

July 26, 1957

FILE MEMO: Project 7000

SUBJECT: Tapes For Communication with other Systems

The current Basic Exchange permits writing records on 729-I tape in lengths that are only integral multiples of that of one word. This is a limitation when preparing a tape to communicate with a 717 printer because in some instances a record length of 121 characters is required.

If the 729-I is not equipped with a byte converter, each character to be written on it appears as an eight bit, byte in memory. Thus 121 characters would represent 968 bits or 15.125 words.

If the 729-I is equipped with a byte converter, each character to be written on it appears as a six bit, byte in memory. Thus 121 characters would represent 726 bits or 11.34375 words. In fact 120 characters would represent 720 bits or 11.25 words.

One large volume application for communication tapes is in reports destined for the government. That such reports are inflexible and long enduring is well known. The exclusion of 121 character records can be, therefore, very serious.

The problem is to provide communication tape compatible with 717 and 720 printers to the extent that a full 120 character line can be printed with carriage control. The solution should not be an elaborate change in the Basic Exchange nor should it be no solution at all—limiting the line to 119 characters. Some method needs to be provided for writing 121 characters on tape. One technique would be to supply the 721-I\* with a device (set by a control instruction) to have it accept only the first 15.125 words out of each 16 supplied it. This device could be offered as an optional device to the customer. Other techniques must exist.

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\*With its byte converter disabled.