

**VLBA ARRAY MEMO No. 474**

National Radio Astronomy Observatory  
Charlottesville, Virginia

August 8, 1985

MEMORANDUM

To: VLBA Scientific Group  
From: K. I. Kellermann  
Subject: September 6 Meeting - Options List

VLBA Memo No. 473, prepared by Jon Romney, lists the positive and negative options which may be considered in trying to achieve optimum performance of the VLBA at a cost not to exceed our budget.

The present estimate of the cost to complete the VLBA with none of the options exercised is \$66,760,000. This must be compared with our budget of \$65,737,000. Thus, we are about 1 M\$ over budget. Moreover, at this time we would like to keep a contingency of about 10% to cover unforeseen problems, future design changes, or further add-on's.

At our September 6 meeting we will discuss the choice of possible options, with the goal of coming up with a set of recommendations consistent with our budget. The following week there will be a design group meeting in Green Bank where detailed design decisions will be made, and our meeting of September 6 will be an important input to that process.

In order to provide a starting point for our discussion on September 6, several of us have attempted a first pass at a recommended plan. It was not easy. Many very desirable items will need to be deleted, or at least deferred. It may be hoped that many, if not for all of these, can be picked up at a later date out of contingency if there are no major unanticipated expenses. We have trimmed the project as far as we feel is feasible without greatly compromising the scientific use. But a further 3M\$ should really come off.

In selecting these options we have tried to retain those items which have a broad impact on the performance or where the choice impacts design decisions which must be made now. We have deferred mostly items which can be reinstated at some later point without major redesign or retrofit. All of this is open to negotiation, provided we find a way to save 4 to 8 M\$.

The discussions on September 6 and the following week may affect the VLBA capability for a number of years, and I hope you will be able to call in.

If you cannot participate, and wish to comment on the choice of options, call me at (804) 296-0240. The September 6 meeting is not restricted to the Science Group. Everyone is invited to participate. But if you will be calling from a location other than Charlottesville, VLA, Socorro, Green Bank, Pasadena, Haystack, Cambridge, College Park, Blacksburg, Washington, Toronto, Berkeley, or Urbana, please inform Carolyn Williams at (804) 296-0283.

The number to call is (203) 748-1699 and the meeting will start promptly at 1300 EDT. Since there will be many connections to Connex, you will need to call in early if you want to be on the line by 1300. The conference identification number is 999K.

Please note that the next meeting of the group, scheduled for December 6, will be postponed until Monday, December 9 to avoid conflict with the Bangalore Quasar Symposium and to coincide with the weekly coordination meeting.

KIK/pj

Proposed VLBA Cost Savings

|                                       |        |
|---------------------------------------|--------|
| No RFI shielding                      | -755k  |
| No backup generator                   | -300k  |
| Reduce control building 20%           | -350k  |
| Eliminate one receiver (S band?)      | -600k  |
| Add 16 MHz channels                   |        |
| Add MK II terminals at first antennas |        |
| Correlator                            | -2000k |
| Add 32 Mbit correlator channels       | +150k  |
| No digital filters                    | -325k  |
| Reduce Operations Center 20%          | -525k  |

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|                          |             |
|--------------------------|-------------|
| Total savings            | 4,705k      |
| Present cost-to-complete | 66,760k     |
| New cost                 | 62,055k     |
| Budget                   | 65,737k     |
| New contingency          | 3,682k (6%) |