

NATIONAL RADIO ASTRONOMY OBSERVATORY
Green Bank, WV

FRONT-END DATA LINK MEMO NO. 2

MEMORANDUM

October 1, 1987

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Subj: **Front-End Data Link Notes**

The 6/25 cm and 300-1000 MHz receivers use one 15-pair and one 30-conductor cable. The number of cables required for these receivers was kept to a minimum by using a simple digital link to indicate which, if any, of the 16 different signals were out of limits. In addition, two 16-channel analog multiplexers are used to monitor up to 32 different analog signals over one pair of wires.

For future receivers, control and monitor could be implemented using a dedicated microprocessor with associated A-D, D-A, and parallel digital I/O circuitry in the front-end box similar to the FEDAL system.

The control room part of the receiver control could be a personal computer rather than dedicated control and monitor panels with pots, switches, and meters. I am assuming programs are available or could be written to use the personal computer to set the various analog voltages and digital controls and to monitor, display, and log the analog and digital functions. A fast serial link would be needed between the PC and the front-end package.

JRC/cjd