

The Orbital Classroom



***“I’m from AMSAT
and I’m here to help”***

**Prof. H. Paul Shuch, N6TX
AMSAT Director of Education**

**4th Annual CubeSat Workshop
Logan, UT, 11-12 August 2007**

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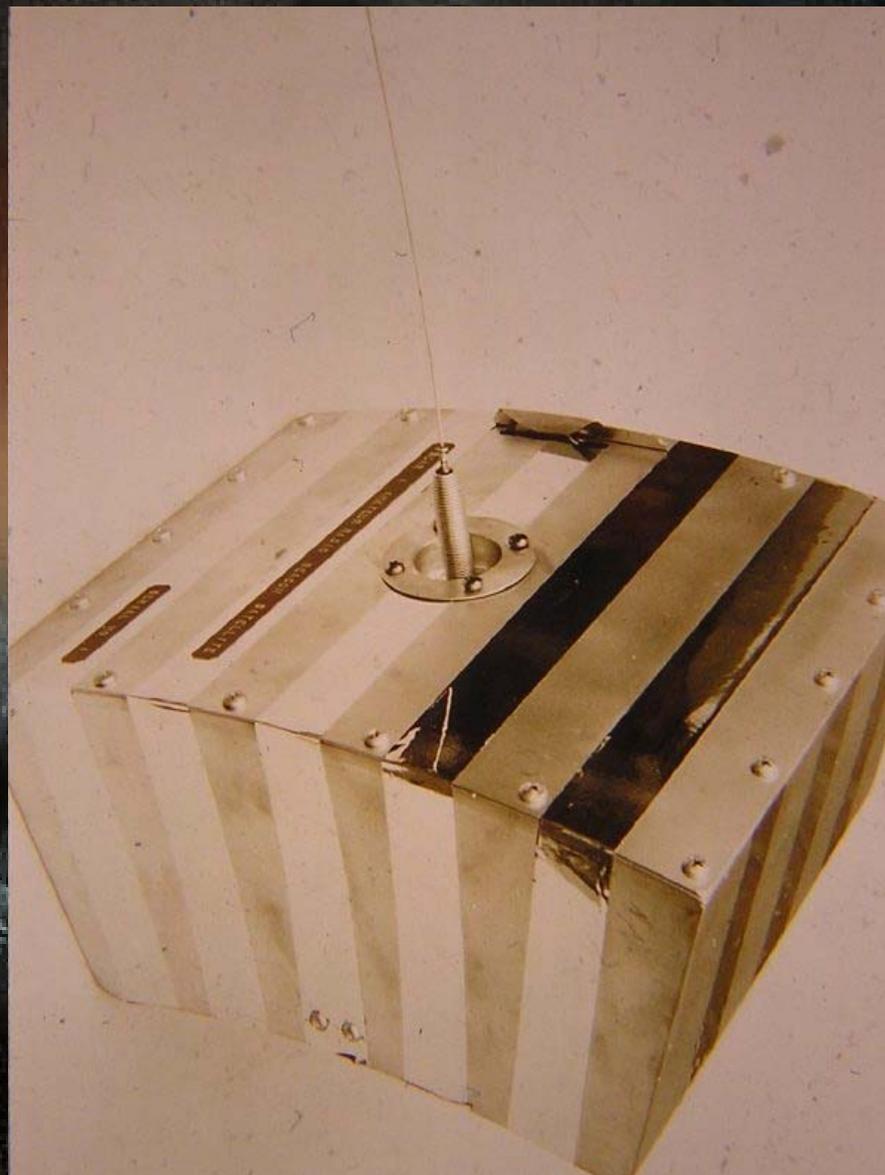
Teeners Reach Outer Space

Bethesda, Md., high school senior Perry Hahn, 17, tapes his amateur radio set in his dad's parked New Yorker taxi cab, also in the outer space Feb. 4. Youngsters did what leading scientists haven't done yet — they established contact by amateur radio with one of the untold trails of U.S. Explorer VII satellite and Service Scout III.

—Story on page 3



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Project OSCAR

Promoting Amateur Satellites since 1959

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AMSAT is a non-profit volunteer organization which designs, builds and operates experimental satellites and **promotes space education**. We work in partnership with government, industry, **educational institutions** and fellow amateur radio societies. We encourage technical and scientific innovation, and promote the **training** and development of skilled satellite and ground system designers and operators.

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AMSAT's Educational Initiatives

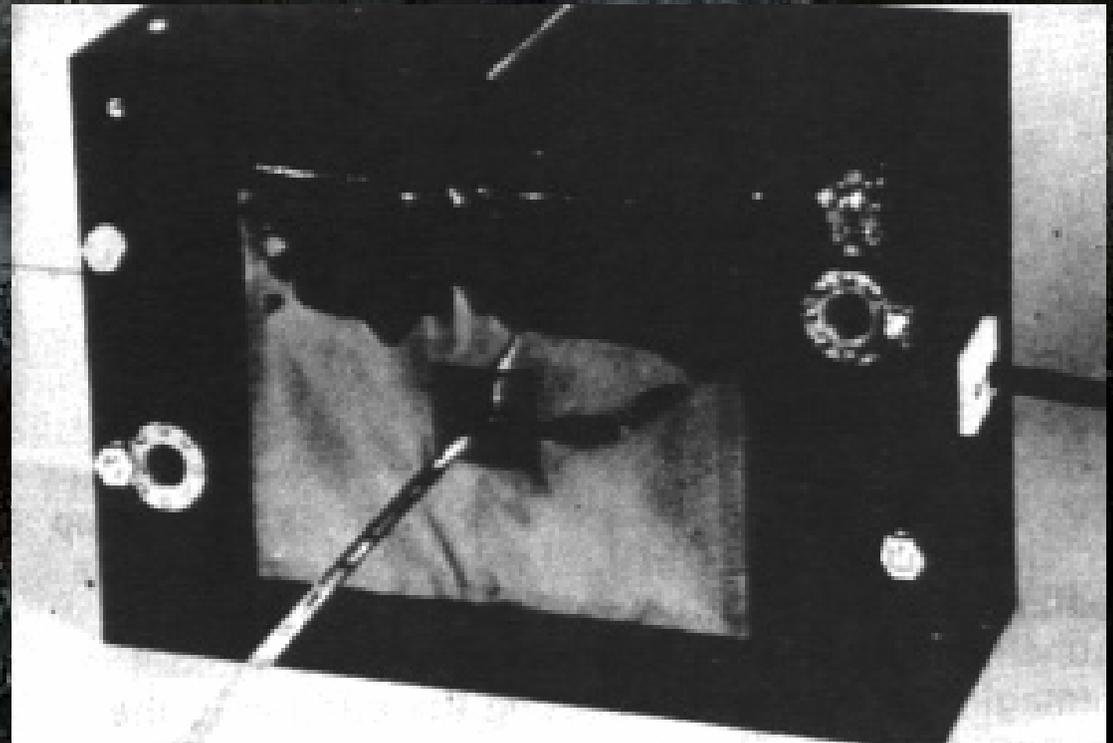
- OSCAR
- SAREX
- ARISS
- CubeSats
- Publications
- Conferences
- Curricula

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- **OSCAR**



Australis OSCAR 5
University of Melbourne
Launched 1970



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- SAREX



*For Paul Smith
N6TX, and all the
students San Jose City College
- from the
spacecraft Columbia
73
Owen
W5LFL*

Owen Garriott, W5LFL

STS-9

December 1983

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- **ARISS**



**Susan Helms,
KC7NHZ,
Aboard the ISS**



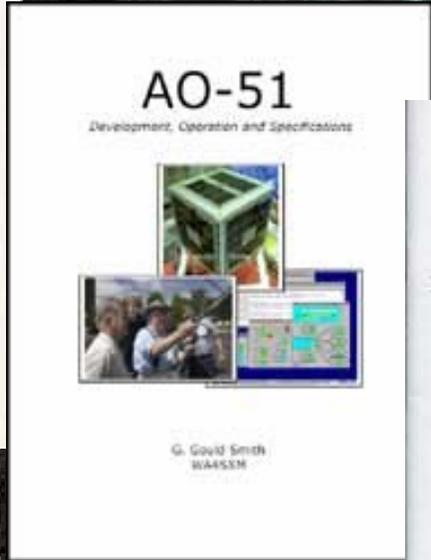
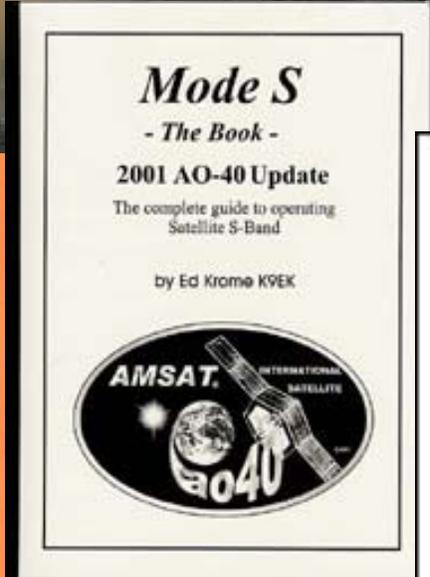
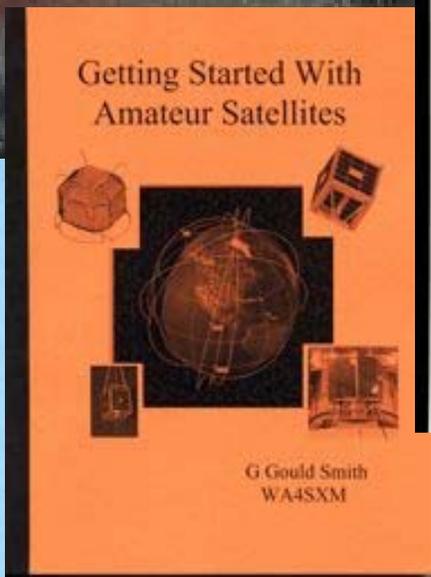
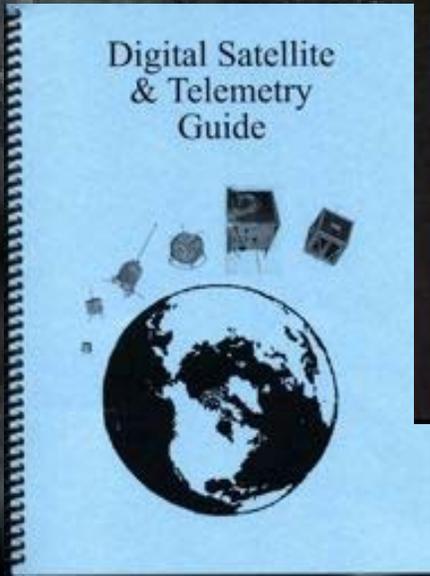
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- **CUBESATS**



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- PUBLICATIONS



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- **CONFERENCES**



**Space Day
at NASM**

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• CURRICULA



AMSAT™ EDUCATOR'S SURVEY

All AMSAT members currently or formerly involved in training and education are encouraged to complete this survey form, to assist the Director of Education in assessing resources and capabilities available to accomplish AMSAT's educational mission. Qualified individuals returning this survey will be designated official *AMSAT Educators*, and invited to participate in various upcoming educational initiatives.

NAME: _____ CALL: _____ EMAIL: _____

ADDRESS: _____ MEMBER #: _____

CITY: _____ STATE/PROV.: _____ ZIP: _____

PLEASE CHECK ALL THAT APPLY:

EDUCATIONAL POSITION: Classroom teacher
 College Professor
 School Administrator
 Curriculum Developer
 School Librarian
 Industrial Trainer
 Instructional Support
 Parent / Mentor
 Other _____

GRADE LEVEL: Primary / Elementary
 Junior High / Middle School
 High School / VocTech
 Junior College / Community College
 Undergraduate University
 Graduate University
 Other _____

TYPE OF INSTITUTION: Public
 Private
 Charter
 Magnet
 Parochial
 Home School
 Government / Military
 Business / Industry
 Other _____

SUBJECTS TAUGHT: Math
 Social Studies
 Physical Science
 Social Science
 Language Arts
 Fine Arts
 Other _____

PLEASE ANSWER THE FOLLOWING QUESTIONS BASED UPON YOUR PRESENT OR PAST EXPERIENCES. YOU MAY ATTACH SUPPLEMENTAL INFORMATION AS REQUIRED.

Have you any experience with using satellites or space technology in the classroom? Please elaborate.

Have you developed curriculum or lesson modules incorporating satellites or space technology? Elaborate.

Do you anticipate incorporating satellites or space technology into your teaching in the future? Specify.

ARE YOU INTERESTED IN: Developing such materials and resources
 Sharing such materials and resources
 Receiving such materials and resources
 Other _____

COMMENTS: _____

PLEASE RETURN COMPLETED SURVEY TO:

Dr. H. Paul Shuch, N6TX, AMSAT Director of Education
121 Florence Drive
Cogan Station PA 17728 USA (n6tx@amsat.org)

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Ham Radio on Cubesats

- **Science Mission**
- **Educational Mission**
- **Telemetry**
- **Tracking**
- **Telecommand**
- **Communications**
- **Frequency Spectrum**

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Ham Radio Licensing

- **No Morse Code**
- **Simple Written Test**
- **Ten Year Licensing**
- **Licensing Courses**
- **Frequent Exams**

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Ham Radio Constraints

- **No Commercial Traffic**
- **Not a Broadcast Service**
- **No Music/Entertainment**
- **Positive Control**
- **Orbital Debris Mitigation**

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- **CONTACT:**



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