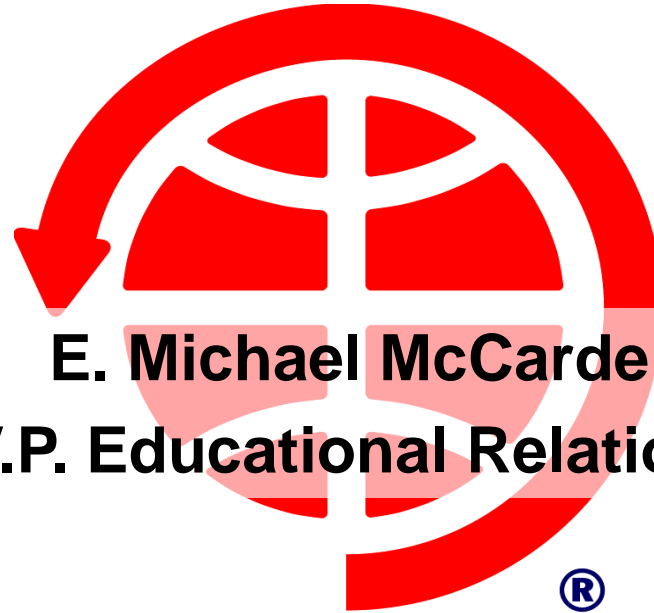




The Radio Amateur Satellite Corporation



**E. Michael McCardel
V.P. Educational Relations**

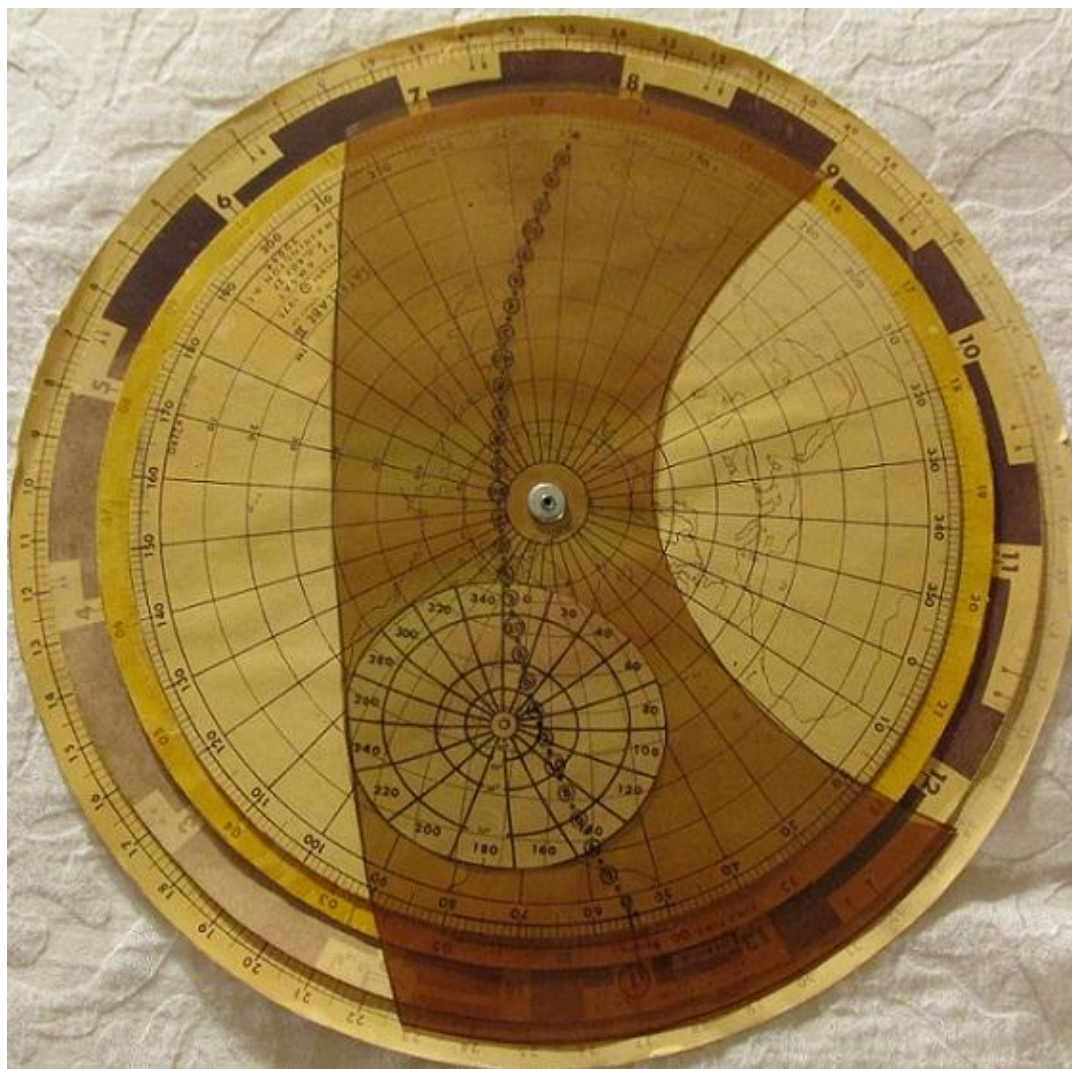
AMSAT

Satellite Tracking

ARRL Centennial Training Tracks

17 July 2014

Satellabe



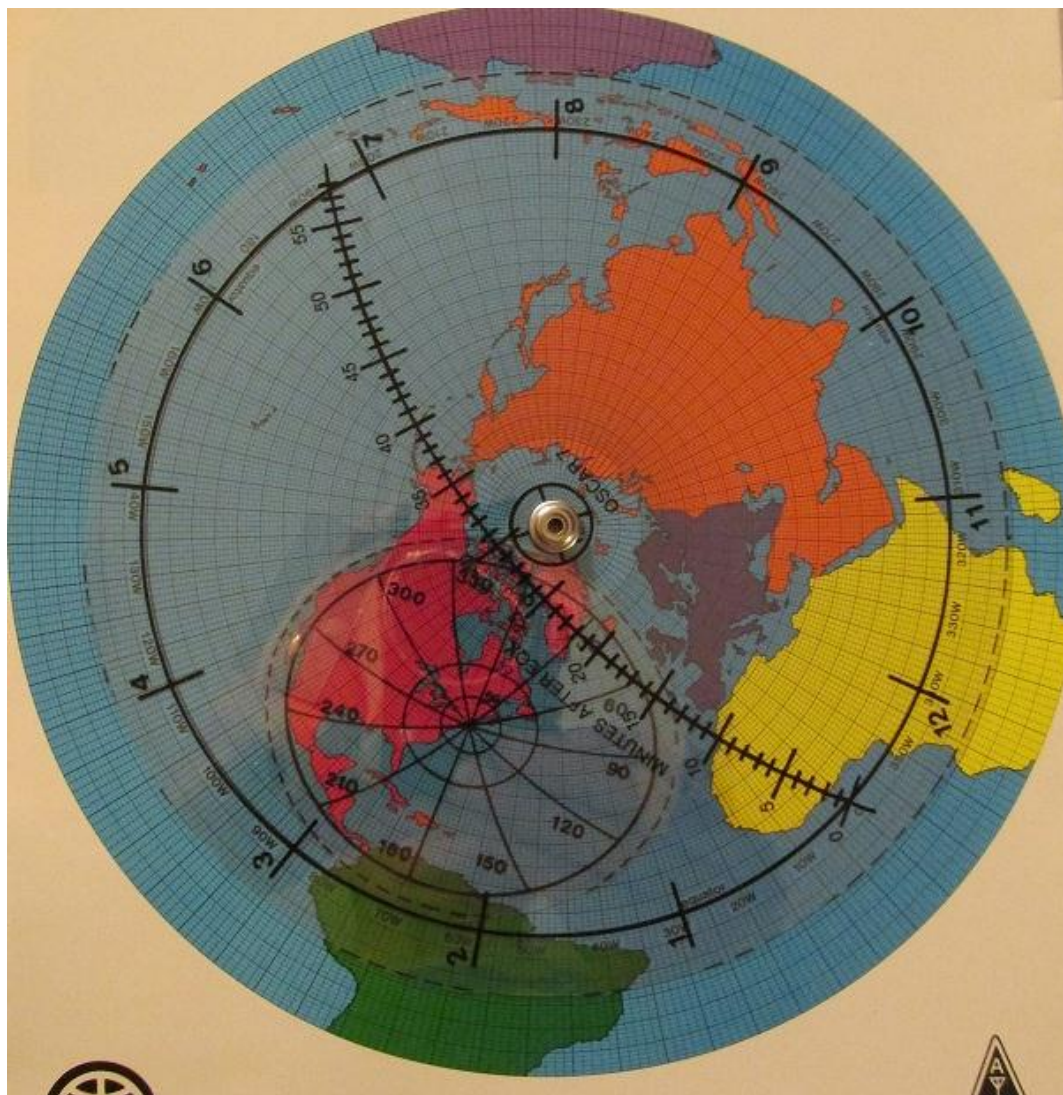


EQX - Equatorial Crossing

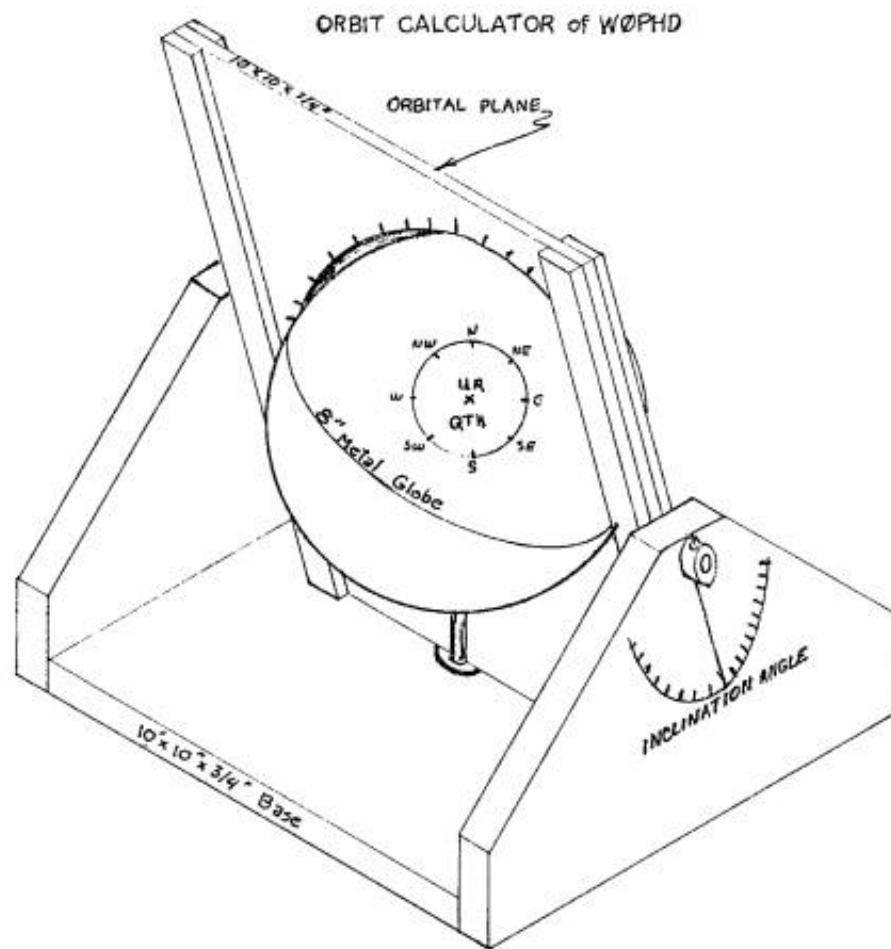
T= 114.9944 L'= 28.7486
 OFV DATE TIME Z LONG W

2096	APR	1	0138.2	72.1	2471	MAY	1	0021.1	52.8
2108	APR	2	0038.1	57.1	2484	MAY	2	0116.1	66.5
2121	APR	3	0133.0	70.8	2496	MAY	3	0016.0	51.5
2133	APR	4	0033.0	55.8	2509	MAY	4	0110.9	65.2
2146	APR	5	0127.9	69.5	2521	MAY	5	0010.8	50.2
2158	APR	6	0027.8	54.5	2534	MAY	6	0105.8	63.9
2171	APR	7	0122.8	68.2	2546	MAY	7	0005.7	48.9
2183	APR	8	0022.7	53.2	2559	MAY	8	0100.6	62.6
2196	APR	9	0117.6	66.9	2571	MAY	9	0000.6	47.6
2208	APR	10	0017.6	51.9	2584	MAY	10	0055.5	61.3
2221	APR	11	0112.5	65.6	2597	MAY	11	0150.4	75.1
2233	APR	12	0012.4	50.6	2609	MAY	12	0050.4	60.1
2246	APR	13	0107.4	64.3	2622	MAY	13	0145.3	73.8
2258	APR	14	0007.3	49.3	2634	MAY	14	0045.2	58.8
2271	APR	15	0102.2	63.1	2647	MAY	15	0140.2	72.5
2283	APR	16	0002.2	48.0	2659	MAY	16	0040.1	57.5
2296	APR	17	0057.1	61.8	2672	MAY	17	0135.0	71.2
2309	APR	18	0152.0	75.5	2684	MAY	18	0035.0	56.2
2321	APR	19	0051.9	60.5	2697	MAY	19	0129.9	69.9
2334	APR	20	0146.9	74.2	2709	MAY	20	0029.8	54.9
2346	APR	21	0046.8	59.2	2722	MAY	21	0124.7	68.6
2359	APR	22	0141.7	72.9	2734	MAY	22	0024.7	53.6
2371	APR	23	0041.7	57.9	2747	MAY	23	0119.6	67.3
2384	APR	24	0136.6	71.6	2759	MAY	24	0019.5	52.3
2396	APR	25	0036.5	56.6	2772	MAY	25	0114.5	66.1
2409	APR	26	0131.5	70.4	2784	MAY	26	0014.4	51.0
2421	APR	27	0031.4	55.3	2797	MAY	27	0109.3	64.7
2434	APR	28	0126.3	69.1	2809	MAY	28	0009.3	49.7
2446	APR	29	0026.3	54.0	2822	MAY	29	0104.2	63.5
2459	APR	30	0121.2	67.8	2834	MAY	30	0004.1	48.5
					2847	MAY	31	0059.1	62.2

OSCAR-Locator



OSCAR Satellite Tracker





AMSAT Online Satellite Pass Predictions

AMSAT - AMSAT Online

www.amsat.org/amsat-new/tools/predict/

Apps NWS - National Mos... Gmail - mcardelm... Satellites GMAIL Big Club List Facebook E Michael Imported From Firef... The ANS Archives Other bookmarks

 **AMSAT**TM
AMSAT Online Satellite Pass Predictions

10605 Concord St, #304
Kensington, MD 20895
1-888-322-6728

AMSAT Online Satellite Pass Predictions

Please select a [satellite](#) and provide your latitude, longitude and elevation or calculate them from your [grid square](#). If you choose we will save your [position information](#) in a cookie on your system for [future predictions](#).

Show Predictions for:	AO-07	▼	for Next	10	▼	Passes
Calculate Latitude and Longitude from Gridsquare:	<input type="text"/>	Calculate Position				
Or						
Enter Decimal Latitude:*	<input type="text"/>	North ▼				
Enter Decimal Longitude:*	<input type="text"/>	West ▼				
Elevation (Metres):	<input type="text"/>					
Predict						
<input type="checkbox"/> Save my location for later use						

9:57 AM
7/15/2014



<http://www.heavens-above.com/>

ISS - All Passes

Search period start: 15 July 2014 00:00
 Search period end: 25 July 2014 00:00
 Orbit: 413 x 420 km, 51.6° (Epoch: 15 July)

Passes to include: visible only all

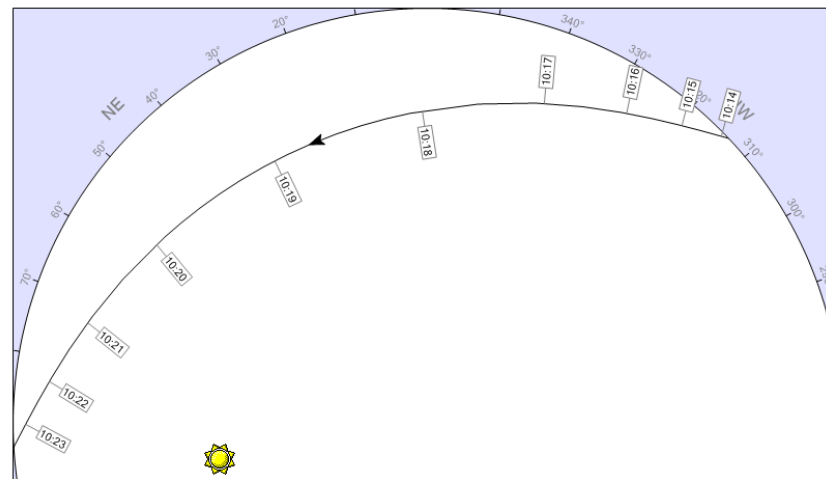
Click on the date to see the [ground](#) track during the pass.

Date	Brightness (mag)	Start			Highest point			End			Pass type
		Time	Alt.	Az.	Time	Alt.	Az.	Time	Alt.	Az.	
15 Jul	-	05:23:20	10°	SSW	05:26:27	37°	SE	05:29:35	10°	ENE	visible
15 Jul	-	07:00:14	10°	W	07:03:14	30°	NNW	07:06:15	10°	NE	daylight
15 Jul	-	08:39:07	10°	NW	08:40:49	13°	N	08:42:30	10°	NNE	daylight
15 Jul	-	10:16:28	10°	NNW	10:18:38	16°	NNE	10:20:47	10°	NE	daylight
15 Jul	-	11:52:38	10°	NW	11:55:57	54°	NNE	11:59:15	10°	ESE	daylight
15 Jul	-	13:30:09	10°	W	13:32:24	17°	SW	13:34:38	10°	S	daylight
16 Jul	-	04:35:31	10°	S	04:38:07	21°	SE	04:40:44	10°	E	visible
16 Jul	-	06:11:26	10°	WSW	06:14:40	44°	NNW	06:17:55	10°	NE	daylight
16 Jul	-	07:50:04	10°	NW	07:52:04	15°	NNW	07:54:04	10°	NNE	daylight
16 Jul	-	09:28:05	10°	NNW	09:29:54	14°	N	09:31:42	10°	NE	daylight
16 Jul	-	11:04:17	10°	NW	11:07:24	34°	NNE	11:10:30	10°	E	daylight
16 Jul	-	12:41:07	10°	WNW	12:44:05	29°	SW	12:47:02	10°	SSE	daylight
17 Jul	-	03:48:27	10°	SSE	03:49:49	12°	SE	03:51:12	10°	ESE	visible
17 Jul	-	05:22:47	10°	WSW	05:26:08	75°	NW	05:29:30	10°	NE	visible
17 Jul	-	07:00:57	10°	WNW	07:03:20	18°	NNW	07:05:43	10°	NNE	daylight

ISS - Pass Details

[Home](#) | [Ground track](#) | [Info.](#) | [Orbit](#) | [Close encounters](#)

Click on the chart to [zoom](#) in on that part of the sky






Satellite Related Software

<http://www.amsat.org/amsat-new/tools/software.php>

<http://tinyurl.com/amsat-sattrack>



Satellite Related Software

Software is an integral part of the amateur satellite experience, and provides services from predicting satellite pass, steering antennas and tuning radios. Some software is available from AMSAT, other software is available from the vendor site. In either case we have done our best to make sure the following links point to the most recent version.

We request that you order through the AMSAT Store when purchasing. If you [purchase](#) your software from AMSAT you are helping to fund future AMSAT activities.

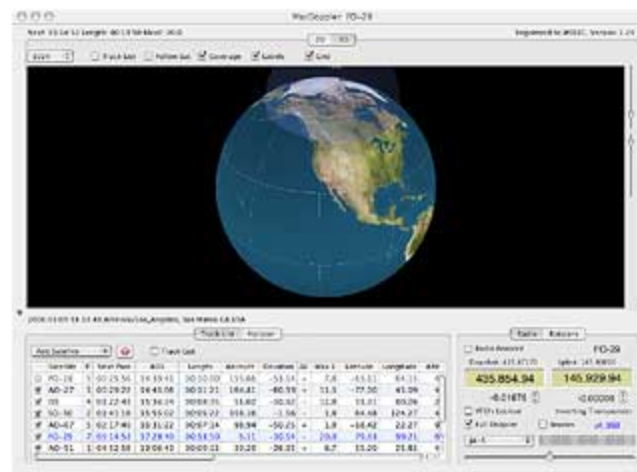
The following software is recommended for current personal [computer systems](#). If you do not find your platform or program here, please go to our [Software Archive](#). If you believe there is a package that should be listed here, please [contact the web team](#).

- [Professional Tracking Software](#)
- [Shareware/Freeware Tracking Software](#)
- [Packet Station Software](#)

If you are looking for satellite pass predictions online, also visit the [AMSAT Online Satellite Pass Prediction](#) page.

Professional Tracking Software For Purchase

- Professional features intended for serious satellite users
- [Satellite tracking](#) and prediction
- Antenna steering through popular interfaces
- Radio tuning with automatic Doppler correction
- Simulations and graphical interfaces
- Extensive documentation and vendor support



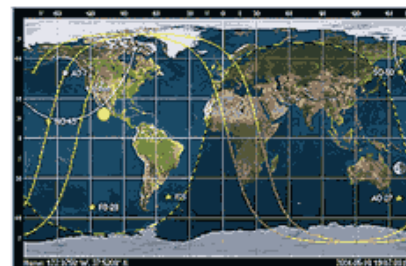
Package	Platform	Publisher	Download	License*	Member Price	Purchase
MacDoppler	Mac OS 10.4, 10.5	Dog Park Software	Demo	\$100	\$80	>Purchase
Nova for Windows	Windows	Northern Lights Software Assoc.	Demo	\$60	\$50	Purchase
SatPC32	Windows	DK1TB	Demo	\$50	\$45	Purchase
SCRAP	Windows	Bytheway SDL	Demo	\$60	\$50	Purchase
InstantTrack	DOS	Paul Williamson, KB5MU	Demo	\$50	\$30	Purchase

*Prices shown are US Dollars. AMSAT members pay the License fee minus the Member Discount. Proof of membership is required.

Sharware and Open Source Tracking Software

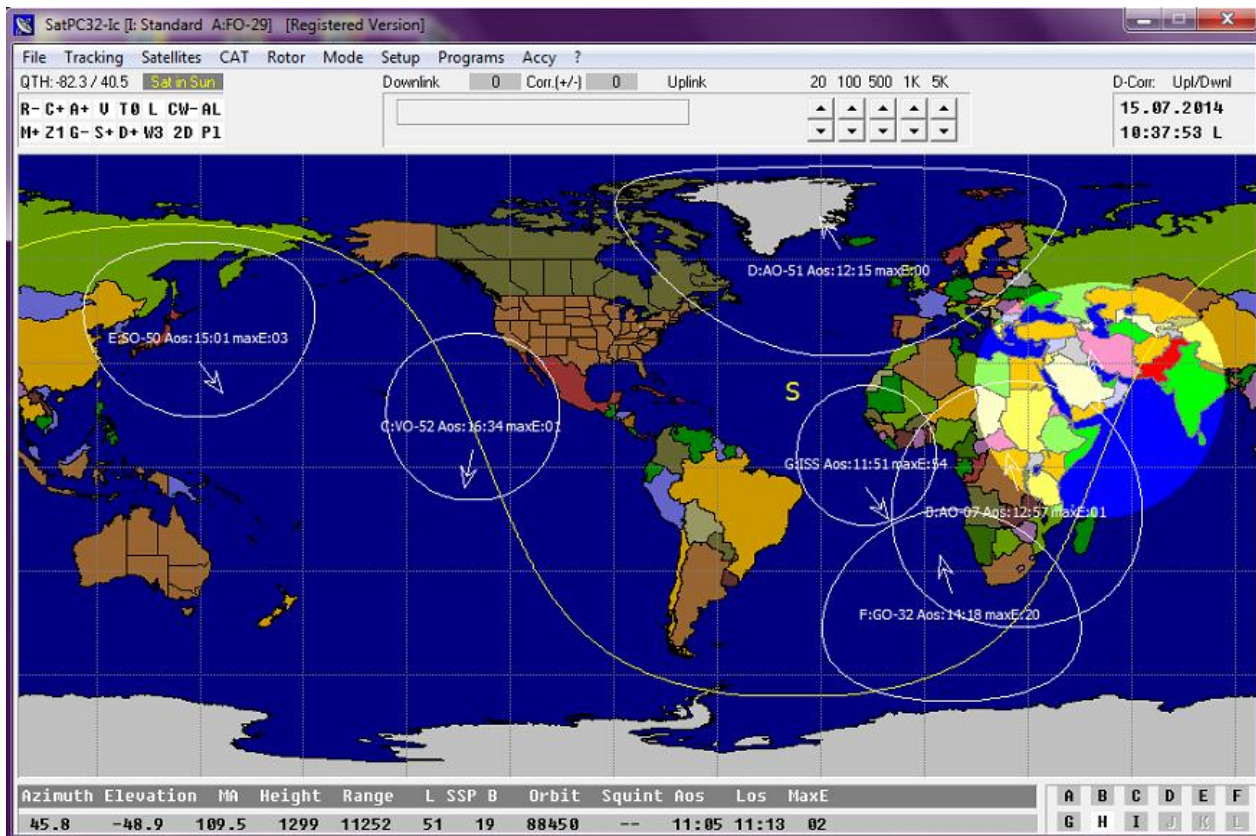
Tracking Programs - Shareware or Open Source

- Features more geared to beginners
- Satellite tracking and prediction
- Simulations and graphical interfaces available
- Generally no antenna steering
- Generally Radio tuning
- Minimal documentation and forum support



Package	Platform	Publisher	Download	License	Limitation
Orbitron	Windows	Sebastian Stoff	Download	Cardware	None
SatScape	Windows	Scott Hather	Download	Freeware (accepts donations)	Non-Commercial
Predict	OSX, Linux , SunOS and Windows	John A. Magliacane, KD2BD	Linux Windows	GPL	GNU Public License
Portable Predict+	OSX, Linux, SunOS and Windows	John A. Magliacane, KD2BD	Linux Windows	GPL	GNU Public License
PetitTrack	Embedded Linux	Edson Pereira, N1VTN	Download	GPL	GNU Public License
PocketSat+	PalmOS, WindowsCE 3.0	Big Fat Tail Productions	Download	Shareware	3 Second Update
Tracksat	WindowsCE 3.0	Andy Davidson ZL3AD	Download	Shareware	Non-Commercial
SAT EXPLORER	Windows	Gabriel Rivat F6DQM	Download	<u>"free software"</u>	
Gpredict	Linux, Mac OS X, Windows	Alexandru Csete, OZ9AEC	Download	GPL	GNU Public License

SatPC32



CountDown

Satellite	AOS/LOS	maxE
H AO-73	00:02	08
A FO-29	00:23	02
G ISS	01:08	51
D AO-51	01:32	00
B AO-07	02:15	01
F GO-32	03:35	20
E SO-50	04:18	03
C VO-52	05:51	01

Open Window at Program Start

Sort Satellites by

- Ident Letters
- AOS/LOS Times

Minimum Elevation: 0

OK

Observer 2

Az:43.0 El:48.2 Rge:11177 Sq:--

Locator (4 or 6 digits) e192sd

Remove Cancel OK



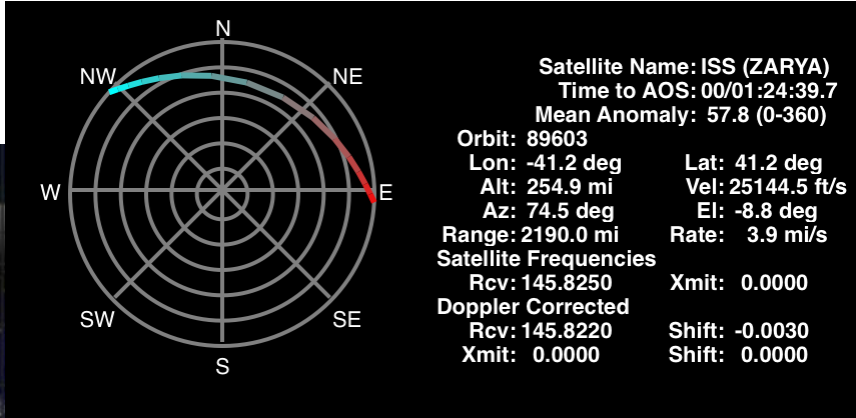
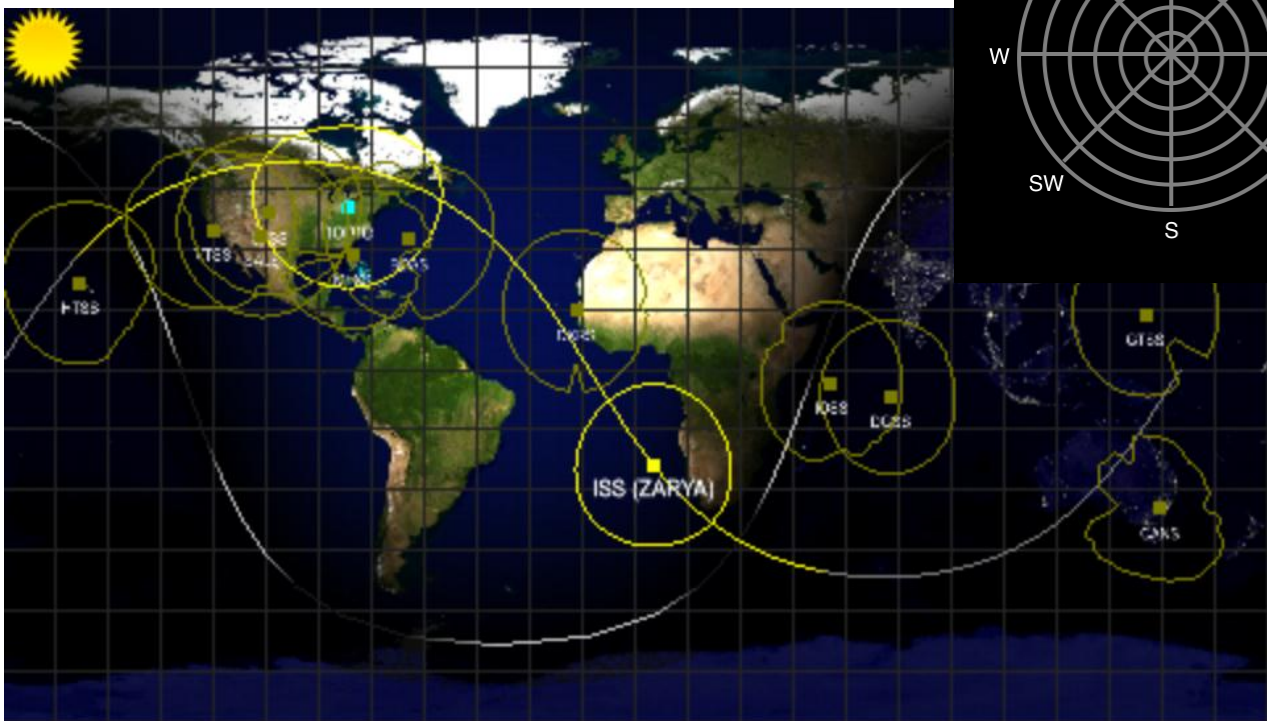
SatPC Demo Points

Demonstration of SatPC32

- Set-up
- Observer site
- GUI Options
- Speech
- Radio
- Rotor
- Imbedded Programs
- WinAOS
- WinListen
- Shortcuts
- Windows Explorer
- Notepad
- Accessory Sub Apps
- Countdown
- 2nd Observer
- Choosing Satellites to display
- Importing Keps
- Choosing Sats to Track
- Walk through Display Scenarios
- Planning a tracking session
- WinAOS
- WinListen
- Tracking Real Time
- Running in Preview mode
- Using SATPC32 to control Radio
- Using SATPC32 to control Rotor



HamSat for iPhone





HamSat Demo Points

Demonstration o HamSat for the iPhone

- Setup
- Set Viewing Information
- GUI Preferences
- Override System Time
- 2D vs 3D mode (Device Orientation)
- Selection a satellite for tracking and information
- Track Plot
- Overflight Information
- Satellite Management
- Updating Keps
- Manual Entering Keps
- Selecting Satellites
- What's UP?



Training Track Files

http://www.amsat.org/?page_id=2914



AMSAT Presentations at the 2014 ARRL Centennial

[AMSAT](#) members will be making presentations at the ARRL Centennial. As they become available, we will be posting them here for download and viewing. Please be patient!



HELP!

E. Mike McCardel
kc8yld@amsat.org