National Radio Astronomy Observatory
Tucson, Arizona

April 6, 1988

<u>MEMORANDUM</u>

To: D. T. Emerson and E. B. Stobie

From: P. R. Jewell

Subject: Continuum Vane Calibration, etc.

This week we have had another set of observers who needed a
vane calibration mode for continuum observations. A year ago,
Betty installed an observing procedure in FORTH that performs a
vane/sky observation, but we have never set up an automatic
procedure for calibrating the data in the analysis system. I don't
think that it would be too much work to set this up, and so urge
that we do it this spring or summer. My proposal is basically the
same as written in my memo of a year ago (attached):

1.   Define a flag in FORTH that indicates whether the calibration
      mode is VANE or DIRECT, where DIRECT is the old way of
      calibrating.

2.   When a continuum vane calibration is performed, write the scan
      to the GAINS file and <u>do not</u> increment the scan number. I
      suggest that we change the name of the "GAINS file" to the
      "CAL file."

3.   If the CAL_MODE = VANE, have the Link Task compute the
      quantities

      $Delta\_T = T(vane) - T(sky)$, and

      $Tsys = TC * T(sky) / [T(vane) - T(sky)]$.

      Write these into the header of each scan that follows.

4.   When a scan is displayed in CONDAR, if CAL_MODE = VANE, scale
      the temperatures as

      $$T_R^* = (ON - OFF) * \frac{TC}{[T(vane) - T(sky)]}$$

Item 2: Let's not forget about putting in the Beam Throw
calculations. I recognize that we are busy with many software
jobs, but these projects are worth a few days to improve the every-
day operation of the telescope.