

ARTIFICIAL INTELLIGENCE LABORATORY, M.I.T.

VISION GROUP

VISION FLASH #10

THE LINE PROPOSER P%PROPOSE1, and  
ADDITIONAL NOTES ON "F%FEATUREPOINTS" AND "GVERIFY1"

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APRIL 2, 1971

SUMMARY: The line proposer P%PROPOSE1 is described in the first part of this memo. It makes use of links, provided by the J%JOIN program, in proposing possibly missing lines in a line drawing of simple plane-faced objects. The remainder of this paper updates the descriptions of "F%FEATUREPOINTS" and "GVERIFY1" given in flashes #3 and #2 respectively.

Work reported herein was supported by the Artificial Intelligence Laboratory, an M.I.T. research program sponsored by the Advanced Research Projects Agency of the Department of Defense under Office of Naval Research contract number N00014-70-A-0362-0002.

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1. HOW TO USE P%PROPOSE1

The calling sequence is:

(P%PROPOSE1 ()).

The function P%PROPOSE1 requires a previous execution, within the same core image, of:

(J%JOIN L N ()),

for some set of lines L. It further requires the existence of some verifier called "GVERIFY1"; either the one described in flash #2, or any other verifier having the same calling sequence and output. The lines given to J%JOIN may be from any source, so long as their co-ordinates are commensurate with the vidi field being 1,024. units square, with origin in the lower left corner.

The lines proposed are all put on a list called "VERLIST\*". Those accepted are added to the set in the array "INFO". The augmented set of lines, properly vertex-joined, may be obtained as the value of:

(GETOUT N),

where N is the same as was given to J%JOIN. Several subsequent executions of P%PROPOSE1 are possible.

P%PROPOSE1 is available in the package P% > on DSK: AKG; or on tape "% SYSTEMS".

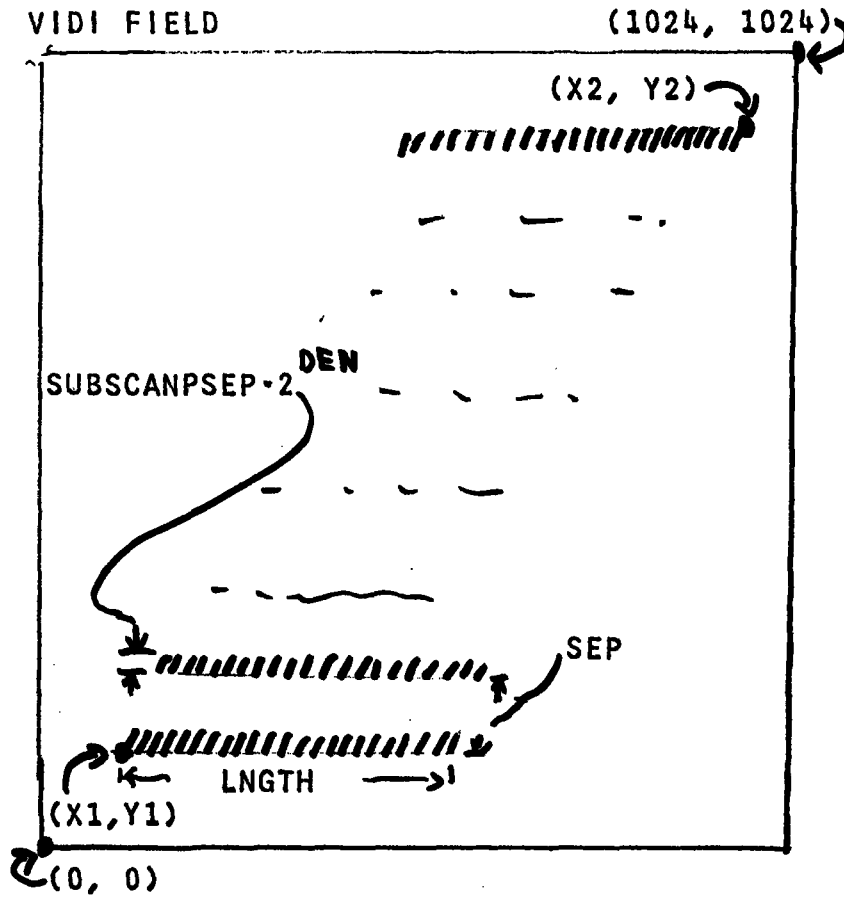
3.

11. MODIFICATIONS TO F%FEATUREPOINTS

1) The calling sequence is now:

(F%FEATUREPOINTS PTS SEP LENGH DEN SW)

where SEP LENGH and DEN are as in the following diagram:



and PTS is ((X1, Y1)(X2, Y2)). If SW

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is 0, the major scan lines are horizontal, as in the diagram; if SW is 1, the scan lines are vertical. The intensity values in the short sub-scans are summed, to provide a measure of surface-noise reduction.

2) F%DFEATUREPOINTS no longer exists.

3) The compiler is now on file F%AUX >.

### III. MODIFICATIONS to GVERIFY1

Sections III, IV and VI are obsolete. It is no longer necessary to execute the function FPCREATE or to set values of FPS0 and FPS1. However, it is necessary to have the F%FEATUREPOINTS package in core to use GVERIFY1. These modifications result from the fact that the verifier GVERIFY1 now goes directly back to the vldissector for intensity information rather than to a pre-existing raster of feature points.