



# D Star proposal



# D-Star proposal review

- A revised proposal to place digital capabilities on the International Space Station was submitted to the Project Selection and Use Committee by Miles Mann during the last ARISS meeting held in Moscow in July of 2008.



# D-Star proposal review Cont.

- The Project Selection and Use Committee representatives at the Moscow meeting referred the proposal for further study so they could gather enough information to make an informed decision. To do this, we asked several amateurs that are heavily involved in the D-Star activities in the U.S. to review this proposal and reply.



# The Reviewers

- The reviewers were:
- **Mark Thompson, WB9QZB** Mark is very active with the D-Star group called TAPR (Tucson Amateur Packet Radio).
- **Robin Cutshaw, AA4RC** Robin developed the D-Star Dongle for the P.C. Robin was the first person to do a D-Star contact through a satellite.
- **Dave Cooley N4DIB** David is a member of the Tampa D-Star club. Dave lectures and trains others on D-Star use at various ham meetings.



# Recommendations

- The reviewers do not recommend approval of this proposal for the following reasons:
- The D-Star radio has no way to deal with Doppler. On the 2M band, the Doppler can be as much as  $\pm 3\text{Khz}$  and on 70CM it's around 10 Khz. For the digital system on the D-Star system, this would be unacceptable.
- Since neither the D-Star radio on the ISS nor the D-Star repeater on the ground would have knowledge of each other, a QSO through the repeater would be virtually impossible.
- An individual satellite class station on the ground with Doppler correction capability could **theoretically** handle this Doppler shift, however, none of the present D-Star radios have that capability. The current D-Star radios can only change frequencies in 5Khz steps. That would be inadequate for reliable communications.



# Reviewers Conclusions Cont.

- There is also the problem of communication through a D-Star repeater. In order for you to be found on a repeater, it takes as much as an hour for the system to propagate your registration through the network. You would be on the other side of the earth by the time you are found. This is not acceptable.
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- There is a possibility of a direct contact with a ground station using the CQ mode.
- You would still have the Doppler problem.
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# Conclusion

- This proposal is not recommended.