

The general problem  
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The "Year 2000" or y2k problem is the failure to represent the century part of the date correctly, or at all, in computer hardware, operating systems and software packages, in date-aware embedded micro-controllers and microprocessors, and in digital data.

The consequences of the y2k problem in the business, financial and government worlds are enormous and beginning to attract attention. The consequences of the embedded-chip y2k problem for industrial plants and infrastructure, including the power distribution system, telecommunications and fuel supplies, are also potentially very great.

It's unlikely that all problems associated with y2k in the world around the NRAO are going to get fixed in a timely fashion. Given the interconnectedness of the global economy, and its reliance upon instantaneous transactions, it's unlikely that the early days of January 2000 will see "business as usual".

But it should be the role of this committee to ensure that the NRAO, given power, essential supplies and payroll in January 2000, can indeed perform the vital functions of its emission without any major disruption by internal y2k related problems.

I believe that means that we must first inventory, and then evaluate, by testing wherever possible, our y2k exposure at the NRAO. Starting with the most critical areas, which Paul Vanden Bout identified at the AD Meeting as telescope operations, and business operations (fiscal and personnel). Then we can move on to such important but less critical areas as engineering development, astronomical data processing, etc. (where in fact we are probably already in fairly good shape).

#### 1. Telescope operations

The areas of POSSIBLE, (I am not saying ACTUAL) exposure to y2k in Telescope operations are:

- o online computers and their operating systems
- o monitor and control software,
- o microprocessor-controlled electronics,
- o correlators,
- o communications with other systems
- o essential materiel supplies

We need to evaluate whether the operation of any NRAO telescope that we expect to operate in 2000 is vulnerable to y2k problems either from within or from data or commands that it will receive from elsewhere.

Because telescope control and operation are complex processes it is unlikely that we can give any telescope a credible "clean bill of health" for y2k issues without an actual operational test.

Because tests will need some care in planning, and will take time away from other activities in order to execute, we should take a first look at y2k issues for each telescope "from a distance" before planning tests.

E.g.

- o is the os in the telescope control computer capable of handling dates