# National Radio Astronomy Observatory

### Socorro, New Mexico

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To:     File

From:   R. Ekers

Subject:   Suggestions for Enhancing the Display System

Since much of the intended use of the Display subsystem involves use of the cursor to specify flagging information, we should make it much more convenient to do the cursor positioning and readout operations.  The following suggestions would much enhance the capability:

1.     It must be made possible to initiate the cursor readout program from within TVDIS.  Obviously, something will have to be done about the overlapped use of the scratch pad. Either TVDIS use of the scratch pad should be inhibited or a separate user input device be added.  It might be worth adding a standard $I^2S$ track ball in addition to the scratch pad, and only using the scratch pad to access the TVDIS menu on the VT11.

2.     It is difficult to position the cursor with enough accuracy for flagging.  A neat way to solve this problem would be to allow zooming and roaming operations while the cursor position program is being used.  The zoom could be implemented by button or keyboard input and it should zoom about the current position of the cursor if possible.  The roam could be implemented in a very simple way by initiating roam whenever an attempt is made to move the cursor off the edge of the displayed area.

3.     The ability to link and unlink the two transfer functions should also be available in the display mode menu.

The following multiple loading operations should be supported.

1.     Pairs of maps should be loaded into channels 1 and 2. For example, if amplitude and phase are specified, these should be automatically loaded into channel 1 and channel 2.  Also, if two polarization channels are specified, they should be automatically loaded into channels 1 and 2 with the same scales.  Some thought might be given to the best way to do this eg TVCHAN = 1, 2 if multiple loading loading is desired.

2.   The procedures for combining maps into a single
     displayed image in one channel can be improved.  Eg if
     multiple sources are to be combined using the "add to
     the previous image" option, it should be possible to
     specify this by a list of map names (or wild
     characters) and that when this occurred all the disk
     reads are done and a single I/O to the TV made.  A
     single scale factor can be used for all images when it
     is done this way.

3.   The graphics planes should be better organized to
     handle two channel data.  For example, seperate
     graphics planes should be assigned for each channel and
     when the display mode is switched from one channel to
     the other, the appropriate graphics plane is used.

Changes specific to the BT map displays.

1.   Since these always have less than 512 lines, it would
     be preferable to start the display at the bottom of the
     screen leaving space on top for the titles and optional
     wedge.

2.   Many enhancements are needed when displaying
     differences.  Eg the cursor value should be correctly
     calculated.  Something sensible should be done with the
     wedge.  An automatic offset to the transfer function to
     put zero in the same place should be made.