Barry A. Baines WD4ASW
President

2012 Annual Meeting @ Orlando, FL
October 27, 2012
<table>
<thead>
<tr>
<th>Year</th>
<th>Name</th>
<th>Call Sign</th>
<th>City, State</th>
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<tr>
<td>2013</td>
<td>Barry Baines</td>
<td>WD4ASW</td>
<td>Westborough, MA</td>
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<td>2013</td>
<td>Alan Biddle</td>
<td>WA4SCA</td>
<td>Franklin, TN</td>
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<td>2013</td>
<td>Drew Glasbrenner</td>
<td>KO4MA</td>
<td>New Port Richey, FL</td>
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<td>2013</td>
<td>Tony Monteiro</td>
<td>AA2TX</td>
<td>N. Andover, MA</td>
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<td>2014</td>
<td>Tom Clark</td>
<td>K3IO</td>
<td>Clarksville, MD</td>
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<td>2014</td>
<td>Lou McFadin</td>
<td>W5DID</td>
<td>Orlando, FL</td>
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<td>2014</td>
<td>Gould Smith</td>
<td>WA4SXM</td>
<td>Knoxville, TN</td>
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<td>Alternate</td>
<td>Mark Hammond</td>
<td>N8MH</td>
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<td>Patrick Stoddard</td>
<td>WD9EWK</td>
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# Senior Leadership Team

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<tr>
<th>Position</th>
<th>Name</th>
<th>Location</th>
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<tbody>
<tr>
<td>President</td>
<td>Barry Baines, WD4ASW</td>
<td>Westborough, MA</td>
</tr>
<tr>
<td>Executive VP</td>
<td>OPEN</td>
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<tr>
<td>VP Operations</td>
<td>Drew Glasbrenner, KO4MA</td>
<td>New Port Richey, FL</td>
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<tr>
<td>VP Engineering</td>
<td>Tony Monteiro, AA2TX</td>
<td>N. Andover, MA</td>
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<tr>
<td>VP User Services</td>
<td>Gould Smith, WA4SXM</td>
<td>Knoxville, TN</td>
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<tr>
<td>VP Marketing</td>
<td>OPEN</td>
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<tr>
<td>VP Human Space Flight</td>
<td>Frank Bauer, KA3HDO</td>
<td>Silver Spring, MD</td>
</tr>
<tr>
<td>Secretary</td>
<td>Alan Biddle, WA4SCA</td>
<td>Franklin, TN</td>
</tr>
<tr>
<td>Treasurer</td>
<td>Keith Baker, KB1SF/VA3KSF</td>
<td>Corunna, ON</td>
</tr>
<tr>
<td>Manager</td>
<td>Martha Saragovitz</td>
<td>Silver Spring, MD</td>
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AMSAT’s Mission Statement

As of 21-Feb-04

AMSAT designs, builds and operates experimental satellites and promotes space education.

» Focus is on coverage and availability

Partnerships

» NASA, ARISS – Human Space Flight
» Education: Foundations, Universities
» LEO satellite projects and education outreach

Technical and scientific innovation

Training and development

» Designers and Operators.
Overview

AMSAT’s Vision Statement

As of 24 OCT 08

- Deploy satellite systems
  - Wide area
  - Continuous coverage
- Participation in human space missions
- Support a stream of LEO satellites
  - Developed in cooperation with the educational community and other amateur satellite groups.
Overview

AMSAT’s Vision Statement

To Summarize:

“Keep Amateur Radio in Space”
Summary of 2012 Accomplishments

- Fox Project is on schedule
- Engineering Team Development
- Evolving Partnerships for Launch Opportunities
- Dealing with ITAR-Legislative Interaction
- VP-Education Outreach Appointment
- Development of relationships on Education
- VP-Human Space Flight Appointment
- Implementation of new ARISS School Selection Process
- Re-establishment of AMSAT Store
- Steps taken to “revive” AMSAT Journal
- ANS is a World-class Distributor of Information
The Evolving Relationship with NASA Education

□ ARISS School Contact Selection Process
  » New proposal process for US implemented in Spring 2011
  » NASA ‘Teaching From Space’ actively engaged in evaluating school applications
  » Proposal for a specific six-month window for a school contact
  » Expectations on school education content/plan, including curriculum integration
  » Museums, special events have also been awarded contacts

□ New process took effect for contacts in 2012
  » 1 JAN- 30 JUN 12 was the first period for school contacts under this process/second period of 1 JUL-31 DEC 12 already selected
  » Proposals were submitted by 15 JUL 12 for 1 NOV-30 APR 2013 selection
  » 121 Inquiries/24 Organizations Submitted Proposals/11 were selected
The Evolving Relationship with NASA Education

- New process reflects new priorities
  - ARISS is now more integrated into the NASA Education Portfolio
  - Provides greater support/awareness for the program
  - Instills more consistent standards for school proposal review
  - Simplifies the horizon for when contacts are scheduled/conducted

- Changes also create more potential challenges
  - Integrating amateur radio resources with schools
  - Workload of volunteers-additional Technical Mentors needed
  - May encourage more telebridge contacts than direct contacts

- Appointment of Frank Bauer, KA3HDO as AMSAT VP-Human Space Flight Projects
  - Frank returns after 3-year “hiatus” following his retirement from NASA
  - Frank is providing needed leadership/energy and proper focus on ARISS

- NASA Education 2013 reorganization/budget reduction impacts
Education Outreach

- Appointment of Mark Hammond, N8MH as VP-Educational Relations
  - Reflects need for AMSAT to focus on education as justification for launches/placement of amateur equipment in space
  - Mark is establishing relationships with ARRL and NASA Education
  - Establishing an education team within AMSAT
  - First steps in an evolutionary process of supporting STEM

- Finding new opportunities to bring space communications to the classroom
  - Collaboration with ARRL Education’s Teacher Institute Process
  - Working with educators to develop teacher materials
  - Using ARISSat-1 telemetry archives as an educational tool
  - Finding new mechanisms for demonstrating communications (MAREA)
The Regulatory Environment

ITAR (International Traffic in Arms Regulations) continues to create significant constraints

- Communication satellites specifically placed under ITAR by Congress
- Inability to work with other AMSAT organizations
- AMSAT is a ‘different animal’ in the area of space technology
- University concerns about ITAR
- AMSAT is working hard to place all technology development in the ‘public domain’

2012 AMSAT Symposium Proceedings serves as a print outlet for discussing Fox-1 engineering development

- 155 pages of published material so that presentations may be made
- Highlights the significant development work accomplished
- Allows public discussion (foreign nationals)
Coming to Grips with ITAR

AMSAT is a “Munitions Supplier”
Recent Developments are Encouraging

- H.R. 3288 submitted in November 2011 proposes moving “commercial satellites” (non-military) to Dept. of Commerce Export Arms Regulations (EAR)
- Appointment of Peter Portanova, WB2OQQ as AMSAT’s Congressional Liaison
  - AMSAT has taken steps to bring awareness of ITAR’s impacts
  - During 2012, AMSAT has met with various groups in Washington
  - Growing recognition that amateur radio/university/education satellites should be withdrawn from ITAR (Dept. of State) and placed under EAR (Dept. of Commerce)
  - Risk Assessment of United States Space Export Control Policy
The Departments recommended that the following items are more appropriately designated as dual-use items on the Commerce Control List (CCL) and controlled under the Export Administration Regulations (EAR):

» Satellites that do not contain technologies unique to military applications or critical for maintaining a military edge;

» Communications satellites (COMSATs) that do not contain classified components;

» Remote sensing satellites with performance parameters below certain thresholds; and

» Systems, subsystems, parts and components associated with those satellites.
“1248” is good news for AMSAT

EAR allows for technical interaction with foreign nationals

- Allows information exchanges that took place prior to ITAR/collaboration with foreign nationals
- Removes ITAR accounting/reporting requirements
- Export rules would still apply for physical export of materials
Movement in the House:

» The House Armed Services Committee included an amendment to the National Defense Authorization Act (NDAA) to give power to the President to shift satellites from ITAR to Commerce Control List-CCL (“space export control reform”)

» House approved NDAA in May 2012

» No action by the Senate on NDAA
Senate Bill S.3211 proposed by Sen. Michael Bennet (D-CO) introduced 6 JUN 12
   » “Safeguarding United States Satellite Leadership Act of 2012”

AMSAT will continue to closely monitor developments/coordinate actions with university and commercial satellite organizations
Another Fox Launch Opportunity: CubeSat Launch Initiative - 2012

- NASA announced 4th ELaNA Program in August
- Proposals due Nov 12, 2012
- Vanderbilt University and AMSAT are working together on a proposal
- RadFxSat is a 1U CubeSat
- Based on Fox-1 bus (flight spare)
- Science payload provided by Vanderbilt
- Education Outreach
Secondary Mission (Education)

- Formal STEM education of university undergraduate and graduate students at Vanderbilt University

- Formal STEM education of high school teachers and students at Vanderbilt University

- Informal STEM education through public amateur radio participation
National Science Foundation (NSF) Grant Opportunity

- AMSAT has teamed with Auburn University and University of Alabama-Huntsville
- AMSAT to provide avionics for two 3U cubesats
- Auburn to provide spacecraft, antennas and spacecraft integration
- UoA-Huntsville to provide scientific payloads
- Proposal submitted 7 MAY 12

Grant opportunities are not “guaranteed”

- Highly competitive
- Evolving partnerships with universities and private enterprise

Submissions over the past year reflect efforts to collaborate with partners as well as develop affordable launch opportunities

- Focus reflects new skill set requirement (Grant Writing)
AMSAT Store

» Taken down in May due to “concerns”
» New Store initially placed online week of 13 AUG 12
» Payments made using Paypal processing (includes charge cards)
» Future updates/enhancements expected as “work in progress”
» Re-establishment of Store a critical cash generator for AMSAT

» Thanks to:
  – Joe Fitzgerald, KM1P
  – Alan Biddle, WA4SCA
  – Bruce Paige, KK5DO
  – Gould Smith, WA4SXM
AMSAT Journal is significantly behind schedule

- Last issue released in July 2012 by retiring editor Ed Long, WA4SWJ
- New Editor: Doug Loughmiller, W5BL appointment announced at 2011 Symposium
- Major issues: Lack of articles/New personnel “learning curve”
- Doug is unable to complete the current issue (JAN-FEB 2012) in a timely manner
- New editor announced at 2012 BOD Meeting: JoAnne Maenpaa, K9JKM
- JoAnne will focus on completing work that Doug started
- Lack of timely publication has impacted membership
- US Postal Service 2nd Class Mail Permit at Risk
Patrick Stoddard, WD9EWK will focus on “AMSAT’s IT Future”

» Review current capabilities/actions taken over past 24 months
» Evaluate Future Needs/Identify potential resources
» Make Recommendations on next steps
» Report Expected in January 2013
Membership Trends

- Current: 3100
- Nov 2011: 3385
- Nov 2010: 3660
- Nov 2009: 3646
- Nov 2008: 3501

Declining AMSAT membership is a concern

- Economy?
- Aging amateur population?
- Relative lack of satellites?
- AMSAT JOURNAL problems?
- Lagging interest in AMSAT?
AMSAT Organizational/Financial Trends

Current income from dues and other sources are not sufficient to cover day-to-day expenses

- Membership decline has major impact on providing operating funds to keep the organization running
- Projected operating deficit in 2013
- Growing the membership is critical to sustaining AMSAT
- AMSAT members are encouraged to recruit others to join AMSAT in order to increase cash flow to pay the bills
2013 Goals/Expectations

- Focus on Project Fox Engineering
- Prepare for Fox-1 Follow-On
- ITAR: Legislative Activity in 2013
- Continue to Enhance Educational Partnerships
- "IT Future"
- Building awareness/support for AMSAT
  - Reverse the membership trend
  - Enhance websites
  - Get the AMSAT JOURNAL back on publishing schedule
- Enhance the management team
  - Find volunteers to fill key needs
How can AMSAT Members Help?

- Recruit individuals to become members/rebuild the ‘base’
- Recognize that satellite projects are multi-year projects that require financial support each year
- Donate to our capital campaign for Project Fox and future opportunities in 2012 and beyond as you are able
- Use the existing satellites—rebuild interest in amateur radio in space
- Write articles for the AMSAT JOURNAL
- Volunteer your time and talent
Questions?