When is the Next Pole Shift?

Welcome to the frustrations we all share. The past predictions were wrong again, why should anyone trust further human analysis and indication of probable dates. One shouldn't --- one should always do ones own analysis. We share our analysis in case it helps as a starting point in this direction. Many of us know Planet X (PX) is coming, we see many signs of this, and we just don't have any good observational data to base its arrival date on. The following is the latest analysis and is based on human analysis of the few date dependent Zeta clues over the last two decades found on zetatalk.com. If usefully use it. Hopefully, we have learned from our past mistakes. In the end consult your own knowing and what rings true for you in all cases.

Summary of Time dependent Zeta Clues - prioritized - most important first.

1) **Primarily the Zeta's have said the pole shift occurs at the end of a trimester with year unknown**. See "*ZetaTalk: Pole Shift Timeline written September 12, 2009*" *http://www.zetatalk.com/index/zeta531.htm*. "We are not allowed to give a date, nor any clue as to the timeline. Our descriptions of the last weeks are exempt as by then it will be obvious. Our statement that the **pole shift will coincide with the end of a magnetic trimester - the end of April, August, or December** - is allowed because this likewise will only be clear when the last weeks have arrived, and no year is mentioned."

   Further definition of end of a trimester can be found at *ZetaTalk Chat Q&A for July 17, 2010* http://www.zetatalk.com/ning/17jy2010.htm "Why should this divide into three phases, when magnets on the surface of Earth have no such phases? This is a pulse, from afar, and not relevant to mankind's future on planet Earth. Suffice it to say that this pulse is divided into 3 parts, and they line up remarkably well with a 4 month period, each being a third of an Earth year. Did the Earth arrive at her orbit of 365 days in a year in part because of this magnetic pulse? Indeed, and this also relates to why the Earth and the *Sun* both tilt in a certain direction, magnetically. Were we to estimate more precisely the point when the pulse changes, **it would be more akin to December 17, April 20, and August 12**. But there is a slight period after the end of a phase when a particle crowding has not yet subsided, or an increase in particle flow has not yet registered. Thus, the end of those months is most accurate as a guide."

   Last weeks are included within the trimester *ZetaTalk Chat Q&A for June 5, 2010* http://www.zetatalk.com/ning/05ju2010.htm **"We have also stated that the last weeks will be within that trimester. This includes a severe wobble, a static position in a lean to the left, 3 days of darkness and the resulting 6 days of sunrise west, a slowing rotation and a stopped rotation of 5.9 days."**

2) **Venus and the dark twin are in the cup of planet X**. *ZetaTalk Chat Q&A for June 5, 2010* http://www.zetatalk.com/ning/05ju2010.htm "**There are 3 planets caught in the cup in front of Planet X - the Earth, the Dark Twin, and Venus. All 3 are being pressed together, with resulting distress and great drama in the skies in this matter before the pole shift occurs. ….. Venus will be squeezed so tightly in the cup toward the Earth, that it will appear to come from the Sun, no longer in its orbit as viewed from Earth**. It will loom large as it is squeezed toward the Earth, and then escape to resume its normal orbit, a counterclockwise orbit."

   ZetaTalk Chat Q&A for April 16, 2011 http://www.zetatalk.com/ning/16ap2011.htm "But the grip Planet X has on the Earth, Venus, and the Dark Twin has been tightening lately, as

Planet X is outbound and is closing the gap. **Looking at this drama from outer space with the N Pole of Earth topside, one would have seen Planet X slightly to the right with Earth, Venus and the Dark Twin clustered to the left.** For reasons too complicated to explain, due to the approach of the April Trimester which arrives on April 20, **Planet X is pointing its N Pole more to the left, toward the cluster of planets. This skews Planet X so its S Pole is not pointing directly at the Sun,** no longer acting as a direct intake for magnetrons from the Sun. Thus, sunspots are again appearing on the surface of the Sun."

ZetaTalk Secklendorf 7/5/2008: **http://www.zetatalk.com/newsletr/issue183.htm** "Going into the pole shift, approaching the end of the magnetic trimester when the pole shift will occur, there will be clashes between the planets, including clashes with Planet X itself. **As Planet X approaches the Earth, the cup of the eddy flow tightens, forcing Earth and Venus toward Planet X, the larger orb, as it does so. The Dark Twin falls outside of the cup at this point, thus becoming a minor element during the last weeks**."

3) **Approach is similar to results of 2003 Zeta coordinate direction.** *Coordinates* http://www.zetatalk.com/theword/tword03m.htm
RA 4.06449 Dec -07.45183 May 15, 2003
RA 4.07645 Dec 00.77814 May 9, 2003
RA 4.09581 Dec 02.98217 May 4, 2003
RA 4.11437 Dec 03.95347 Apr 30, 2003
RA 4.12964 Dec 08.11571 Apr 21, 2003
RA 4.13113 Dec 10.23674 Apr 16, 2003

4) **PX orbit passes through the ecliptic (Zeta triangle is made) near a solar eclipse.**
Zeta Triangle http://www.zetatalk.com/science/s31.htm **The Earth, Sun, and 12th Planet will thus Form a Triangle in the Earth's orbital plane with a 23 degree angle at the Earth, an 18 degree angle at the Sun, and a 139 degree angle at the 12th Planet.**

Solar Eclipse http://www.zetatalk.com/science/s29.htm **The Earth's orbit forms a plane. The Moon's orbit forms a plane that bisects the Earth's orbit in a fixed place twice a year. The 12th Planet's orbit, coming and going, forms a plane that also bisects the Earth's orbital plane. Take the placement of the Earth at the two points where the Moon's orbital plane lines up. Use these two points as two of three points in a triangle. The third point in an equilateral triangle will be on the plane of the 12th Planet's orbit.**

Note from Nancy of Zetatalk on 22 Mar 2010: "Zeta Triangle occurs at a solar eclipse: **Nancy: Point 2.4 is a wrong assumption**. s29.htm was written in 1995 to figure out where PX would be inbound, when the times comes. The Zetas after this began to give RA and Dec, which were used by the sighting team extensively, found accurate. But the details in s29.htm are not saying that the Earth and PX will be at any particular point for the point of passage! They are saying here's how you draw the triangle to point in the direction PX will come from."

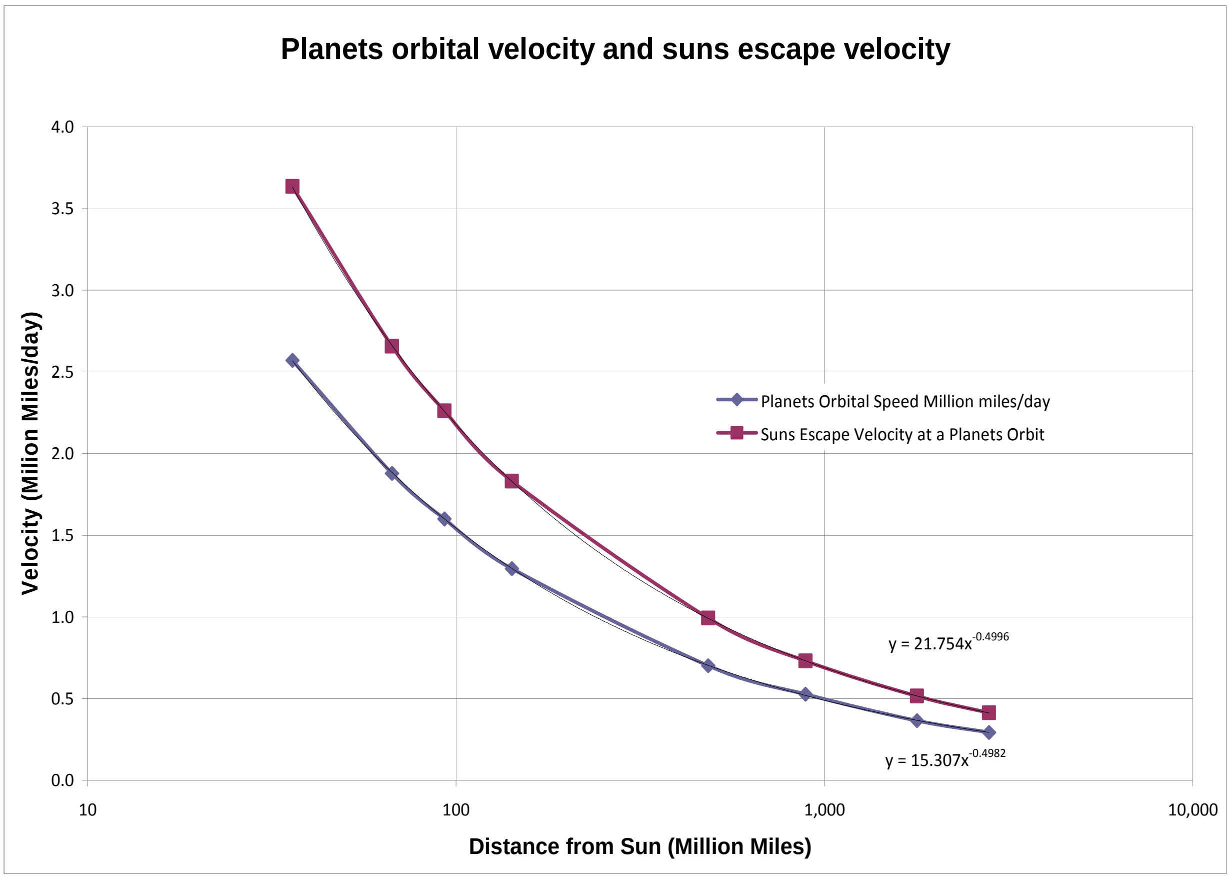
Analysis:

1) **Distance-speed-days:** Before we can start to use the clues above, it is important to determine the approximate number of days for PX to traverse the path between Venus (far side and near

side of sun) and Earth. With this information various dates in the future when Venus crosses PX's path and how this relates to trimester end dates can be found and tested.

To get the earth days for PX to traverse the distances needed the approximate velocity or speed of PX needs to be determined at various distances from the sun. This velocity is now assumed to be close to the escape velocity from our sun-solar system. We now need an equation that gives us velocity versus distance from the sun that is based on astronomical measurements.

The escape velocity at the placement of each planet is given in the following link. http://en.wikipedia.org/wiki/Escape_velocity plotting this we get the following graph.



If one plots escape velocity for various planets versus distance and then determines the trend line equation one gets the following equation. The equation for escape velocity (Ve = 21.754x^-0.4996) where Ve is the escape velocity at x distance from the sun. Note it is close to classical physics equation,

$$v_e = \sqrt{\frac{2GM}{r}},$$

However, this is not exactly the same. This is possibly due to replying force that the Zeta's referred to or due to errors in the escape velocity table. It is close enough for our purposes to approximately calculate distance in terms of days traveling at escape velocity.

Placement from Sun (at a planet or triangle	Distance from Sun in Million Miles (MM)	Suns Escape Velocity Ve at a Planets Orbit MM/day	Cum Days travel time at escape velocity	Cum Days travel time to come within 25 MM of the sun
	2.00	15.39	0.13	0.00
	4.00	10.88	0.31	0.00
	6.00	8.89	0.54	0.00
	8.00	7.70	0.80	0.00
	10.00	6.89	1.09	0.00
	13.00	6.04	1.59	0.00
	16.00	5.44	2.14	0.00
	19.00	5.00	2.74	0.00
	22.00	4.64	3.38	0.00
PX Closest to Sun	25.00	4.36	4.07	0.00
	30.00	3.98	5.33	1.26
Mercury	36.00	3.63	6.98	2.91
	40.00	3.44	8.14	4.07
	50.00	3.08	11.39	7.32
Zeta triangle	55.00	2.94	13.09	9.02
	60.00	2.81	14.94	10.80
Venus	67.00	2.66	17.57	13.43
	70.00	2.60	18.72	14.58
	80.00	2.44	22.83	18.68
	90.00	2.30	27.18	23.03
Earth	92.96	2.26	28.49	24.34
	100.00	2.18	31.72	27.57
	110.00	2.08	36.53	32.39
	120.00	1.99	41.56	37.41
	130.00	1.91	46.79	42.64
	140.00	1.84	52.22	48.07
Mars	141.70	1.83	53.15	49.00

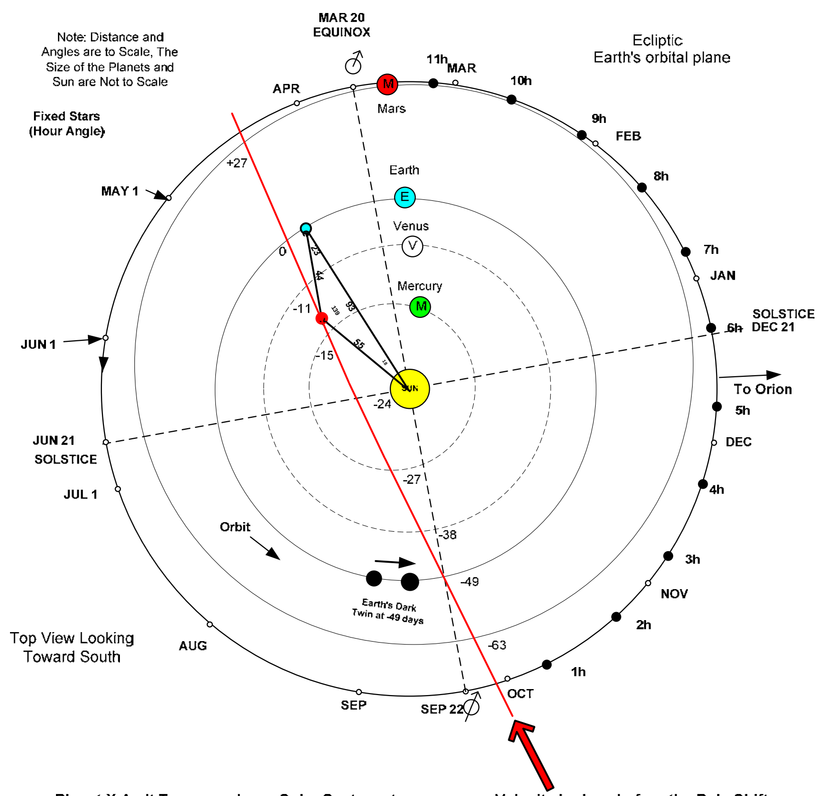
Table 1.

The above the table 1 is an approximation and doesn't take into account the elliptical orbits and possible diagonal paths for PX. We use these values as a rough guide line. A diagonal path that just touches on a 25 Million miles radius distance from the Sun would take approximately the above number of days see column on the right. The following table 2 shows the resulting distance in days for the path leading up to the pole shift.

	A: Straight shot days	B: Diagonal path days
Earth at PS time	0	0
Venus close or crossing PX path near side of sun	-11	-11
Zeta Triangle formed at ecliptic	-15	-15
PX passes by the sun	-28	-24
PX Crossing Venus path on far side of sun	-46	-38
PX crossing earths orbit on far side of sun	-57	-49
PX crossing Mars orbit on far side of sun	-82	-73
Mars diameter	106	98

Table 2.

To indicate this assumption is on the right track. Zeta clue, that PX traverses the solar system (taken to be inner solar system or diameter of Mars) in roughly 3 months. This is close to the 98 days in the table above and if more of a diagonal were chosen it would be an exact match. The above B path is close enough and will now be used to analyze individual dates for the end of each trimester out until the end of Obama's time in office. The thinking being that it is doubt full that it will go beyond that time frame.



Planet X As It Traverses Inner Solar System at near escape Velocity In days before the Pole Shift
Figure 1

Analysis of the 2003 zeta coordinates indicate close to a straight path. This could only occur if PX passes close to the sun. If it were to pass away from the sun then it would have more of a bend in the path. Path "B" diagonal then becomes a compromise of not to close and not to far away while passing by the sun.

When is the Next Pole Shift?

2) Analysis of the above clues for end of trimester being near pole shift date.

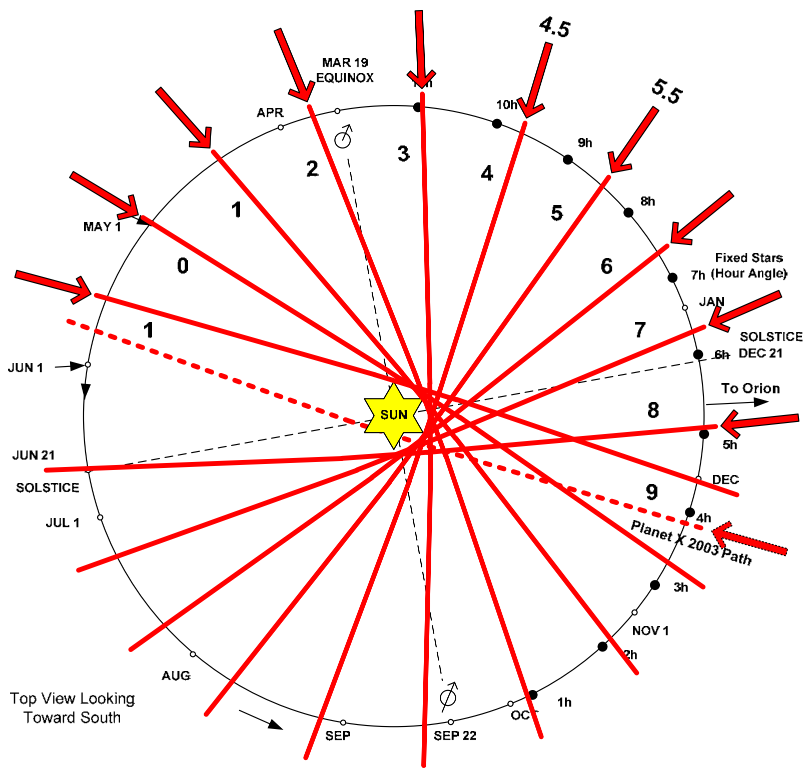
The following table 3 shows the number of days between trimester end dates. This will be used to assign a number from 0 to 9 that will indicate how close to the end of a trimester the chosen pole shift date is. If at the end 9 will be the result and if at the beginning 0. The exact formula is “=9*(Aug-(trimester-end – PS-date))/Aug”. Where Aug = the days from the table below to the end of Aug. The formula is based on the fraction of days left in the trimester when compared to the total days for the trimester.

Trimester-end	20-Apr-14	12-Aug-14	17-Dec-14
Days to end	124.00	114.00	127.00

Table 3.

3) Analysis of the above clues for how close the approach path of PX is to the original 2003 vector direction.

A number is assigned from 0 to 9 for direction and how close it is to the original 2003 direction. See figure 1-A and 1-B.



Direction Number Assessment (upper half)

Figure 1-A

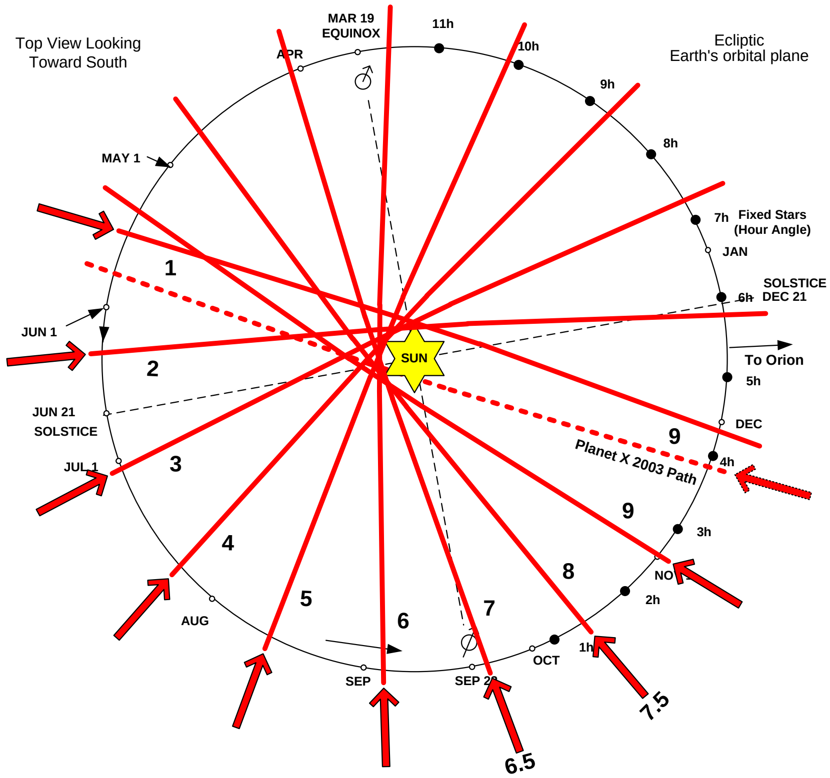


Figure 1-B

The above two figures are weighted to give a bit more priority to the tendency of the final direction of approach to be more in the CW (clock wise) direction or from Nov and Dec directions. This was a noted tendency in the 2003 Zeta coordinates.

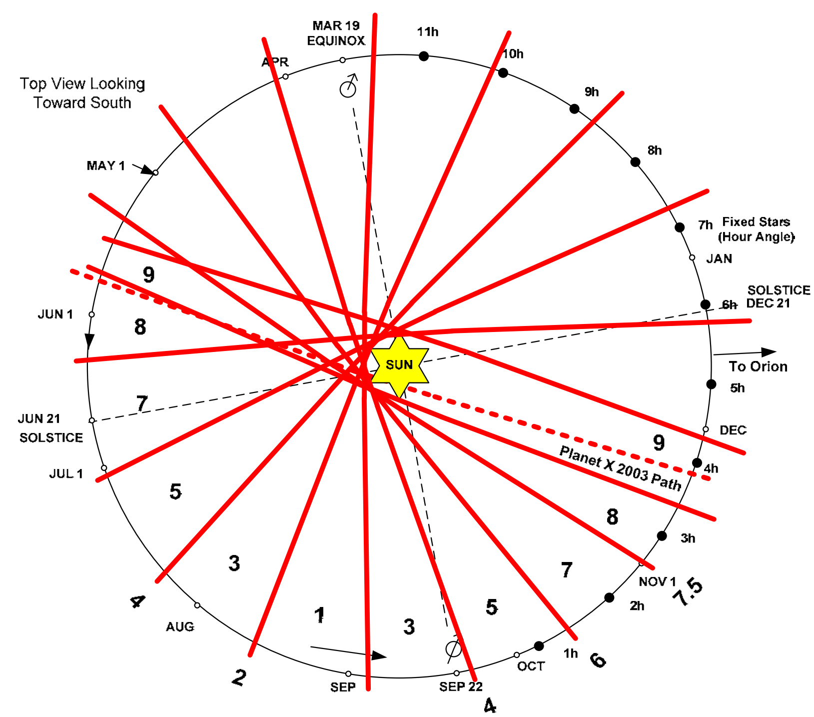
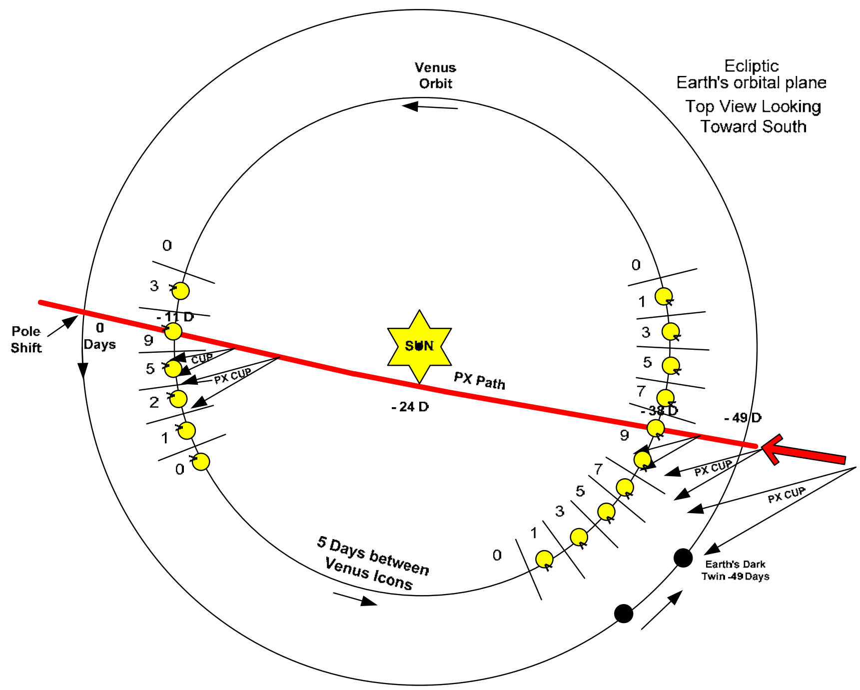


Figure 1-C

Figure 1-C will be used to remove the vectorial directional aspect from the original direction. This allows for PX to approach from the same path as the 2003 coordinates but come in from the opposite direction. This will be used in the clue-3A analysis approach as shown later on.

4) Analysis of chosen dates as to how close the approach path of PX is to Venus in it's orbit crossing for near and far sides of the sun is assigned a number. A number from 0 to 9 (highest alignment) is assigned based on how close PX approach path comes to Venus and its place in its orbit. Figure 2 below gives the number assignment.



Venus in the Cup Assessment and Number Assignment

Figure 2

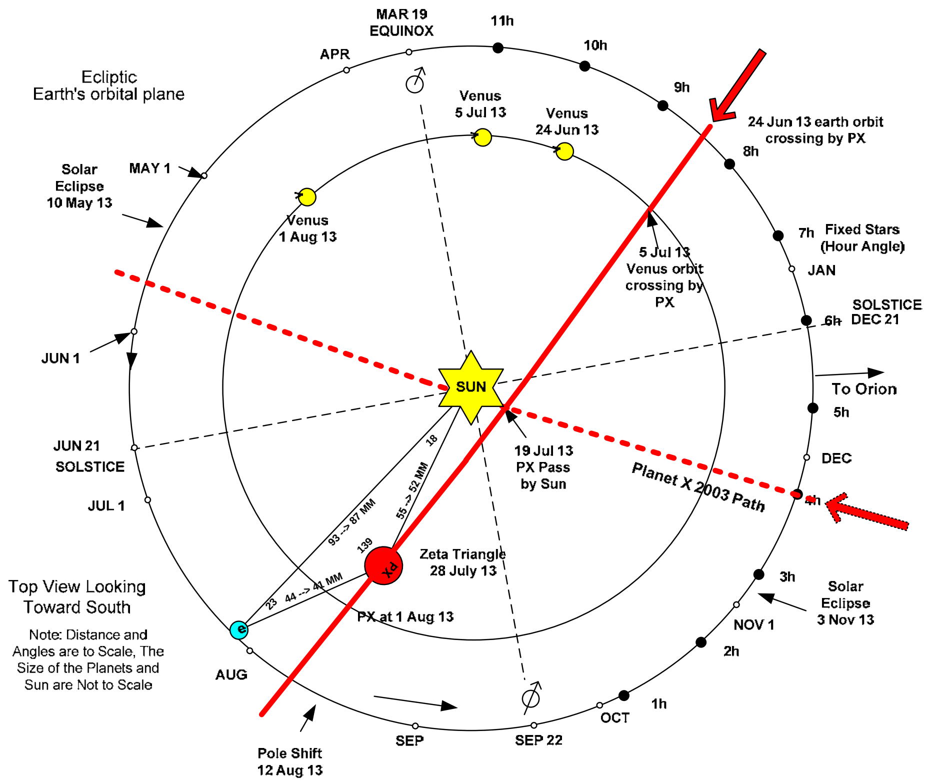
5) PX orbit passes through the ecliptic (zeta triangle) occurs near a solar eclipse assigning a number. This is =(9*(Sdays-ABS(closest)))/Sdays. Where "Sdays" is the days between two closest solar eclipse and "closest" is days between closest solar eclipse and chosen PS date.

6) Date comparison and final analysis: The following table summarizes the Zeta clue comparison for different dates. Clues are given weight according to the above discussion. Right now the dates stop at the end of Obama's administration. If we make it that far than the table will be extended.

W1-W4: W1 weighs all 4 clues equally. W2 and W3 drops off clue 4 (closeness to eclipse). W4 treats end of trimester and Venus in the cup as being most important. R1 then shows the average ranking as the most probable result.

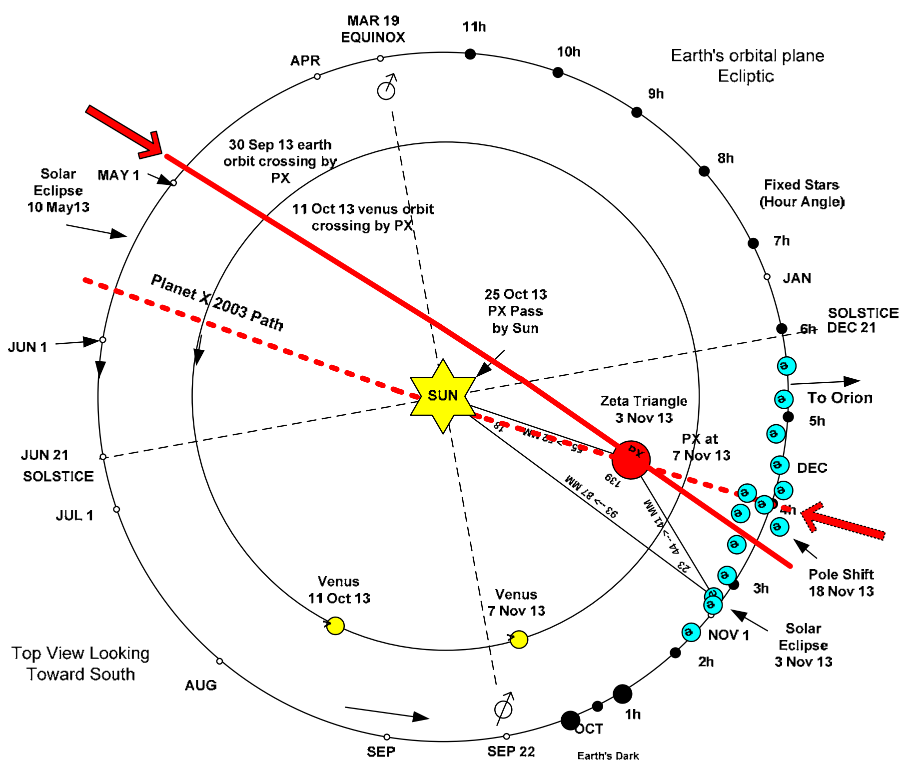
When is the Next Pole Shift?

Ref	Notes	PX Path Days	Possible future pole shift dates (or close to it) and their alignment with Zeta Clues (0 to 9 highest)														
	Chosen Pole Shift date to Test for	0	12-Aug-13	18-Nov-13	17-Dec-13	10-Feb-14	20-Apr-14	14-May-14	12-Aug-14	17-Dec-14	20-Apr-15	12-Aug-15	21-Sep-15	17-Dec-15	20-Apr-16	12-Aug-16	17-Dec-16
	Figure number	1	3-1	3-2	3-3	4-1	4-2	4-3	4-4	4-5	5-1	5-2	5-3	5-4	6-1	6-2	6-3
	Trimester end		12-Aug-13	17-Dec-13	17-Dec-13	20-Apr-14	20-Apr-14	12-Aug-14	12-Aug-14	17-Dec-14	20-Apr-15	12-Aug-15	17-Dec-15	17-Dec-15	20-Apr-16	12-Aug-16	17-Dec-16
	Venus close or crossing PX path near side of sun	-11	1-Aug-13	7-Nov-13	6-Dec-13	30-Jan-14	9-Apr-14	3-May-14	1-Aug-14	6-Dec-14	9-Apr-15	1-Aug-15	10-Sep-15	6-Dec-15	9-Apr-16	1-Aug-16	6-Dec-16
	Zeta Triangle formed at ecliptic	-15	28-Jul-13	3-Nov-13	2-Dec-13	26-Jan-14	5-Apr-14	29-Apr-14	28-Jul-14	2-Dec-14	5-Apr-15	28-Jul-15	6-Sep-15	2-Dec-15	5-Apr-16	28-Jul-16	2-Dec-16
	PX passes by the sun	-24	19-Jul-13	25-Oct-13	23-Nov-13	17-Jan-14	27-Mar-14	20-Apr-14	19-Jul-14	23-Nov-14	27-Mar-15	19-Jul-15	28-Aug-15	23-Nov-15	27-Mar-16	19-Jul-16	23-Nov-16
	PX Crossing Venus path on far side of sun	-38	5-Jul-13	11-Oct-13	9-Nov-13	3-Jan-14	13-Mar-14	6-Apr-14	5-Jul-14	9-Nov-14	13-Mar-15	5-Jul-15	14-Aug-15	9-Nov-15	13-Mar-16	5-Jul-16	9-Nov-16
	PX crossing earths orbit on far side of sun	-49	24-Jun-13	30-Sep-13	29-Oct-13	23-Dec-13	2-Mar-14	26-Mar-14	24-Jun-14	29-Oct-14	2-Mar-15	24-Jun-15	3-Aug-15	29-Oct-15	2-Mar-16	24-Jun-16	29-Oct-16
	Closest Solar Eclipse date		03-Nov-13	03-Nov-13	03-Nov-13	29-Apr-14	29-Apr-14	29-Apr-14	23-Oct-14	23-Oct-14	20-Mar-15	13-Sep-15	13-Sep-15	13-Sep-15	09-Mar-16	01-Sep-16	26-Feb-17
	Next closest solar eclipse date		10-May-13	10-May-13	10-May-13	03-Nov-13	23-Oct-14	23-Oct-14	29-Apr-14	29-Apr-14	23-Oct-14	20-Mar-15	20-Mar-15	20-Mar-15	01-Sep-16	09-Mar-16	01-Sep-16
Clue -1	The pole shift occurs at the end of a magnetic trimester. See table 1.		9.00	6.94	9.00	3.99	9.00	1.89	9.00	9.00	9.00	0.00	2.13	9.00	9.00	9.00	9.00
Clue -2	Position of Venus close to PX path, caught in the cup. See figure 2.		0	0	0	9	0	0	0	9	0	0	9	0	0	9	0
Clue -2	Venus in the Cup or not. See figure 2.		not in cup	not in cup	not in cup	In Cup on Near side of	not in cup	not in cup	not in cup	In Cup on Far side of	not in cup	not in cup	In Cup on Near side of	not in cup	not in cup	In Cup on Far side of	not in cup
Clue -3	Approach is similar to 2003 Zeta incoming coordinate direction. See figure 1-A and 1-B.		5.5	1	1	3	6.5	8	5.5	1	7.5	5.5	3.3	1	6.5	5.5	1
Clue -3A	Approach is similar to 2003 Zeta incoming coordinate direction. Start end doesn't matter. See figure 1-C.		3	8	9	3	6.5	8	3	9	7.5	3	3	9	6.5	3	9
Clue -4	Days between closest solar eclipse and chosen PS date		98	0	-29	93	24	0	87	-40	-16	47	7	-80	-27	35	86
Clue -4	PX orbit passes through the ecliptic (zeta triangle) occurs near a solar eclipse assigned number.		4.02	9.00	7.53	4.27	7.78	9.00	4.58	6.97	8.03	6.61	8.64	4.93	7.62	7.21	4.65
W1	Total weight in percent due to alignment with clues 1, 2, 3, and 4.		51	47	49	56	65	52	53	72	68	34	64	41	64	85	41
W2	Total weight in percent due to alignment with clues 1, 2, and 3.		54	29	37	59	57	37	54	70	61	20	53	37	57	87	37
W3	Total weight in percent due to alignment with clues 1, 2, and 3A.		44	55	67	59	57	37	44	100	61	11	52	67	57	78	67
W4	Total weight in percent due to alignment with clues 1, and 2.		50	39	50	72	50	11	50	100	50	0	62	50	50	100	50
A1	Average of W1 through W4		50	43	51	62	57	34	50	86	60	16	58	49	57	88	49
R1	Average ranking as most probable					2				1	2		2			1	



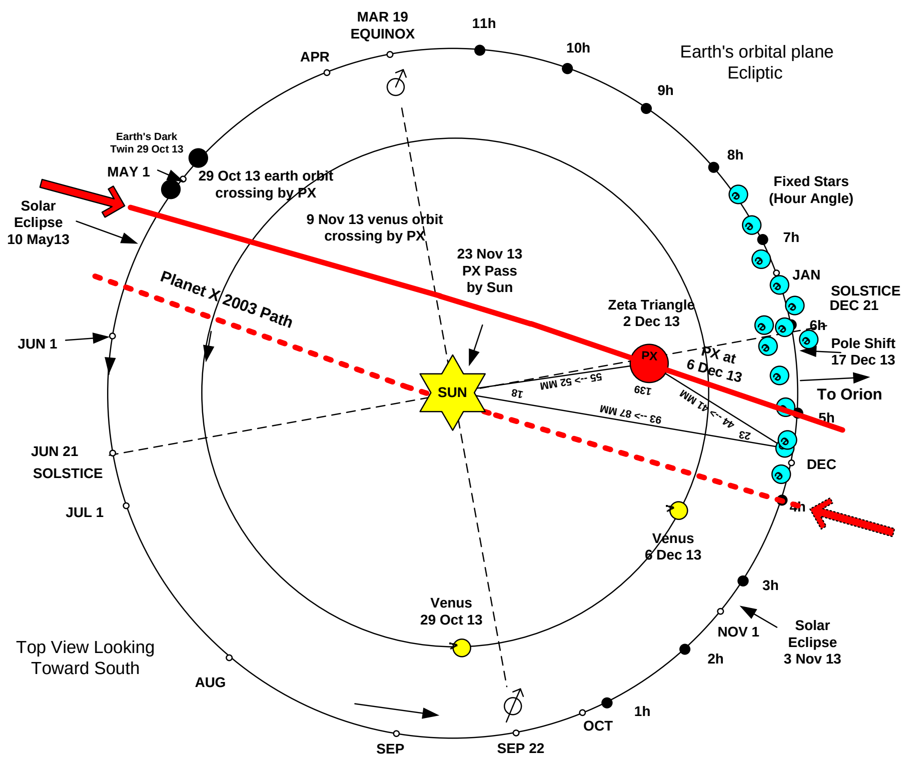
Planet X As It Traverses Earth's Orbit In About 49 days

PS 12 Aug 13 Figure 3-1

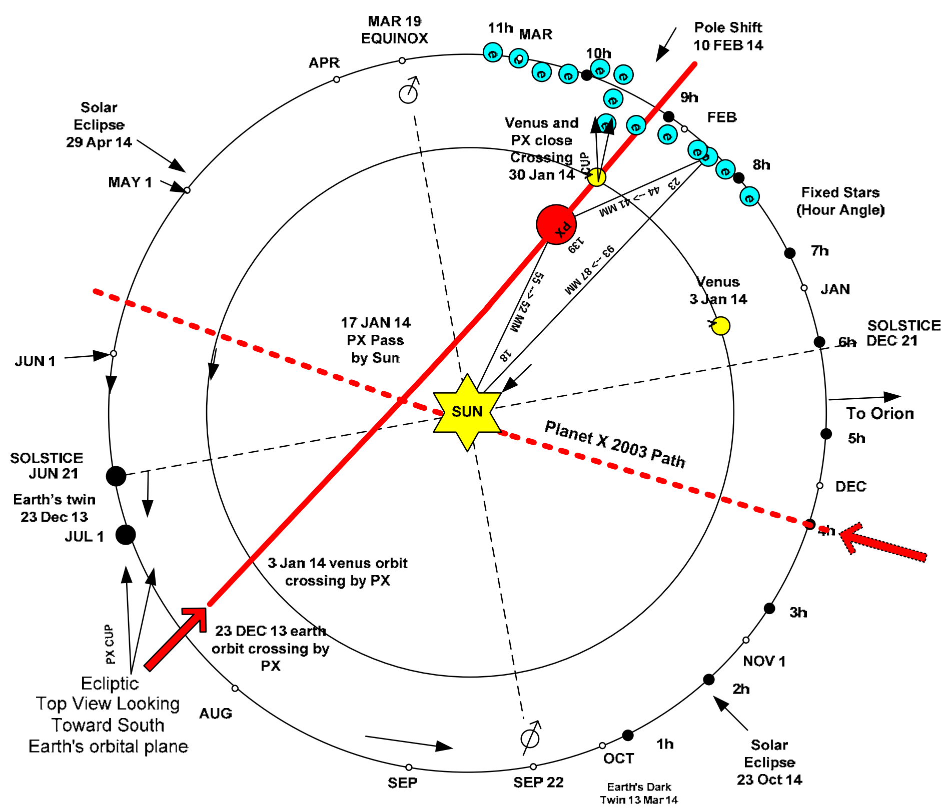


Planet X As It Traverses Earth's Orbit In About 49 days

PS 18 Nov 13 Figure 3-2

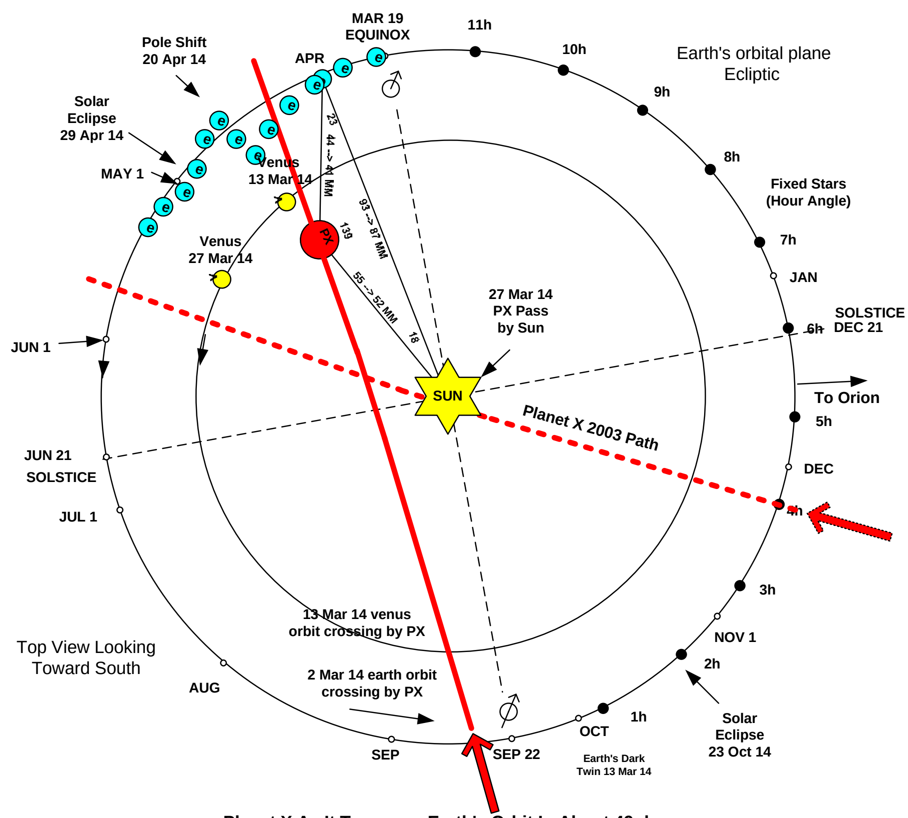


Planet X As It Traverses Earth's Orbit In About 49 days
PS 17 Dec 13 Figure 3-3



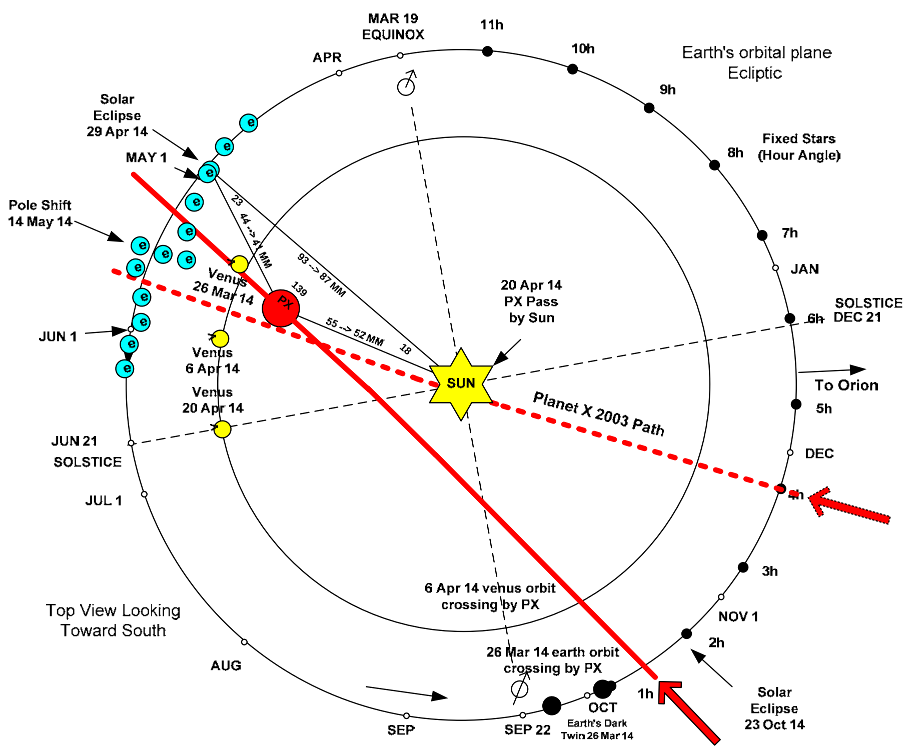
Planet X As It Traverses Earth's Orbit In About 49 days
PS 10 Feb 14 Figure 4-1

When is the Next Pole Shift?



Planet X As It Traverses Earth's Orbit In About 49 days

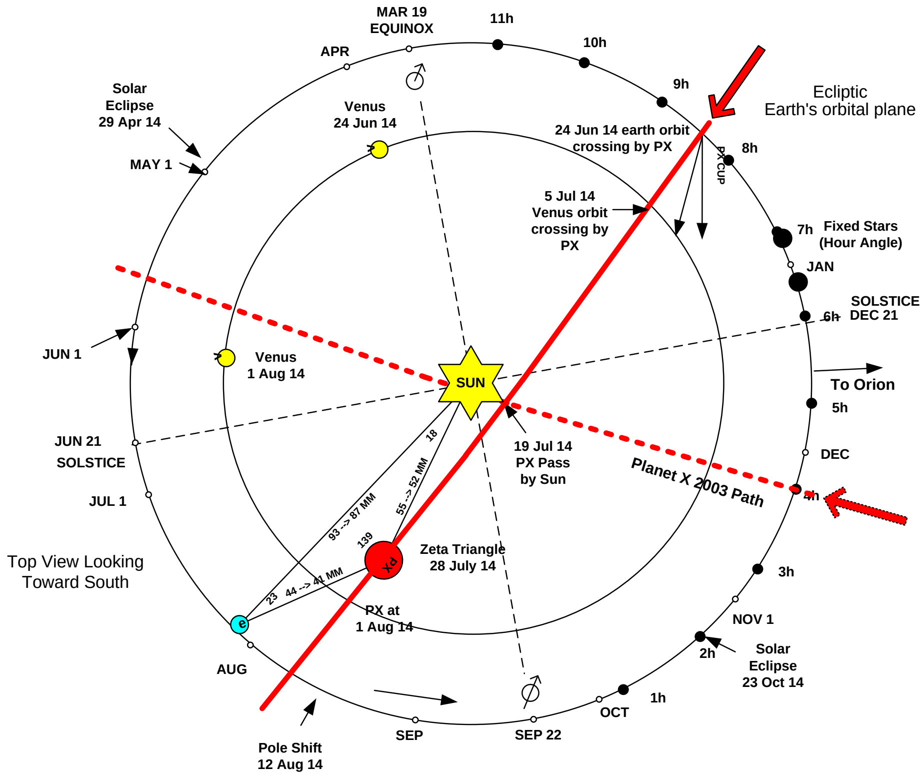
PS 20 Apr 14 Figure 4-2



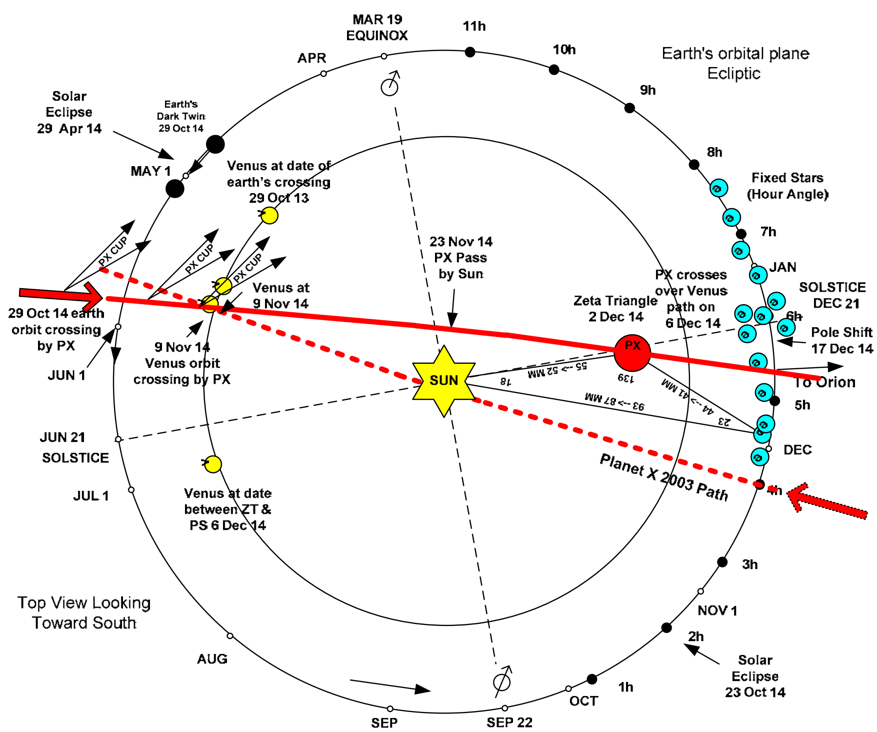
Planet X As It Traverses Earth's Orbit In About 49 days

PS 14 May 14 Figure 4-3

When is the Next Pole Shift?

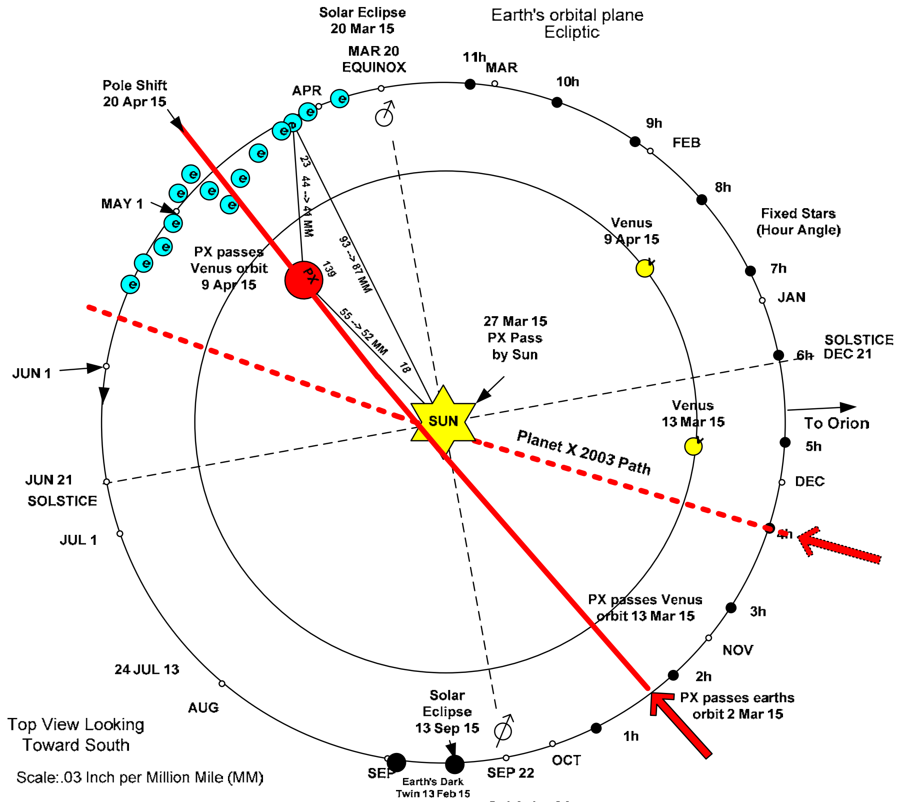


Planet X As It Traverses Earth's Orbit In About 49 days
PS 12 Aug 14 Figure 4-4



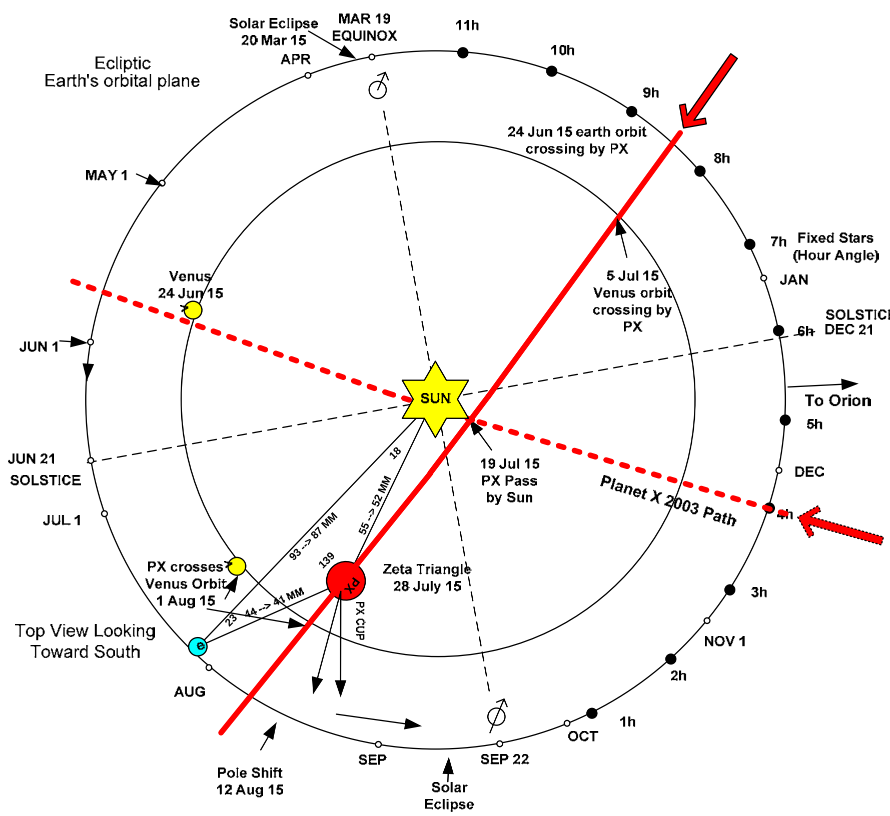
Planet X As It Traverses Earth's Orbit In About 49 days
PS 17 Dec 14 Figure 4-5

When is the Next Pole Shift?



Planet X As It Traverses Earth's Orbit In About 49 days

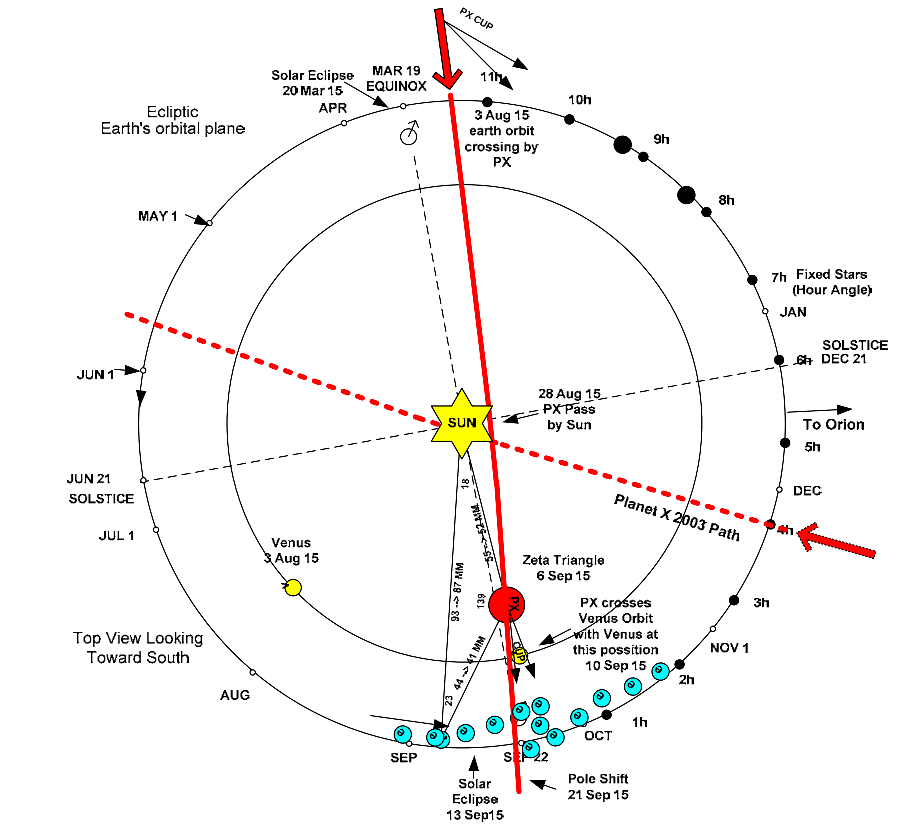
PS 20 Apr 15 Figure 5-1



Planet X As It Traverses Earth's Orbit In About 49 days

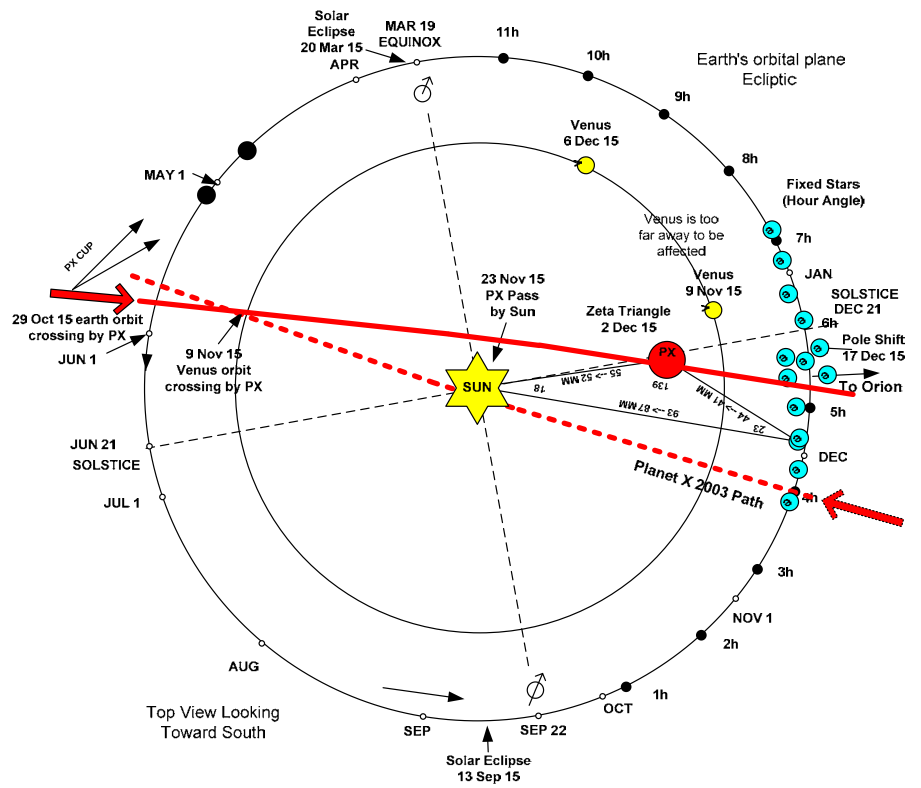
PS 12 Aug 15 Figure 5-2

When is the Next Pole Shift?



Planet X As It Traverses Earth's Orbit In About 49 days

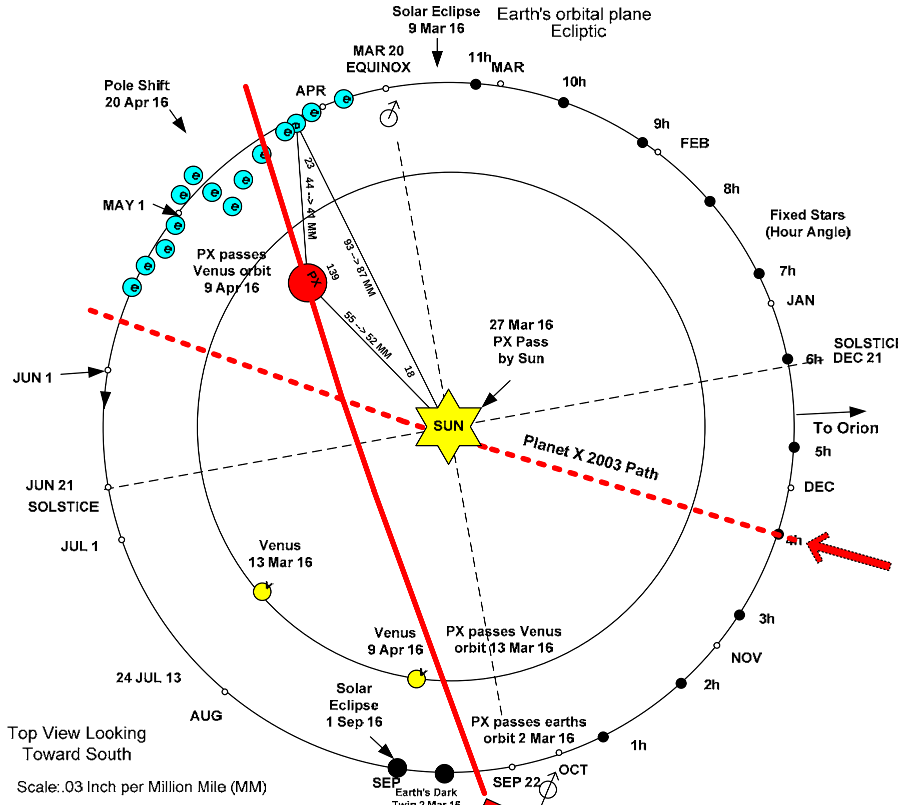
PS 21 Sep 15 Figure 5-3



Planet X As It Traverses Earth's Orbit In About 49 days

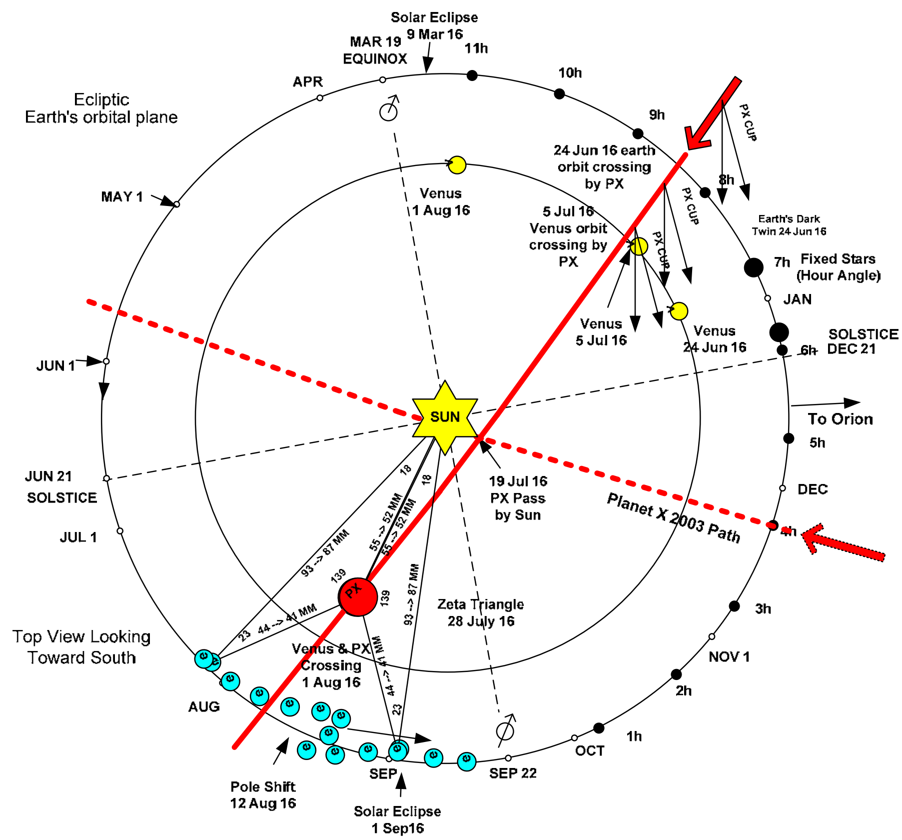
PS 17 Dec 15 Figure 5-4

When is the Next Pole Shift?



Planet X As It Traverses Earth's Orbit In About 49 days

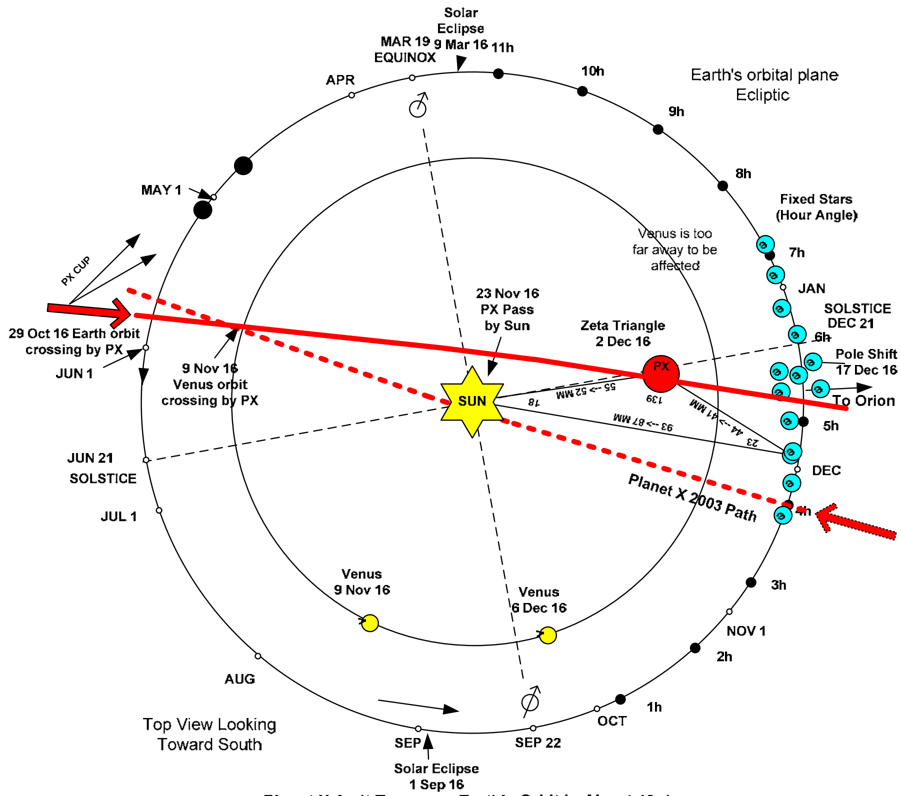
PS 20 Apr 16 Figure 6-1



Planet X As It Traverses Earth's Orbit In About 49 days

PS 12 Aug 16 Figure 6-2

When is the Next Pole Shift?



Planet X As It Traverses Earth's Orbit In About 49 days
PS 17 Dec 16 Figure 6-3

Summary:

Ranking	Most probable PS Time Frames
1	December 17, 2014
1	August 12, 2016
2	February 10, 2014
2	April 20, 2015
2	September 21, 2015

There is a wide gape between 1 and 2 analysis rankings making number 2 rank low in probability. Dec 17, 2014 depends on PX coming in from the opposite direction from Orion (the original direction given by Zeta's). Aug 12, 2016 depends on PX coming in nearly perpendicular to the original Zeta's coordinate direction. Both are not really close to a solar eclipse. Both have Venus in the cup on the far side of the sun from earth 38 days before PS time.

Appendices

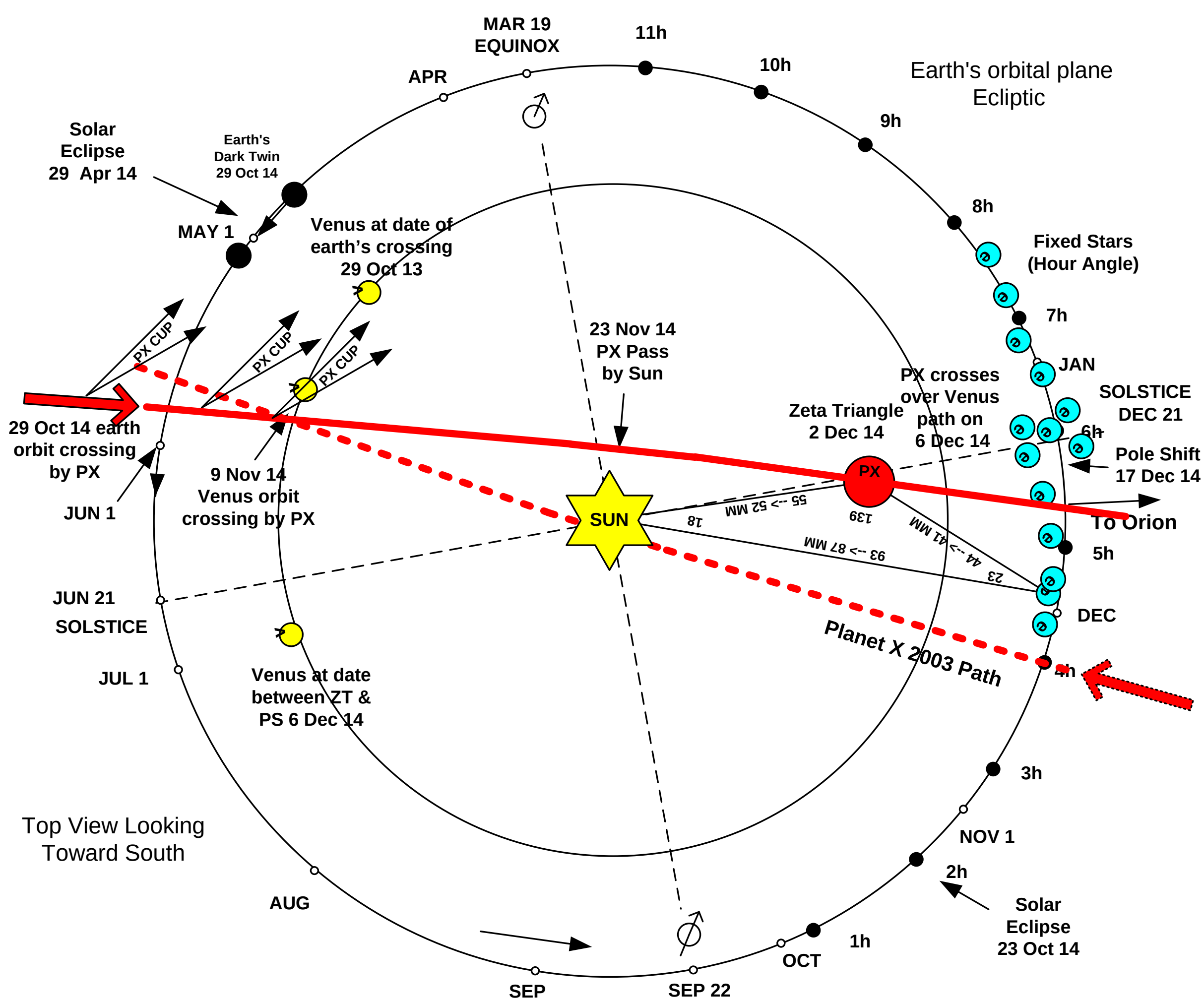
I) Notes on where to look for Planet X If the pole shift occurs near 17 Dec 2014.

II) Notes on where to look for Planet X If the pole shift occurs near 12 Aug 2016.

III) Notes on how the data for Appendix I and II was calculated.

Notes on where to look for Planet X

If the pole shift occurs near 17 Dec 2014 then the following table 1 and sky view shots will help you find planet X (PX) in the sky for any given date.



Planet X As It Traverses Earth's Orbit In About 49 days

PS 17 Dec 14 Figure 4-5

Table 1

Look up the viewing date and note PX expected sky map RA and Dec.

Date 1 -- 17 Dec 14 new PX path dates for given sky location	Date 1 RA Astronomical hour angle	Date 1 Dec angle in degrees	Sky view where to look figure 2-(Alpha)	Angle of PX at given dist. in ArcSec	Apparent aprox. magnitude of PX	Placement close to a planet's orbit	Planets Arc angle at given dist.	Apparent magnitude of planet
2014-12-17 12:00:00	16.13	-13.43				Pole Shift		
2014-12-17 12:00:00	16.13	-13.43		368.4	??			
2014-12-11 12:00:00	15.91	-21.01		194.7	??			
2014-12-06 12:00:00	15.72	-22.61		134.6	??			
2014-12-02 12:00:00	15.57	-23.07		104.2	??			
2014-11-23 12:00:00	15.23	-25.98	A	70.3	??	Sun		
2014-11-18 12:00:00	15.27	-28.25		62.8	1.3			
2014-11-09 12:00:00	15.34	-29.44	B	46.5	2.3	Venus	9.69	–3.82 to –4.89
2014-11-03 12:00:00	15.04	-28.30	sunset	41.4	2.7			
2014-10-27 12:00:00	14.69	-27.10	C	37.3	2.9	Earth	8.79	
2014-10-19 12:00:00	14.68	-27.16		33.8	3.2			
2014-10-12 12:00:00	14.67	-27.15		31.4	3.4			
2014-10-09 12:00:00	14.67	-27.16		30.5	3.4			
2014-10-04 12:00:00	14.67	-27.22		29.2	3.6			
2014-09-26 12:00:00	14.66	-27.42	D	27.4	3.7	Mars	3.71	1.84 to –2.91
2014-09-19 12:00:00	14.81	-28.14		26.1	3.8			
2014-09-13 12:00:00	14.95	-28.81		25.0	3.9			
2014-09-06 12:00:00	15.10	-29.45		24.0	4.1			
2014-08-25 12:00:00	15.37	-30.49		22.4	4.2			
2014-08-17 12:00:00	15.54	-31.14		21.5	4.3			
2014-08-02 12:00:00	15.87	-32.24		20.1	4.5			
2014-07-22 12:00:00	16.27	-33.36		19.2	4.6			
2014-07-10 12:00:00	16.69	-34.33		18.3	4.8			
2014-06-24 12:00:00	17.26	-35.21	E	17.3	4.9			
2014-06-19 12:00:00	17.44	-35.38		17.0	5.0			
2014-06-10 12:00:00	17.48	-35.42		16.5	5.0			
2014-05-29 12:00:00	17.54	-35.46		15.9	5.1			
2014-05-07 12:00:00	17.65	-35.52		14.9	5.3			
2014-04-19 12:00:00	17.73	-35.56		14.3	5.4			
2014-02-14 12:00:00	17.44	-35.39		12.4	5.8			
2014-02-01 12:00:00	17.31	-35.27		12.1	5.9			
2014-01-24 12:00:00	17.22	-35.18		11.9	6.0			
2014-01-11 12:00:00	17.09	-35.01	F	11.6	6.0			
2014-01-02 12:00:00	17.00	-34.88		11.4	6.1	Jupiter	31.78	–1.61 to –2.94
2013-12-25 12:00:00	16.95	-34.81	sunrise	11.3	6.1			
2013-12-20 12:00:00	16.93	-34.77		11.2	6.2			
2013-12-09 12:00:00	16.87	-34.67		11.0	6.2			

2013-11-28 12:00:00	16.81	-34.57		10.8	6.3			
2013-11-15 12:00:00	16.73	-34.44	sunset	10.6	6.3			
2013-11-08 12:00:00	16.70	-34.35		10.4	6.4			
2013-11-02 12:00:00	16.66	-34.30		10.4	6.4			
2013-10-23 12:00:00	16.61	-34.19		10.2	6.4			
2013-10-15 12:00:00	16.56	-34.10	G	10.1	6.5			
2013-10-02 12:00:00	16.49	-33.95		9.9	6.5			
2013-09-25 12:00:00	16.46	-33.84		9.8	6.6			
2013-09-14 12:00:00	16.54	-34.04		9.7	6.6			
2013-09-07 12:00:00	16.60	-34.16		9.6	6.6			
2013-08-31 12:00:00	16.66	-34.29		9.5	6.7			
2013-08-21 12:00:00	16.74	-34.44		9.4	6.7			
2013-08-12 12:00:00	16.81	-34.58		9.3	6.7			
2013-08-07 12:00:00	16.85	-34.66		9.2	6.8			
2013-07-29 12:00:00	16.92	-34.75		9.1	6.8			
2013-07-20 12:00:00	17.00	-34.86		9.0	6.8			
2013-07-17 12:00:00	17.02	-34.93		9.0	6.8			
2013-07-12 12:00:00	17.06	-35.05		8.9	6.9			
2013-07-01 12:00:00	17.15	-35.06		8.8	6.9			
2013-06-19 12:00:00	17.24	-35.05	H	8.7	6.9			
2013-06-04 12:00:00	17.30	-35.06		8.5	7.0			
2013-05-27 12:00:00	17.32	-35.07		8.5	7.0			
2013-05-16 12:00:00	17.36	-35.10		8.4	7.1			
2013-05-04 12:00:00	17.41	-35.14		8.3	7.1			
2013-04-24 12:00:00	17.44	-35.69		8.2	7.2			
2013-04-09 12:00:00	17.49	-35.86		8.0	7.2			
2013-03-29 12:00:00	17.53	-36.06		8.0	7.2			
2013-03-19 12:00:00	17.54	-36.31		7.9	7.3			
2013-03-13 12:00:00	17.54	-36.51		7.8	7.3			
2013-03-05 12:00:00	17.55	-36.50		7.8	7.3			
2013-03-01 12:00:00	17.55	-37.07		7.7	7.3			
2013-02-18 12:00:00	17.56	-37.32		7.7	7.4			
2013-02-13 12:00:00	17.56	-37.67		7.6	7.4			
2013-02-04 12:00:00	17.56	-39.08		7.6	7.4			
2013-01-29 12:00:00	17.57	-39.68		7.5	7.4			
2013-01-22 12:00:00	17.57	-39.69		7.5	7.5			
2013-01-15 12:00:00	17.58	-39.70		7.4	7.5			
2013-01-08 12:00:00	17.58	-39.72	sunrise	7.4	7.5			
2013-01-01 12:00:00	17.59	-39.72		7.3	7.5			
2012-12-25 12:00:00	17.59	-39.73		7.3	7.5			
2012-12-21 12:00:00	17.58	-39.75		7.3	7.5			
2012-12-07 12:00:00	17.56	-39.74		7.2	7.6			
2012-12-02 12:00:00	17.55	-39.75	sunset	7.2	7.6			
2012-11-17 12:00:00	17.52	-39.73		7.1	7.6			

2012-11-03 12:00:00	17.50	-39.85		7.0	7.7			
2012-10-19 12:00:00	17.47	-39.84		6.9	7.7			
2012-10-03 12:00:00	17.45	-39.82		6.8	7.8			
2012-09-26 12:00:00	17.43	-39.82		6.8	7.8			
2012-09-19 12:00:00	17.42	-39.81		6.7	7.8	Saturn	15.73	1.47 to –0.49
2012-04-05 12:00:00	18.06	-42.98		6.0	8.2			
2011-12-04 12:00:00	18.82	-46.97	sunset	5.6	8.5			
2011-08-05 12:00:00	18.83	-46.28		5.2	8.8			
2010-08-05 12:00:00	18.91	-44.29		4.4	9.4			
2009-07-05 12:00:00	18.83	-41.99		3.8	10.1			
2008-03-05 12:00:00	18.84	-38.82		3.3	10.7	Uranus	3.49	5.95 to 5.32
2006-11-03 12:00:00	18.79	-30.89		3.0	11.2			
2004-08-05 12:00:00	18.59	-23.12		2.5	11.8	Neptune	2.20	7.78 to 8.02
1995-07-05 12:00:00	17.29	-22.11		1.7	12.7	Pluto	0.08	13.65

Gray color indicates it will be up or visible in the night sky after astronomical twilight at the equator

The coordinates could be off by as much as an estimated plus or minus 0.5 hr angle. The DEC (declination) could be off by an estimated plus or minus 4 degrees.

In the above table 1 there is the 4th column from the left that indicates a figure number. This relates to the screen shot figure numbers that follow. If a sky view for a different date is needed then use the following link and the data in table 1 above to determine where to look in the sky. http://www.fourmilab.ch/yoursky/help/telcontrols.html

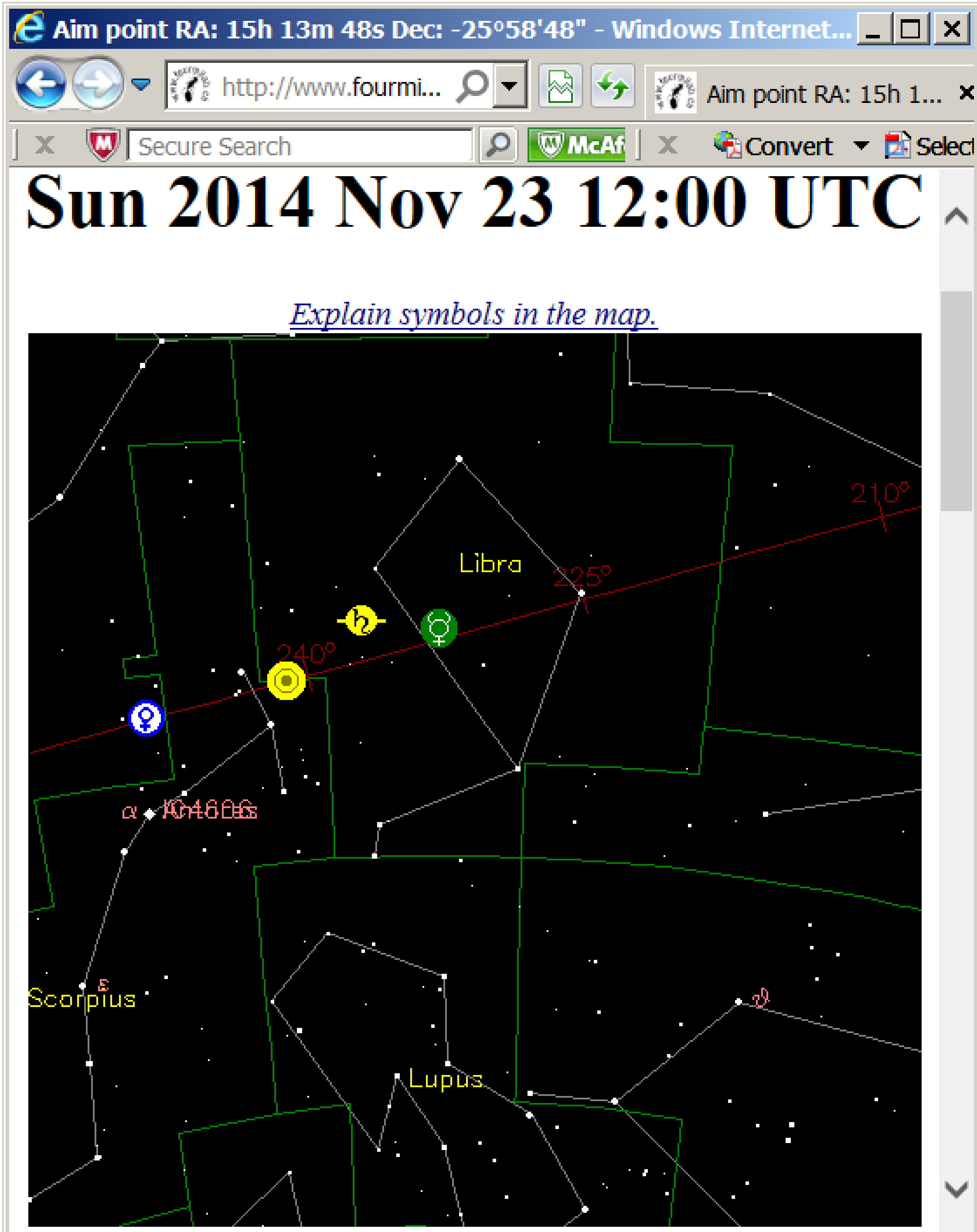
The following sky maps are 45 degrees wide and high. The expected location of PX will be near the middle of the map.

If PX travels slightly slower than at escape velocity by say 3% then the dates will be increasingly off the father away from the pole shift date one is viewing. In this case expect the date further down in the table from the viewing date to be the better date to use. Thus the date could be off by as much as a month as it passes by Saturn's orbit.

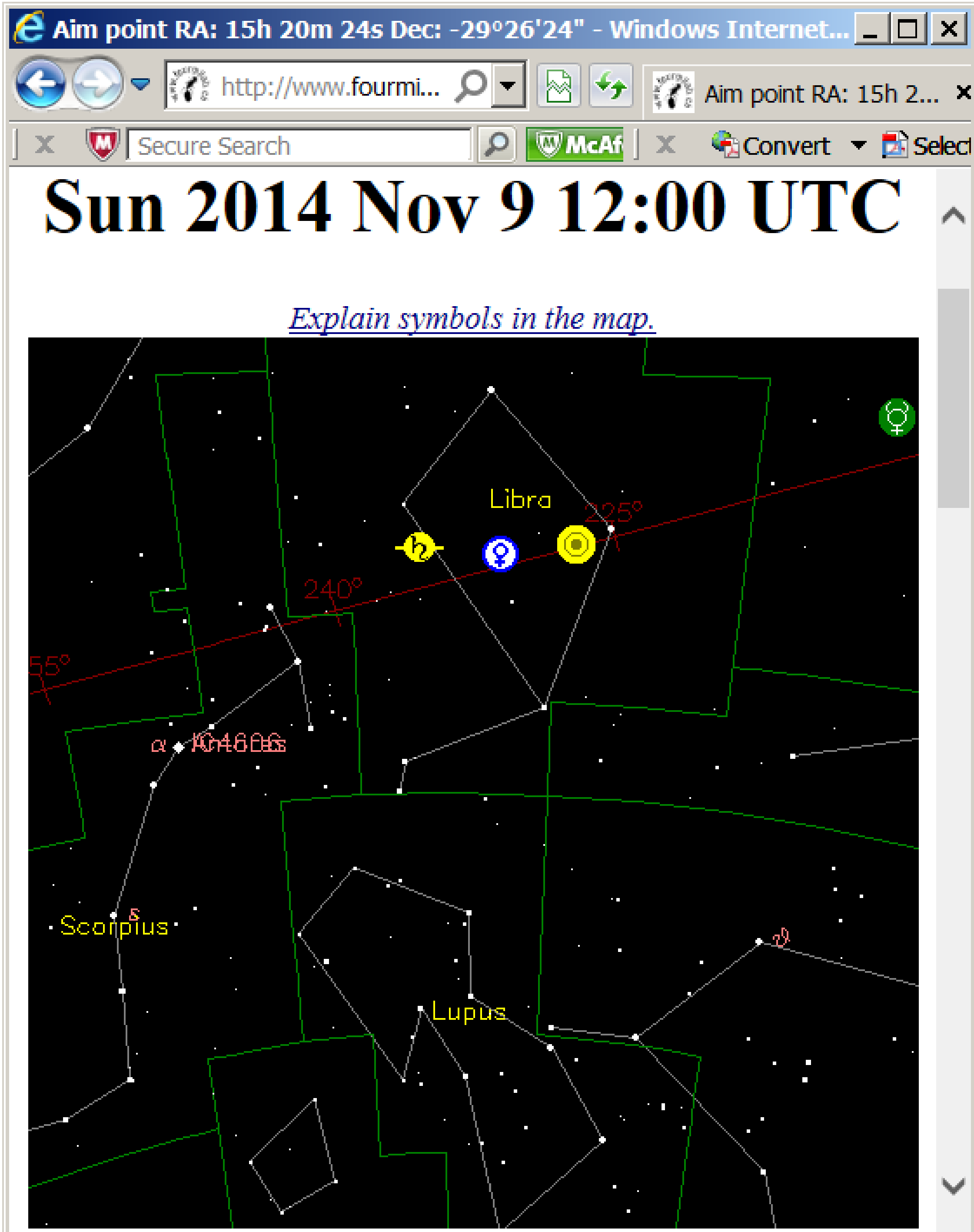
The red line on the sky views shows the ecliptic (path of the planets). The blue line when visible shows the hour angle as it relates to earth's equator.

Note: Roughly when far away PX is near Scorplus. When close it is near Libra.

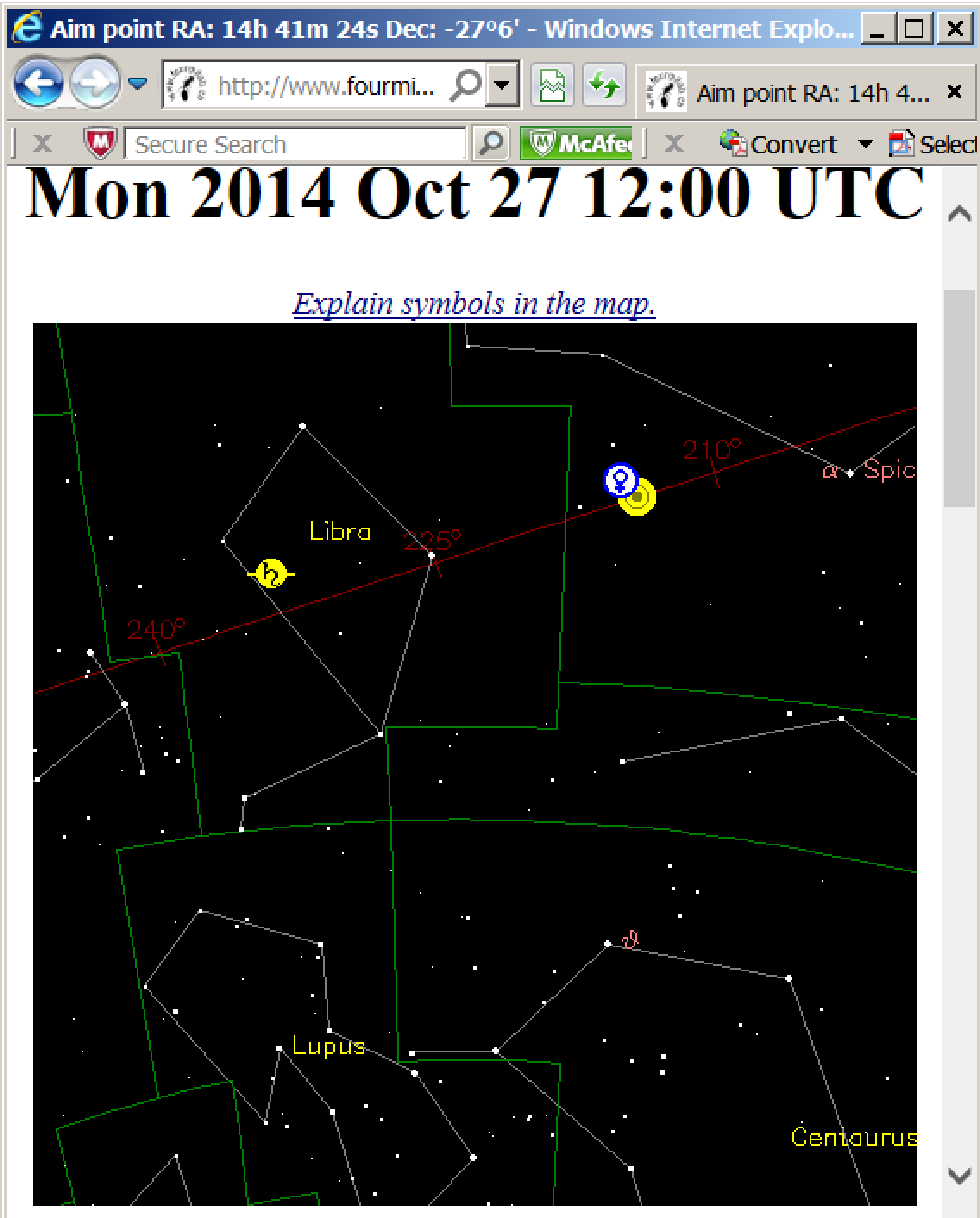
1-A PX passes near and under the sun (daylight viewing). Approximate. 4:00 position when looking at the sun mid day



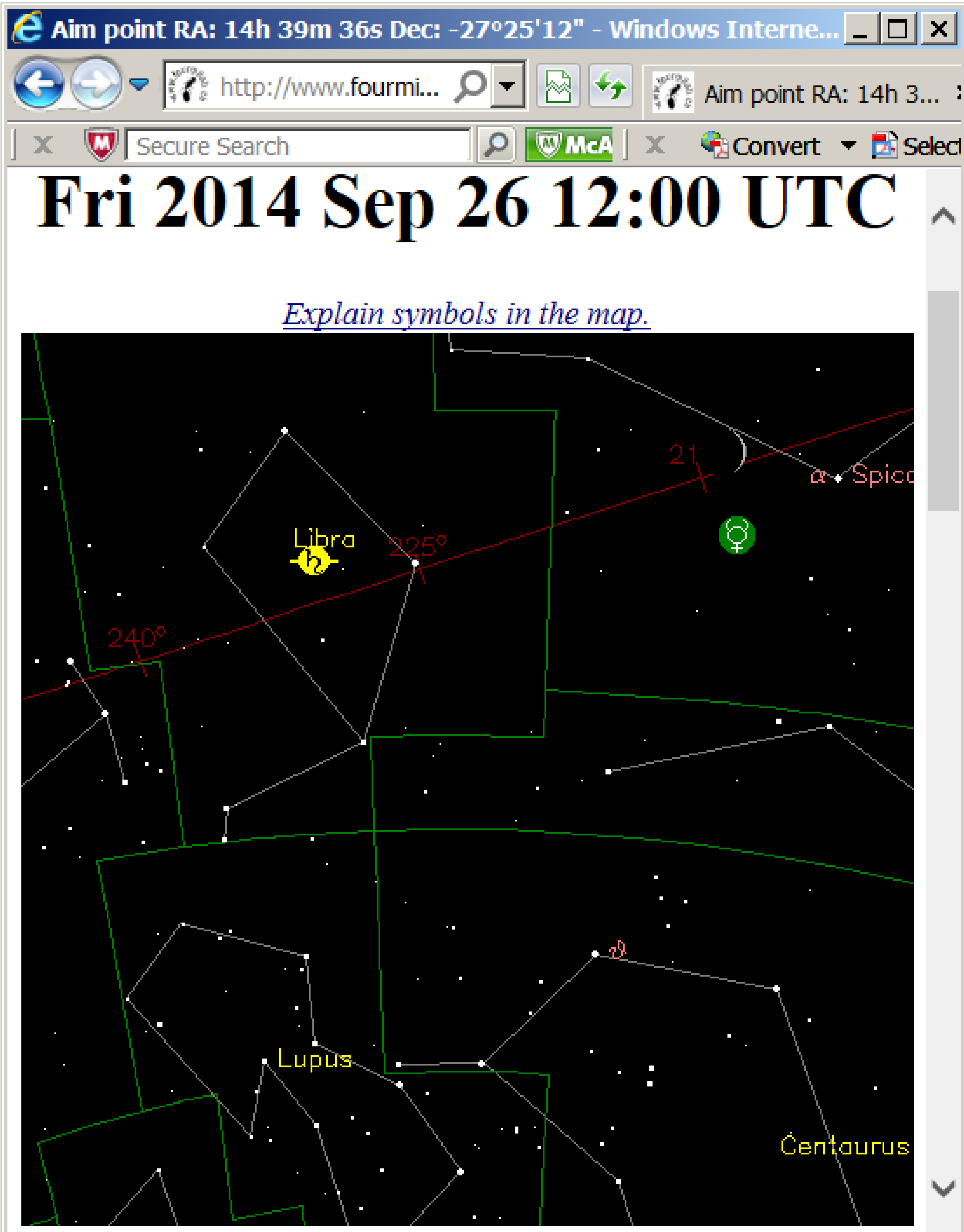
1-B PX passes near Venus (daylight viewing). Possible viewing at sunset.



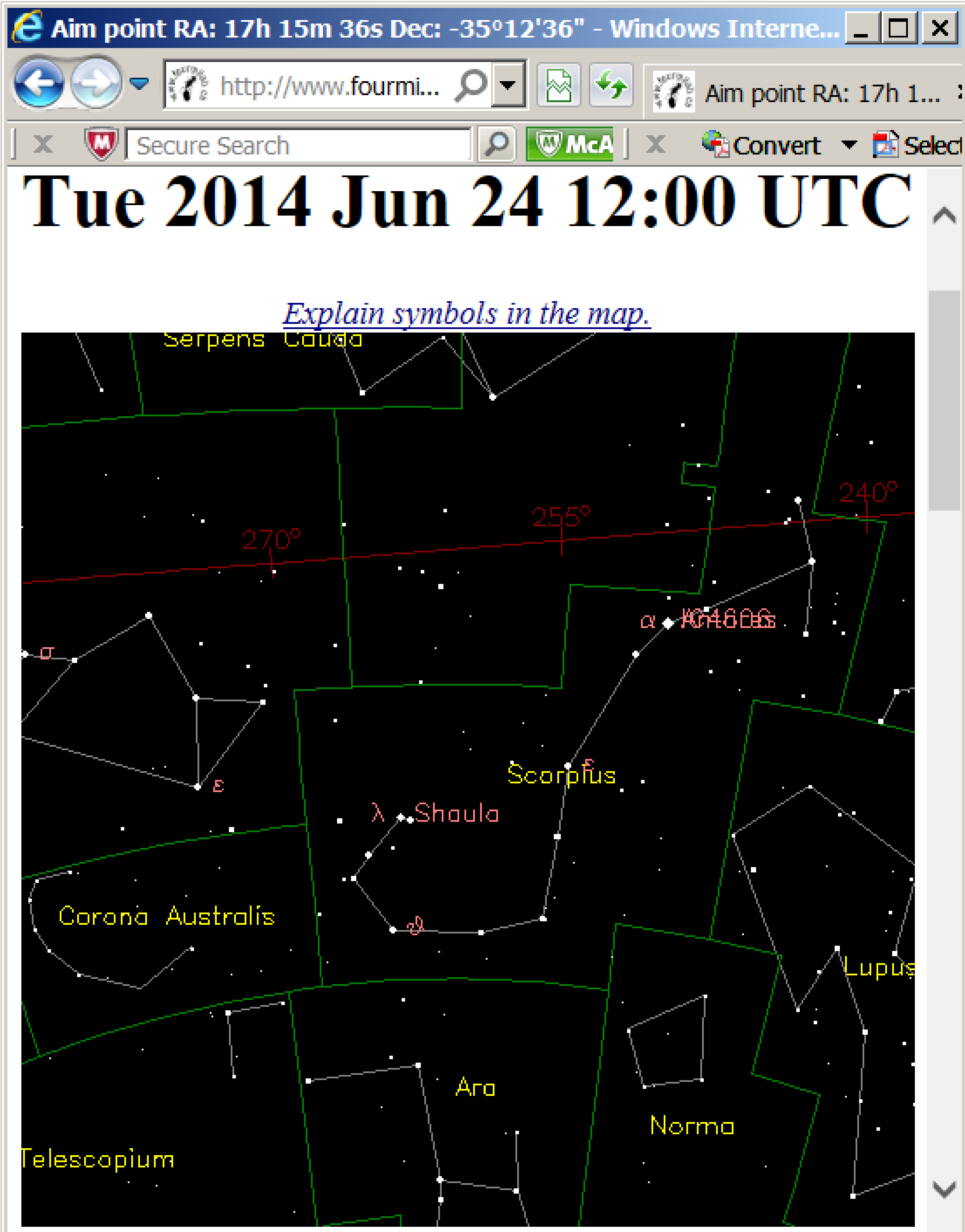
1-C PX crosses earth's orbit 7.3 weeks before the PS (barely visible to naked eye night time just after sunset).



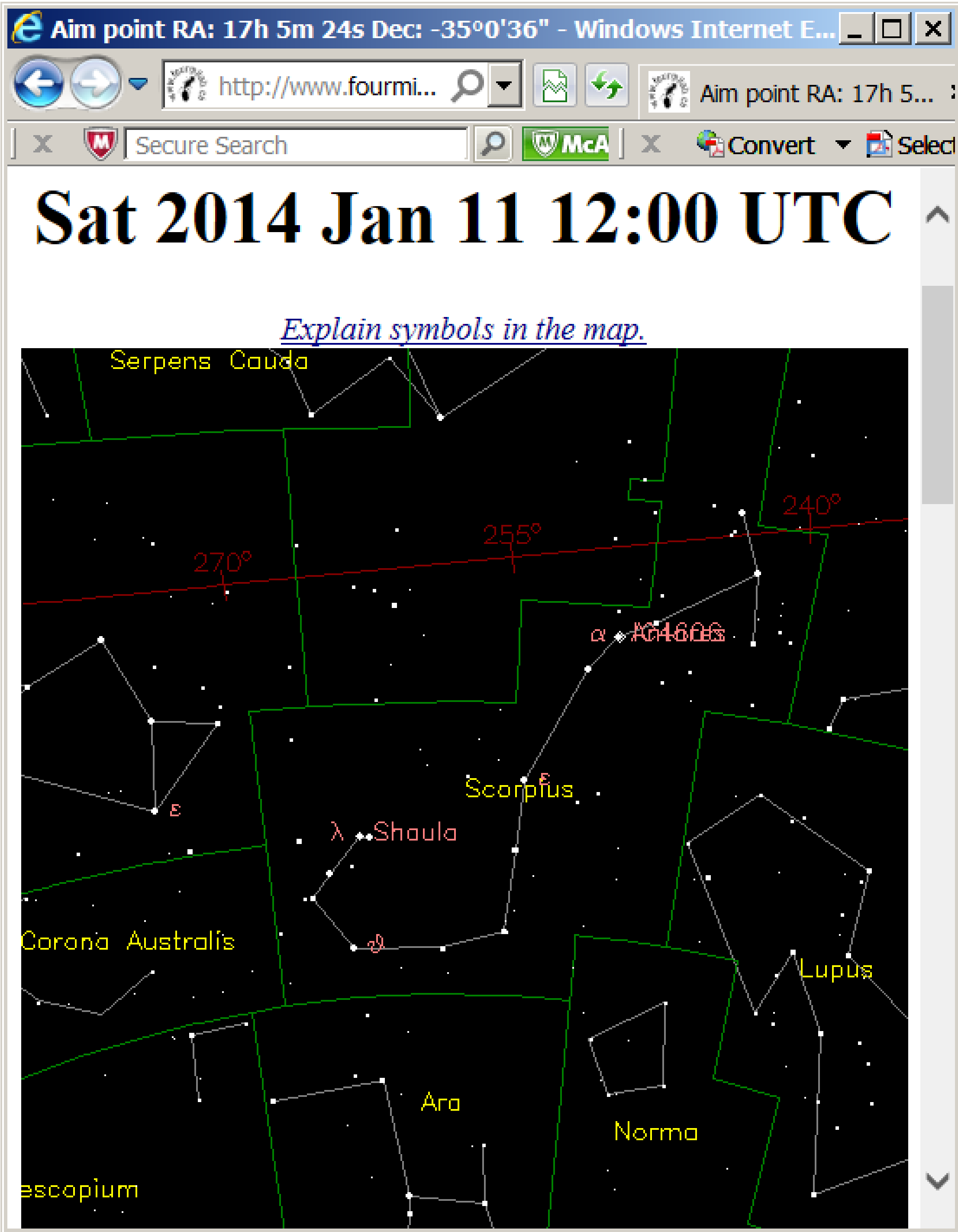
1-D PX Night time as it passes Mars orbital path



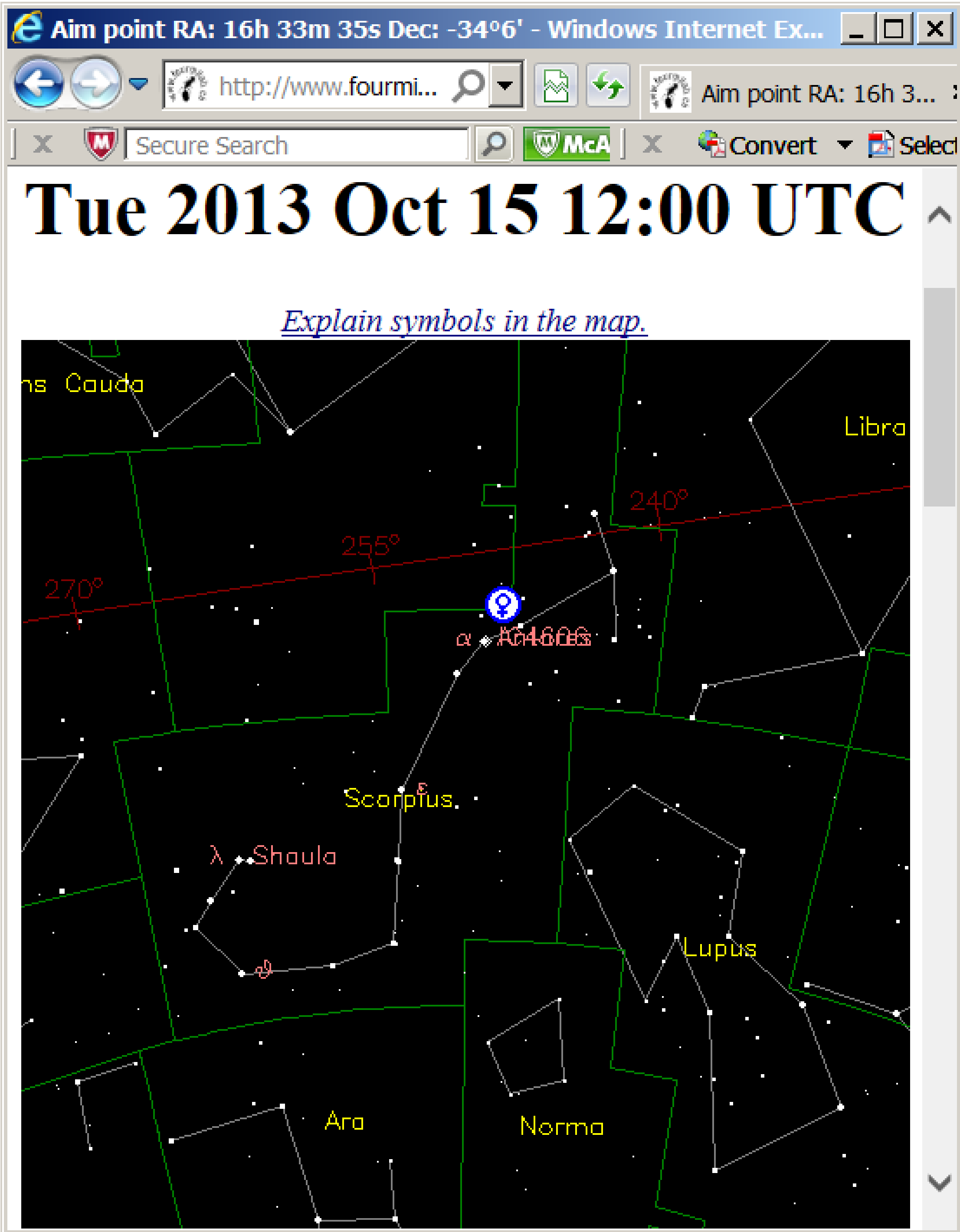
1-E PX Night time viewing.



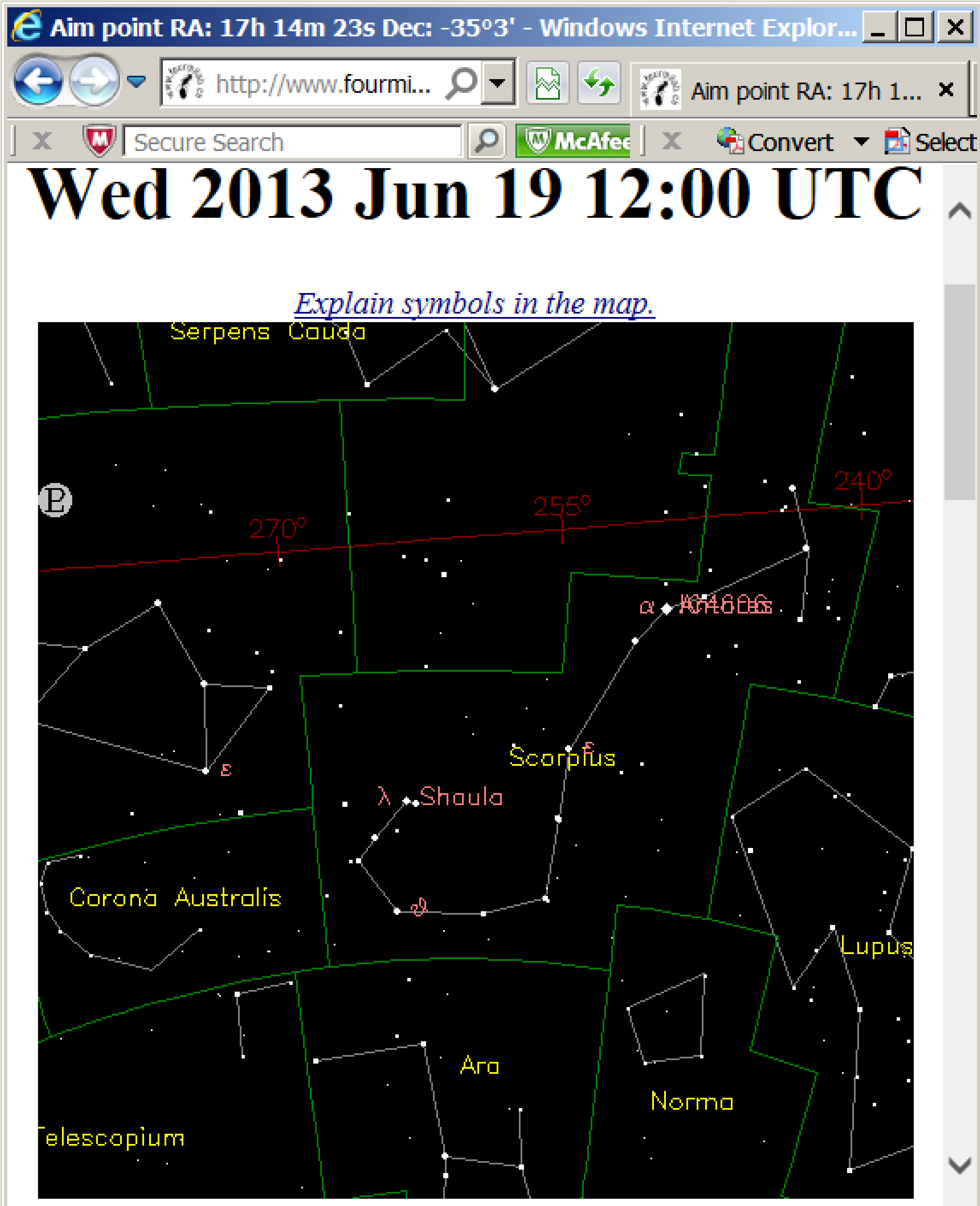
1-F PX Night time viewing just before sunrise. After passing Jupiter's orbit.



1-G PX Night time viewing after sunset. Notice this should be below Venus, but further out.

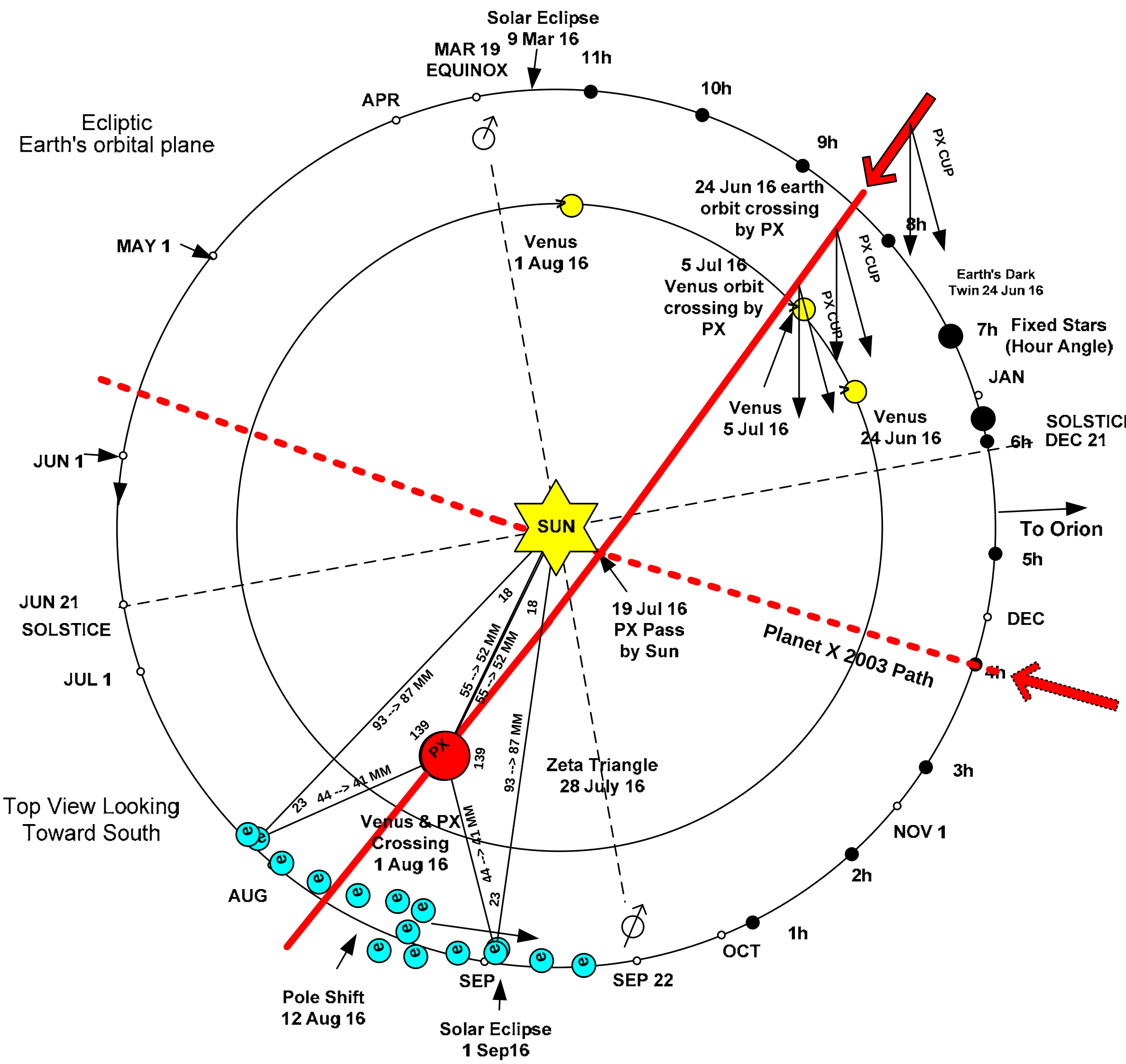


1-H PX Night time viewing.



Notes on where to look for Planet X

If the pole shift occurs near 12 Aug 2016 then the following table 2 and sky view shots will help you find planet X (PX) in the sky for any given date.



Planet X As It Traverses Earth's Orbit In About 49 days

PS 12 Aug 16 Figure 6-2

Table 2

Look up the viewing date and note PX expected sky map RA and Dec.

Date 2 -- 12 Aug 16 new PX path dates for given sky location	Date 2 RA Astronomical hour angle	Date 2 Dec angle in degrees	Sky view where to look figure 1-(Alpha)	Angle of PX at given dist. in ArcSec	Apparent aprox. magnitude of PX	Placement close to a planet's orbit	Planets Arc angle at given dist.	Apparent magnitude of planet
2016-08-12 12:00:00	8.34	26.15				Pole Shift		
2016-08-12 12:00:00	8.34	26.15		368.4	??			
2016-08-06 12:00:00	8.12	18.75		194.7	??			
2016-08-01 12:00:00	7.93	17.18		134.6	??			
2016-07-28 12:00:00	7.78	16.68		104.2	??			
2016-07-19 12:00:00	7.44	13.46	A	70.3	??	Sun		
2016-07-14 12:00:00	7.48	11.24		62.8	1.3			
2016-07-05 12:00:00	7.55	10.13	B	46.5	2.3	Venus	9.69	–3.82 to –4.89
2016-06-29 12:00:00	7.25	10.82	sunset	41.4	2.7			
2016-06-22 12:00:00	6.89	11.16	C	37.3	2.9	Earth	8.79	
2016-06-14 12:00:00	6.89	11.09		33.8	3.2			
2016-06-07 12:00:00	6.88	11.07		31.4	3.4			
2016-06-04 12:00:00	6.88	11.06		30.5	3.4			
2016-05-30 12:00:00	6.87	10.98		29.2	3.6			
2016-05-22 12:00:00	6.87	10.77	D	27.4	3.7	Mars	3.71	1.84 to –2.91
2016-05-15 12:00:00	7.02	10.47		26.1	3.8			
2016-05-09 12:00:00	7.15	10.11		25.0	3.9			
2016-05-02 12:00:00	7.31	9.78		24.0	4.1			
2016-04-20 12:00:00	7.57	9.11		22.4	4.2			
2016-04-12 12:00:00	7.75	8.60		21.5	4.3			
2016-03-28 12:00:00	8.08	7.53		20.1	4.5			
2016-03-17 12:00:00	8.47	6.05		19.2	4.6			
2016-03-05 12:00:00	8.90	4.23		18.3	4.8			
2016-02-18 12:00:00	9.47	1.48	E	17.3	4.9			
2016-02-13 12:00:00	9.65	0.56		17.0	5.0			
2016-02-04 12:00:00	9.69	0.33		16.5	5.0			
2016-01-23 12:00:00	9.75	0.02		15.9	5.1			
2016-01-01 12:00:00	9.85	-0.56		14.9	5.3			
2015-12-14 12:00:00	9.94	-1.03		14.3	5.4			
2015-10-11 12:00:00	9.65	0.55		12.4	5.8			
2015-09-28 12:00:00	9.51	1.24		12.1	5.9			
2015-09-20 12:00:00	9.43	1.66		11.9	6.0			
2015-09-07 12:00:00	9.30	2.33	F	11.6	6.0			
2015-08-29 12:00:00	9.20	2.78		11.4	6.1	Jupiter	31.78	–1.61 to –2.94
2015-08-21 12:00:00	9.16	2.99	sunrise	11.3	6.1			
2015-08-16 12:00:00	9.13	3.12		11.2	6.2			
2015-08-05 12:00:00	9.07	3.41		11.0	6.2			

2015-07-25 12:00:00	9.01	3.69		10.8	6.3			
2015-07-12 12:00:00	8.94	4.01	sunset	10.6	6.3			
2015-07-05 12:00:00	8.90	4.20		10.4	6.4			
2015-06-29 12:00:00	8.87	4.33		10.4	6.4			
2015-06-19 12:00:00	8.82	4.57		10.2	6.4			
2015-06-11 12:00:00	8.77	4.76	G	10.1	6.5			
2015-05-29 12:00:00	8.70	5.07		9.9	6.5			
2015-05-22 12:00:00	8.66	5.25		9.8	6.6			
2015-05-11 12:00:00	8.75	4.87		9.7	6.6			
2015-05-04 12:00:00	8.81	4.62		9.6	6.6			
2015-04-27 12:00:00	8.86	4.36		9.5	6.7			
2015-04-17 12:00:00	8.94	4.01		9.4	6.7			
2015-04-08 12:00:00	9.02	3.66		9.3	6.7			
2015-04-03 12:00:00	9.06	3.46		9.2	6.8			
2015-03-25 12:00:00	9.13	3.15		9.1	6.8			
2015-03-16 12:00:00	9.20	2.80		9.0	6.8			
2015-03-13 12:00:00	9.23	2.65		9.0	6.8			
2015-03-08 12:00:00	9.27	2.39		8.9	6.9			
2015-02-25 12:00:00	9.36	2.07		8.8	6.9			
2015-02-13 12:00:00	9.45	1.70	H	8.7	6.9			
2015-01-29 12:00:00	9.50	1.48		8.5	7.0			
2015-01-21 12:00:00	9.53	1.36		8.5	7.0			
2015-01-10 12:00:00	9.57	1.17		8.4	7.1			
2014-12-29 12:00:00	9.61	0.95		8.3	7.1			
2014-12-19 12:00:00	9.65	0.24		8.2	7.2			
2014-12-04 12:00:00	9.70	-0.16		8.0	7.2			
2014-11-23 12:00:00	9.74	-0.53		8.0	7.2			
2014-11-13 12:00:00	9.74	-0.82		7.9	7.3			
2014-11-07 12:00:00	9.75	-1.04		7.8	7.3			
2014-10-30 12:00:00	9.75	-1.05		7.8	7.3			
2014-10-26 12:00:00	9.76	-1.63		7.7	7.3			
2014-10-15 12:00:00	9.76	-1.91		7.7	7.4			
2014-10-10 12:00:00	9.77	-2.28		7.6	7.4			
2014-10-01 12:00:00	9.77	-3.72	I	7.6	7.4			
2014-09-25 12:00:00	9.78	-4.34		7.5	7.4			
2014-09-18 12:00:00	9.78	-4.36		7.5	7.5			
2014-09-11 12:00:00	9.78	-4.40		7.4	7.5			
2014-09-04 12:00:00	9.79	-4.43	sunrise	7.4	7.5			
2014-08-28 12:00:00	9.79	-4.46		7.3	7.5			
2014-08-21 12:00:00	9.80	-4.50		7.3	7.5			
2014-08-17 12:00:00	9.79	-4.48		7.3	7.5			
2014-08-03 12:00:00	9.77	-4.35		7.2	7.6			
2014-07-29 12:00:00	9.76	-4.32	sunset	7.2	7.6			
2014-07-14 12:00:00	9.73	-4.18		7.1	7.6			

2014-06-30 12:00:00	9.71	-4.19	J	7.0	7.7			
2014-06-15 12:00:00	9.68	-4.05		6.9	7.7			
2014-05-30 12:00:00	9.65	-3.91		6.8	7.8			
2014-05-23 12:00:00	9.64	-3.86		6.8	7.8			
2014-05-16 12:00:00	9.63	-3.79		6.7	7.8	Saturn	15.73	1.47 to –0.49
2014-01-25 12:00:00	10.10	10.24						
2013-11-30 12:00:00	10.27	-10.26	K	6.0	8.2			
2013-07-30 12:00:00	11.03	-19.25	sunset	5.6	8.5			
2013-03-31 12:00:00	11.04	-18.64		5.2	8.8			
2012-03-31 12:00:00	11.12	-17.24		4.4	9.4			
2011-03-01 12:00:00	11.04	-14.35		3.8	10.1			
2009-10-30 12:00:00	11.05	-11.25		3.3	10.7	Uranus	3.49	5.95 to 5.32
2008-06-29 12:00:00	11.00	-2.95		3.0	11.2			
2006-04-01 12:00:00	10.80	6.23		2.5	11.8	Neptune	2.20	7.78 to 8.02
1997-02-28 12:00:00	9.50	14.45		1.7	12.7	Pluto	0.08	13.65

Gray color indicates it will be up or visible in the night sky after astronomical twilight at the equator

The coordinates could be off by as much as an estimated plus or minus 0.5 hr angle. The DEC (declination) could be off by an estimated plus or minus 4 degrees.

In the above table 2 there is the 4th column from the left that indicates a figure number. This relates to the screen shot figure numbers that follow. If a sky view for a different date is needed then use the following link and the data in table 2 above to determine where to look in the sky. http://www.fourmilab.ch/yoursky/help/telcontrols.html

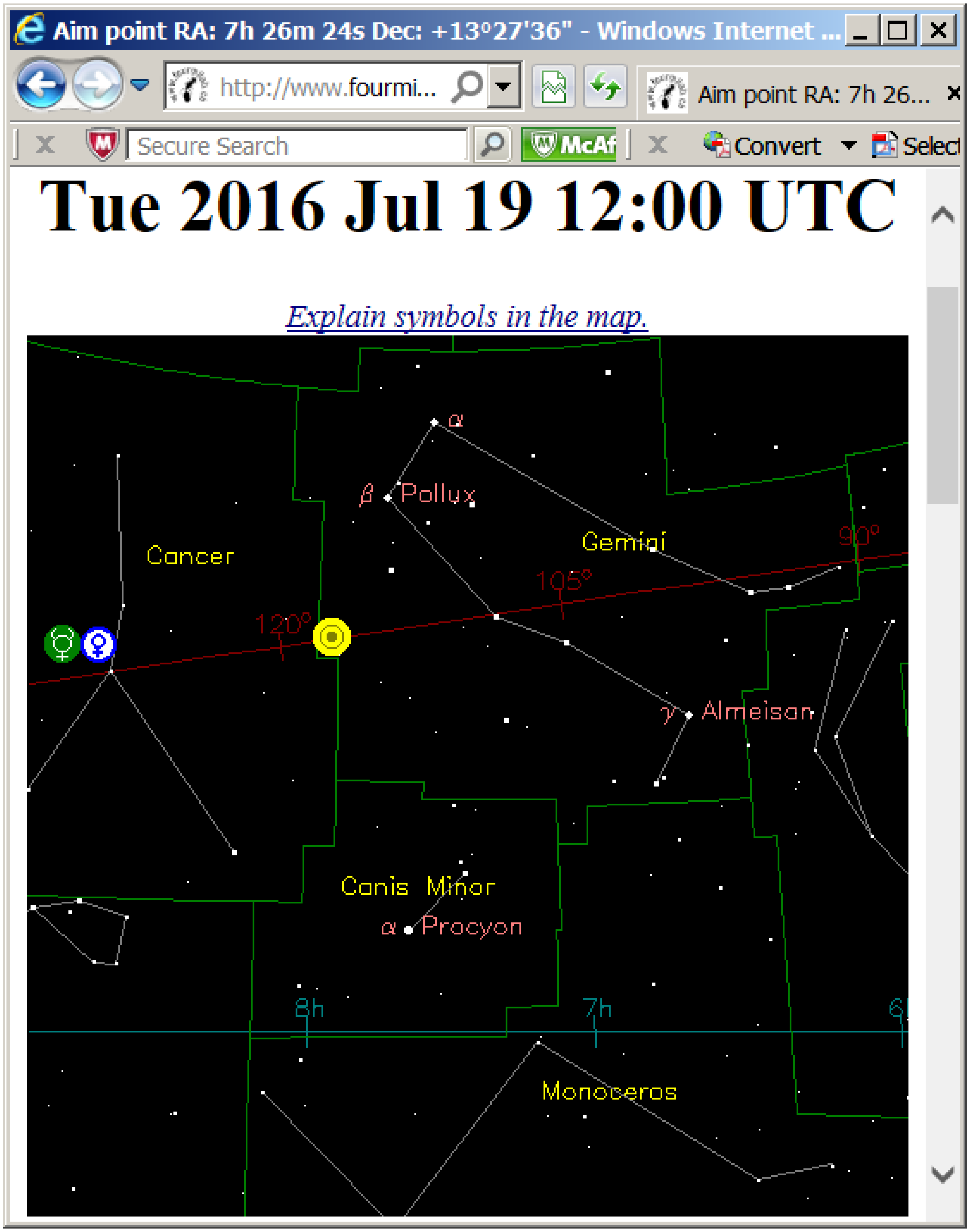
The following sky maps are 45 degrees wide and high. The expected location of PX will be near the middle of the map.

If PX travels slightly slower than at escape velocity by say 3% then the dates will be increasingly off the father away from the pole shift date one is viewing. In this case expect the date further down in the table from the viewing date to be the better date to use. Thus the date could be off by as much as a month as it passes by Saturn's orbit.

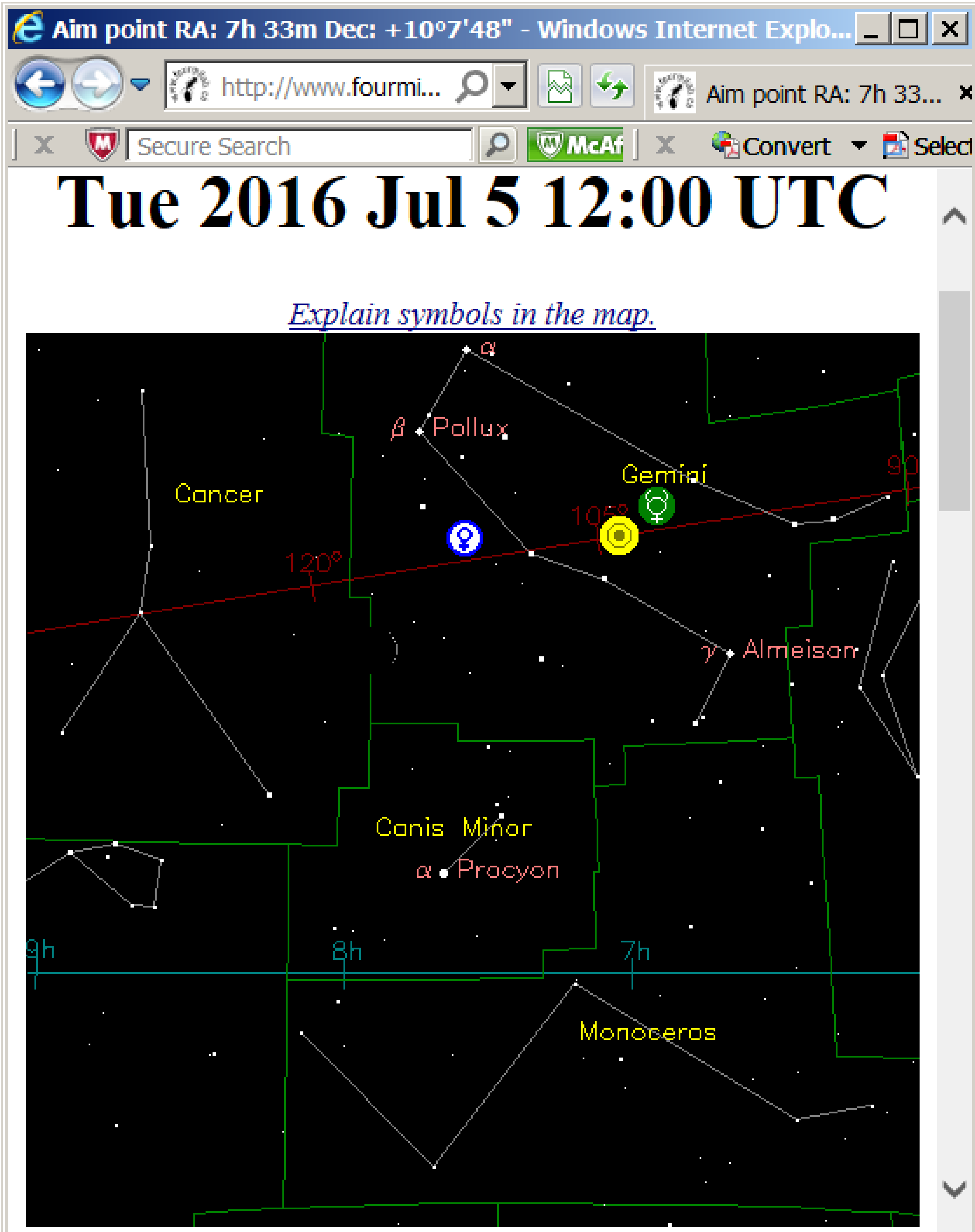
The red line on the sky views show the ecliptic (path of the planets). The blue line when visible shows the hour angle as it relates to earth's equator.

Note: Roughly when far away PX is near Hydra. When close it is between Canis minor and Gemini.

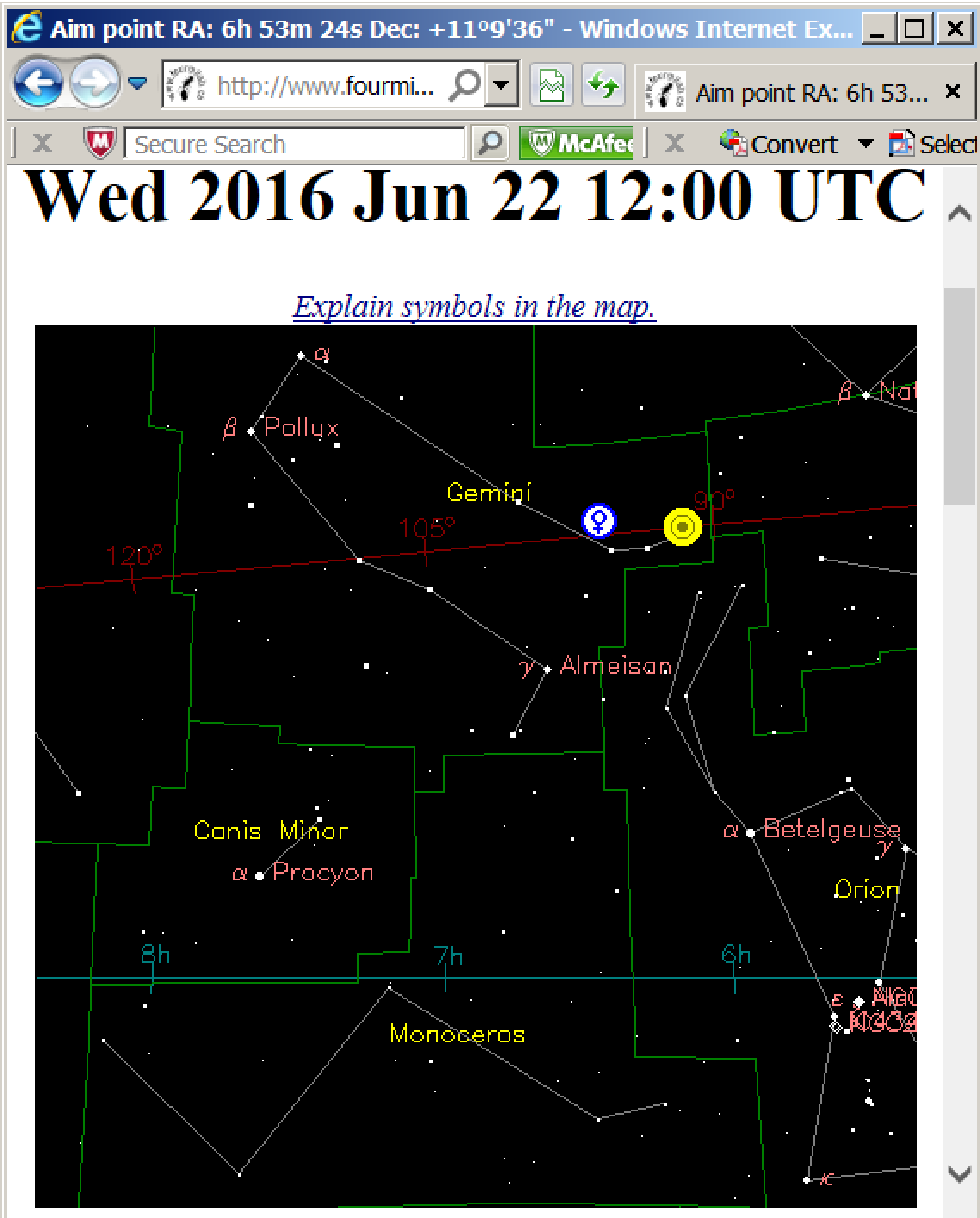
2-A PX passes near and under the sun (daylight viewing)
Approximate 4:00 position when looking at the sun mid day.



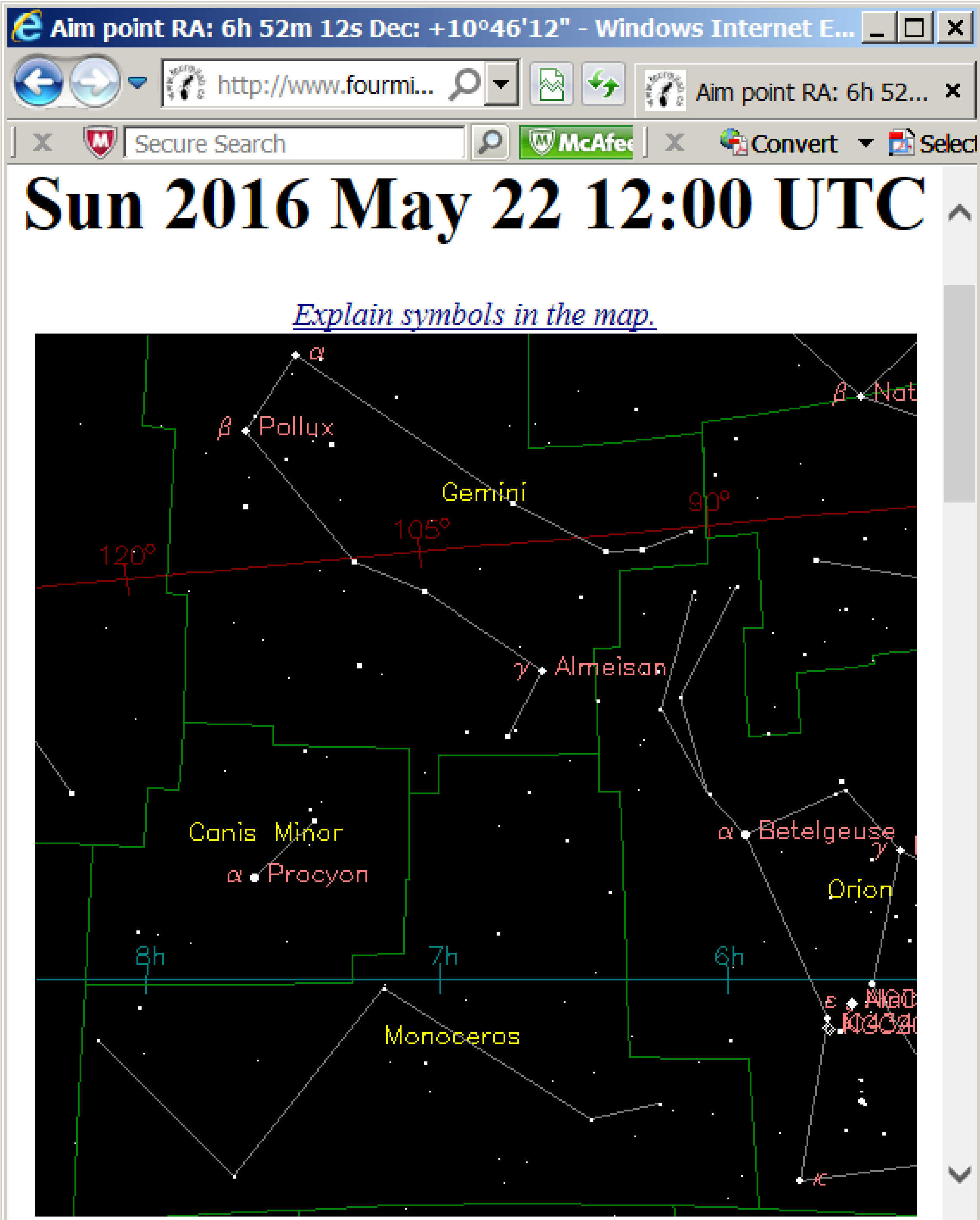
2-B PX passes near Venus (daylight viewing). Possible viewing at sunset.



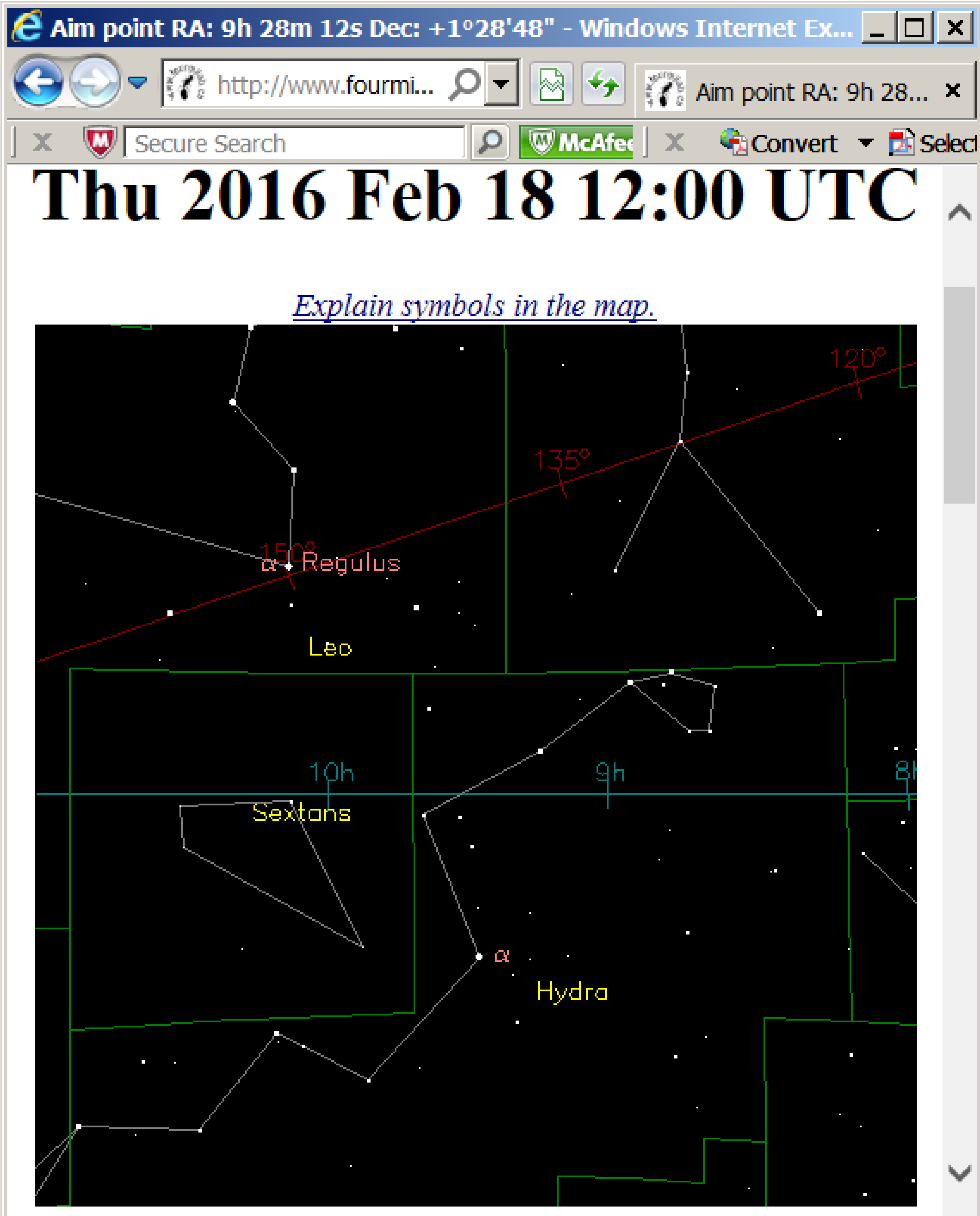
2-C PX crosses earth's orbit 7.3 weeks before the PS (barely visible to naked eye night time just after sunset.



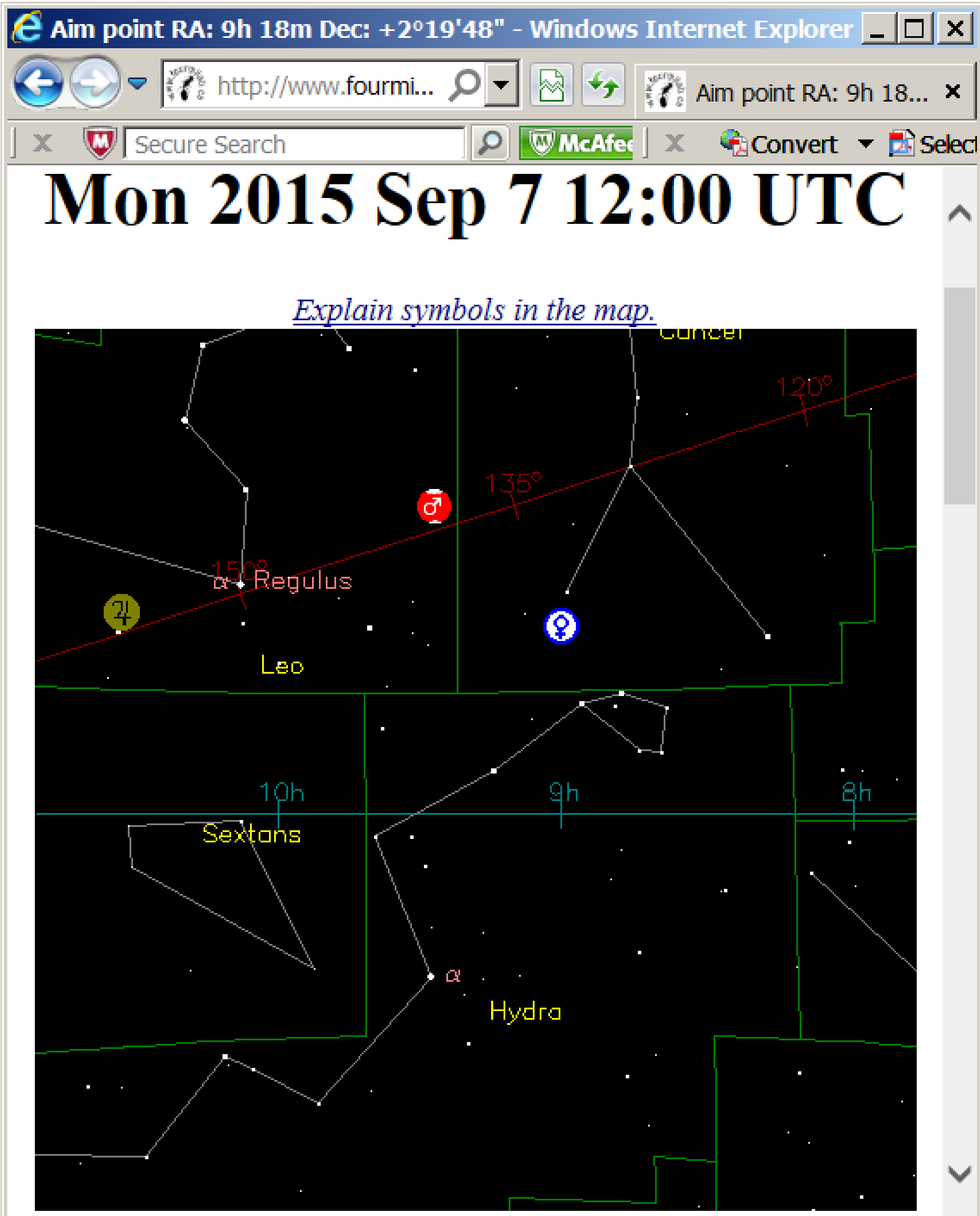
2-D PX Night time as it passes Mars orbital path. Left from Orion.



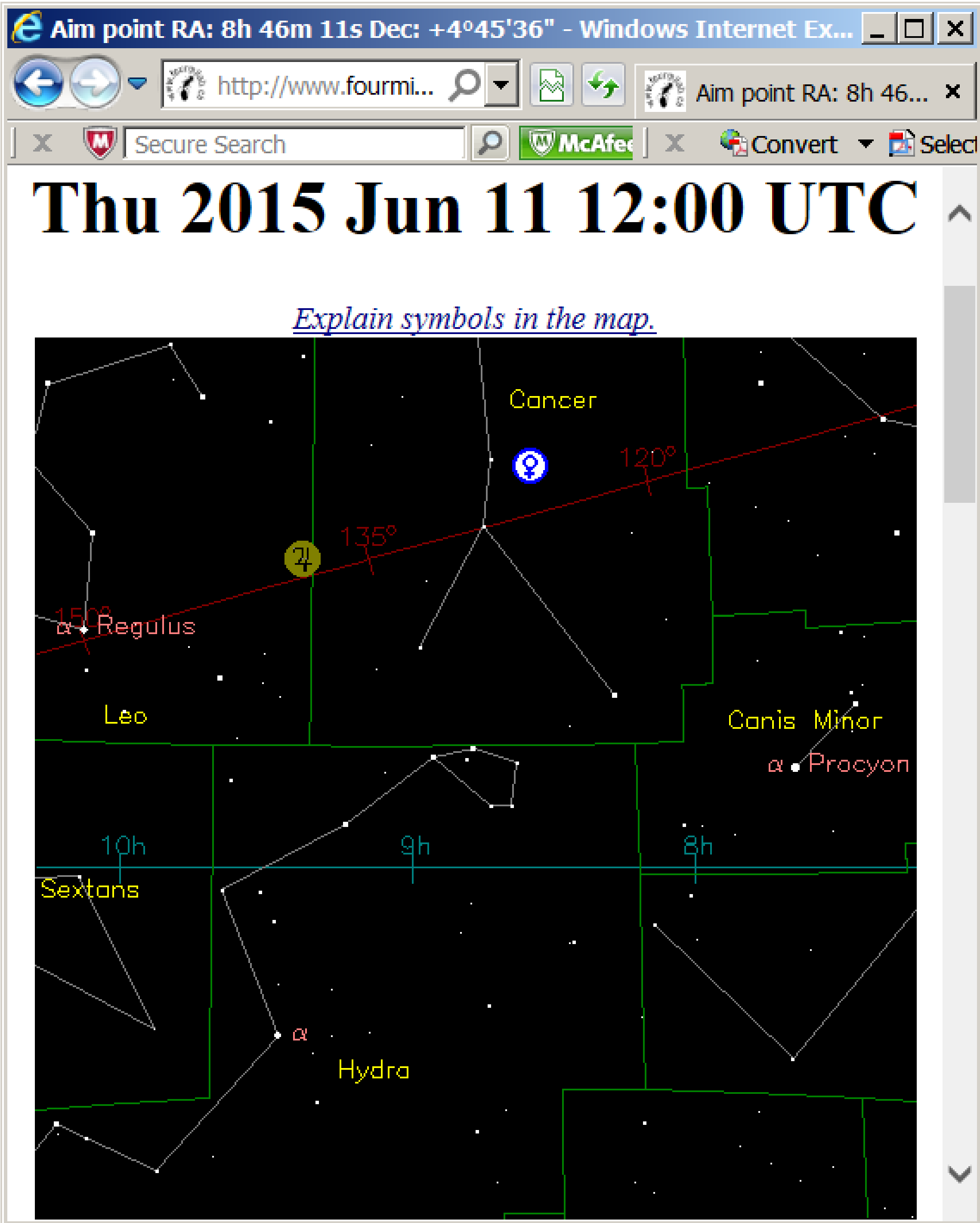
2-E PX Night time viewing.



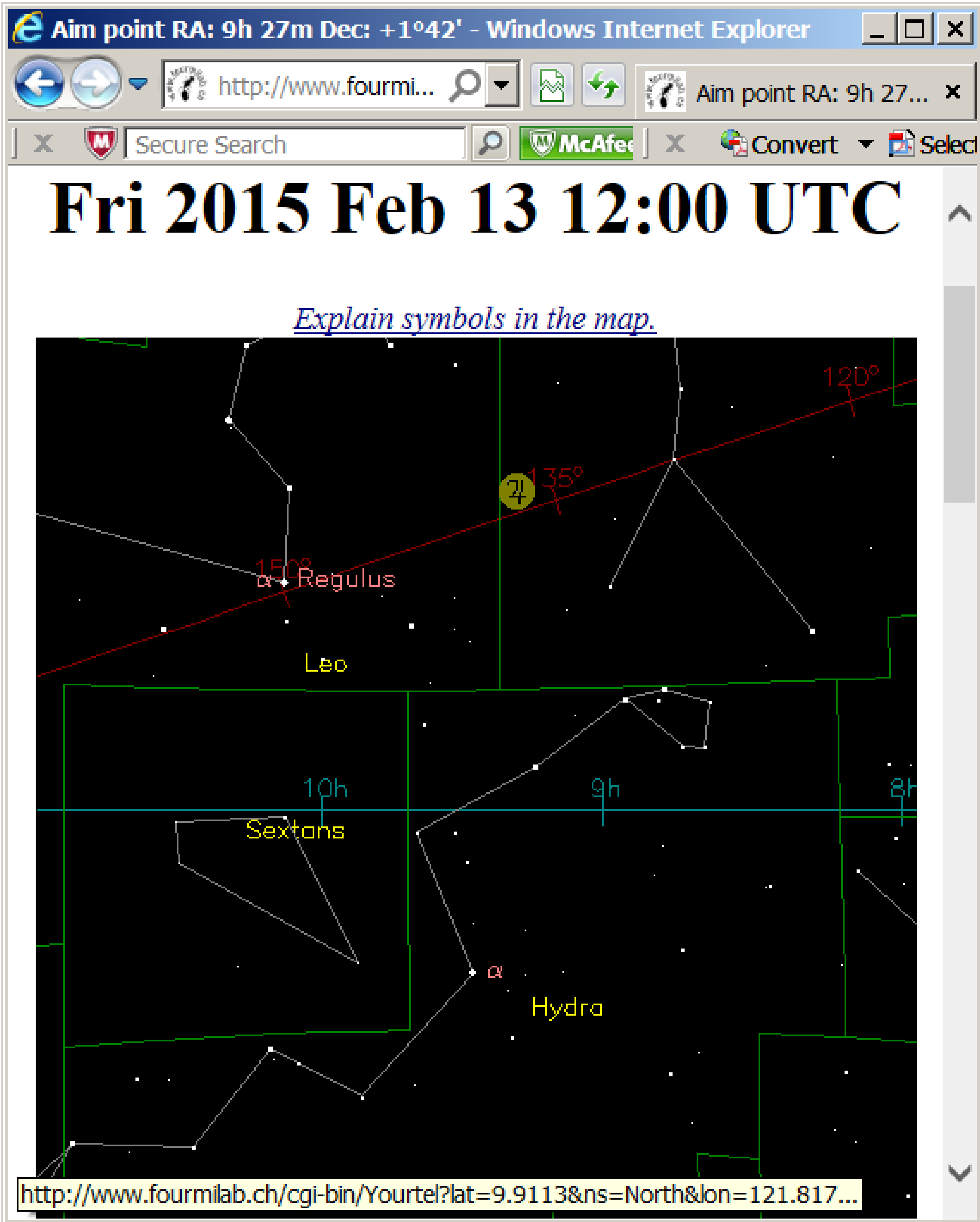
2-F PX Night time viewing just before sunrise. After passing Jupiter's orbit. Look below and left of Venus.



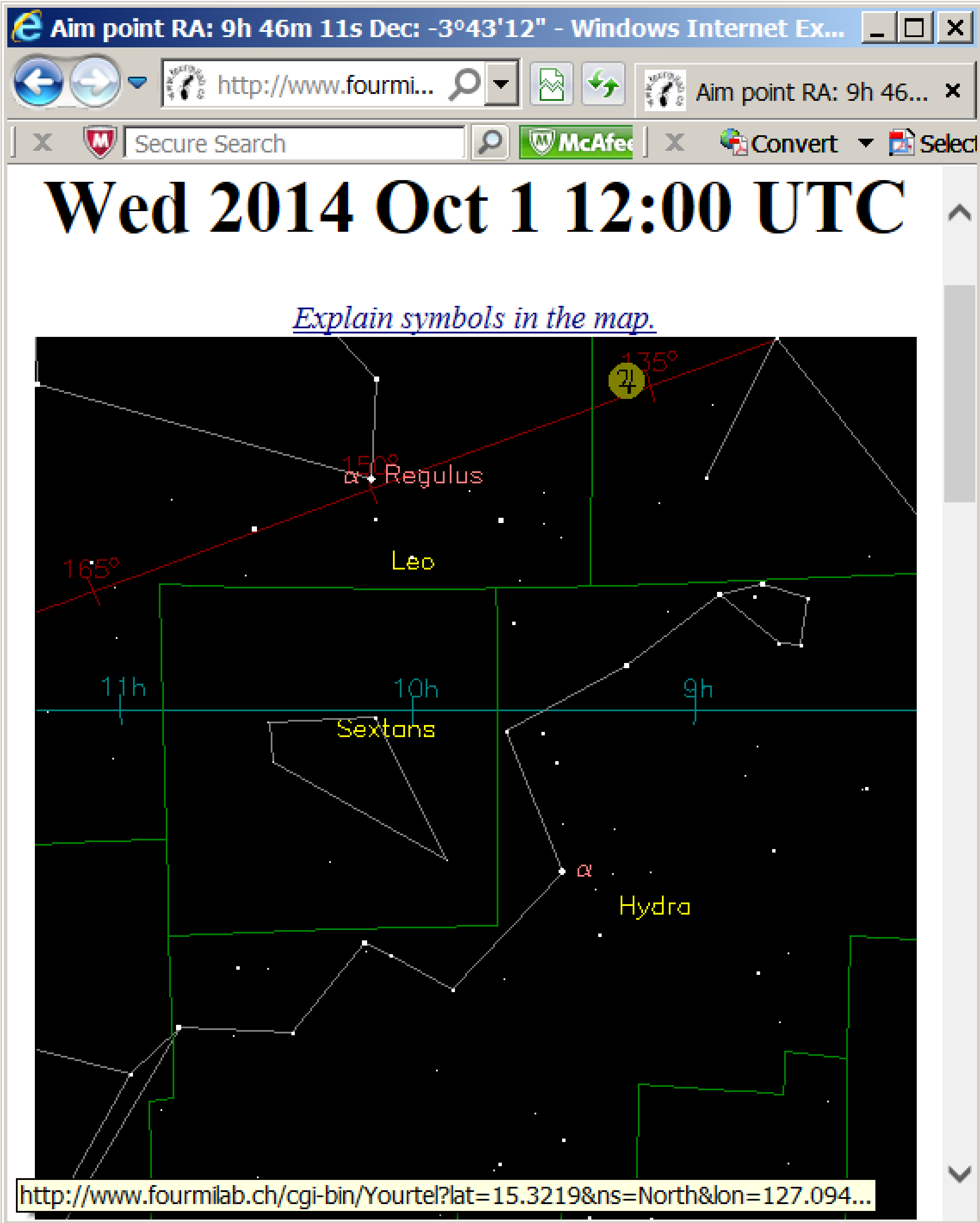
2-G PX Night time viewing after sunset. Notice this should be below Venus and Jupiter, but further out.



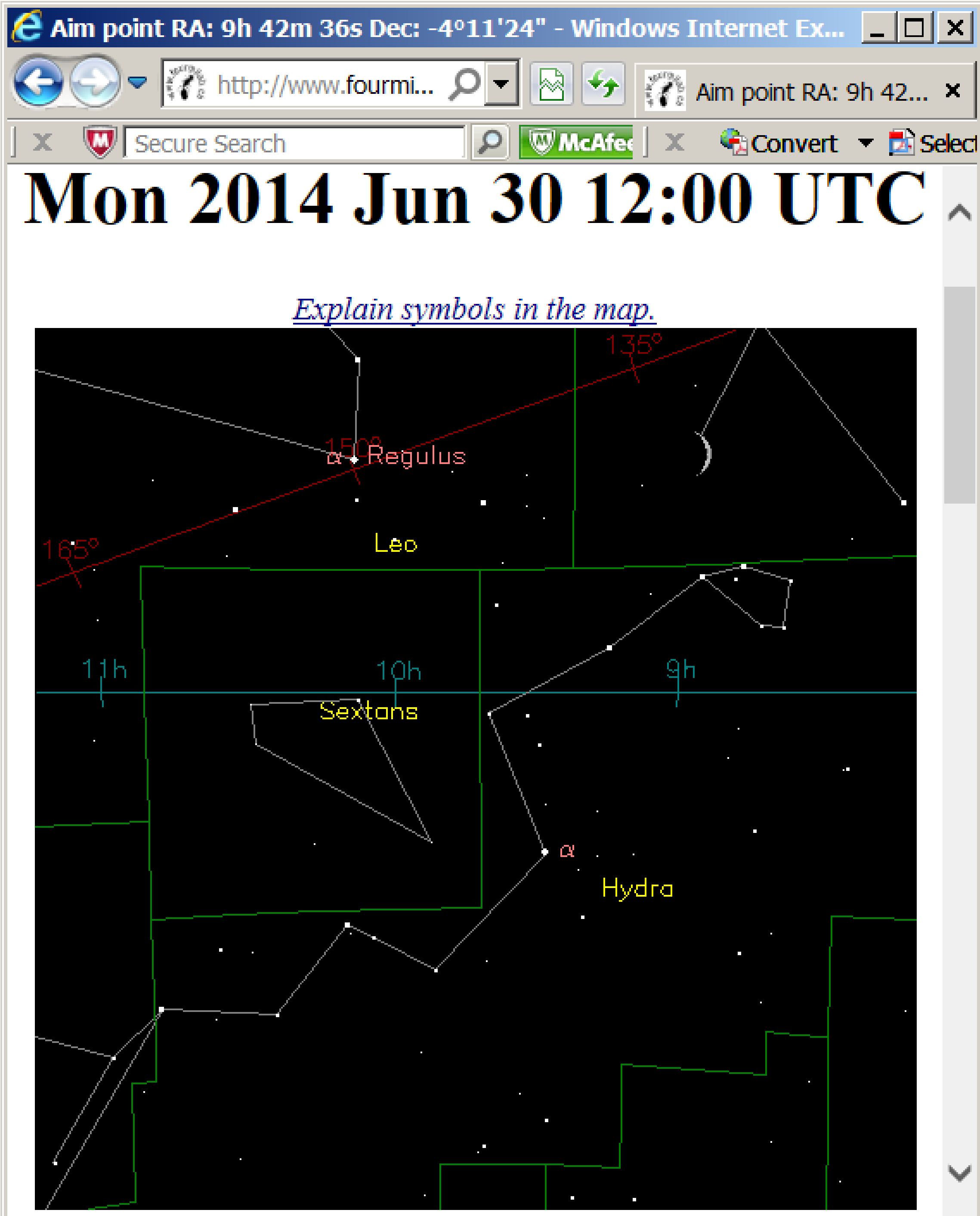
2-H PX Night time viewing. Look below Jupiter.



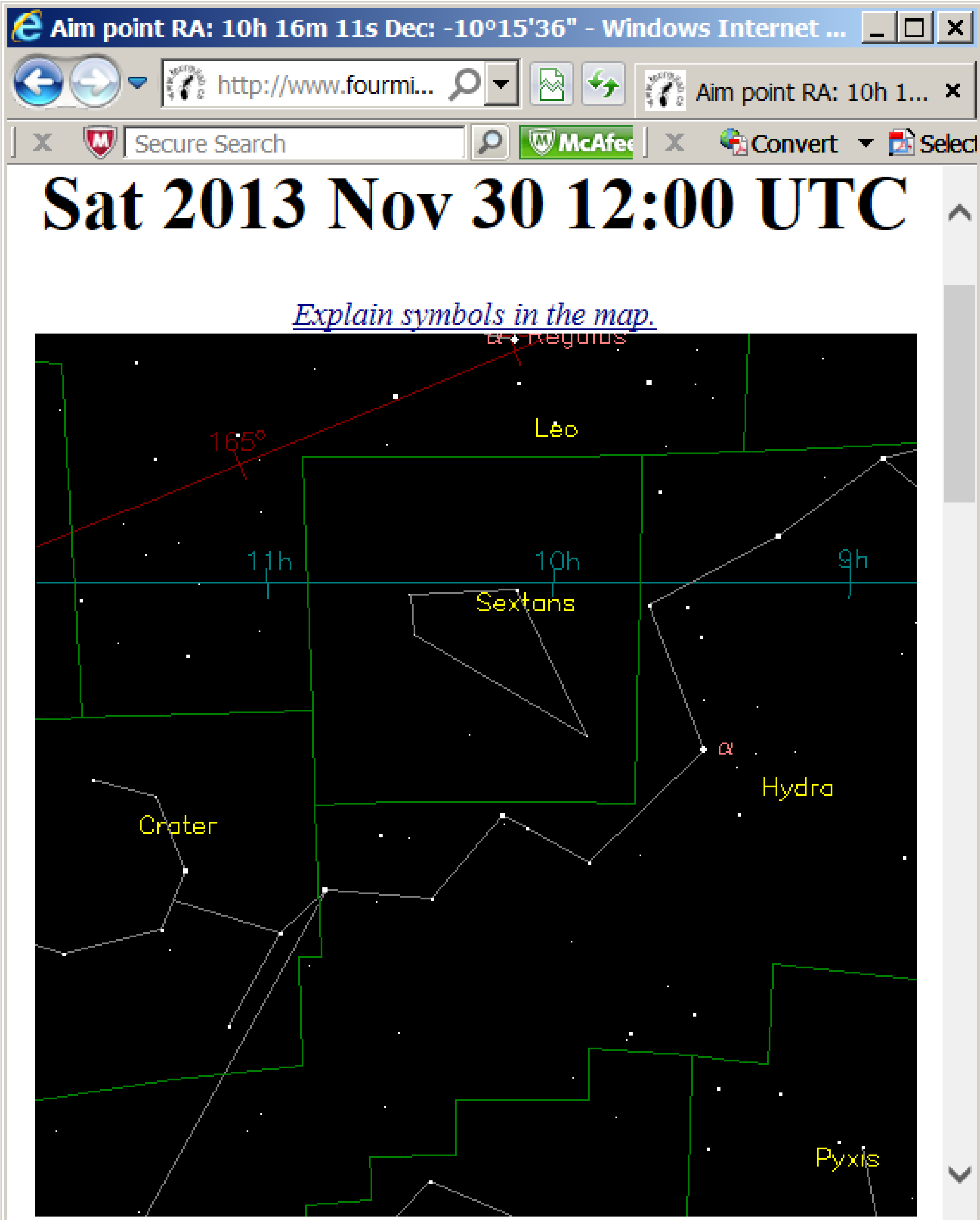
2-I PX Night time viewing just before sunrise. After it passes Saturn's orbit.



2-J PX Night time viewing after sunset.



2-K PX Night time viewing.



Appendix III (Calculations)

(10/6/2013)

Notes on how the data for Appendix I and II was found

Assumptions

1. Assume one of the two most probable dates (This being 17 Dec 2014 or 12 Aug 2016) arrived at earlier will be the date of the Pole Shift. Thus making it worth looking into further.

2. Assume the path laid out by the Zeta's coordinates in 2003 forms a pattern that would reasonably be repeated if it came from a different direction. The Zeta Right Assertion in hours (ZRA) and Zeta Declination (ZDEC) is assumed to be as viewed from a non-moving earth located at the PS date along earth's orbit. This is consistent with plotted Zeta coordinate data and is consistent with the Zeta's statement about earth coming to a stop in it's orbit as a clue to this view point. This Zeta clue is a hint of the importance of the 2003 Zeta coordinates for future determination of it's incoming path.

3. Assume PX moves at or near solar system escape velocity along its path.

How then can one build a current table of useful astronomical coordinates showing PX's path for the above given pole shift dates?

Analysis of what is needed.

1) An equation relating distance with days from the sun for PX traveling at or near escape velocity would be needed.

2) Conversion formulas that convert the frame of reference for the stationary earth Zeta coordinates ZRA hours to common astronomical earth celestial based earth rotational orbit view point of RA (hours) is needed.

3) Conversion formulas that convert the frame of reference for the stationary earth Zeta coordinates ZDEC degrees to common astronomical earth celestial based earth equator view point of DEC (degrees) is needed.

4) Correction formula for coordinates for new incoming direction based on the two most probable Pole Shift dates.

5) A formula that determines ArcSec due to distance is needed.

6) A formula that relates distance to apparent magnitude for PX based on red light generated as a smoldering dwarf and reflected sun light is needed.

7) Applying all these conversion formulas to the original 2003 Zeta coordinates to get a useful final result that can be looked up in sky view to indicate when and where to look.

The above becomes an outline for what follows.

1) An equation relating distance with days from the sun for PX traveling at near escape velocity would be needed.

Chart 1

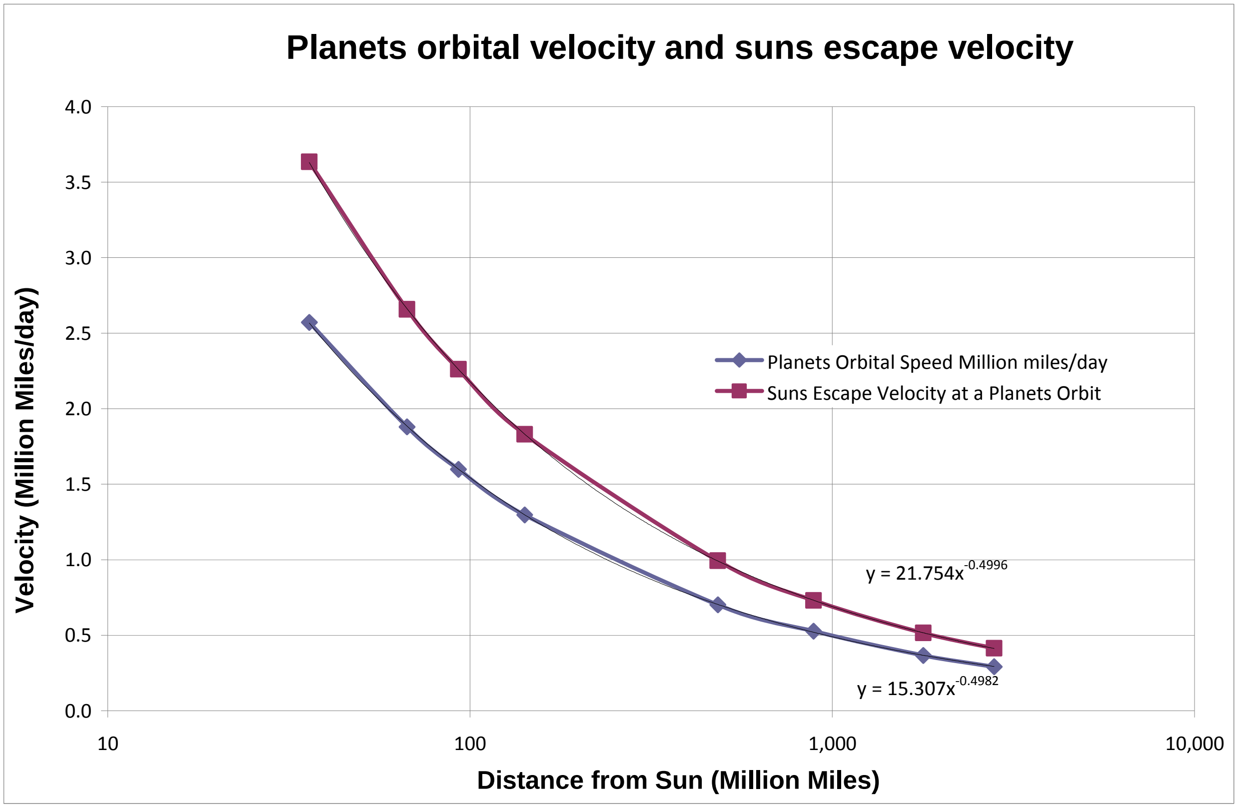


Chart 1 above can be found in the main body of this report and is show above. The equation for escape velocity y=21.754*x^-0.4996 is used below to claculte velocity at different distances from the sun. Small increments in distance are used to avoid error where needed. The velocity over these small increments in distance were averaged and then divided by the average velocity between these two points to get days. This then is cumulated. The following table gives the results.

Table 3

Appendix III (Calculations)

(10/6/2013)

equations =>		MMD	=21.754*((MMD)^-0.4996)	=((MMD-MMDprevious)/((EVe+NextEVe)/2))+previousrowtotal
In bound PX as it approaches the Sun or a planet.	Diameter in Million Miles	Distance from Sun in Million Miles (MM)	Suns Escape Velocity Ve at a Planets Orbit MM/day	Cum Days travel time at escape velocity
Near the sun		1.00	21.754	0.05
		2.00	15.387	0.10
		3.00	12.565	0.17
		4.00	10.883	0.26
		5.00	9.735	0.35
		6.00	8.887	0.46
		7.00	8.229	0.58
		8.00	7.698	0.70
		9.00	7.258	0.84
		10.00	6.886	0.98
		11.00	6.565	1.13
		12.00	6.286	1.28
		13.00	6.040	1.45
		14.00	5.820	1.61
		15.00	5.623	1.79
		16.00	5.445	1.97
		17.00	5.282	2.16
		18.00	5.133	2.35
		19.00	4.997	2.55
		20.00	4.870	2.75
		21.00	4.753	2.96
		22.00	4.644	3.17
		23.00	4.542	3.39
		24.00	4.446	3.61
PX estimated Closest approach to Sun		25.00	4.356	3.83
		26.00	4.272	4.07
		27.00	4.192	4.30
		28.00	4.117	4.54
		29.00	4.045	4.79
		30.00	3.977	5.04
		31.00	3.913	5.29
		32.00	3.851	5.55
		33.00	3.792	5.81
		34.00	3.736	6.08
		35.00	3.682	6.35
Mercury (88 days/orbit)	0.003031	36.00	3.631	6.62
		37.00	3.582	6.90
		38.00	3.534	7.18
		39.00	3.489	7.46
		40.00	3.445	7.75
		41.00	3.402	8.04
		42.00	3.362	8.34
		43.00	3.322	8.64
		44.00	3.285	8.94
		45.00	3.248	9.25
		46.00	3.212	9.56
		47.00	3.178	9.87

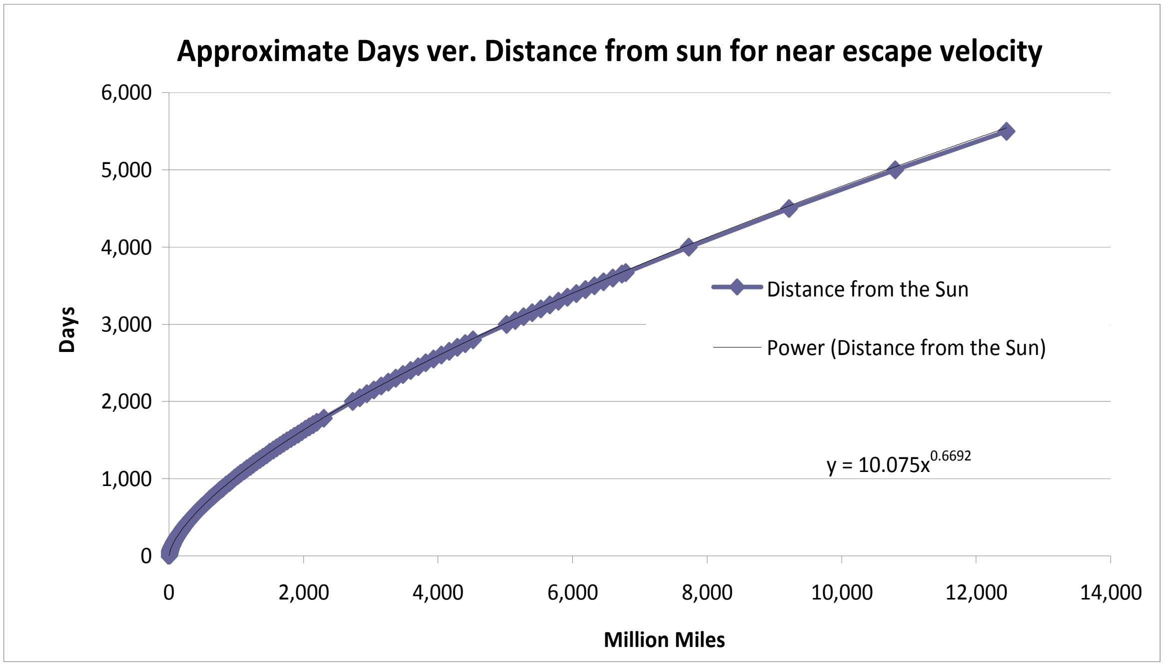
		48.00	3.145	10.19
		49.00	3.113	10.51
		50.00	3.081	10.83
		51.00	3.051	11.16
		52.00	3.022	11.49
		53.00	2.993	11.82
		54.00	2.965	12.15
		55.00	2.938	12.49
		56.00	2.912	12.83
		57.00	2.886	13.18
		58.00	2.861	13.53
		59.00	2.837	13.88
		60.00	2.813	14.23
		61.00	2.790	14.59
		62.00	2.767	14.95
		63.00	2.745	15.31
		64.00	2.724	15.68
		65.00	2.703	16.05
		66.00	2.682	16.42
Venus (224 days/orbit)	0.007521	67.00	2.662	16.79
		68.00	2.643	17.17
		70.00	2.605	17.93
		72.00	2.568	18.70
		74.00	2.533	19.49
		76.00	2.500	20.28
		78.00	2.467	21.09
		80.00	2.436	21.90
		82.00	2.407	22.73
		84.00	2.378	23.57
		86.00	2.350	24.41
		88.00	2.323	25.27
		90.00	2.297	26.13
		92.00	2.272	27.01
Earth (365.25 days/orbit)	0.007926	92.96	2.260	27.43
		95.00	2.236	28.34
		100.00	2.179	30.61
		105.00	2.127	32.93
		110.00	2.078	35.31
		115.00	2.032	37.74
		120.00	1.990	40.22
		125.00	1.949	42.76
		130.00	1.912	45.35
		135.00	1.876	47.99
		140.00	1.842	50.68
Mars (687 days/orbit)	0.004222	141.70	1.831	51.61
		150.00	1.780	56.21
		160.00	1.723	61.91
		170.00	1.672	67.81
		180.00	1.625	73.87
		190.00	1.582	80.11
		200.00	1.542	86.51
		210.00	1.504	93.08
		220.00	1.470	99.80
		230.00	1.438	106.68
		240.00	1.407	113.71
		250.00	1.379	120.89
		260.00	1.352	128.22
		270.00	1.327	135.68

		280.00	1.303	143.29
		290.00	1.280	151.03
		300.00	1.259	158.90
		310.00	1.238	166.91
		320.00	1.219	175.05
		330.00	1.200	183.32
		340.00	1.183	191.71
		350.00	1.166	200.23
		360.00	1.149	208.87
		370.00	1.134	217.63
		380.00	1.119	226.51
		390.00	1.104	235.51
		400.00	1.090	244.62
		410.00	1.077	253.85
		420.00	1.064	263.19
		430.00	1.052	272.65
		440.00	1.040	282.21
		450.00	1.028	291.88
		460.00	1.017	301.66
		470.00	1.006	311.55
		480.00	0.995	321.55
Jupiter (4328.9 days or 11.85 years/orbit)	0.088846	483.50	0.992	325.07
		500.00	0.975	341.84
		520.00	0.956	362.55
		540.00	0.939	383.66
		560.00	0.922	405.17
		580.00	0.906	427.06
		600.00	0.890	449.33
		620.00	0.876	471.98
		640.00	0.862	494.99
		660.00	0.849	518.37
		680.00	0.836	542.10
		700.00	0.824	566.19
		720.00	0.813	590.62
		740.00	0.802	615.39
		760.00	0.791	640.50
		780.00	0.781	665.94
		800.00	0.771	691.71
		820.00	0.762	717.81
		840.00	0.753	744.22
		860.00	0.744	770.95
		880.00	0.735	797.99
Saturn 10585 days or 28.98 years/orbit	0.074900	888.75	0.732	809.92
		920.00	0.719	853.00
		950.00	0.708	895.05
		980.00	0.697	937.77
		1,010.00	0.686	981.14
		1,040.00	0.676	1,025.17
		1,070.00	0.667	1,069.84
		1,100.00	0.658	1,115.13
		1,130.00	0.649	1,161.05
		1,160.00	0.641	1,207.58
		1,190.00	0.632	1,254.71
		1,220.00	0.625	1,302.45
		1,250.00	0.617	1,350.77
		1,280.00	0.610	1,399.67

		1,310.00	0.603	1,449.16
		1,340.00	0.596	1,499.21
		1,370.00	0.589	1,549.82
		1,400.00	0.583	1,601.00
		1,430.00	0.577	1,652.72
		1,460.00	0.571	1,704.99
		1,490.00	0.565	1,757.79
		1,520.00	0.560	1,811.13
		1,550.00	0.554	1,865.00
		1,580.00	0.549	1,919.40
		1,610.00	0.544	1,974.31
		1,640.00	0.539	2,029.74
		1,670.00	0.534	2,085.67
		1,700.00	0.529	2,142.11
		1,730.00	0.525	2,199.05
Uranus 30660 days or 83.94 years/orbit	0.031763	1,783.74	0.517	2,302.28
1783935996 miles avg		2,000.00	0.488	2,732.84
		2,050.00	0.482	2,835.95
		2,100.00	0.476	2,940.32
		2,150.00	0.471	3,045.95
		2,200.00	0.465	3,152.80
		2,250.00	0.460	3,260.88
		2,300.00	0.455	3,370.17
		2,350.00	0.450	3,480.64
		2,400.00	0.445	3,592.30
		2,450.00	0.441	3,705.13
		2,500.00	0.436	3,819.11
		2,550.00	0.432	3,934.24
		2,600.00	0.428	4,050.51
		2,650.00	0.424	4,167.89
		2,700.00	0.420	4,286.39
		2,750.00	0.416	4,405.99
Neptune (60152 days or 164.69 years/orbit)	0.030779	2,797.77	0.413	4,521.27
		3,000.00	0.398	5,019.97
		3,050.00	0.395	5,145.98
		3,100.00	0.392	5,273.02
		3,150.00	0.389	5,401.09
		3,200.00	0.386	5,530.18
		3,250.00	0.383	5,660.28
		3,300.00	0.380	5,791.39
		3,350.00	0.377	5,923.49
		3,400.00	0.374	6,056.58
		3,450.00	0.372	6,190.65
		3,500.00	0.369	6,325.70
		3,550.00	0.366	6,461.71
		3,600.00	0.364	6,598.69
		3,650.00	0.361	6,736.61
Pluto (248 years/orbit)	0.001430	3,670.05	0.360	6,792.18
		4,000.00	0.345	7,727.72
		4,500.00	0.325	9,219.18
		5,000.00	0.309	10,796.26
		5,500.00	0.294	12,454.52

Plotting the above data gives Chart 2 that follows.

Chart 2

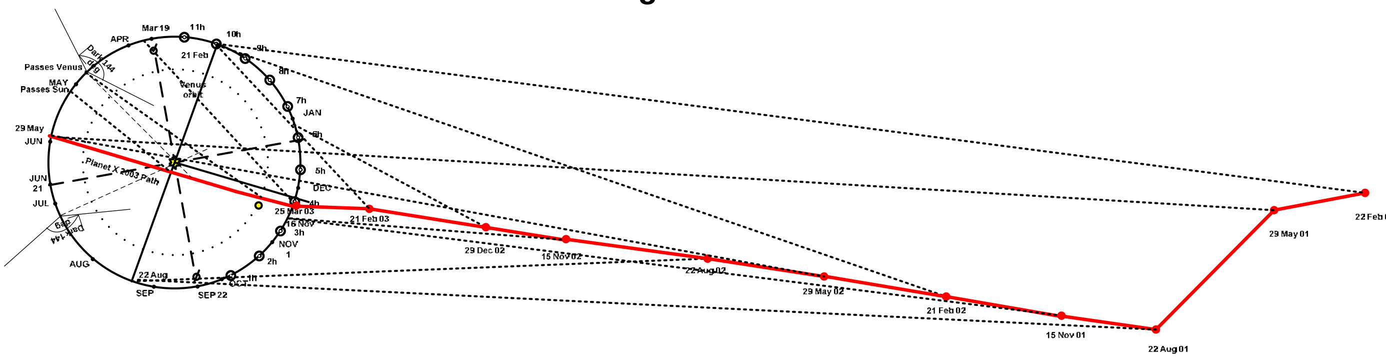


The best fit cure equation is then used to determine days (x) based on distance from the sun (Y). This will be the equation used to caudate Million Miles travel distance for PX for the final conversion of the Zeta coordinates based on number of cum days away from the sun. See table 4 on page 9 for it's use.

2) Conversion formulas that convert the frame of reference for the stationary earth Zeta coordinates ZRA hours to common astronomical earth celestial based earth rotational orbit view point of RA (hours) is now needed.

Zeta "RA" right ascension (ZRA) is assumed to be based on the earth at a fix point in it's orbit where earth would finally experience the pole shift. This is plotted in red in the diagram below to represent PX coming in from the right to left. The left end of this path is the pole shift date and the view point for Zeta coordinates. For this to be converted to common Astronomical RA it would need to take into account the rotation of earth as PX gets closer and closer. Thus we have the diagram 10 below.

Diagram 10



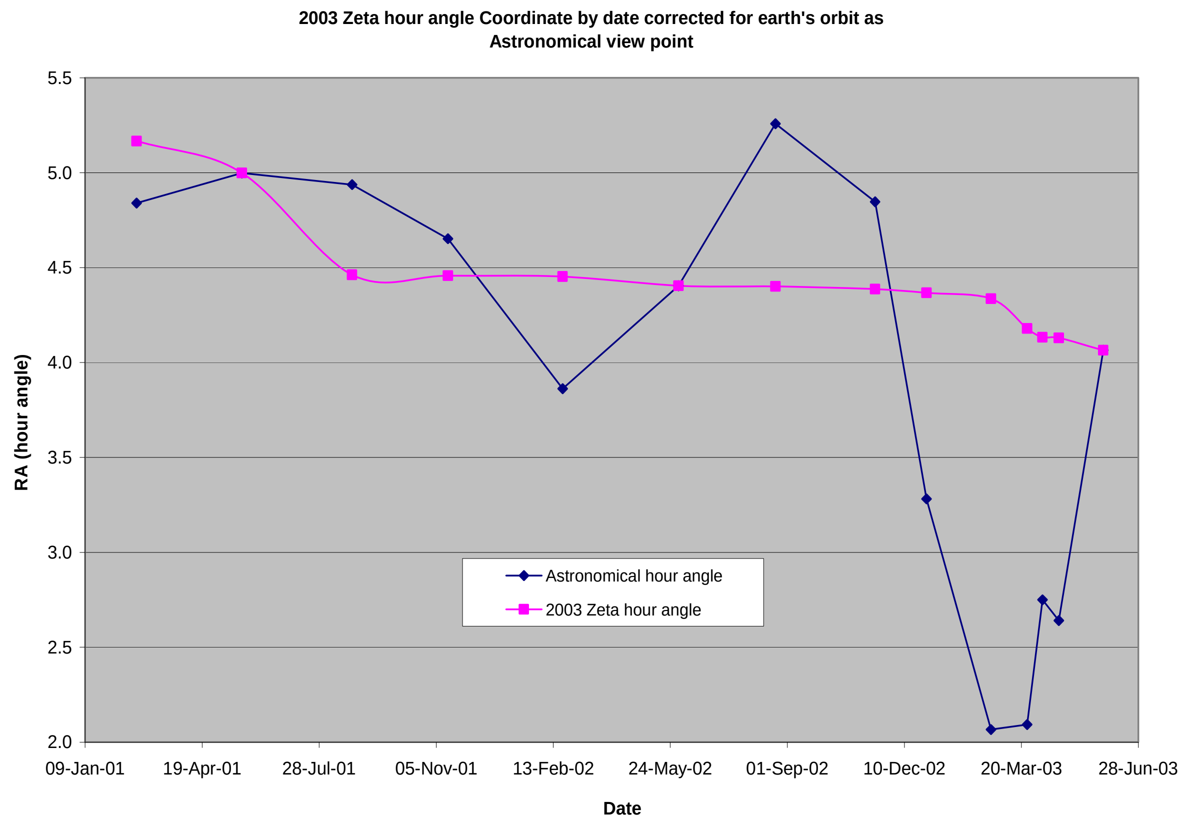
The angle at different times for each year is noted from a earth's rotational orbit view is either added or subtracted from the ZRA to determine the corrected astronomical RA. The flowing chart 3 shows the Zeta ZRA hour angles as given in the original 2003 Zeta Coordinates and it shows the corrected current Astronomical RA hour angels. The extreme change points on the figure above were plotted below and show up in blue. A straight line between any two points along the curve was used and interpolated to determine a rough order correction for points in between.

Note that in the chart 3 below the pole shift occurs on the right. This is the reverse of the drawing above. Chart 3 shows that the closer PX approaches earth the more correction is needed.

Appendix III (Calculations)

(10/6/2013)

Chart 3



The blue plot in the chart 3 above shows the results of earth orbital correction applied to the original Zeta coordinates. Earlier than 1 Sep 2001 no correction was applied. From this date back in time the original ZRA was assumed to approximately equal astronomical RA.

The following table 4 shows the corrections being applied to the original Zeta Data to get more commonly used astronomical coordinates for RA as shown in column on the right.

Table 4

Formulas=>	=DATEVALUE(RIGHT(A5,12))	=MID(A5,4,7)	=E5-24	=May_03-B5	=10.075*((D5-3.836)^0.6692)+92.96	=F5/150	=(15.92-47.22)/15	=C5+H5
Coordinates for incoming PX from http://www.zetatalk.com/theword/tword03m.htm	2003 Zeta Coordinate Date	For 3003 PS date ZRA	Days from Sun	Days to Pole Shift	PX at a given Million miles from Earth	Drawing Plot inches from Earth to indicate distance	Angle ZRA to Astronomical RA conversion in degrees	Astronomical hour angle RA
Pole Shift estimated date	29-May-03	4.06449					0.0000	4.0645

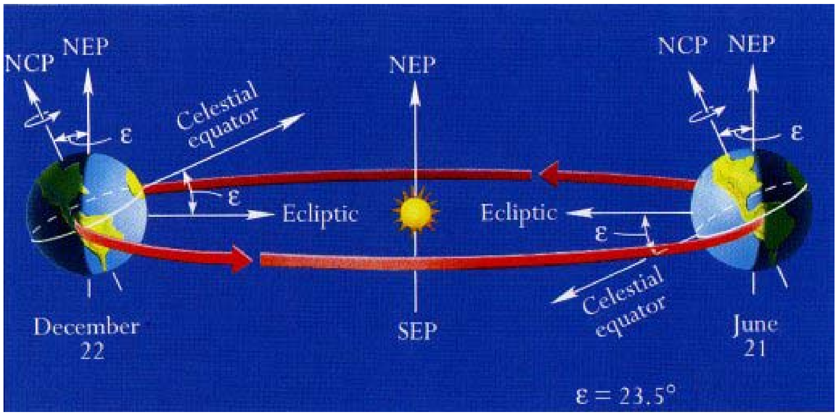
Pole Shift Zeta date	15-May-03	4.06449						3.5400
RA 4.06449 Dec -07.45183 May 15, 2003	15-May-03	4.06449	24	0	18	0.1183		3.5400
RA 4.07645 Dec 00.77814 May 09, 2003	09-May-03	4.07645	18	6	34	0.2239		3.3153
RA 4.09581 Dec 02.98217 May 04, 2003	04-May-03	4.09581	13	11	49	0.3239		3.1280
RA 4.11437 Dec 03.95347 Apr 30, 2003	30-Apr-03	4.11437	9	15	63	0.4182		2.9781
RA 4.12964 Dec 08.11571 Apr 21, 2003	21-Apr-03	4.12964	0	24	93	0.6197	-1.4887	2.6410
RA 4.13113 Dec 10.23674 Apr 16, 2003	16-Apr-03	4.13113	5	29	104	0.6941		2.6797
RA 4.13262 Dec 11.16319 Apr 07, 2003	07-Apr-03	4.13262	14	38	141	0.9367	-1.3833	2.7493
RA 4.16137 Dec 11.21455 Apr 01, 2003	01-Apr-03	4.16137	20	44	158	1.0522		2.4464
RA 4.17971 Dec 11.54782 Mar 25, 2003	25-Mar-03	4.17971	27	51	175	1.1699	-2.0867	2.0930
RA 4.18223 Dec 11.63113 Mar 17, 2003	17-Mar-03	4.18223	35	59	194	1.2907		2.0861
RA 4.18671 Dec 11.65327 Mar 10, 2003	10-Mar-03	4.18671	42	66	208	1.3881		2.0800
RA 4.19413 Dec 11.67481 Mar 07, 2003	07-Mar-03	4.19413	45	69	214	1.4281		2.0774
RA 4.21791 Dec 11.75342 Mar 02, 2003	02-Mar-03	4.21791	50	74	224	1.4925		2.0731
RA 4.33614 Dec 11.98125 Feb 22, 2003	22-Feb-03	4.33614	58	82	239	1.5910	-2.2700	2.0661
RA 4.34751 Dec 12.01456 Feb 15, 2003	15-Feb-03	4.34751	65	89	251	1.6733		2.2208
RA 4.35941 Dec 12.11749 Feb 09, 2003	09-Feb-03	4.35941	71	95	261	1.7414		2.3534
RA 4.35948 Dec 12.11813 Feb 02, 2003	02-Feb-03	4.35948	78	102	273	1.8184		2.5081
RA 4.36007 Dec 12.11875 Jan 21, 2003	21-Jan-03	4.36007	90	114	292	1.9449		2.7732
RA 4.36239 Dec 12.11946 Jan 13, 2003	13-Jan-03	4.36239	98	122	304	2.0260		2.9500
RA 4.36743 Dec 12.12001 Dec 29, 2002	29-Dec-02	4.36743	113	137	326	2.1723	-1.0860	3.2814
RA 4.37531 Dec 12.12103 Dec 18, 2002	18-Dec-02	4.37531	124	148	341	2.2753		3.6726
RA 4.37757 Dec 12.12323 Dec 06, 2002	06-Dec-02	4.37757	136	160	358	2.3842		4.0993
RA 4.37992 Dec 12.12499 Nov 20, 2002	20-Nov-02	4.37992	152	176	379	2.5244		4.6682
RA 4.38667 Dec 12.12537 Nov 15, 2002	15-Nov-02	4.38667	157	181	385	2.5672	0.4593	4.8460
RA 4.400057 Dec 12.13215 Nov 06, 2002	06-Nov-02	4.40005	166	190	396	2.6430		4.8896
RA 4.400546 Dec 12.13745 Oct 25, 2002	25-Oct-02	4.40054	178	202	411	2.7420		4.9476
RA 4.400986 Dec 12.13942 Oct 03, 2002	03-Oct-02	4.40098	200	224	438	2.9179		5.0541
RA 4.400347 Dec 12.14128 Sep 15, 2002	15-Sep-02	4.40034	218	242	459	3.0569		5.1412
	22-Aug-02	4.4				3.2500	0.8573	5.2573
RA 4.405136 Dec 12.13919 Jul 13, 2002	13-Jul-02	4.40513	282	306	528	3.5230		4.8461
RA 4.404983 Dec 12.13895 Jun 30, 2002	30-Jun-02	4.40498	295	319	542	3.6131		4.7124
RA 4.402098 Dec 12.13698 Jun 22, 2002	22-Jun-02	4.40209	303	327	550	3.6679		4.6302
RA 4.402167 Dec 12.13781 Jun 9, 2002	09-Jun-02	4.40216	316	340	563	3.7559		4.4965
RA 4.403982 Dec 12.13783 on May 31, 2002	31-May-02	4.40398	325	349	572	3.8161	0.0000	4.4040
RA 4.404197 Dec 12.13644 on May 23, 2002	23-May-02	4.40419	333	357	580	3.8692		4.3602
RA 4.406445 Dec 12.13798 on May 18, 2002	18-May-02	4.40644	338	362	585	3.9021		4.3328
RA 4.407176 Dec 12.14003 on May 7, 2002	07-May-02	4.40717	349	373	596	3.9740		4.2726
RA 4.40978 Dec 12.14253 on Apr 26, 2002	26-Apr-02	4.40978	360	384	607	4.0452		4.2124
RA 4.41342 Dec 12.14457 on Apr 13, 2002	13-Apr-02	4.41342	373	397	619	4.1284		4.1412
RA 4.41768 Dec 12.13219 on Apr 6, 2002	06-Apr-02	4.41768	380	404	626	4.1727		4.1029
RA 4.41964 Dec 12.14998 on Mar 31, 2002	31-Mar-02	4.41964	386	410	632	4.2106		4.0701
RA 4.42457 Dec 12.15134 on Mar 21, 2002	21-Mar-02	4.42457	396	420	641	4.2732		4.0154
RA 4.43102 Dec 12.15477 on Mar 13, 2002	13-Mar-02	4.43102	404	428	648	4.3229		3.9716
RA 4.43913 Dec 12.15682 on Feb 28, 2002	28-Feb-02	4.43913	417	441	660	4.4030		3.9004
RA 4.45209 Dec 12.14012 on Feb 21, 2002	21-Feb-02	4.45209	424	448	667	4.4457	-0.5900	3.8621
RA 4.45396 Dec 12.13993 on Feb 10, 2002	10-Feb-02	4.45396	435	459	677	4.5125		3.9507
RA 4.45411 Dec 12.14091 on Feb 3, 2002	03-Feb-02	4.45411	442	466	683	4.5547		4.0072
RA 4.45513 Dec 12.14773 on Jan 27, 2002	27-Jan-02	4.45513	449	473	689	4.5966		4.0636
RA 4.45623 Dec 12.13873 on Jan 17, 2002	17-Jan-02	4.45623	459	483	698	4.6562		4.1442
RA 4.45631 Dec 12.14997 on Jan 8, 2002	08-Jan-02	4.45631	468	492	706	4.7094		4.2167
RA 4.45657 Dec 12.15692 on Jan 3, 2002	03-Jan-02	4.45657	473	497	711	4.7389		4.2570
RA 4.45695 Dec 12.13145 on Dec 25, 2001	25-Dec-01	4.45695	482	506	719	4.7916		4.3295
RA 4.45710 Dec 12.12791 on Dec 16, 2001	16-Dec-01	4.45710	491	515	727	4.8439		4.4021
RA 4.45702 Dec 12.15983 on Dec 13, 2001	13-Dec-01	4.45702	494	518	729	4.8613		4.4262
RA 4.45699 Dec 12.22168 on Dec 8, 2001	08-Dec-01	4.45699	499	523	734	4.8902		4.4665

RA 4.45719 Dec 12.10971 on Nov 27, 2001	27-Nov-01	4.45719	510	534	743	4.9535		4.5552
RA 4.45724 Dec 11.98742 on Nov 15, 2001	15-Nov-01	4.45724	522	546	753	5.0220	0.1947	4.6519
RA 4.45725 Dec 11.94356 on Oct 31, 2001	31-Oct-01	4.45725	537	561	766	5.1069		4.7041
RA 4.45727 Dec 11.92167 on Oct 23, 2001	23-Oct-01	4.45727	545	569	773	5.1518		4.7320
RA 4.45732 Dec 11.91793 on Oct 12, 2001	12-Oct-01	4.45732	556	580	782	5.2133		4.7703
RA 4.45732 Dec 11.91793 on Sep 30, 2001	30-Sep-01	4.45732	568	592	792	5.2798		4.8120
RA 4.45962 Dec 12.44113 on Sep 20, 2001	20-Sep-01	4.45962	578	602	800	5.3349		4.8469
RA 4.46002 Dec 12.56542 on Sep 5, 2001	05-Sep-01	4.46002	593	617	813	5.4170		4.8991
RA 4.46137 Dec 12.74267 on Aug 25, 2001	25-Aug-01	4.46137	604	628	822	5.4768	0.4760	4.9374
RA 4.46978 Dec 12.98923 on Aug 15, 2001	15-Aug-01	4.46978	614	638	830	5.5308		4.9438
RA 4.42916 Dec 13.18956 on Aug 9, 2001	09-Aug-01	4.42916	620	644	834	5.5631		4.9477
RA 4.44371 Dec 13.17165 on Aug 1, 2001	01-Aug-01	4.44371	628	652	841	5.6059		4.9529
RA 4.52124 Dec 13.74256 on Jul 28, 2001	28-Jul-01	4.52124	632	656	844	5.6273		4.9555
RA 4.73456 Dec 13.98234 on Jul 17, 2001	17-Jul-01	4.73456	643	667	853	5.6858		4.9626
RA 4.95179 Dec 14.33179 on Jul 12, 2001	12-Jul-01	4.95179	648	672	857	5.7123		4.9659
RA 4.96112 Dec 15.74311 on Jul 3, 2001	03-Jul-01	4.96112	657	681	864	5.7598		4.9717
RA 4.97773 Dec 16.34114 on Jun 27, 2001	27-Jun-01	4.97773	663	687	869	5.7913		4.9756
RA 4.97895 Dec 16.34279 on Jun 20, 2001	20-Jun-01	4.97895	670	694	874	5.8280		4.9801
RA 4.98141 Dec 16.35441 on Jun 13, 2001	13-Jun-01	4.98141	677	701	880	5.8646		4.9846
RA 4.99876 Dec 16.36596 on June 6, 2001	06-Jun-01	4.99876	684	708	885	5.9010		4.9892
RA 4.99912 Dec 16.36590 on May 30, 2001	30-May-01	4.99912	691	715	891	5.9373		4.9937
RA 4.99823 Dec 16.37962 on May 23, 2001	23-May-01	4.99823	698	722	896	5.9735	0.0000	4.9982
RA 5.00761 Dec 16.39765 on May 19, 2001	19-May-01	5.00761	702	726	899	5.9941		4.9912
RA 5.09342 Dec 16.40278 on May 5, 2001	05-May-01	5.09342	716	740	910	6.0660		4.9666
RA 5.138421 Dec 16.419789 on Apr 30, 2001	30-Apr-01	5.13842	721	745	914	6.0916		4.9578
RA 5.143675 Dec 16.421739 on Apr 15, 2001	15-Apr-01	5.14367	736	760	925	6.1679		4.9314
RA 5.151245 Dec 16.55743 on Apr 1, 2001	01-Apr-01	5.15124	750	774	936	6.2387		4.9068
RA 5.16549 Dec 16.55847 on Mar 17, 2001	17-Mar-01	5.16549	765	789	947	6.3140		4.8804
RA 5.16653 Dec 16.56912 on Mar 1, 2001	01-Mar-01	5.16653	781	805	959	6.3938		4.8522
RA 5.16659 Dec 16.57897 on Feb 22, 2001	22-Feb-01	5.16659	788	812	964	6.4286	-0.3267	4.8399
RA 5.16784 Dec 16.57943 on Feb 15, 2001	15-Feb-01	5.16784	795	819	969	6.4632		4.8276
						0.0000		
RA 5.47 Dec 19.54 on Sep 1, 2000	01-Sep-00	5.47	962	986	1089	7.2623		5.47
RA 6.23 Dec 24.12 on May 1, 2000	01-May-00	6.23	1085	1109	1173	7.8214		6.23
RA 6.24 Dec 23.45 on Jan 1, 2000	01-Jan-00	6.24	1206	1230	1253	8.3513		6.24
RA 6.32 Dec 21.57 on Jan 1, 1999	01-Jan-99	6.32	1571	1595	1478	9.8523		6.32
RA 6.24 Dec 19.16 on Dec 1, 1997	01-Dec-97	6.24	1967	1991	1703	11.3547		6.24
Best guess from Nancy's sky view see link above.	01-Aug-96	6.25	2454	2478	1961	13.0707		6.25
Path as Viewed from Earth	01-Apr-95	6.20	2942	2966	2202	14.6799		6.20
	01-Jan-93	6.00	3762	3786	2580	17.1976		6.00
	01-Dec-83	4.70	7081	7105	3891	25.9407		4.70

The yellow rows are related to the points chosen for the measured corrections needed to convert ZRA to Astronomical RA. This relates to the measured angles in diagram 10 and chart 3 above.

3) **Conversion formulas that convert the frame of reference for the stationary earth Zeta coordinates ZDEC degrees to common astronomical earth celestial based earth equator view point of DEC (degrees) is needed.**

The Zeta "ZDec" declination is assumed to be the angle between earth's ecliptic or orbital plane and the in coming direction of PX. The human astronomical "Dec" which is based on earth's equator not the ecliptic will need to be calculated from the Zeta "ZDec". The relationship between ecliptic and celestial equator is shown in the following.



Only Twice a year, the Sun crosses the equator. On or about March 20 at a point called the *Vernal Equinox*, and on September 23 at the *Autumnal Equinox* (the terms derived from a northern hemisphere perspective). On these dates, the Sun has a declination of 0°

The intersection of these two planes Ecliptic and earth's equator forms an angle of about 23.4 degrees and is a max at Dec 21 and 0 degrees at September 23. With some angle in between depending on RA for the other times of the year. So the correction for ZDEC will depend on a corrected RA.

From http://www.patarnott.com/atms360/pdf_atms360/solareqns.pdf
We extend the results and get:
fractional year (y) is calculated, in radians.

y=2pi/365.24*(date-(31-Dec-2013))

The solar declination angle (in degrees).

decl =(0.006918 - 0.399912cos y + 0.070257sin y - 0.006758cos 2 y
+ 0.000907sin 2 y - 0.002697cos 3 y + 0.00148sin 3 y)* 57.295779

The following formula will be used to determine human astronomical declination "Dec" based on Zeta "ZDec" and time of year.

Astronomical Dec = -(decl + ZDec) in degrees.

One **Radian** is (180/π) degrees, or about 57.296°

To convert hour angle to radians the flowing formula was used.

Radians = .2618*(hourAngle) + 4.5457

Appendix III (Calculations)

(10/6/2013)

The blue column is the original zeta Dec or ZDec. The radian angle was determined from the corrected hour angel for each date. The radian angle was then used to determine astronomical DEC for each date. The final result is the following table 5.

Table 5

B	I	J	K	L	M	N	O	V	W	X
=DATEVALUE(RIGHT(A5,12))	=C5+H5	=MID(A5,16,9)	=(0.2618*N5)+4.5457	=(0.2618*W5)+4.5457	=_17_Dec_14-E5	=I5+Dec_14a-1.6	=-((0.006918-(0.399912*COS(K5))+(0.070257*SIN(K5))-(0.006758*COS(2*K5))+(0.000907*SIN(2*K5))-(0.002697*COS(3*K5))+(0.00148*SIN(3*K5)))*57.295779513+J5)	=_12_Aug_16-E5	=I5+4.8	=-((0.006918-(0.399912*COS(L5))+(0.070257*SIN(L5))-(0.006758*COS(2*L5))+(0.000907*SIN(2*L5))-(0.002697*COS(3*L5))+(0.00148*SIN(3*L5)))*57.295779513+J5)
2003 Zeta Coordinate Date	Astronomical hour angle RA	Zeta Ecliptic Declination for all dates ZDEC (+ is south)	radian angle for date 1	radian angle for date 2	Date 1 -- 17 Dec 14 new PX path dates for given sky location	Date 1 RA Astronomical hour angle	Date 1 Dec angle in degrees	Date 2 -- 12 Aug 16 new PX path dates for given sky location	Date 2 RA Astronomical hour angle	Date 2 Dec angle in degrees
29-May-03	4.0645	-07.45183	4.55	4.55						
15-May-03	3.5400	-07.45183	8.77	6.73	2014-12-17 12:00:00	16.13	-13.43	2016-08-12 12:00:00	8.34	26.15
15-May-03	3.5400	-07.45183	8.77	6.73	2014-12-17 12:00:00	16.13	-13.43	2016-08-12 12:00:00	8.34	26.15
09-May-03	3.3153	00.77814	8.71	6.67	2014-12-11 12:00:00	15.91	-21.01	2016-08-06 12:00:00	8.12	18.75
04-May-03	3.1280	02.98217	8.66	6.62	2014-12-06 12:00:00	15.72	-22.61	2016-08-01 12:00:00	7.93	17.18
30-Apr-03	2.9781	03.95347	8.62	6.58	2014-12-02 12:00:00	15.57	-23.07	2016-07-28 12:00:00	7.78	16.68
21-Apr-03	2.6410	08.11571	8.53	6.49	2014-11-23 12:00:00	15.23	-25.98	2016-07-19 12:00:00	7.44	13.46
16-Apr-03	2.6797	10.23674	8.54	6.50	2014-11-18 12:00:00	15.27	-28.25	2016-07-14 12:00:00	7.48	11.24
07-Apr-03	2.7493	11.16319	8.56	6.52	2014-11-09 12:00:00	15.34	-29.44	2016-07-05 12:00:00	7.55	10.13
01-Apr-03	2.4464	11.21455	8.48	6.44	2014-11-03 12:00:00	15.04	-28.30	2016-06-29 12:00:00	7.25	10.82
25-Mar-03	2.0930	11.54782	8.39	6.35	2014-10-27 12:00:00	14.69	-27.10	2016-06-22 12:00:00	6.89	11.16
17-Mar-03	2.0861	11.63113	8.39	6.35	2014-10-19 12:00:00	14.68	-27.16	2016-06-14 12:00:00	6.89	11.09
10-Mar-03	2.0800	11.65327	8.39	6.35	2014-10-12 12:00:00	14.67	-27.15	2016-06-07 12:00:00	6.88	11.07
07-Mar-03	2.0774	11.67481	8.39	6.35	2014-10-09 12:00:00	14.67	-27.16	2016-06-04 12:00:00	6.88	11.06
02-Mar-03	2.0731	11.75342	8.39	6.35	2014-10-04 12:00:00	14.67	-27.22	2016-05-30 12:00:00	6.87	10.98
22-Feb-03	2.0661	11.98125	8.38	6.34	2014-09-26 12:00:00	14.66	-27.42	2016-05-22 12:00:00	6.87	10.77
15-Feb-03	2.2208	12.01456	8.42	6.38	2014-09-19 12:00:00	14.81	-28.14	2016-05-15 12:00:00	7.02	10.47
09-Feb-03	2.3534	12.11749	8.46	6.42	2014-09-13 12:00:00	14.95	-28.81	2016-05-09 12:00:00	7.15	10.11
02-Feb-03	2.5081	12.11813	8.50	6.46	2014-09-06 12:00:00	15.10	-29.45	2016-05-02 12:00:00	7.31	9.78
21-Jan-03	2.7732	12.11875	8.57	6.53	2014-08-25 12:00:00	15.37	-30.49	2016-04-20 12:00:00	7.57	9.11
13-Jan-03	2.9500	12.11946	8.61	6.57	2014-08-17 12:00:00	15.54	-31.14	2016-04-12 12:00:00	7.75	8.60
29-Dec-02	3.2814	12.12001	8.70	6.66	2014-08-02 12:00:00	15.87	-32.24	2016-03-28 12:00:00	8.08	7.53
18-Dec-02	3.6726	12.12103	8.80	6.76	2014-07-22 12:00:00	16.27	-33.36	2016-03-17 12:00:00	8.47	6.05
06-Dec-02	4.0993	12.12323	8.92	6.88	2014-07-10 12:00:00	16.69	-34.33	2016-03-05 12:00:00	8.90	4.23

Appendix III (Calculations)

(10/6/2013)

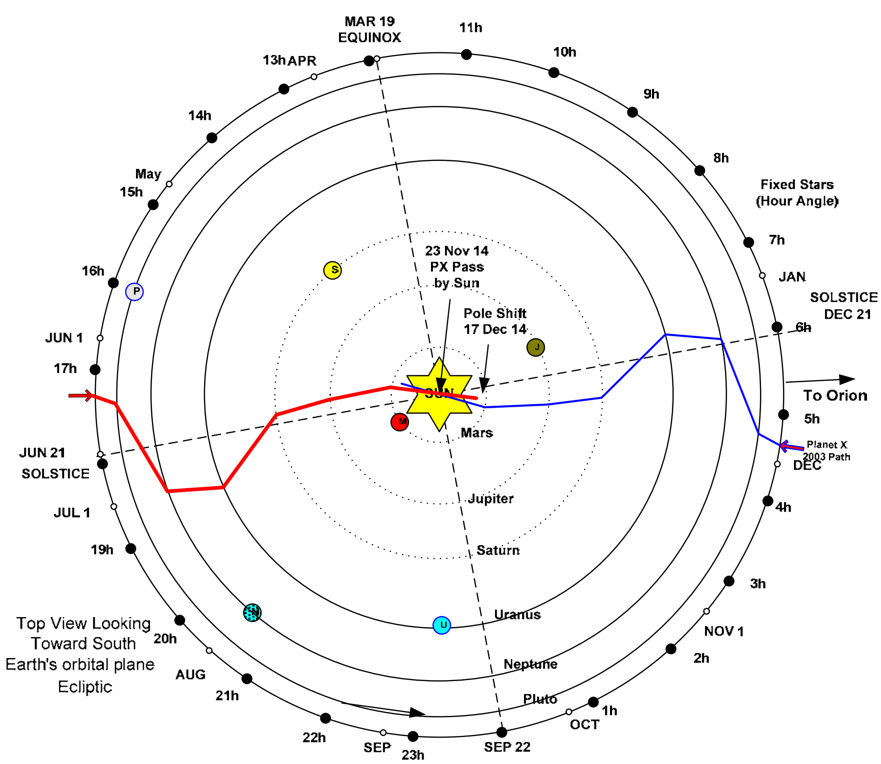
20-Nov-02	4.6682	12.12499	9.06	7.02	2014-06-24 12:00:00	17.26	-35.21	2016-02-18 12:00:00	9.47	1.48
15-Nov-02	4.8460	12.12537	9.11	7.07	2014-06-19 12:00:00	17.44	-35.38	2016-02-13 12:00:00	9.65	0.56
06-Nov-02	4.8896	12.13215	9.12	7.08	2014-06-10 12:00:00	17.48	-35.42	2016-02-04 12:00:00	9.69	0.33
25-Oct-02	4.9476	12.13745	9.14	7.10	2014-05-29 12:00:00	17.54	-35.46	2016-01-23 12:00:00	9.75	0.02
03-Oct-02	5.0541	12.13942	9.17	7.13	2014-05-07 12:00:00	17.65	-35.52	2016-01-01 12:00:00	9.85	-0.56
15-Sep-02	5.1412	12.14128	9.19	7.15	2014-04-19 12:00:00	17.73	-35.56	2015-12-14 12:00:00	9.94	-1.03
22-Aug-02	5.2573	12.14	9.22	7.18		17.85	-35.59		10.06	-1.67
13-Jul-02	4.8461	12.13919	9.11	7.07	2014-02-14 12:00:00	17.44	-35.39	2015-10-11 12:00:00	9.65	0.55
30-Jun-02	4.7124	12.13895	9.08	7.04	2014-02-01 12:00:00	17.31	-35.27	2015-09-28 12:00:00	9.51	1.24
22-Jun-02	4.6302	12.13698	9.05	7.01	2014-01-24 12:00:00	17.22	-35.18	2015-09-20 12:00:00	9.43	1.66
09-Jun-02	4.4965	12.13781	9.02	6.98	2014-01-11 12:00:00	17.09	-35.01	2015-09-07 12:00:00	9.30	2.33
31-May-02	4.4040	12.13783	9.00	6.96	2014-01-02 12:00:00	17.00	-34.88	2015-08-29 12:00:00	9.20	2.78
23-May-02	4.3602	12.13644	8.98	6.94	2013-12-25 12:00:00	16.95	-34.81	2015-08-21 12:00:00	9.16	2.99
18-May-02	4.3328	12.13798	8.98	6.94	2013-12-20 12:00:00	16.93	-34.77	2015-08-16 12:00:00	9.13	3.12
07-May-02	4.2726	12.14003	8.96	6.92	2013-12-09 12:00:00	16.87	-34.67	2015-08-05 12:00:00	9.07	3.41
26-Apr-02	4.2124	12.14253	8.95	6.91	2013-11-28 12:00:00	16.81	-34.57	2015-07-25 12:00:00	9.01	3.69
13-Apr-02	4.1412	12.14457	8.93	6.89	2013-11-15 12:00:00	16.73	-34.44	2015-07-12 12:00:00	8.94	4.01
06-Apr-02	4.1029	12.13219	8.92	6.88	2013-11-08 12:00:00	16.70	-34.35	2015-07-05 12:00:00	8.90	4.20
31-Mar-02	4.0701	12.14998	8.91	6.87	2013-11-02 12:00:00	16.66	-34.30	2015-06-29 12:00:00	8.87	4.33
21-Mar-02	4.0154	12.15134	8.89	6.85	2013-10-23 12:00:00	16.61	-34.19	2015-06-19 12:00:00	8.82	4.57
13-Mar-02	3.9716	12.15477	8.88	6.84	2013-10-15 12:00:00	16.56	-34.10	2015-06-11 12:00:00	8.77	4.76
28-Feb-02	3.9004	12.15682	8.86	6.82	2013-10-02 12:00:00	16.49	-33.95	2015-05-29 12:00:00	8.70	5.07
21-Feb-02	3.8621	12.14012	8.85	6.81	2013-09-25 12:00:00	16.46	-33.84	2015-05-22 12:00:00	8.66	5.25
10-Feb-02	3.9507	12.13993	8.88	6.84	2013-09-14 12:00:00	16.54	-34.04	2015-05-11 12:00:00	8.75	4.87
03-Feb-02	4.0072	12.14091	8.89	6.85	2013-09-07 12:00:00	16.60	-34.16	2015-05-04 12:00:00	8.81	4.62
27-Jan-02	4.0636	12.14773	8.91	6.87	2013-08-31 12:00:00	16.66	-34.29	2015-04-27 12:00:00	8.86	4.36
17-Jan-02	4.1442	12.13873	8.93	6.89	2013-08-21 12:00:00	16.74	-34.44	2015-04-17 12:00:00	8.94	4.01
08-Jan-02	4.2167	12.14997	8.95	6.91	2013-08-12 12:00:00	16.81	-34.58	2015-04-08 12:00:00	9.02	3.66
03-Jan-02	4.2570	12.15692	8.96	6.92	2013-08-07 12:00:00	16.85	-34.66	2015-04-03 12:00:00	9.06	3.46
25-Dec-01	4.3295	12.13145	8.98	6.94	2013-07-29 12:00:00	16.92	-34.75	2015-03-25 12:00:00	9.13	3.15
16-Dec-01	4.4021	12.12791	9.00	6.95	2013-07-20 12:00:00	17.00	-34.86	2015-03-16 12:00:00	9.20	2.80
13-Dec-01	4.4262	12.15983	9.00	6.96	2013-07-17 12:00:00	17.02	-34.93	2015-03-13 12:00:00	9.23	2.65
08-Dec-01	4.4665	12.22168	9.01	6.97	2013-07-12 12:00:00	17.06	-35.05	2015-03-08 12:00:00	9.27	2.39
27-Nov-01	4.5552	12.10971	9.04	6.99	2013-07-01 12:00:00	17.15	-35.06	2015-02-25 12:00:00	9.36	2.07
15-Nov-01	4.6519	11.98742	9.06	7.02	2013-06-19 12:00:00	17.24	-35.05	2015-02-13 12:00:00	9.45	1.70
31-Oct-01	4.7041	11.94356	9.07	7.03	2013-06-04 12:00:00	17.30	-35.06	2015-01-29 12:00:00	9.50	1.48
23-Oct-01	4.7320	11.92167	9.08	7.04	2013-05-27 12:00:00	17.32	-35.07	2015-01-21 12:00:00	9.53	1.36
12-Oct-01	4.7703	11.91793	9.09	7.05	2013-05-16 12:00:00	17.36	-35.10	2015-01-10 12:00:00	9.57	1.17
30-Sep-01	4.8120	11.91793	9.10	7.06	2013-05-04 12:00:00	17.41	-35.14	2014-12-29 12:00:00	9.61	0.95
20-Sep-01	4.8469	12.44113	9.11	7.07	2013-04-24 12:00:00	17.44	-35.69	2014-12-19 12:00:00	9.65	0.24
05-Sep-01	4.8991	12.56542	9.13	7.08	2013-04-09 12:00:00	17.49	-35.86	2014-12-04 12:00:00	9.70	-0.16
25-Aug-01	4.9374	12.74267	9.14	7.09	2013-03-29 12:00:00	17.53	-36.06	2014-11-23 12:00:00	9.74	-0.53
15-Aug-01	4.9438	12.98923	9.14	7.10	2013-03-19 12:00:00	17.54	-36.31	2014-11-13 12:00:00	9.74	-0.82
09-Aug-01	4.9477	13.18956	9.14	7.10	2013-03-13 12:00:00	17.54	-36.51	2014-11-07 12:00:00	9.75	-1.04
01-Aug-01	4.9529	13.17165	9.14	7.10	2013-03-05 12:00:00	17.55	-36.50	2014-10-30 12:00:00	9.75	-1.05
28-Jul-01	4.9555	13.74256	9.14	7.10	2013-03-01 12:00:00	17.55	-37.07	2014-10-26 12:00:00	9.76	-1.63
17-Jul-01	4.9626	13.98234	9.14	7.10	2013-02-18 12:00:00	17.56	-37.32	2014-10-15 12:00:00	9.76	-1.91
12-Jul-01	4.9659	14.33179	9.14	7.10	2013-02-13 12:00:00	17.56	-37.67	2014-10-10 12:00:00	9.77	-2.28
03-Jul-01	4.9717	15.74311	9.14	7.10	2013-02-04 12:00:00	17.56	-39.08	2014-10-01 12:00:00	9.77	-3.72
27-Jun-01	4.9756	16.34114	9.15	7.10	2013-01-29 12:00:00	17.57	-39.68	2014-09-25 12:00:00	9.78	-4.34
20-Jun-01	4.9801	16.34279	9.15	7.11	2013-01-22 12:00:00	17.57	-39.69	2014-09-18 12:00:00	9.78	-4.36
13-Jun-01	4.9846	16.35441	9.15	7.11	2013-01-15 12:00:00	17.58	-39.70	2014-09-11 12:00:00	9.78	-4.40
06-Jun-01	4.9892	16.36596	9.15	7.11	2013-01-08 12:00:00	17.58	-39.72	2014-09-04 12:00:00	9.79	-4.43
30-May-01	4.9937	16.36590	9.15	7.11	2013-01-01 12:00:00	17.59	-39.72	2014-08-28 12:00:00	9.79	-4.46
23-May-01	4.9982	16.37962	9.15	7.11	2012-12-25 12:00:00	17.59	-39.73	2014-08-21 12:00:00	9.80	-4.50
19-May-01	4.9912	16.39765	9.15	7.11	2012-12-21 12:00:00	17.58	-39.75	2014-08-17 12:00:00	9.79	-4.48
05-May-01	4.9666	16.40278	9.14	7.10	2012-12-07 12:00:00	17.56	-39.74	2014-08-03 12:00:00	9.77	-4.35
30-Apr-01	4.9578	16.41978	9.14	7.10	2012-12-02 12:00:00	17.55	-39.75	2014-07-29 12:00:00	9.76	-4.32

15-Apr-01	4.9314	16.42173	9.13	7.09	2012-11-17 12:00:00	17.52	-39.73	2014-07-14 12:00:00	9.73	-4.18
01-Apr-01	4.9068	16.55743	9.13	7.09	2012-11-03 12:00:00	17.50	-39.85	2014-06-30 12:00:00	9.71	-4.19
17-Mar-01	4.8804	16.55847	9.12	7.08	2012-10-19 12:00:00	17.47	-39.84	2014-06-15 12:00:00	9.68	-4.05
01-Mar-01	4.8522	16.56912	9.11	7.07	2012-10-03 12:00:00	17.45	-39.82	2014-05-30 12:00:00	9.65	-3.91
22-Feb-01	4.8399	16.57897	9.11	7.07	2012-09-26 12:00:00	17.43	-39.82	2014-05-23 12:00:00	9.64	-3.86
15-Feb-01	4.8276	16.57943	9.11	7.07	2012-09-19 12:00:00	17.42	-39.81	2014-05-16 12:00:00	9.63	-3.79
			4.55	7.19			-0.61	2014-01-25 12:00:00	10.10	10.24
01-Sep-00	5.47	19.54	9.27	7.23	2012-04-05 12:00:00	18.06	-42.98	2013-11-30 12:00:00	10.27	-10.26
01-May-00	6.23	24.12	9.47	7.43	2011-12-04 12:00:00	18.82	-46.97	2013-07-30 12:00:00	11.03	-19.25
01-Jan-00	6.24	23.45	9.48	7.44	2011-08-05 12:00:00	18.83	-46.28	2013-03-31 12:00:00	11.04	-18.64
01-Jan-99	6.32	21.57	9.50	7.46	2010-08-05 12:00:00	18.91	-44.29	2012-03-31 12:00:00	11.12	-17.24
01-Dec-97	6.24	19.16	9.48	7.44	2009-07-05 12:00:00	18.83	-41.99	2011-03-01 12:00:00	11.04	-14.35
01-Aug-96	6.25	16.00	9.48	7.44	2008-03-05 12:00:00	18.84	-38.82	2009-10-30 12:00:00	11.05	-11.25
01-Apr-95	6.20	8.00	9.47	7.43	2006-11-03 12:00:00	18.79	-30.89	2008-06-29 12:00:00	11.00	-2.95
01-Jan-93	6.00	0.00	9.41	7.37	2004-08-05 12:00:00	18.59	-23.12	2006-04-01 12:00:00	10.80	6.23
01-Dec-83	4.70	-1.00	9.07	7.03	1995-07-05 12:00:00	17.29	-22.11	1997-02-28 12:00:00	9.50	14.45

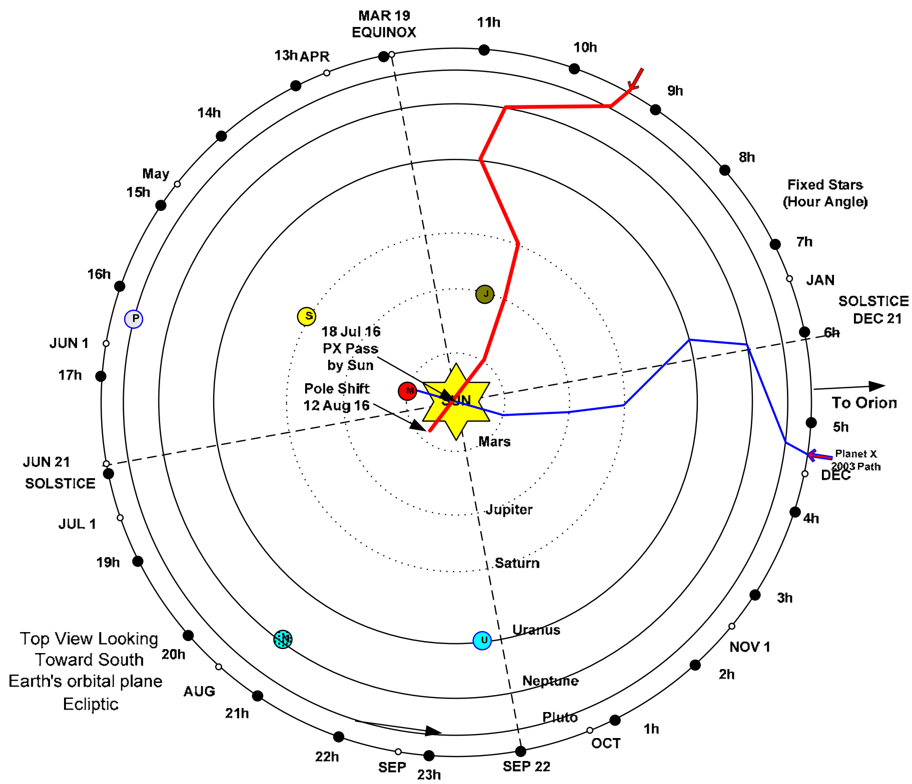
4) Correction formula for coordinates for new incoming direction based on Pole Shift dates.

Figures 11 and 12 below were used to determine how much correction was needed to added to the basic Zeta RA corrected for earth's orbital rotation.

For date 1 (17 Dec 2014) 12.59 was added to corrected original Zeta corrected for rotation RA to get the final column N hour angle. For date 2 (12 Aug 2016) 4.80 was added to corrected original Zeta corrected for rotation RA to get the final column W hour angle. See table 5 above.



Planet X As It Traverses Solar System Pluto to Earth in about 6788 days
PS 17 Dec 14 Figure 11



Planet X As It Traverses Solar System Pluto to Earth in about 6788 days

PS 12 Aug 16 Figure 12

Notice that Jupiter is somewhat close as PX passes through it's orbital path. The other planets are far away as show in figure 11 and 12 when their orbital path is crossed. The following coordinates are approximate placement of PX as it passes by Jupiter.

Date 2 -- 12 Aug 16 new PX path dates for given sky location	Date 2 RA Astronomical hour angle	Date 2 Dec angle in degrees
2015-08-29 12:00:00	9.20	2.78

The correction to ZDEC based on date and RA were done in the column O and X in table 5. This was based on columns K and L in table 5. The formulas are explained above.

5) **A formula that determines ArcSec due to distance is now needed.**

PX SIZE
Though a large planet, 4 times as large as Earth ...
ZetaTalk™ in Comet Visible

Arc sec = 1/60 deg

1 radian = 206264.806246799834988155 arc second

http://www.1728.org/angsize.htm

From trigonometry we can derive a *simple formula* that works for *small angles only*

tan (angle) = opposite/adjacent = Line CD/ Line AD = size/distance

We can generate another simple formula:

Angular size in degrees = (size * 57.29) / distance

Quick formula, good enough for most purposes:

angular size in radians = (diameter of planet) / (distance to planet)

Just use the same units for the diameter and distance.

to convert to degrees or arcseconds, we use

angular size in degrees = angular size in radians * 57.296

angular size in arcseconds = angular size in radians * 206264

The final results of this calculation are show in table 1 appendix 1 and table 2 appendixes 2. The diameter of PX was assumed to be four times the diameter of earth. The distance is shown in table 4 above.

6) **A formula that relates distance to apparent magnitude for PX based on red light generated as a smoldering dwarf and some amount of reflected sun light is now needed.**

The following ZetaTalk™ excerpts are a collection of what the Zeta's have said on the subject of Magnitude of PX.

ZetaTalk™ on MAGNITUDE
Although [Planet X] at present is a magnitude 2.0,
astronomers should include objects up to a magnitude 10
in their image capture.
Rogue Planet TOPIC

REFLECTED SUNLIGHT

As the 12th is too far away for reflected sunlight up until 6 months before passage.

ZetaTalk™ in Brightness

DIFFUSE

Note: The Comet Visible ZetaTalk piece was written in 1995, and should be read in that context. This inbound planet was visible to the IRAS team, using full spectrum search (including infra-red) in 1983 as a Magnitude 2 object. Due to the amount of time it spends essentially between its two foci, a search without infra-red capability should assume a *Magnetide 10* object and require the use of an observatory grade scope until 2002 (about 12 months before the PS). When the Zetas state it is visible with the naked eye, they are referring to being visible by the eye, as aided by telescope or magnifying equipment.

The 12th Planet is now visible to the human eye, though only the educated eye would see it. At the current time the 12th Planet is approximately magnitude 2.0 in brightness, and appears as large as a star as viewed by the naked eye. It does *not* shine with the intensity of most stars, but has a dull, diffuse, glow. It appears to be the last gasp of a dying star, a faint, blurry, reddish glow. Your eye would pass over it if attuned to the pin points that are the stars. A star is intense in the center and rapidly diminishes in intensity toward the edges of the spot you call a star. The light from a star comes from a single point and fans out, the periphery a bit less than the center, increasingly, but the center very intense. The 12th Planet, being nearer, is giving you light rays from its entire surface, so the light has an even quality to it. Its distance cannot be measured, but one will notice that as time passes, no other object passes before it.

The composition is not the composition of reflecting sunlight, but is almost exclusively in the spectrum you would call red light. Thus you will do best if you filter for red light, and by this we mean filtering out all but red light.

ZetaTalk™ in Comet Visible (http://www.zetatalk.com/poleshft/p29.htm

REDISH GLOW

[Planet X] has both heat and light, generated from within its core. ... The light is diffused in the atmosphere, and returns to the land surface, but emerges from the core to interact with the atmosphere only via the surface of the deep oceans, which cover the majority of the planet's surface. You may equate this to volcanic activity, where the Earth has numerous places both above ground and under the oceans that ooze molten lava. Just so [Planet X] has places where the molten and churning substance in its core escapes to the surface. ... Light only escapes the core where what is essentially volcanic activity under the water occurs. Of course, this would occur if there was volcanic activity on the land surface of the planet, but there is little land surface, and this long ago hardened.

ZetaTalk™ in [Planet X] Glow

So what did they mean in the above statement? Time to ask.

> When comparing the Magnitude of objects that can be viewed from Earth, our intent in this general-public statement made in 1995, we considered all visible light. The IRAS team went looking for Planet X in the early 1980's with infra-red because they understood that the spectrum was almost exclusively RED, and thus the imaging equipment used by observatories would falter. Infra-red, of course, is a visible light to some of us, and there is some human equipment, night vision, that is atuned to this. Astronomy equipment, to sell, was designed to locate and image stars and planets reflecting sunlight. Are they not in the business, wishing to stay profitable? Infra-red equipment is in the hands of few, and very expensive, as it is NOT in general demand. It was built for observatories, upon demand, and the price tag reflected this. We, the Zetas, with our equipment, see Planet X from Earth is accordance with your math for a Magnitude 2.0 object. Should your equipment be calibrated to give an almost exclusively red object that same advantage that the predominant light spectrum from starlight gets, you'd see it. This was explained, but ignored in the main. So as Nancy suspects, there is a Zeta Magnitude of 2.0, for those who can see a broader light spectrum and whose equipment is not as limited as the equipment currently utilized by humans.

http://www.zetatalk.com/usenet/use00818.htm

http://en.wikipedia.org/wiki/Magnitude_(astronomy)

Magnitude Tables

Table 6

Apparent Magnitude	Celestial Object
-26.7	Sun
-12.6	Full Moon
-4.4	Venus (at brightest)
-4.0	Faintest objects observable during the day with naked eye when Sun is high
-3.0	Mars (at brightest)
-1.6	Sirius (brightest star)
+3.0	Night Naked eye limit in an urban neighborhood
+5.5	Uranus (at brightest)

+6.0	Night Naked eye limit
+9.5	Faintest objects visible with binoculars at night time
+13.7	Pluto (at brightest)
30	Faintest objects observable by the Hubble Space Telescope

http://lcogt.net/book/export/html/468

More complete table at http://en.wikipedia.org/wiki/Apparent_magnitude

Table 7: Magnitudes and intensity

Magnitude difference	Relative intensity
0	1
1	2.51
2	6.31
3	15.8
4	39.8
5	100
10	10^4
15	10^6

http://astro.wku.edu/labs/m100/mags.html

We can determine how distances and magnitudes are related.

In the first section on apparent magnitudes we saw that

$$m_B - m_A = 2.5 \log_{10} (I_A / I_B).$$

Instead of comparing the intensities and magnitudes of two different stars, we will compare the intensities and magnitudes of the same star at two different distances. Substituting $(d_B / d_A)^2$ for (I_A / I_B), we get

$$m_B - m_A = 2.5 \log_{10} (d_B / d_A)^2,$$

which can be rewritten as

$$m_B - m_A = 5 \log_{10} (d_B / d_A).$$ do this formula.

Or

$$m_B = 5 \log_{10} (d_B / d_A) + m_A$$ = magatude at new distance d_B

Where m_A = magatude at d_A

http://astro.wku.edu/labs/m100/mags.html

Next we need a reference starting point. What about assuming PX is close to brightness or magnitude of some planet about the same size as a starting point. This assumes it is reflective like a planet which it is not. So we would expect it to be less bright. Yet it is a smoldering dwarf planet so it could have much more invisible red (infrared) than a normal planet. We will ignore the out of visible range Infrared light emitted, for most will not have the equipment to measure infrared. We will focus on what will be visible to most using common optical equipment. So PX would be brighter in red but duller in full spectrum than say Uranus and about the same size.

From: http://en.wikipedia.org/wiki/Uranus

Uranus Apparent magnitude	5.9[10] to 5.32[4]

From: http://www.crh.noaa.gov/fsd/?n=uranus

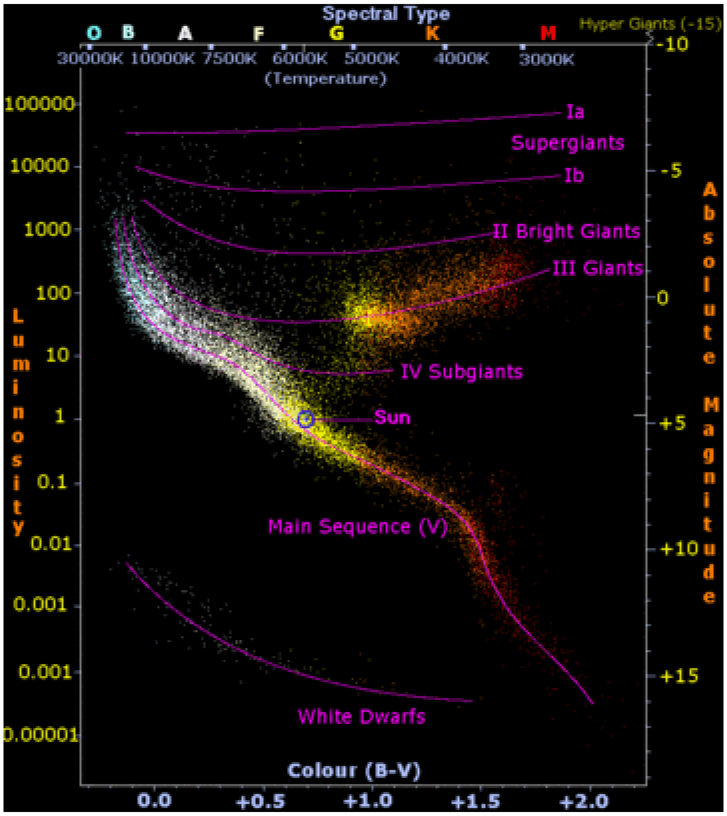
http://solarsystem.nasa.gov/planetselector.cfm?Object=Uranus

Average Distance from Sun:	2,870,972,200 km (1,783,935,996 miles)

To determine a rough order magnitude equation for PX at any distance we note that Uranus is about the same size as PX. So when PX is at the same distance then it is some what reasonable to assume it would reflect about the same amount of sunlight. However do to its red color we need to take that into account. From the following Hertzsprung-Russell diagram we can see that the average magnitude is 5 lower on the chart for red as opposed to white stars. If we apply this observation to Uranus having a magnitude of 5.9 to 5.3 then we might expect PX to have a magnitude of approximately 10.7 when at the same distance as Uranus. This is consistent with the Zeta's recommendation to search for magatude 10 as noted above.

Appendix III (Calculations)

(10/6/2013)



The **Hertzsprung–Russell diagram** is a scatter graph of stars showing the relationship between the stars' absolute magnitudes or luminosities versus their spectral types or classifications and effective temperatures. Hertzsprung–Russell diagrams are *not* pictures or maps of the locations of the stars. Rather, they plot each star on a graph measuring the star's absolute magnitude or brightness against its temperature and color.
http://en.wikipedia.org/wiki/Hertzsprung%E2%80%93Russell_diagram

Since cooler stars, such as red giants and red dwarfs, emit little energy in the blue and UV regions of the spectrum their power is often under-represented by the UBV scale. Indeed, some L and T class stars have an estimated magnitude of well over 100, since they emit extremely little visible light, but are strongest in infrared. http://en.wikipedia.org/wiki/Red_dwarf

In figure 13 below, note that Venus is brightest from an earth viewpoint at about 39 degrees from the sun. PX would be assumed to do about the same. However PX is coming in almost straight on. So this brightest point could be while it is still on the far side of the sun.

Once past the sun between the earth and the sun then the brightness can be expected to be less due the angle of incidence. This is all theoretical, if most of the light is reflected from the surface. The red cloud of dust around it may just glow due to the many reflections or bouncing of light from particle to particle. So in this case PX could get brighter as it approaches earth to the point of passage.

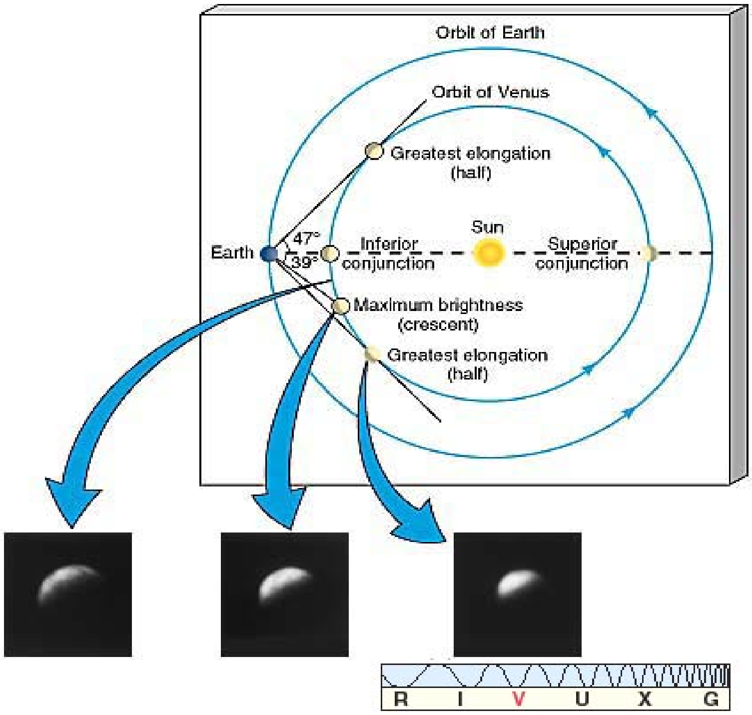


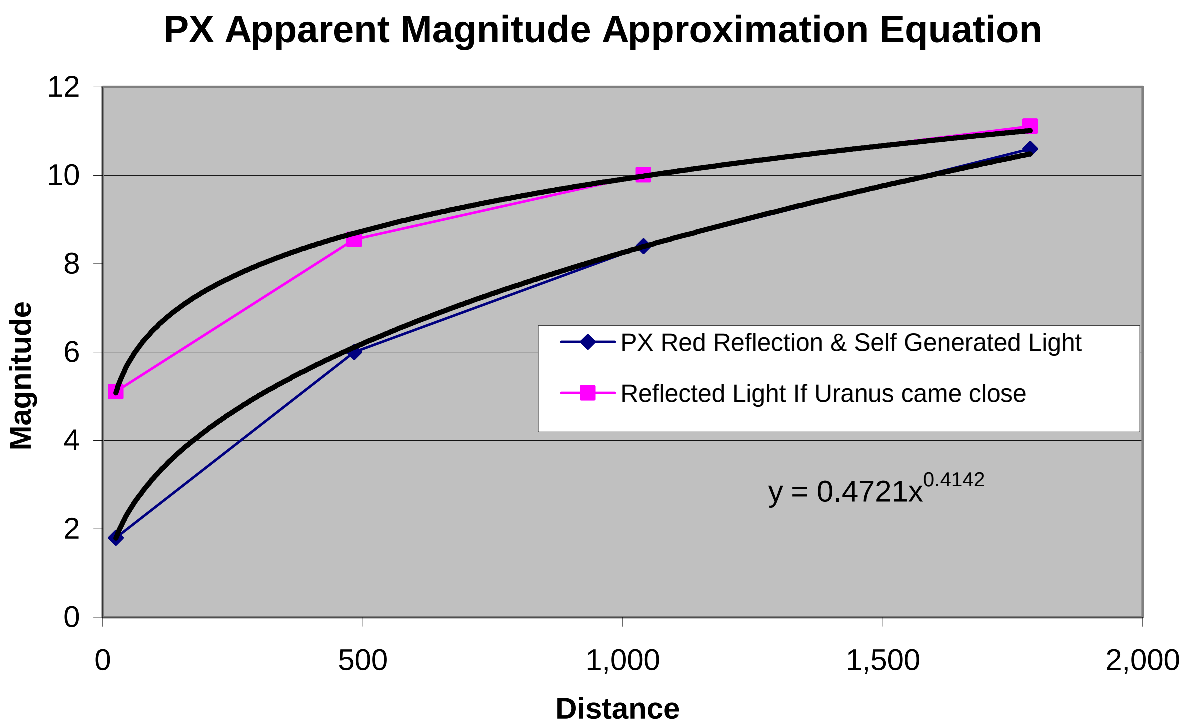
Figure 13 *Venus appears full when it is at its greatest distance from Earth, on the opposite side of the Sun from us (superior conjunction). As its distance decreases, less and less of its sunlit side becomes visible. When it is closest to Earth, it lies between us and the Sun (inferior conjunction), so we cannot see the sunlit side of the planet at all. Venus appears brightest when it is about 39° from the Sun.*

The Phases of Venus

http://lifeng.lamost.org/courses/astrotoday/CHAISSON/AT309/HTML/AT30901.HTM

Due to the effects noted in figure 13 no attempt was made to estimate magatude much after when just visible to naked eye.

Now the Zeta's have said that PX will be visible to the naked eye about 7.3 weeks before the Pole Shift. Thus from the above table 6 of visibility, PX would have to be +3.0 or greater in magnitude at this number of weeks before the Pole Shift.



The above graph shows the best fit equation for the limited Zeta data we have on Zeta Magnitude. It ramps up faster as distance gets closer than it would if only due to reflection. Thus it is believed to take into account both reflection and self generated light. At any rate take the estimates of relative magnitude as being only a very rough conservative estimate from the human eye light visible range capabilities based on distance. Instruments that measure infrared light will show it having a much higher magatude.

The visibility of astronomical objects is strongly affected by light pollution. Even a few hundred kilometers away from a metropolitan area where the sky can appear to be very dark, it is still the residual light pollution that sets the limit on the visibility of faint objects. For most people, this is likely to be the best observing conditions within their reach. Under such "typical" dark sky conditions, the naked eye can see stars with an apparent magnitude up to $+6^m$. Under perfect dark sky conditions where all light pollution is absent, stars as faint as $+8^m$ might be visible. http://en.wikipedia.org/wiki/Naked_eye

7) Applying all these conversion formulas to the original 2003 Zeta coordinates to get a useful final result that can be looked up in sky view to indicate when and where to look.

See Appendix I and II table 1 and 2. These two tables give the final resulting corrected coordinates for any given date.

For those used to using MKS system:

1 Million Miles = 1609344 km
1 Million Miles/Day = 18.62667 km/sec

Coordinate variance as noted by Zetas

ZetaTalk™ in Variance Window .4 RA and .9 Dec

This would be (.4/24)360 = 6 degrees for RA and .9 degrees for Dec. This variance includes a possible slower rate along the path than would be assumed and a path other than a smoothed or curved path between points.

With all of the corrections that have been needed between Zeta Coordinates and commonly used Astronomical coordinate it will be surprising if the final result once PX is found that this report calculated results will be within 1 hour angle RA and Dec to be within 8 degrees. Every attempt was made to be as accurate as possible within current understanding and capabilities.

The following links can be used to determine your sky view for any date.
http://www.fourmilab.ch/cgi-bin/Yourtel
http://www.fourmilab.ch/yoursky/help/telcontrols.html
For any given sky view of stars, date and time make little difference only RA (hour) and Dec (deg) makes a difference. For location of planets, moon and the Sun date and time does make a big difference. The greatest Dec difference in ecliptic and celestial equator intersecting planes is at 18 and 6 hour angle and is 23.4 degrees. The minimum Dec difference in the two planes is at 0 and 12 hour angle direction is zero degrees.

Astronomical Twilight Starts/Ends

Astronomical twilight is the period when the center of the Sun is between 12 and 18 degrees below the horizon. It starts at astronomical dawn, early in the morning when the Sun is higher than 18 degrees below the horizon. From this point, it will be difficult to observe certain faint stars, galaxies, and other objects because the Sun starts to illuminate the sky. Astronomical twilight ends at astronomical dusk in the late evening, when those faint objects again can be visible because the Sun is lower than 18 degrees below the horizon. In locations north of 48°24' N or south of 48°24', it never gets darker than this near the middle of the summer solstice (June or December).

Technically, the start and end times are when the true geocentric position of the Sun is 108 degrees from the zenith position, or directly above the observer.

Astronomical twilight is the period when the center of the Sun is between 12 and 18 degrees below the horizon.

PX will not be visible in the night sky for a little more than a month each year. 2*18 = 36 deg or about 37 days during the year when PX would not be visible due to sun being in the way of viewing it.

For a PS date of 17 Dec 2014 best night viewing is between 5 Jan to 28 Nov for each year.

For a PS date of 12 Aug 2016 best night viewing is between 31 Aug to 31 Dec and1 Jan to 24 July for each year.

Summary: Appendix III gives the calculations and considerations. Appendix I and II gives the final results of where and when to look for PX.