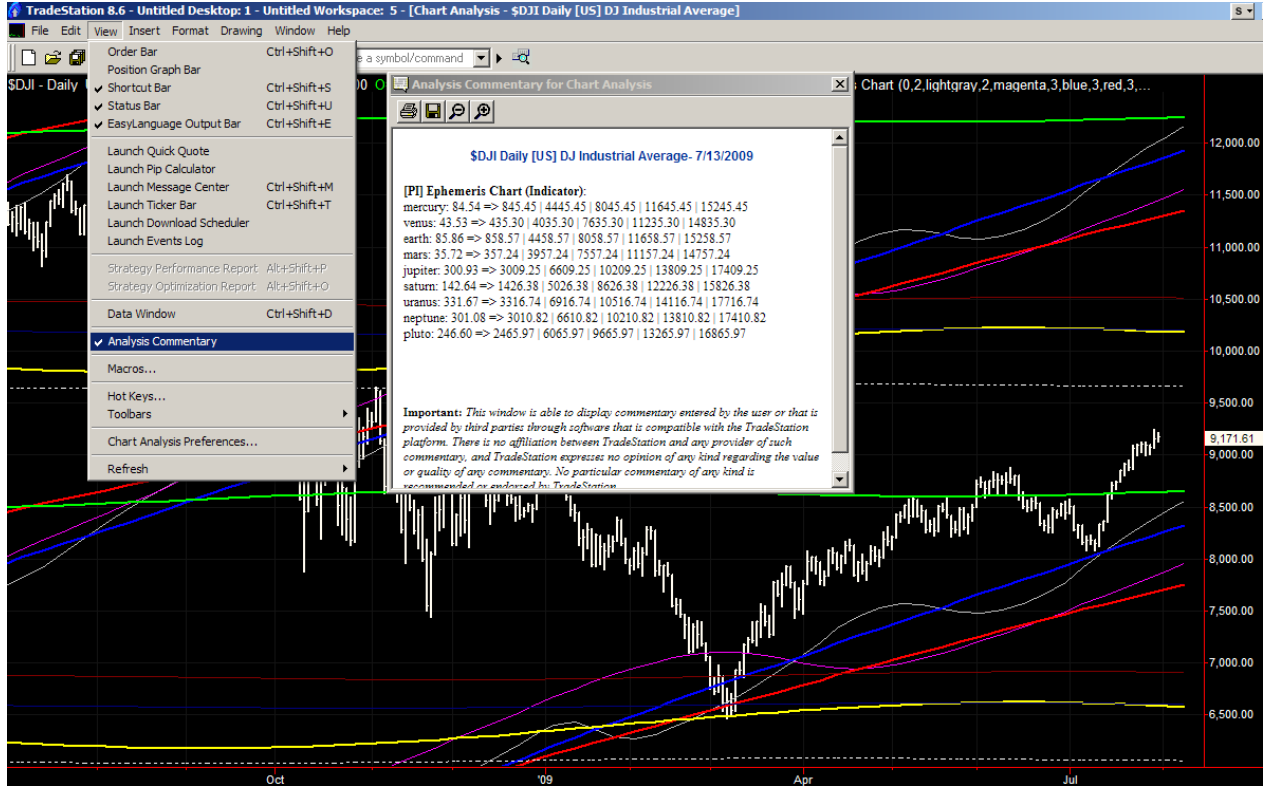


Figure 5: Example for Analysis Commentary as part of Ephemeris Chart. It shows detailed planetary positions for the selected bar

Planet Names and Default Colors

The indicators have a convention for the number and colors of the planets. All indicators are supposed to use the same scheme. Basically the planets are numbered from the inside of the solar system. The color is supposed to be characteristic for the corresponding planet/element.

Number	Planet/Element	Color
1	Mercury	Lightgrey
2	Venus	Red
3	Earth (heliocentric) Sun (geocentric)	Blue
4	Mars	Magenta
5	Jupiter	Yellow
6	Saturn	Green
7	Uranus	Dark Red
8	Neptune	Light Blue
9	Pluto	Light light grey (dark white)
0	Moon	White
10	Galactic Center	Dark Green
11	North Moon Node	-
12	South Moon Node	-

CALENDAR Symbol

To see planetary data for future dates and for days without trading (weekends, holidays) the CALENDAR symbol can be used as basis.

A CSV-file with dates from 1980 to 2020 has been installed in the PlanetaryIndicators program directory (C:\program files\planetaryindicators\)

Add the symbol (CALENDAR) as first symbol to a new chart. Add the actual symbol (\$DJI or \$INX or whatever) as second symbol, and finally add some days or years to the data range (set last date).

A small tutorial video can be found here:

<http://soulytion.de/wp-content/uploads/2009/03/calendar.swf>

NOTE:

With version 2010 most indicators do NOT need the CALENDER anymore. They automatically detect the available space to the right and fill it with data.

However, values for weekends and holidays can only drawn if the CALENDER symbol is used (for the best of my knowledge)

[PI] Ephemeris Chart

Shows the planetary ephemeris lines in the price window.

INPUTS:

<p>Multiplier</p>	<ul style="list-style-type: none"> - speed of the planet lines - sometimes referred as 1x1 - is the number of price units a planetary line should move for one degree of planet movement - if set to 0 the indicator tries to find a scale automatically - usual values: <ul style="list-style-type: none"> o S&P500: 1 o DJ: 10 o EURUSD: 0.01
<p>DistanceBetweenLines</p>	<ul style="list-style-type: none"> - It's the distance in degrees between Ephemeris lines of the same planet. - Default is 360 (i.e. one complete circle) - Smaller distances are suitable for intraday charts - down to 5 (1/72th circle) - For example with distance 90 all 90, 180 and 0 degree ingresses become visible as crossing between two lines
<p>mercury (2), mercury.color (lightgray),</p> <p>venus (2), venus.color (red),</p> <p>earth_sun (3), earth_sun.color (blue),</p> <p>mars (3), mars.color (magenta),</p> <p>jupiter (3), jupiter.color (yellow),</p> <p>saturn (3), saturn.color (green),</p> <p>uranus (2), uranus.color (darkred),</p> <p>neptune (1), neptune.color (darkblue),</p> <p>pluto (1), pluto.color (white),</p> <p>GalacticCenter(0),</p>	<ul style="list-style-type: none"> - Defines the style for the corresponding planetary line - Number: <ul style="list-style-type: none"> o 0 = off o 1=dashed o 2=thin solid line o 3=normal line o 4=thick line - .color sets the color of the corresponding line - Default color options: <ul style="list-style-type: none"> o Black, blue, cyan, green, magenta, red, yellow, white, darkblue, darkcyan, darkgreen, darkmagenta, darkred, darkbrown, darkgray, lightgray

galCenter.color(darkgreen), Moon(0), Moon.Color(white),	
ingressLines(true), showSignIDs	<ul style="list-style-type: none"> - Enables (if true) the ingress lines - If true and ingressLines are enabled, it adds names of the Zodiac signs to the lines
Geocentric	<ul style="list-style-type: none"> - true for geocentric - false for heliocentric
Sidereal	<ul style="list-style-type: none"> - enables sidereal shift of the planetary system
Resolution	<ul style="list-style-type: none"> - interval (in bars) of precisely computed planetary points - space in between will be connected by a line - smaller resolution can reduce computation performance significantly
Lines	<ul style="list-style-type: none"> - number of instances of the planetary lines above and below the center price - default 2 means roughly 2x360 degrees above and below the last price - if for example INX is @1000 then the lines are drawn from about 300 to 1700 - too many lines can reduce computation performance
Static.Date	<ul style="list-style-type: none"> - shows the planetary constellation for the specified date all over the chart as horizontal line - With a second instance of the indicator (or with the ephemeris single to avoid the clutter) it allows natal analysis - Format is YYYYMMDD - It is active when it's not 0
timeZone	<ul style="list-style-type: none"> - Either the time zone in hours (e.g. "+5", "-2") of the market relative to Greenwich - If market time and computer system time are the same, "auto" will automatically take the time zone of the computer.
calibrateOnSelectedHiLo	<ul style="list-style-type: none"> - If enabled it lets all Planetary lines start from one specific High or Low in the chart - The high or low is selected by the commentary tool <ul style="list-style-type: none"> o Activate commentary tool and then just click on the bar, the planetary lines should start from. - Starting from that point the indicator draws the difference of the actual planetary position to the starting point. - See also Planet Pair, StaticMode 2

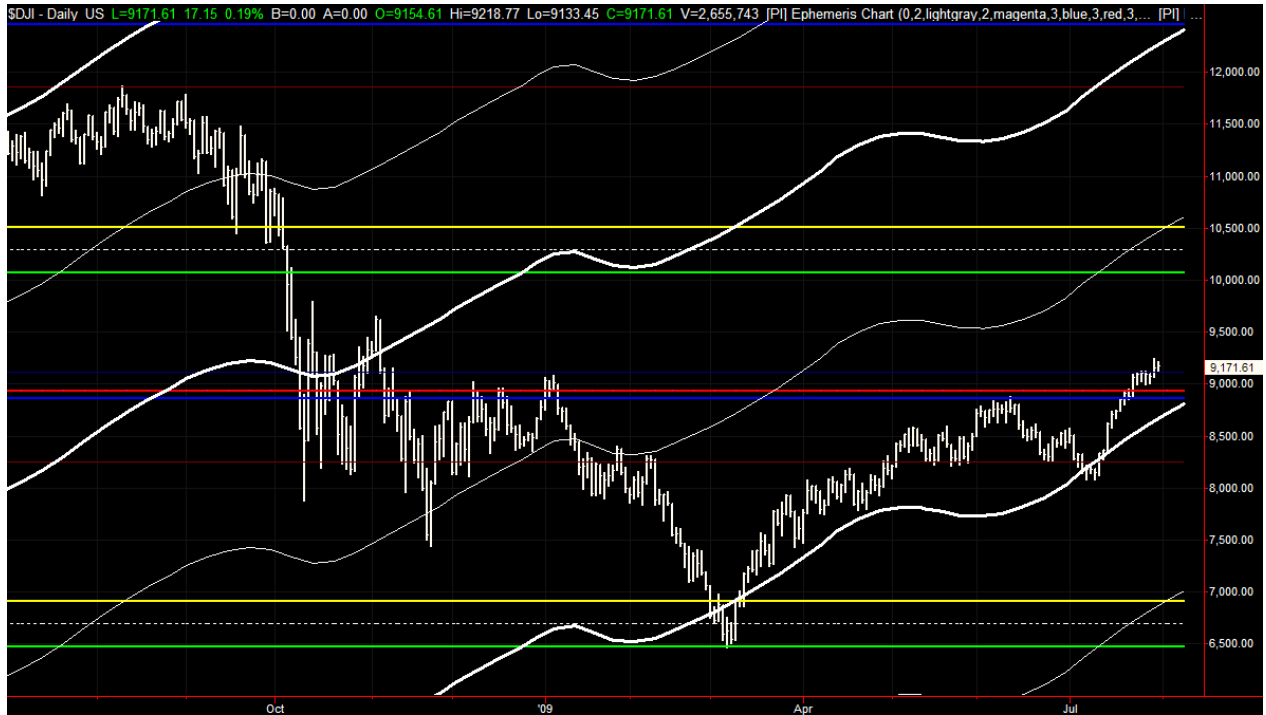


Figure 6: Example for Natal Analysis: Horizontal lines are planets for NYSE birth day (17920517); the white dynamic line is Mercury shown with "Ephemeris single"

FORWARD PROJECTION:

The indicator automatically draws in the future for the number of bars set in the chart preference "Format-Space to the Right".

INTRADAY APPLICATION:

The indicator is ready for use in any bar chart.

[PI] Ephem Single

Shows the planetary ephemeris of one element inside the price window.

Additionally it allows

- *To construct ephemeris-based channels*
- *Draw the average of a set of planets*

INPUTS:

Elements	<ul style="list-style-type: none"> - Set of selected Element • ATTN: It is a string, so quote marks (“”) are needed • 1-9 = Number of planet • 0 = Moon • 10 = Galactic Center • 11 = Moon North Node • 12 = Moon South Node • If more than one element is selected (comma sperated) it shows the average of the elements <ul style="list-style-type: none"> ○ E.g. “5,6,7,8,9” is the mean of five (MOF) (Average longitudes of Juptier, Saturn, Uranus, Neptune, Pluto)
Degree	<ul style="list-style-type: none"> - Degree to be filtered
Modulus	<ul style="list-style-type: none"> - Applied Modulus - full circle = 360 - one signal per sign = 30 - one signal per quarter = 90
Geocentric	<ul style="list-style-type: none"> - true for geocentric - false for heliocentric
timeZone	<ul style="list-style-type: none"> - Either the time zone in hours (e.g. “+5”, “-2”) of the market relative to Greenwich - If market time and computer system time are the same, “auto” will automatically take the time zone of the computer.

FORWARD PROJECTION:

The indicator automatically draws in the future for the number of bars set in the chart preference “Format-Space to the Right”.

INTRADAY APPLICATION:

The indicator is ready for use in any bar chart.

[PI] Planet Filter

Shows signals for specified planetary positions for one selected planet relative to the zodiac.

INPUTS:

Planet	<ul style="list-style-type: none"> - Number of selected Planet • Default for all planets • If planet = 0 and geocentric=false it can filter the phase of the moon (180 is full moon, 0 = new moon) • If planet = 0 and geocentric=true it filters the actual position of the moon • 11=North Node, 12=South Node
Degree	<ul style="list-style-type: none"> - Degree to be filtered
Modulus	<ul style="list-style-type: none"> - Applied Modulus - full circle = 360 - one signal per sign = 30 - one signal per quarter = 90
Geocentric	<ul style="list-style-type: none"> - true for geocentric - false for heliocentric
relativeToDate	<ul style="list-style-type: none"> - sets zero point to the position the planet had at the given date - Format: YYYYMMDD - If 0 the function is disabled - For example if it should shown when Mercury comes back to the position it had at the low 2002 I set relativeToDate to 20021010; degree should be 0 and modulus should be 360 - It also allows to find out what happened in history when the planet was on the position it has today. Just enter today's date.
timeZone	<ul style="list-style-type: none"> - Either the time zone in hours (e.g. "+5", "-2") of the market relative to Greenwich - If market time and computer system time are the same, "auto" will automatically take the time zone of the computer.

If the modulus is set to 360 the signal will be shown when the selected planet is exactly at the selected (degree) position.

In case of Earth it will produce a signal exactly once per year.

A smaller modulus will segment the circle in fractions of [modulus] degrees.

If modulus is set to 90 the signal will be shown for [degree], for [degree]+90, for [degree]+180, and for [degree]+270. In case of Earth it will produce a signal every three months.

If modulus is set to 30 the signal will be shown for [degree], for [degree]+30, ..., for [degree]+330, i.e. once per sign. In case of Earth it will produce a signal every month.

For very slow planets (>Uranus) the modules can be set to 1, i.e. it produces one signal for every degree the planet passes.

FORWARD PROJECTION:

The indicator automatically draws in the future for the number of bars set in the chart preference “Format-Space to the Right”.

INTRADAY APPLICATION:

The indicator is ready for use in any bar chart.



Figure 7: EURUSD 60 min chart with Planet Filter showing heliocentric ingresses of Mercury

[PI] Planet Aspects

Shows all Planetary Aspects in one window. Includes a histogram indicating the number of active aspects.

INPUTS:

Geocentric	<ul style="list-style-type: none"> - true for geocentric - false for heliocentric
Aspects	<ul style="list-style-type: none"> - List of aspects that should be highlighted. - Default “0,60,90,120,180”, i.e. shows planet aspects of 60, 90, 120, 180 degrees and conjunctions (0 degree)
Threshold_medium	<ul style="list-style-type: none"> - Is the orb in degrees around the actual aspect time that should be highlighted with medium size dots
Threshold_small	<ul style="list-style-type: none"> - Is the orb in degrees around the actual aspect time that should be highlighted with small dots
InvertScale	<ul style="list-style-type: none"> - If true the vertical scale sets the more distant planet in front of the decimal representation, i.e. if Mercury (1) and Mars (4) have an aspect, the dot will be at 41 - If false (default) , the closer planet will be set to front, i.e. if Mercury (1) and Mars (4) have an aspect, the dot will be at 14
minPlanet	<ul style="list-style-type: none"> - Set the smallest ID Planet (or Element) that should be considered for aspects - Default is 1, meaning aspects for all planets from Mercury to Pluto will be considered - Setting it to 4 would only show aspects of the 6 outer planets - Setting it to 0 would also include aspects of the Moon
aspectColor	<ul style="list-style-type: none"> - Color of the yellow (default) dots
topWhiteLine	<ul style="list-style-type: none"> - Draws a white line in the indicator window at 100 (default) so that there’s some space on top
timeZone	<ul style="list-style-type: none"> - Either the time zone in hours (e.g. “+5”, “-2”) of the market relative to Greenwich - If market time and computer system time are the same, “auto” will automatically take the time zone of the computer.
Event.Histogram	<ul style="list-style-type: none"> - If set to true (default) it shows the number of active Aspects for the bar as histogram in the window.

FORWARD PROJECTION:

The indicator automatically draws in the future for the number of bars set in the chart preference “Format-Space to the Right”.

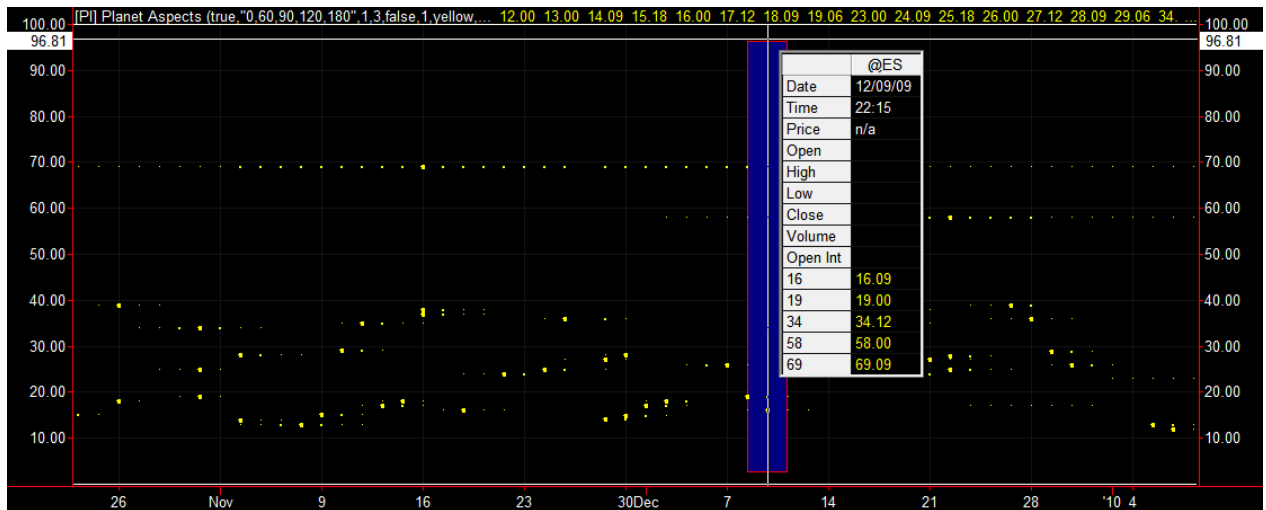
INTRADAY APPLICATION:

The indicator can be applied for any bar interval. The next chart shows the indicator (and the EphemerisChart indicator) on a 60min EURUSD chart. MinPlanet is set to 0, so also Moon aspects are included. In thisChart, cluster in the Aspects indicator are the timing tool while the Ephemeris (distanceBetweenLines=30) provides price information.

Note: The spikes on Mondays (as well as the vertical planet movement in the price chart) come from catching up the whole weekend in one bar.



Figure 8: Planet Aspects with Histogram for intraday timing of 60min EURUSD + Ephemeris in Price window



The charts on this page demonstrate how to work with the aspect indicator. The upper chart is just the Aspects indicator (histogram disabled, small Threshold = 3, med Threshold = 1). For example for Dec 9th (highlighted) it shows 5 dots: 3 tiny dots (69, 58, 34) one medium dot (19) and a larger dot at 16.

The second chart shows the additional information provided in the chart information box. It shows that the dot at 16 is actually at 16.09. It means that planet 1 (Mercury) and Planet 6 (Saturn) have a 90 degree aspect. That it is a large dot indicates that the Square is exactly on Dec 9th. The other dots are

- Medium dot at 19.00 means Mercury and Pluto have a 0 degree aspect (conjunction) within 1 degree orb (it's set by medium Threshold). The exact Conjunction is shown by the larger dot one day earlier.
- Small dot at 34.12 means Earth (3) and Mars (4) have a 120 degree aspect within 3 degrees orb. The actual Trine is represented by the larger dot 4 days later.
- Small dot at 58.00 means Jupiter (5) and Pluto (8) have a 0 degree aspect (conjunction) within 3 degrees orb.
- Small dot at 69.09 means Saturn (6) have a 90 degree aspect (Square)within 3 degrees orb.

[PI] Planet Pair

Shows signals for relative positions (aspects) of two selected planets

INPUTS:

Planet1	- Number of first selected Planet
Planet2	- Number of second selected Planet
Degree	- Degree (Aspect) to be filtered
Modulus	- Applied Modulus - full circle = 360 - one signal per sign = 30 - one signal per quarter = 90
Orb	- if not zero, highlights not only the exact aspect but also the selected degrees before and after the event
Geocentric	- true for geocentric - false for heliocentric
RelativeToDate	- is the relative date used when staticMode is non Zero - format is YYYYMMDD
staticMode	- if 0 it shows the normal planetary difference as it is in the sky - if 1 it nails Planet2 to the date set as RelativeToDate <ul style="list-style-type: none"> o that mode allows to see when a planet (Planet1) crosses the natal position of another planet (Planet2) - if 2 it uses the difference of the actual position to the position set as relativetodate for both planets <ul style="list-style-type: none"> o that mode allows to look for dates that have the same relative positions (or an aspect) as it was when something significant (natal, high, low) happened.
timeZone	- Either the time zone in hours (e.g. "+5", "-2") of the market relative to Greenwich - If market time and computer system time are the same, "auto" will automatically take the time zone of the computer.

If the modulus is set to 360 the signal will only be shown when the aspect of selected planets is the selected degrees.

A smaller modulus will segment the circle in fractions of [modulus] degrees.

If modulus is set to 90 the signal will be shown for [degree], for [degree]+90, for [degree]+180, and for [degree]+270.

If modulus is set to 30 the signal will be shown for [degree], for [degree]+30, ..., for [degree]+330.

For very slow planets (>Uranus) the modules can be set to 1, i.e. it produces one signal for every degree the aspect of the two planets changes.

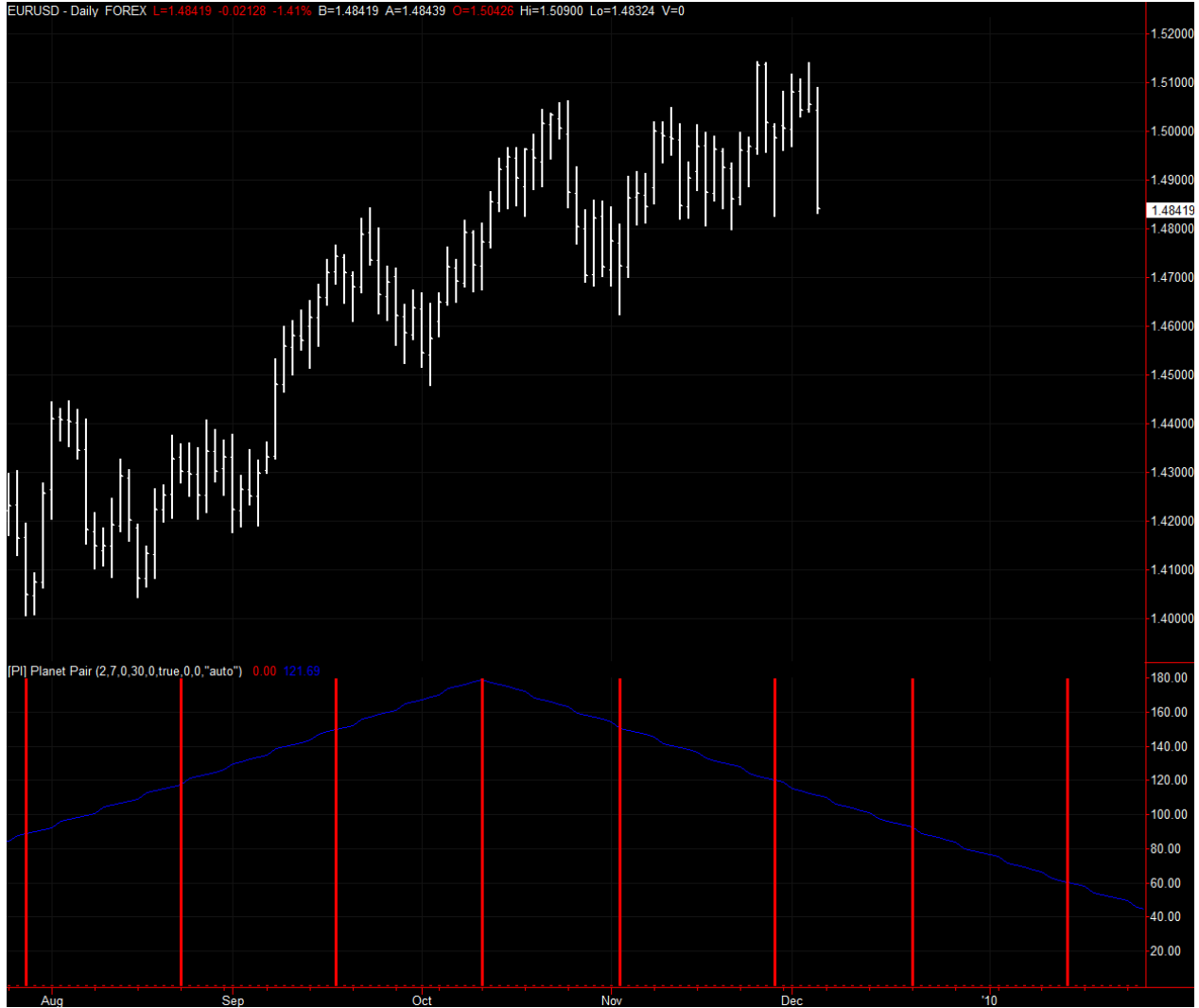


Figure 9: EURUSD with timing of relative 30 degree aspects of the planet pair Venus (2) and Uranus (7)

FORWARD PROJECTION:

The indicator automatically draws in the future for the number of bars set in the chart preference “Format-Space to the Right”.

INTRADAY APPLICATION:

The indicator is ready for use in any bar chart.

[PI] Eclipse

Shows dates of Solar and Lunar Eclipses and time projections of the Eclipses

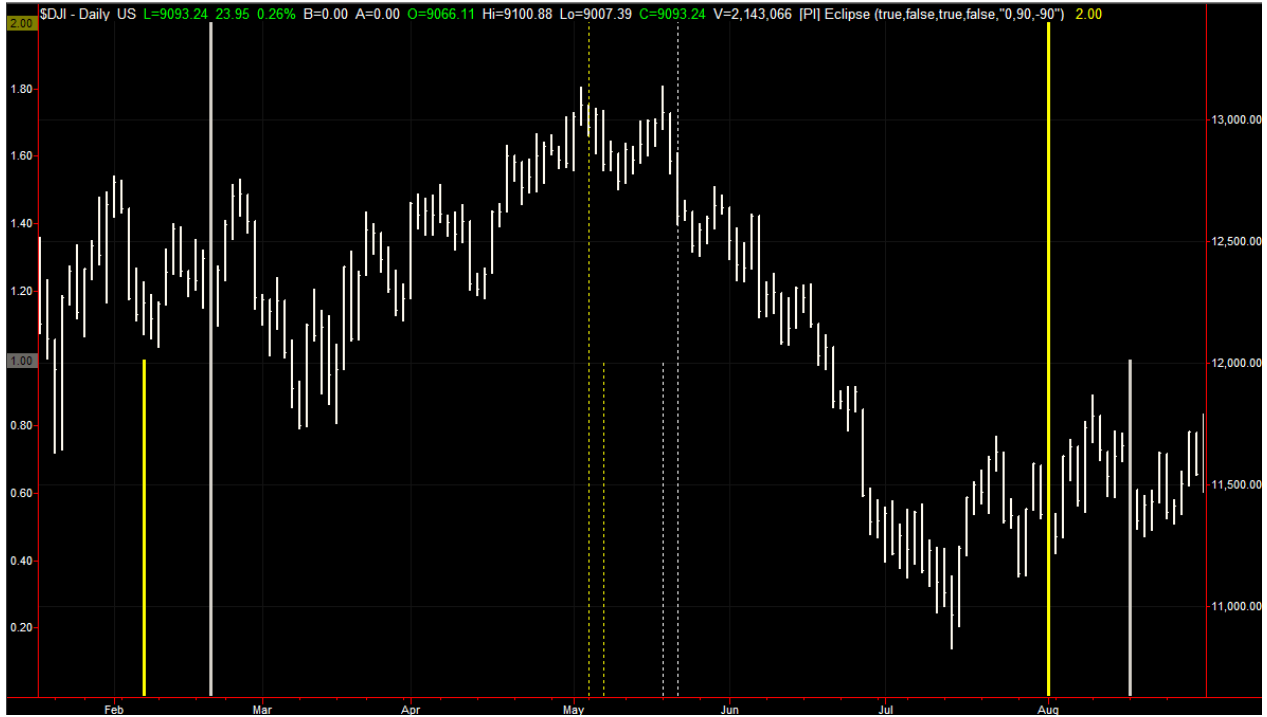
INPUTS:

Sun	- true if sun eclipses should be shown, else false
onlyTotalSunEclipse	- true if only total sun eclipses should be shown - false if also partial sun eclipses should be shown
Moon	- true if moon eclipses should be shown, else false
onlyTotalMoonEclipse	- true if only total moon eclipses should be shown - false if also partial moon eclipses should be shown
IndicateRelDays	- Is a komma-separated list for the number of days before (negative number) or after (positive number) the eclipse - For example it is said that the time 90 days before and 90 days after a eclipse is particularly interesting for a change in trend - Default is "0,90,-90", i.e. show the actual eclipse date and 90 days before and after

By default:

- Thick yellow lines show the actual Sun eclipse
- Dashed yellow lines are projected days (see IndicateRelDays) relative to the SUN eclipse
- Thick WHITE lines show the actual MOON eclipse
- Dashed WHITE lines are projected days (see IndicateRelDays) relative to the MOON eclipse
- A high line (to 2) indicates a FULL ECLIPSE
- A smaller line (to 1) indicates a PARTIAL ECLIPSE
 - o Partial eclipses are only shown if onlytotal***Eclipse is false

By default the indications are shown in an extra window below the price chart. You can show it in the price chart by dragging the indicator on the price window. Make sure you do not chose the same scale as the price (usually you can chose left axis). Then you'll get chart similar to one below:



FORWARD PROJECTION:

The indicator automatically draws in the future for the number of bars set in the chart preference “Format-Space to the Right”.

INTRADAY APPLICATION:

Not yet supported

[PI] PlanetRelSpeed

Shows planets in retrograde and relative speed of planets as seen from earth.

INPUTS:

Single	<ul style="list-style-type: none"> - If 0 (default) the indicator shows a dot for each planet in retrograde - If non-zero it shows the actual relative speed of the selected planet as seen from earth. Negative speed means 'retrograde' while positive speed means planet is 'direct'
timeZone	-

FORWARD PROJECTION:

The indicator automatically draws in the future for the number of bars set in the chart preference "Format-Space to the Right".

INTRADAY APPLICATION:

Fully supported

EXAMPLE:

The chart below shows the Dow Jones with Mercury ephemeris line. Retrograde is the period when the ephemeris line moves backward.

The first sub-chart is the [PI] RelSpeed indicator with parameter single=0, meaning that no planet is singled out. So it shows retrograde periods for all 9 planets, as dot if the corresponding planet is retrograde.

The second sub-chart is [PI] RelSpeed but this time single is set to 1, meaning I just want to see Mercury. The redline shows the relative speed of the planet in degrees. If the planet is retrograde, the line is below zero.

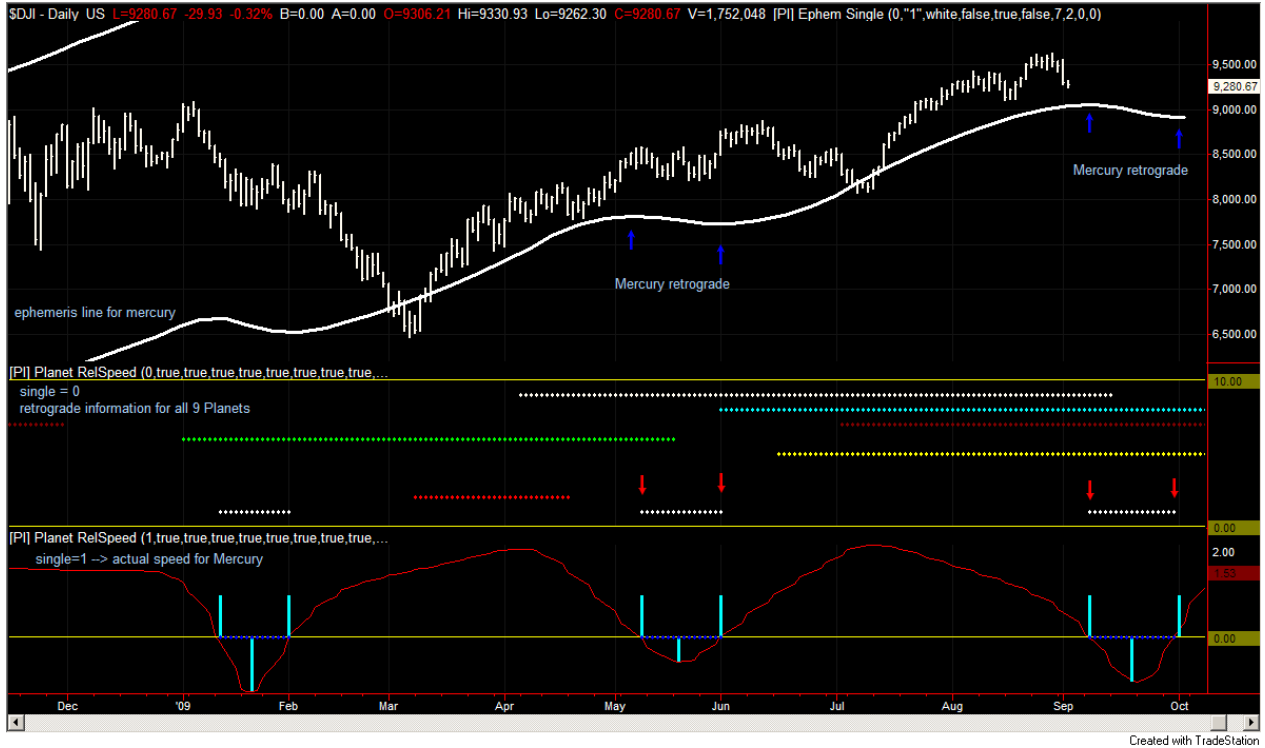


Figure 10: Overview of Planets in Retrograde on first sub chart and Mercury speed singled out in second sub chart

[PI] Planet Ingress

Shows planetary ingresses (change of zodiac sign) for all planets in one window.

INPUTS:

Geocentric	-
timeZone	-

FORWARD PROJECTION:

The indicator automatically draws in the future for the number of bars set in the chart preference “Format-Space to the Right”.

INTRADAY APPLICATION:

Fully supported

[PI] Bradley

Shows the well known Bradley indicator in a separate window

INPUTS:

componentShort componentLong componentDecl	The Bradely Indicator is composed of 3 sub-components: <ul style="list-style-type: none"> - Planetary aspects of short term planets (component Short) - Planetary aspects of longer term planets (component Long) - Declination of Venus and Mars (componentDecl) The default weight is 1,4,4, i.e. Bradley = 1x componentShort + 4x componentLong + 4x componentDecl <p>Playing with the weights, or isolating one component can improve the Bradley information. For example the isolated longterm component indicated pretty interesting highs and lows in the last century.</p>
geoCentric	-

NOTICE:

To see smoother Bradley and data for weekends, set “base study on” symbol CALENDAR

FORWARD PROJECTION:

The indicator automatically draws in the future for the number of bars set in the chart preference “Format-Space to the Right”.

INTRADAY APPLICATION:

Fully supported



Figure 11: Inverted geocentric Bradley (negative component multipliers) and EURUSD

Programming Interface

The ephemeris data can be accessed directly within Easy Language. The interface is the function named `$pi_ephem`

It provides geocentric and heliocentric data for planetary longitude, latitude, declination (only geocentric) and distance.

Syntax of the function is:

```
$pi_ephem (
    planet (numeric),
    date (numeric),
    time (numeric),
    type (numeric),
    heliocentric (truefalse),
    sidereal (truefalse),
    timeZone(string))
```

Parameters:

Planet is the number of the planet (or element) for which the data is requested. It is recommended to use following constants:

```
vars: //PLANET CONSTANTS
P_SUN(3),
P_MOON(0),
P_MERCURY(1),
P_VENUS(2),
P_EARTH(3),
P_MARS(4),
P_JUPITER(5),
P_SATURN(6),
P_URANUS(7),
P_NEPTUNE(8),
P_PLUTO(9),
P_NNODE(10),
P_SNODE(11);
```

Date and **Time** are date and time (in normal EL format) of the requested data.

Type is an integer that defines the type (planetary longitude, latitude, declination or distance) of the requested item. The following constants apply:

```
Vars: //REQUEST TYPE CONSTANTS
D_LONGITUDE(0),
D_LATITUDE(1),
D_DECLINATION(2),
D_DISTANCE(3);
```

heliocentric has to be true if heliocentric data is required. For geocentric data the parameter has to be false

sidereal has to be true if sidereal coordinates of the geocentric longitude are required.

Timezone is a string that defines the timezone of the chart. It should be either the time zone in hours (e.g. "+5", "-2") of the market relative to Greenwich, or "auto" if market time and computer system time are the same. If "auto" is set the function will automatically use the time zone of the computer.

Return:

The requested value as floating point number.

Based on the requested type the return value is:

D_LONGITUDE: the position of the selected planet in degrees (0-360) as seen from Sun (heliocentric) or Earth (geocentric)

D_LATITUDE: latitude of the selected planet degrees as seen from Sun (heliocentric) or Earth (geocentric)

D_DECLINATION: declination of the selected planet in degrees to the Earth Equator

D_DISTANCE: distance of the selected planet in AUs (astronomic unit) to Sun (heliocentric) or Earth (geocentric)

Example:

Plot geocentric longitude of Mars:

```
Plot1 ($pi_ephem(P_MARS, d, t, D_LONGITUDE, false, false, "auto"));
```

Plot Distance of Jupiter to the Sun:

```
Plot2 ($pi_ephem(P_JUPITER, d, t, D_DISTANCE, true, false, "auto"));
```

Please check the Indicator [PI] Sample and the Strategy [PI] PlanetPairStrat for practical application.