Radio Meets Internet

Steven F. Goldberg, W3SFG

Radio Meets Internet
Series Outline

- Part 1: Internet Operating Aids

- Part 2: Survey of Digital Operating Modes

- Part 3: Internet Resources and Databases

- Part 4: Software Applications
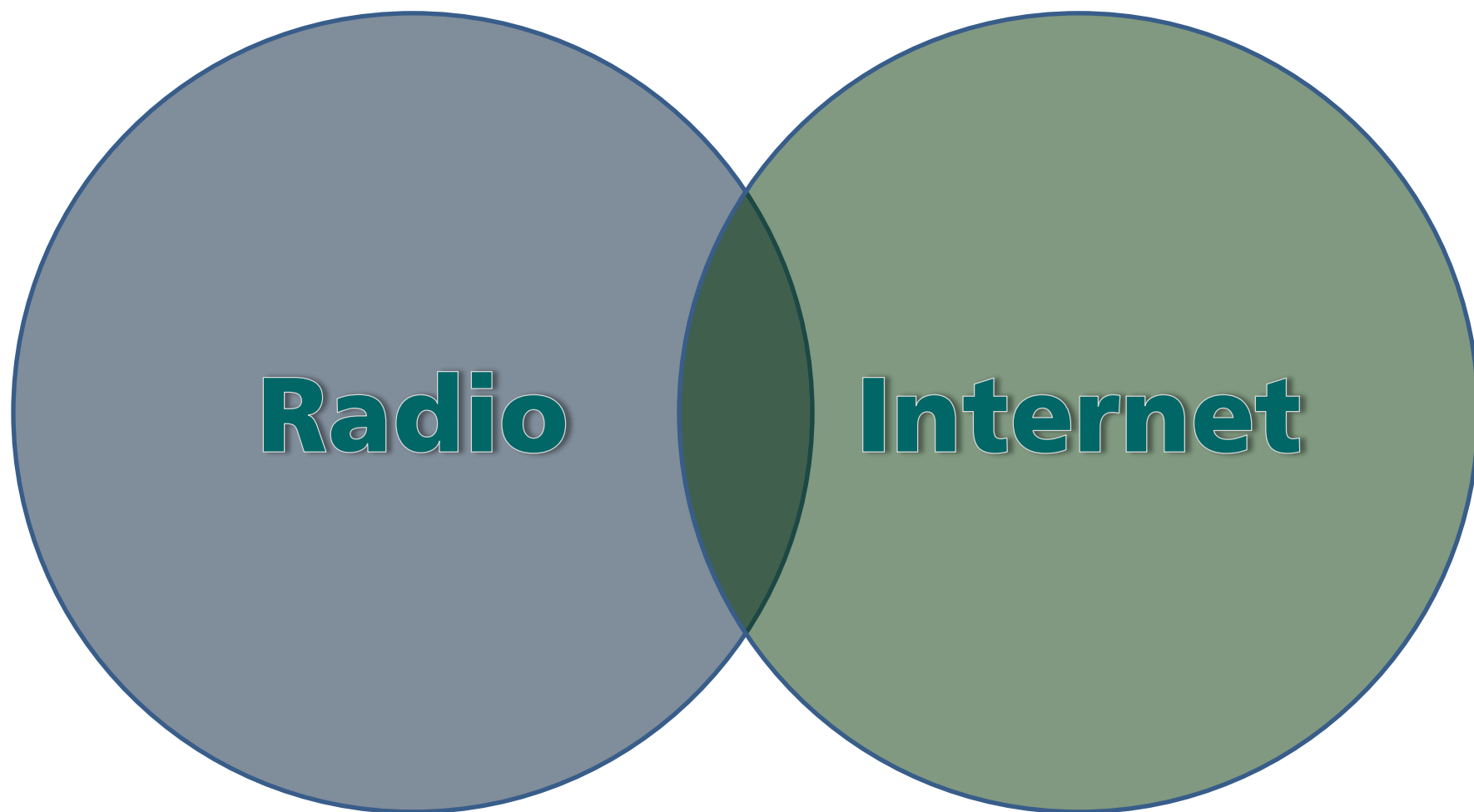
Radio Meets Internet
Introduction
Venn and the Art of Communications

Steven F. Goldberg, W3SFG

The Intersection

Communication Modes

- Wireless
- Analog / Digital
- Voice, Text, Data, Video
- Bandwidth = Frequency Spectrum
- Public
- Dependencies: Propagation, Equipment
- Two-way
- Synchronous
- Regulated / License Required
- Plagued by trolls and crackpots

- Wired backbone, wireless access
- Digital
- Voice, Text, Data, Video, GUI
- Bandwidth = Bit Rate / Channel Capacity
- Public or private (encryption)
- Dependencies: Access, Software
- Store and Retrieve / Interactive / Streaming
- Asynchronous / Synchronous
- Unregulated / Self-organizing Chaos
- Plagued by trolls and crackpots

The Intersection

- Internet-enhanced Radio Operation

- Internet / Radio Networks

- Digital Operating Modes

- Resources and Databases

- Software Applications (including Mobile)

- Other?

Radio Meets Internet
Part 1: Internet Operating Aids

Steven F. Goldberg, W3SFG

Outline

- Propagation Data and Prediction
- Spotting Networks
- Callsign Lookup / Mapping
- Logging / QSL
- Net Control
- Wide Area Network
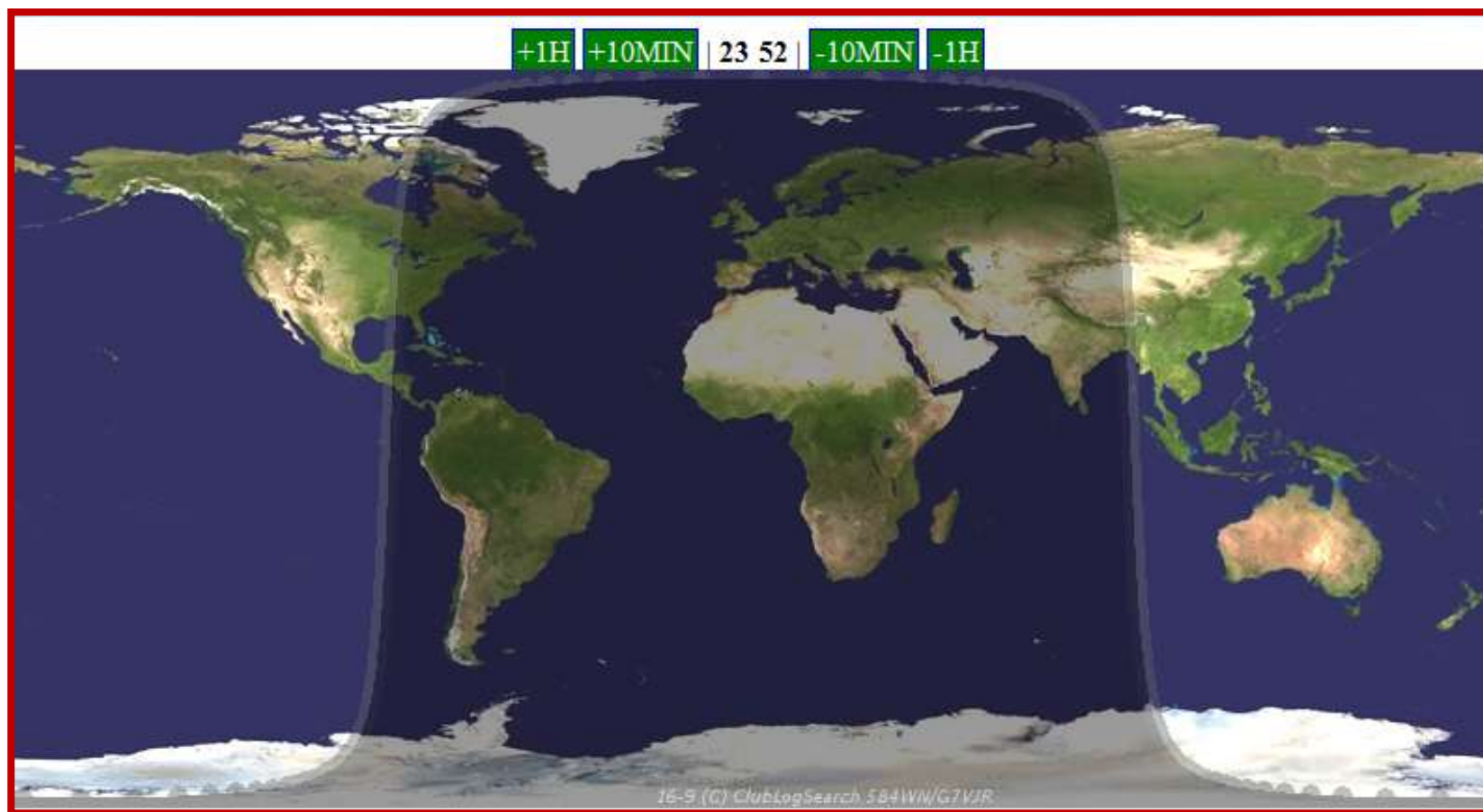- Real-time Streaming
- Satellite Tracking
- Remote Control

Propagation Data / Prediction

spaceweather.com

Propagation Data / Prediction

Radio Meets Internet

Propagation Data / Prediction

On 15m ▼, show signals ▼ sent by ▼ the callsign ▼ n1cl using all modes ▼ over the last 15 minutes ▼

Go! Display options Permalink Manage N1CL

Monitoring N1CL (last heard 4 mins ago). Automatic refresh in 5 minutes. Reception reports for N1CL are shown as times (show logbook).
There are 89 active monitors on 15m. Show all on all bands. Legend

Map | Satellite

Rx at Sun, 16 Sep 2012 23:57:49 GMT
From N1CL by JA8IDS Loc QN02TT
Frequency: 21.076 MHz (15m), JT65
Distance: 7063 kms bearing 305°

pskreporter.info

Propagation Data / Prediction
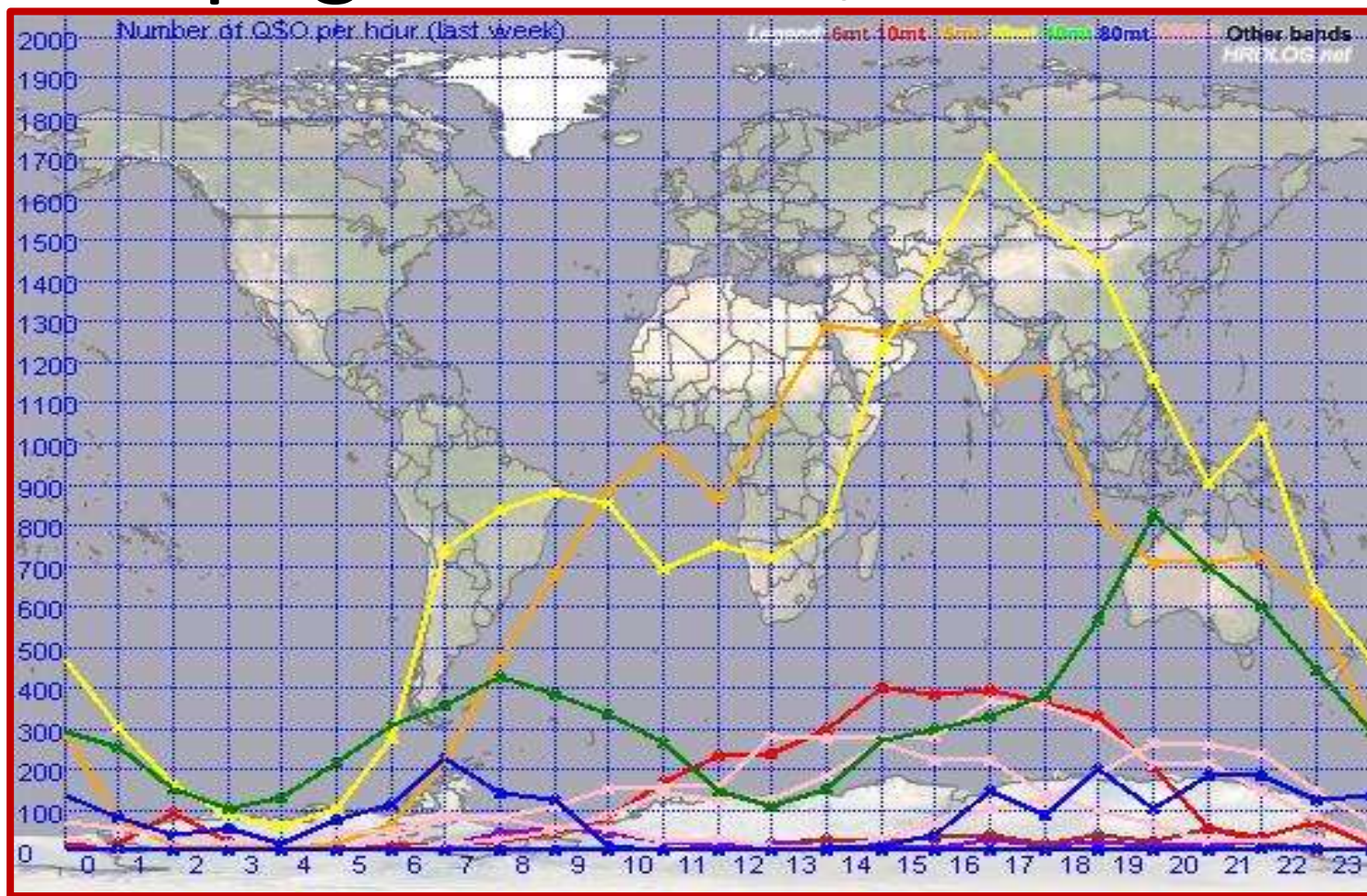
hrdlog.net

Spotting Networks

dxsummit.fi

Callsign Lookup

qrz.com

Callsign Lookup

qrzcq.com

Logging / QSL

hrdlog.net

Logging / QSL

p1k.arrl.org/lotwuser

Logging / QSL

eqsl.cc

Net Control

netlogger.org

Wide Area Network
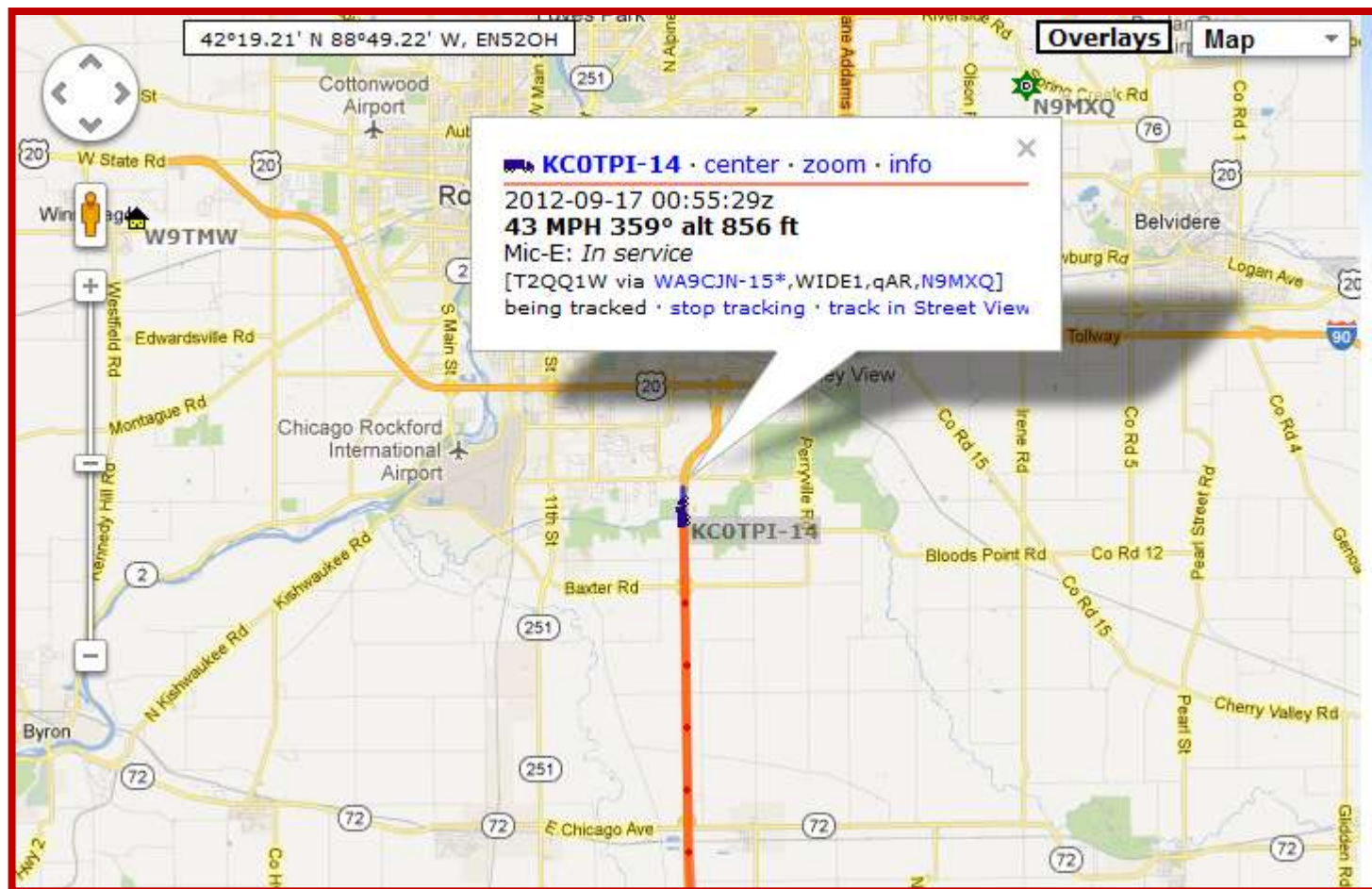
aprs.fi
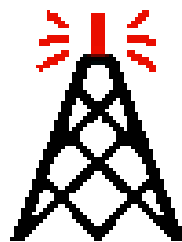
Wide Area Network

dstarinfo.com / echolink.org / irlp.net

Wide Area Network

hamsphere.com / qsonet.com

Real-time Streaming

A WebSDR is a Software-Defined Radio receiver connected to the internet, allowing many listeners to listen and tune it simultaneously. SDR technology makes it possible that all listeners tune independently, and thus listen to *different* signals; this is in contrast to the many classical receivers that are already available via the internet.

More background information is available here and frequently asked questions are answered here. Questions and comments can be sent to PA3FWM, the author of the WebSDR software and maintainer of this site.

WebSDR servers can register themselves automatically on this site, leading to the below list of currently active WebSDR servers.

Currently there are 42 servers active, with 102 users and 40994 kHz of radio spectrum.

Filter band: Any ▾ and region: Any ▾

Location and URL	Frequency range	Antenna	
WebSDR at the University of Twente, Enschede, NL http://websdr.ewi.utwente.nl:8901/ JO32KF; 19 users	0.000 - 29.160 MHz	Mini-Whip	①
WebSDR from Weert, The Netherlands http://www.nachtuilen.net/ JO21UG; 12 users	3.591 - 3.783 MHz	Wellbrook loop	②
	7.008 - 7.200 MHz		
W4AX Softrock 160, 80, 40, and 20M. Atlanta, GA, USA http://W4AX.com/ EM74uc; 32 users	1.799 - 1.991 MHz	Inverted L at 100 ft.	③
	3.549 - 3.741 MHz		
	3.744 - 3.936 MHz	Clifton Labs Active Antenna and Norton Preamp	
	7.018 - 7.210 MHz		

websdr.org

Real-time Streaming
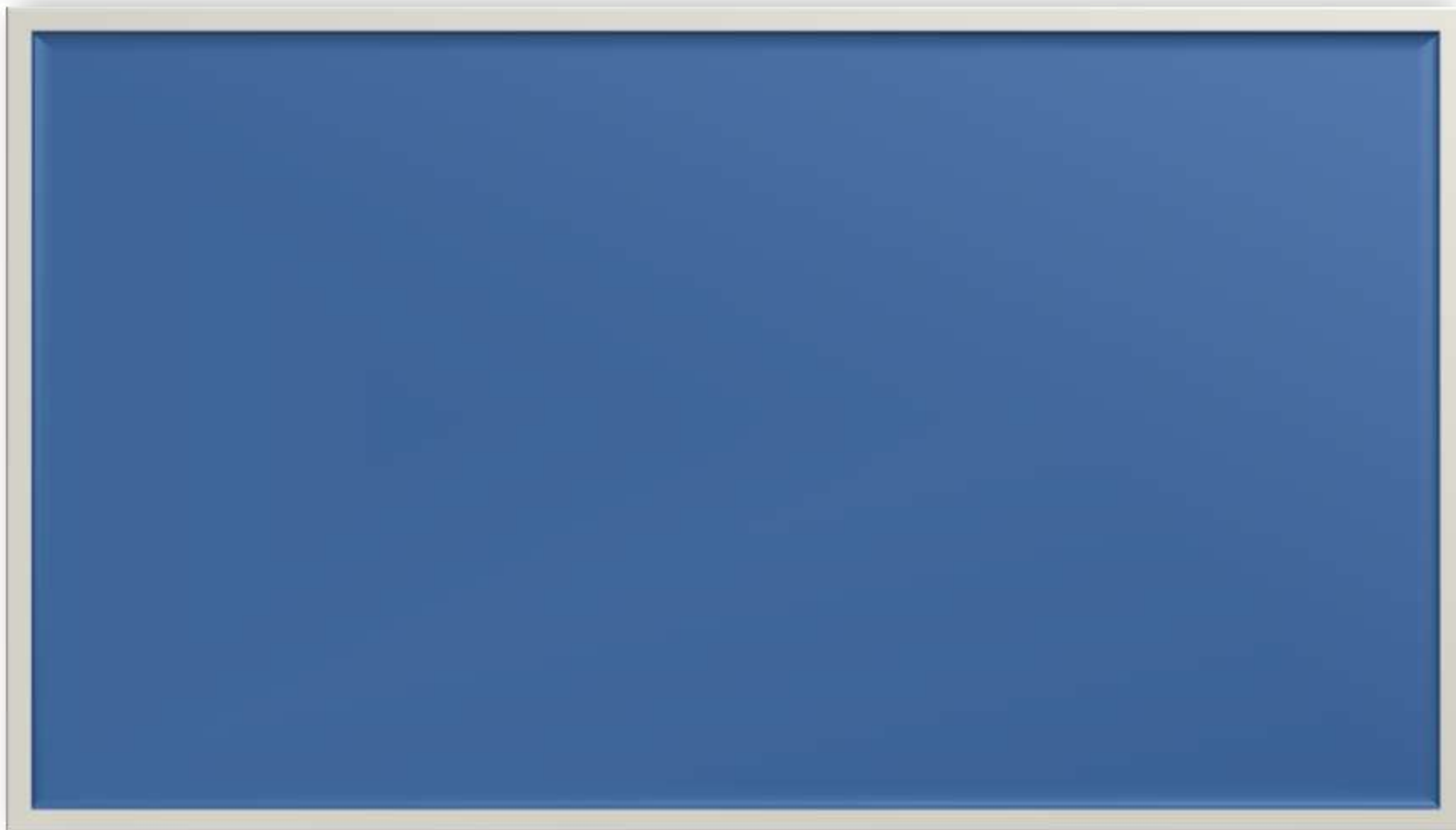
Satellite Tracking

AO-Echo - Visible Passes

Search period start: 16 September 2012 00:00
Search period end: 26 September 2012 00:00
Location: Frederick, MD, 39.4076°N, 77.4344°W
Orbit: 695 x 815 km, 98.2° (Epoch: 16 September)

Passes to include: ○ visible only ○ all

Click on the date to get a star chart and other pass details.

Date	Brightness (mag)	Start			Highest point			End		
		Time	Alt.	Az.	Time	Alt.	Az.	Time	Alt.	Az.
16 Sep	?	04:17:59	10°	NNE	04:22:31	60°	E	04:22:31	60°	E
16 Sep	?	05:58:33	10°	NNW	06:00:58	14°	WNW	06:02:30	12°	W
17 Sep	?	03:39:02	10°	NE	03:42:16	23°	E	03:42:16	23°	E
17 Sep	?	05:17:27	10°	N	05:21:39	33°	WNW	05:22:14	32°	W
18 Sep	?	04:37:23	10°	NNE	04:41:59	83°	NW	04:41:59	83°	NW
19 Sep	?	03:57:59	10°	NNE	04:01:44	35°	E	04:01:44	35°	E
19 Sep	?	05:37:23	10°	NNW	05:40:57	22°	WNW	05:41:43	21°	W
20 Sep	?	03:19:47	10°	ENE	03:21:30	14°	E	03:21:30	14°	E

heavens-above.com

Remote Control

Radio Meets Internet

Radio Meets Internet