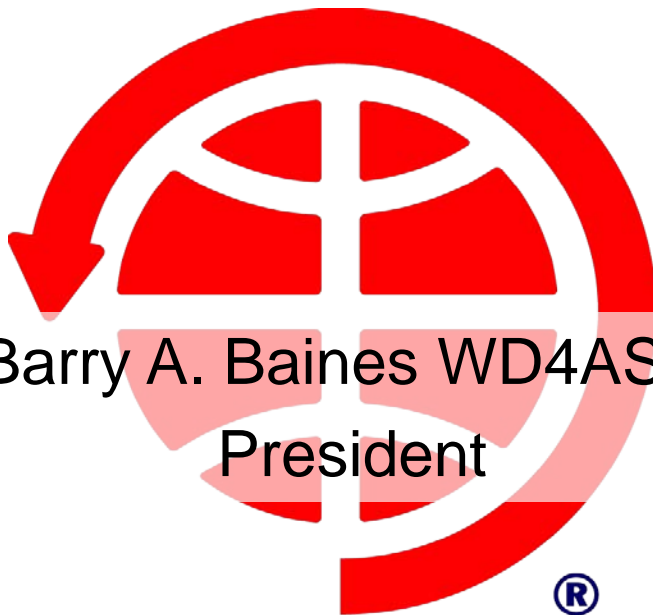




# *The Radio Amateur Satellite Corporation*



Barry A. Baines WD4ASW  
President

**AMSAT**

**2013 Annual Meeting @ Houston, TX**

November 2, 2013



## 2014 AMSAT Board of Directors

<b>2014</b>	<b>Tom Clark, K3IO</b>	<b>Clarksville, MD</b>
<b>2014</b>	<b>Lou McFadin, W5DID</b>	<b>Orlando, FL</b>
<b>2014</b>	<b>Gould Smith, WA4SXM</b>	<b>Knoxville, TN</b>
<b>2015</b>	<b>Barry Baines, WD4ASW</b>	<b>Westborough, MA</b>
<b>2015</b>	<b>Alan Biddle, WA4SCA</b>	<b>Franklin, TN</b>
<b>2015</b>	<b>Mark Hammond, N8MH</b>	<b>Coats, NC</b>
<b>2015</b>	<b>Tony Monteiro, AA2TX</b>	<b>N. Andover, MA</b>
<b>Alternate</b>	<b>JoAnne Maenpaa, K9JKM</b>	<b>Carpentersville, IL</b>
<b>Alternate</b>	<b>Steve Coy, K8UD</b>	<b>Beavercreek, OH</b>



# Senior Leadership Team

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



## Other Key Leaders (Appointed by the AMSAT President)

<b>VP-Educational Relations</b>	E.Mike McCardel, KC8YLD	Danville, OH
<b>VP-Field Operations</b>	Patrick Stoddard, WD9EWK	Scottsdale, AZ
<b>Dayton Hamvention Ops</b>	Steve Belter, N9IP	Lafayette, IN
<b>AMSAT Journal Editor</b>	JoAnne Maenpaa, K9JKM	Carpentersville, IL
<b>ANS Editor</b>	Lee McLamb, KU4OS	Cocoa, FL
<b>ARISS International Delegate</b>	David Taylor, W8AAS	Columbia, MD
<b>ARISS International Delegate</b>	Maurice-Andre´ Vigneault, VE2VIG	
<b>IT Team Leader</b>	Joe Fitzgerald, KM1P	Boston, MA



## Overview

# 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

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To Summarize:

“Keep Amateur Radio in Space”



# Summary of 2013 Accomplishments/Issues



- Fox Project on Schedule to be Delivered in May 2014 to CalPoly
- Evolving Partnerships:
  - » Virginia Tech Collaborative Agreement
  - » Vanderbilt University (ISDE) payloads for Fox-1 & RadFxSat/Fox-1B
  - » Looking to expand university relationships
- Fox Program Materials Placed in Public Domain
- ITAR: Comments Submitted to DDTTC/DoC 8 JUL 13
- VP-Education Outreach Appointment in September 2013
- Development of Relationships on Education Continues (ARRL)
- ARISS Program Evolves during 30<sup>th</sup> Anniversary Year of Amateur Radio and Human Space Flight





## Summary of 2013 Accomplishments/Issues

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- AMSAT Website Reworked/Enhanced
- “AMSAT’s IT Future” Developed by WD9EWK Provides Recommendations on IT Development
- Appointment of Director-Field Operations (WD9EWK)
- Refocus on AMSAT Area Coordinators/Field Ops Begins
- Delivery of “Symposium” DVD in lieu of 2012 Journals
- AMSAT Journal back on Timely Publication Schedule
- ANS Evolves with Appointment of New Satellite Editor
- AMSAT’s Hamvention Presence is Enhanced



## Summary of 2013 Accomplishments/Issues

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- Planning Commences for AMSAT participation in 2014 ARRL Centennial Convention (Satellite Workshop/Forum/Booth)
- AMSAT Endorses IARU Region 1 Two Meter Proposal to allow Satellite Linear Transmissions from 144.000-144.025 MHz
  - » IARU Region 2 adopts revised band plan/subject to Region 3 acceptance
- IARU Satellite Frequency Coordination of Experimental Sats
- Declining AMSAT Membership Base an Increasing Concern



# ARISS-An Amateur Radio Success Story

- ARISS-I established in 1996
  - » Based upon success of SAREX (Shuttle Amateur Radio Experiment)
  - » An international collaboration of IARU & AMSAT groups
  - » Provides 'one voice' to NASA and the space agencies on the ISS
- ARISS School Contacts provide support for 'STEM'
  - » Classroom exposure to space sciences
  - » Builds inspiration in STEM subjects/careers + amateur radio
  - » Provides a unique experience of interacting directly with astronauts
  - » First school contact in December 2000
- To date, 866 "events" around the world-schools/other venues
  - » Direct contacts ground-to-air from the school
  - » Telebridge using an offsite amateur radio station
- Provides the basis for amateur radio on the ISS



# Education Outreach

- Appointment of E.Mike McCardel, KC8YLD as VP-Educational Relations
  - » Continues the work initiated by Mark Hammond, N8MH
  - » Reflects need for AMSAT to focus on education as justification for launches/placement of amateur equipment in space
  - » Evolving relationships with ARRL and NASA Education
  - » Build on the education team established within AMSAT
- Finding new opportunities to bring space communications to the classroom
  - » Collaboration with ARRL Education's Teacher Institute Process
  - » Find ways to utilize STEM potential of FUNcube sats and Fox-1/1B
  - » Mark Spencer, WA8SME has developed some imaginative educational tools based on Fox-how does ARRL/AMSAT follow up?
  - » How do we encourage collaboration with university partners to expand into Educational Outreach?



## Coming to Grips with ITAR

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AMSAT  
is still considered a  
“Munitions Supplier”



# 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'
- 2013 AMSAT Symposium Proceedings serves as a print outlet for discussing Fox-1 engineering development
  - » Published material so that presentations may be made
  - » Highlights the significant development work accomplished
  - » Allows public discussion (foreign nationals)



# The Regulatory Environment

- Regulatory Process Moves Along
  - » President Obama Signed 2013 National Defense Authorization Act on 3 JAN 13
    - Included an amendment authorizing the President to reassign ITAR Category XV Satellites to the Department of Commerce “Commerce Control List” (CCL) under Export Arms Regulations (EAR)
  - » Directorate of Defense Trade Controls (DDTC) released initial draft of rules removing certain satellites from Category XV of the USML
  - » Dept. of Commerce (DoC) Bureau of Industry and Security (BIS) released initial draft of rules creating new categories in the CCL for satellites being transferred from USML Category XV
  - » Both proposals released on 27 MAY 13 with comments due 8 JUL 13
- AMSAT filed Separate Comments to DDTC and DoC/BIS in response to both proposals



# The Regulatory Environment

- Submission to Directorate of Defense Trade Controls (DDTC)
  - » Outlined how the Amateur Satellite Service differs from other satellite services
    - Essentially, all AMSAT projects must be for self-training by licensed *persons* who are interested in radio technique for personal purposes and *without compensation* of any kind. (Emphasis supplied.)
  - » Asked for explicitly confirmation that satellites, ground equipment, and associated technical data for items pertaining to the Amateur Satellite Service are not subject to the ITAR when the new Category XV provisions are implemented.





# The Regulatory Environment

- **Submission to Department of Commerce (DoC)/BIS**
  - » Create a separate category for “Amateur Satellite Service” under ECCN 9A515 for amateur radio satellite and components and ground station equipment, and a comparable category in 9E515 for associated technical data.
  - » Allow a license exception for “deemed exports” for amateur radio satellite design and construction so as to allow free exchange of ideas, software, etc. pertaining to amateur radio satellite design and construction when interacting with foreign nationals who are citizens of nations listed in the License Exemption STA Country List.
  - » Export licensing requirements should only focus on the export of hardware, such as amateur radio satellite subsystems or complete amateur radio satellites.
- **Failure of BIS to accept our Suggestions will Result in AMSAT’s Continued inability to Collaborate with Foreign Nationals on Satellite Projects**



# The Regulatory Environment

- Over 130 Submissions made to DDTC and BIS in response to Proposals
- Review Process Expected to take “Months” as reviewers handle day-to-day responsibilities as well as evaluate input and then develop a response
  - » Input from Commercial Entities, Universities and AMSAT
  - » Feedback is Detailed and Complex
  - » Serious Input Sought and Received
- Once Final Rules are Announced, Congress has 30-day Review Window
- Six Month Window for Preparation of Transition
- Expect Changes to Take Place in 2014
- In the Meantime, AMSAT complies with current ITAR Rules



# AMSAT Electronic Services



- AMSAT Website

- » Taken down in 21 JAN 13 due to “attack”
- » “Temp” website initially placed online week of 28 JAN 13
- » Website continues to evolve, attempting to add services that were formerly dependent upon the SQL database
- » Revamped “Look and Feel” (Brent and Bryce Salmi + Steve Kenwolf) launched on 8 AUG 13
- » Content still a concern-need to review/update material
- » Wordpress provides a relatively easy approach to developing material

- Mail Services

- » Potential migration of mail lists

- Thanks to:

- Joe Fitzgerald, KM1P
- Alan Biddle, WA4SCA
- Patrick Stoddard, WB9EWK



# 2014 Goals/Expectations

- Focus on Project Fox Engineering: Deliver Fox-1
- Prepare for Fox-1B Follow-On
- Submit Proposal for Fox-1C
- ITAR: Implementation of Changes in 2014
- Continue to Enhance Educational Partnerships
- “IT Future”
- Building awareness/support for AMSAT
  - » Reverse the membership trend
  - » Enhance website content
- Enhance the management team
  - » Find volunteers to fill key needs
  - » Succession Planning a Concern



# AMSAT Fundraising

- It costs real \$\$\$ to have a presence in space
- AMSAT continues to look for ways to encourage donations
  - » PayPal
  - » Webstore
  - » Online Funding sources
  - » Fundraising is a multi-year effort
- Mission success breeds capital campaign success
  - » A record of accomplishment
    - Engineering
    - Education
  - » “Case for Support”
  - » Develops donor confidence in how funds are used



## How can AMSAT Members Help?

- Recruit individuals to become members/rebuild the 'base'
  - » Current membership levels do not support AMSAT's yearly operations
- 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 2013 and beyond as you are able
- Use the existing and upcoming satellites—rebuild interest in amateur radio in space
- Write articles for the AMSAT JOURNAL
- Volunteer your time and talent



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Questions?