

NATIONAL RADIO ASTRONOMY OBSERVATORY
Green Bank, West VirginiaMEMORANDUM

March 4, 1983

To: Electronics Engineers, All Sites
From: R. Lacasse *RL*
Subj: Electronics Group Meeting re Computer Planning Group

A meeting of the Electronics Division groups at the four NRAO sites was held on February 23. One of the meeting's purposes was to formulate an input for the Computer Planning Group. This memo attempts to serve as part of this input.

There was good agreement on these philosophical points:

1. Systems should be easy to learn and use.
2. Sharing of expensive and seldom used equipment via networking is desirable and acceptable.
3. The capability of tying into a large computer containing a good engineering software package is required.
4. A budget for canned software is very desirable.

There was quite a bit of disagreement on the question of complete hardware compatibility among the sites, especially in data acquisition systems. However, it was agreed that the acquisition systems must be linkable to a large computer. This last point is the only one that need concern the Computer Planning Group.

Several specific needs which should be addressed by the Computer Planning Group were identified. These include:

1. Circuit analysis, synthesis, and optimization.
2. Receiver and digital systems analysis.
3. Drafting, wire wrapping, and miscellaneous circuit and system documentation.
4. Miscellaneous analysis and mathematical aids.
5. Word processing, data base management, and miscellaneous bookkeeping.
6. Data transfer from data acquisition systems to general purpose computer.

While it is reasonably straightforward to specify hardware to satisfy the above needs, it is difficult to specify quantities. The latter is in part determined by the nature of the work done at different sites and, of course, will ultimately be determined by funds available. The system, then, should be easily expandable.

At each site there should be:

1. Monochrome line graphics terminals with hard copy capabilities (one or two per site).
2. Text terminals (one per one to three engineers).
3. Low speed printers (one per two text terminals).
4. Medium speed printers (one per site).
5. Data acquisition terminals (number depends on cost and site philosophy).
6. Machine readable I/O such as floppies or tape (one or two per site).
7. Word processors.

Additionally, all sites can share one or a network of general purpose computers with hard discs, tape drives, and a high quality plotter. Items one through six above should all be linked to the general purpose computer.

Finally, the needs of the Electronics Division should not be considered independently from the needs of the astronomers. For simplicity of maintenance, the burden of which falls mainly on the Electronics Division, as well as for cost reasons, systems at each site, as well as the overall system, should be as thoroughly integrated as possible.

RJL/cjd

Distribution:

<u>VLA:</u>	<u>Tucson:</u>	<u>CV:</u>	<u>GB:</u>
L. Beno	R. Freund	J. Archer	G. Behrens
C. Broadwell	R. Howard	M. Balister	C. Brockway
J. Campbell	G. Moorey	R. Escoffier	W. Brundage
P. Dooley	J. Payne	M. Faber	J. Coe
P. Lilie	D. Ross	J. Granlund	R. Fisher
P. Napier		L. D'Addario	R. Lacasse
Z. Nosal		A. Shalloway	R. Mauzy
A. Thompson		S. Weinreb	C. Moore
D. Weber			R. Norrod
			D. Schiebel
			R. Weimer