



# Project Selection and Use Committee

- Mike Miller has decided not to continue with the committee.
- Only new proposal is the Space Suit Satellite proposed by Sergey Samburov.
  - Lot's of ideas on how to implement it.



# Known Projects

- Shadow on ISS
- Digital ATV
- CDATV
- Ionospheric experiment
- ISS via the Internet



# Shadow Experiment

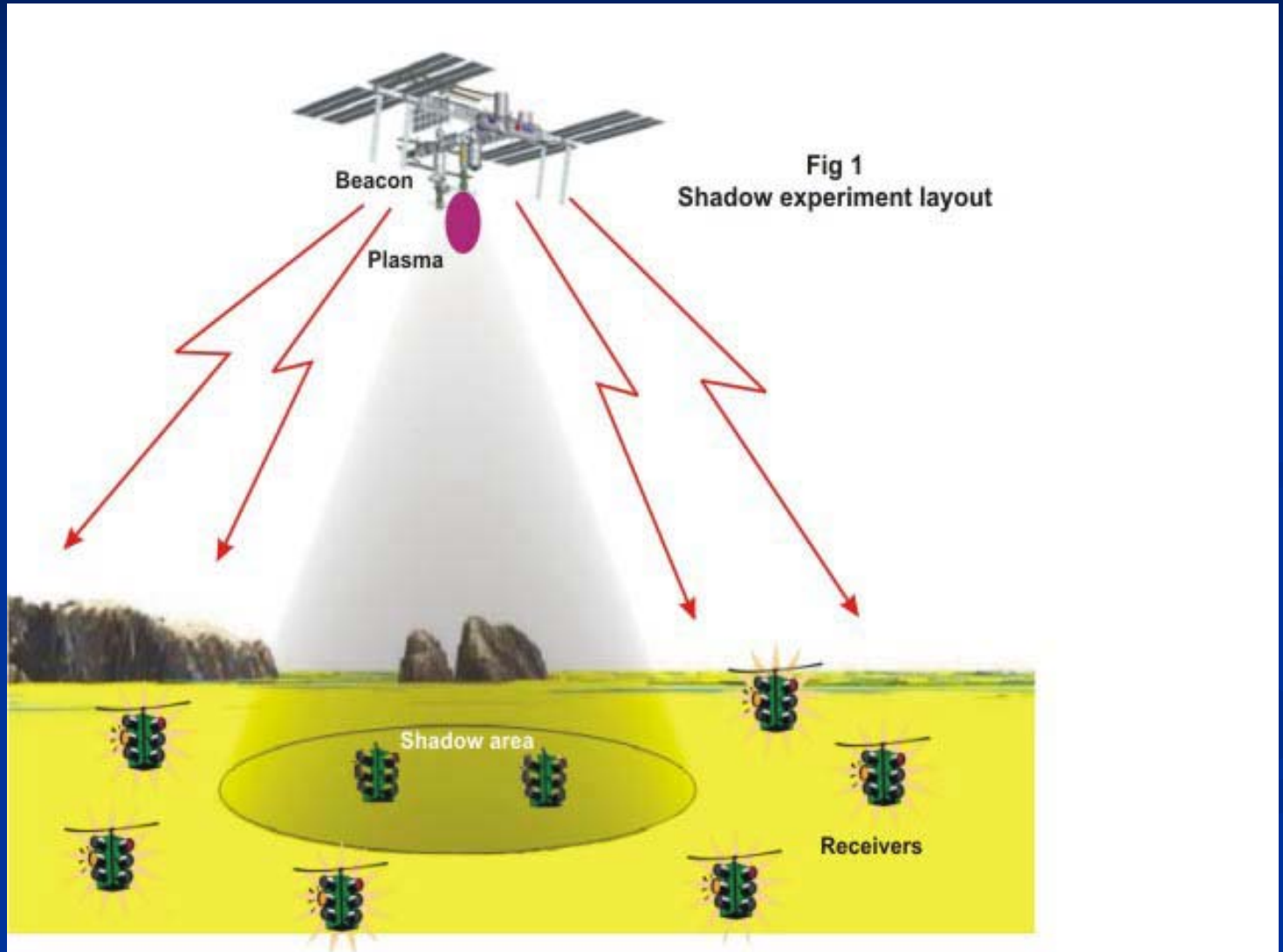
- No activity since last meeting



# Project of space experiment "Shadow" on ISS

New challenge and new  
opportunity for Amateur Radio  
Community

# Lay-out



# Tasks

- The task of every individual participant is to register moments of signal cut-off and following signal restore using the Universal Time marks and to address this information along with data on its geographical position to the Information Storing Center. Every operation sequence would take up to 10 min. while the satellite is passing between two opposite points of the local radio horizon.
- The task of the crew will be download the delivered beacon soft (floppy or CD) to the onboard ham gear and to run the beacon 3 - 5 times for each measuring field according to flight schedule.

## Actually the SpEx "Shadow"

consists of three technically independent parts:

**Programmed plasma injection of about 30 seances up to 10 minutes duration each.**

*This is responsibility of Tsniimash and funding from Rosaviacosmos.*

**•Programmed translation of sounding signals by available onboard Amateur gear.**

*This is responsibility of the crew according to their flight task with technical assistance of ARISS concerning serviceability of available onboard Amateur gear.*

**•Receiving and processing of sounding signals by available ground mosaics of Amateur radio operators.**

*This is good will and personal interest of Amateur radio operators with no funding.*

During "hot" seances the independent parts of the experiment work simultaneously.

For the "cold" stage no additional certification is required since the available onboard ham gear is planned to be used.

Lou McFadin W5DID



# Committee recommendation

- Approval with the provision that the project is approved by the appropriate authorities in the sponsoring country.
- Clarify the packet timing requirements.





# A Digital ATV transponder & beacon device

- One or more on-board cameras with a graphic overlay acting as a test card.  
These would drive a
- 2.4GHz ATV transmitter using digital encoding to one of the existing DTV formats
- With a 1.2GHz FM analogue receiver.
- (noting that DATV is a currently emerging technology and that 1.2GHz FM ATV transmitters are already in very common use and 50 watt PA devices are becoming readily available)



# Recomendation

- This project is on hold until a revised proposal with a satisfactory link margin is submitted.





# Digital ATV and Compressed Digital ATV Experiments

- Telecons and correspondence have been held with Miles Mann and Graham Shirville.
- A Link analysis was requested and has been performed on the experiments.
- The result shows that there is not sufficient link margin to achieve satisfactory video with the proposed data rates.



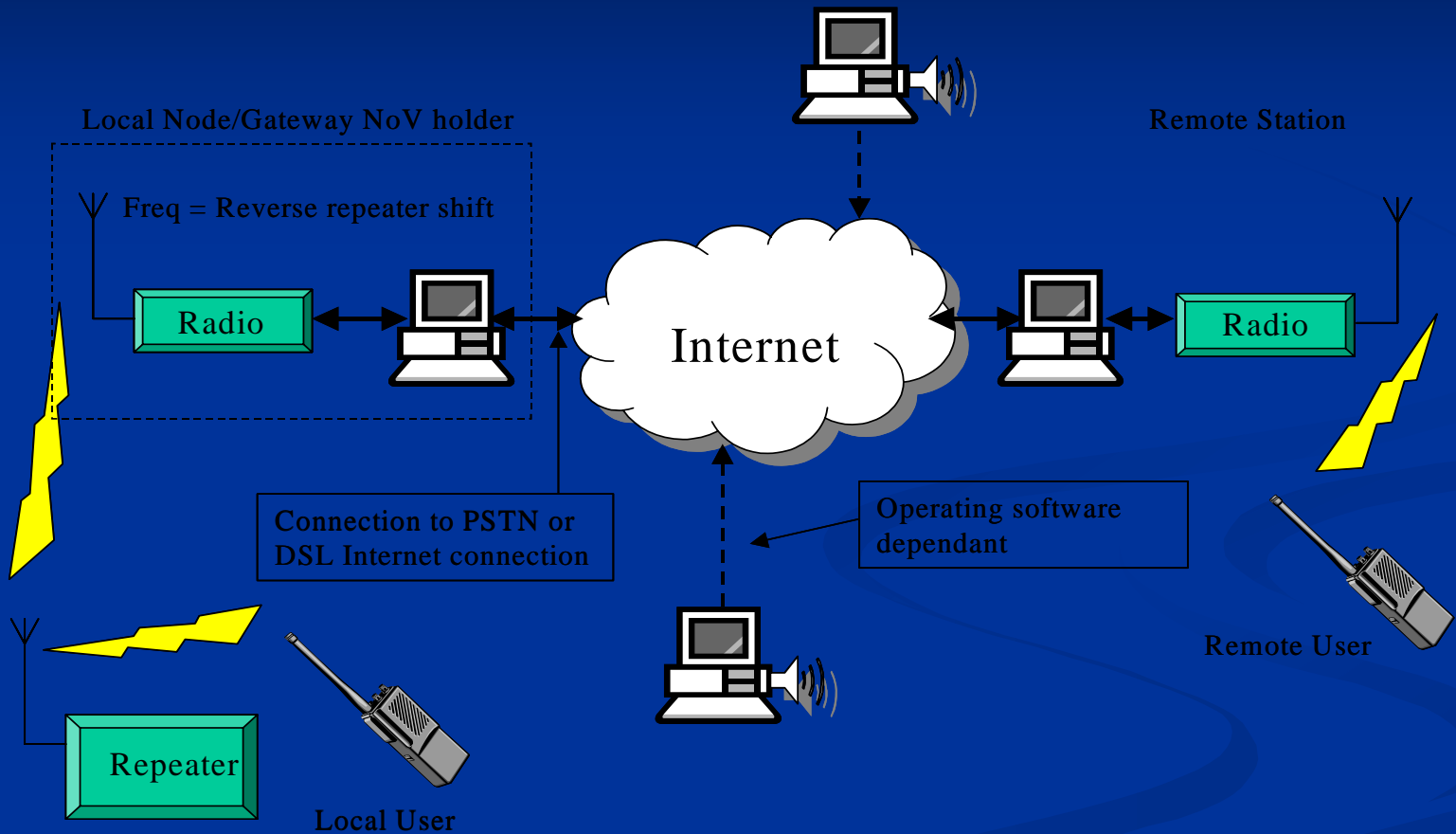
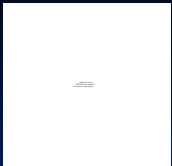
# Committee Recommendation

- Approval of project with the following recommendations
  - Investigate the possibility of deploying via the Express Pallet.
  - Design changes to protect from direct sun exposure to the optics due to unplanned attitudes of the ISS.
  - Consider combining with other Amateur TV projects

# ISS via the Internet

Scott - Lindsey Stevenson N3ASA

[n3asa@amsat.org](mailto:n3asa@amsat.org)



Lou McFadin W5DID

Graphic courtesy Radiocommunications Agency

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# Final Thoughts

- EchoLink was used to tie repeaters together during the Space Shuttle disaster recovery operation. EchoLink will no doubt be used in many new and interesting ways in the future.
- Using the Internet for voice communication through applications like EchoLink has generated a considerable amount of discussion in the ham radio community.
- EchoLink provides yet another way we can get new people interested in our wonderful hobby, especially those already well-versed in how to use the Internet. EchoLink
- **Phase 2: EchoLink Software on ISS.**



# Committee Recommendations

- Initiator to consult with international partners
- Perform some engineering tests to validate the pros and cons of the various systems.
- Resubmit to the committee when test results are available.
- Project initiator to participate in teleconferences with Project Selection and Use Committee prior to October 2004 meeting





# **Ionospheric Experiment**

**Not enough information at this time to make  
recommendation**

**Suggestions: more definition of the project is  
needed.**