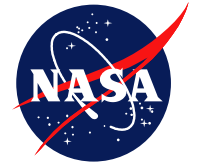


ARISS OPERATIONS SCHOOL GROUP CONTACTS

April – 2002

Tim J. Bosma



ARISS Statistics

Expedition School Count

<u>Expedition</u>	<u>Schools Completed</u>
1	7
2	14
3	22
4	9



ARISS Statistics

School Mentors & Bridge Stations

Satoshi Yasuda 7M3TJZ

Dick Flagg AH6NM

Gene Chapline K5YFL

Will Marchant KC6ROL

Gaston Bertels ON4WF

Bill Wood W5OOD

Terry Jones W8JE

Fred Gephart WA2CAM

Nancy Rocheleau WH6PN

Herb Sullivan K6QXB

Steve McFarland VE3TBD

Steve Morton AA8HH

Charlie Sufana AJ9N

Frank Bauer KA3HDO

Kerry Banke N6IZW

Tony Hutchison VK5ZAI

Randy Becnel W5UE

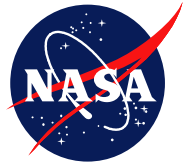
Sergey Samburov, RV3DR

Howard Ziserman WA3GOV

Gerald Klatzko ZS6BTD

Gordon Williams VK6IU

Gil Carman, WA5NOM



ARISS-OPS SCHEDULING

- **12 MONTHS (before contact)**
 - School application accepted and sent to OPS group.
 - School merged into Pending List.
 - Crew Pick schools merged at 3 to 6 month timeframe.

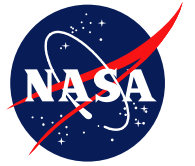
- **3 – 4 MONTHS**
 - ARISS mentor assigned to the school.
 - Contact & scheduling information verified.

- **2 - 3 MONTHS**
 - School moved to the active list.
 - Long term pass predictions made to determine “best week” for contact.



ARISS-OPS SCHEDULING

- **1 – 2 MONTHS**
 - School is prepared for contact by ARISS mentor.
 - School summary & questions submitted.
- **3 WEEKS**
 - School specific pass predictions generated. (Direct – Bridge)
 - ISS operational considerations checked.
 - School is scheduled for a specific week based on optimal passes.
 - Contact Request is submitted with 2 or 3 contact time options to BME
- **1 - 2 WEEKS**
 - Mentor continues to prepare school for contact.



ARISS-OPS SCHEDULING

- **2 - 6 DAYS**
 - ARISS-OPS is advised of selected pass for contact by Houston. Usually mid day Monday of the week of the contact.
 - If it's a bridge contact then Worldcom is scheduled.
 - MSNBC is notified.
- **24 Hours**
 - 24 Hour Notice from school confirming readiness for contact.
- **1 Week after contact**
 - NASA web page questionnaire is completed by school.
 - School is moved to Completed Contacts status.



ARISS-OPS SCHEDULING CHALLENGES

- **ISS scheduling constraints include:**
 - Time before, during & after EVA's & Dockings
 - Initial time for each Increment to “ramp up.”
 - Crew sleep shifts with STS dockings.
 - Crew work time versus crew free time.
 - Educational activities are scheduled on a non-interference basis.
- **School scheduling constraints**
 - Lack of flexibility on schools part.
- **Soyuz Taxi Flight Astronauts & Passengers**
 - Integration of their contact requests into School list(s).
- **Special Events**
 - Marconi Centenary Celebration - Kansai Ham Festival June 7-9 , 2002
 - JOTA – Jamboree -Jamboree Nederland, 2001-07-23, PA3HGQ

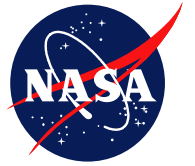


ARISS-OPS

SCHEDULING CHALLENGES

- **Third Party Contacts**
 - 60% of ARISS completed school contacts are direct.
 - Requests from international schools for direct contacts potentially in conflict with current international 3rd party agreements.
 - There is a need for an international exemption for ISS contacts.

- **Recent Scheduling Issues**
 - Butte, Montana
 - Kursk, Russia
 - Peter Anich, Italy
 - Waveland, Mississippi
 - Quogue, New York



ARISS-OPS SCHEDULING

IMPROVEMENTS ARE HAPPENING !

- “Best weeks” predictions.
- TOPO now involved in final pass predictions.
- Crew Picks are now identified sooner.
- Two schools in one week – twice in March 2002.
- Earlier notification of selected contact times.
- Better understanding of operational impacts on scheduling.
- VK5ZAI’s on-line Teacher’s Guide



ARISS-OPS

What's Needed Next?

Continue ongoing evaluation and improvement of ARISS-OPS.

Model the working agreement with TOPO & Gilbert Carmen.

Improve the information flow in both directions.

Train additional school mentors.

4-5 people are doing the bulk of the work.

more international participation

Encourage geographical diversity

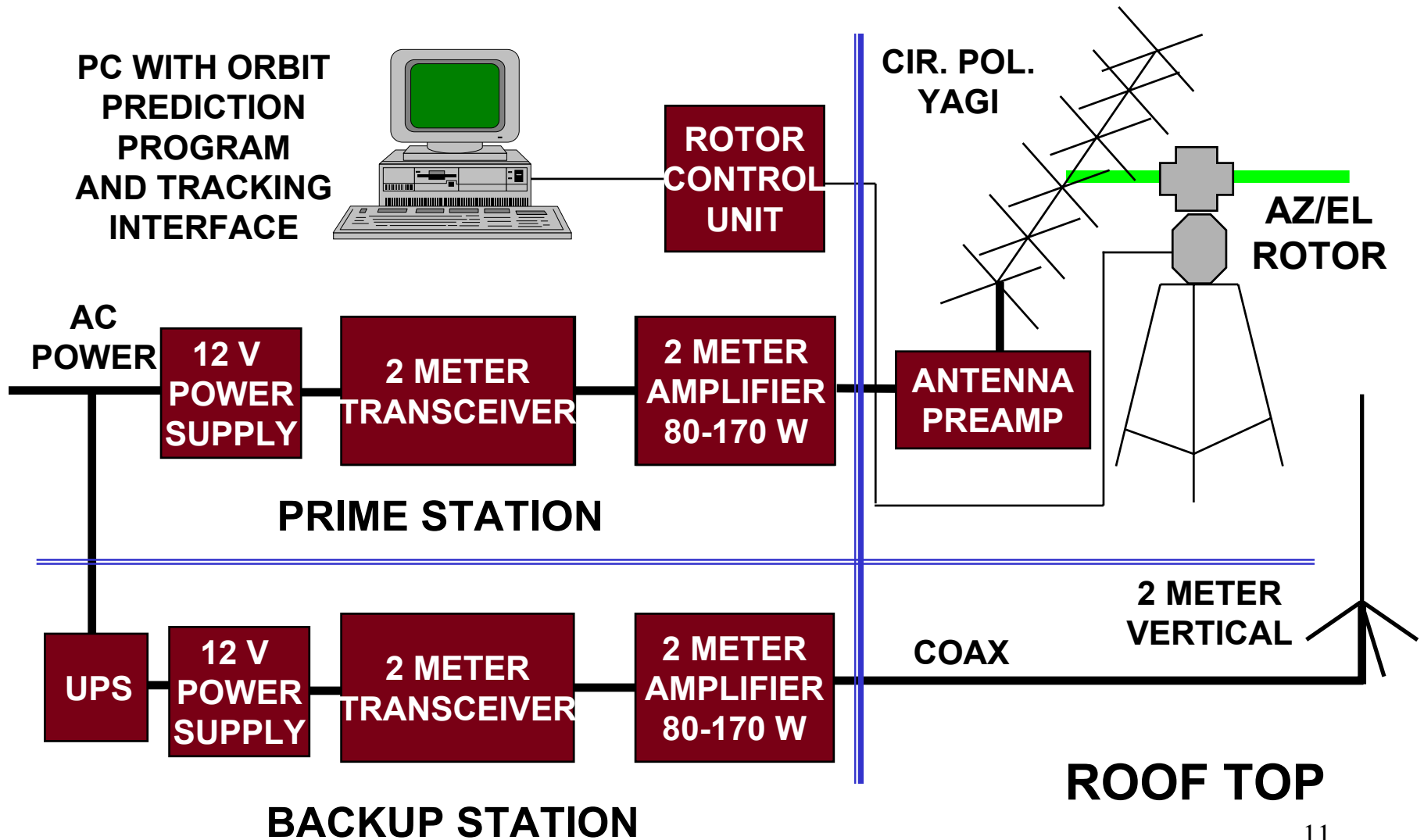
Develop technical & equipment support for the hams at the school.

Kerry Banke's phone patch.

Antennas



DIRECT CONTACT INSTALLATION





ARISS-OPS Conclusion



This program is a winner for the schools and the ISS crew members.

Carl Walz KC5TIE:

"It was great talking to the folks at ZPS. They had great questions, and everything worked out exactly as planned. Looks like I'll have a chance to do a few more school contacts with our extra time up here."

Dan Bursch KD5PNU:

"Please pass on my many thanks to whoever helped set this contact up (St. Thomas)..it was a lot of fun, and I am ready to do these ANYTIME!!"

Sandy Shutey - Teacher - Butte High School, Butte Montana

"This was a once in a lifetime experience for the students and myself."