

August 28, 1957

MEMO TO: Mr. R. A. Gregory  
SUBJECT: Ground Rules for 7000 Series  
Card Reader

In the absence of specific, agreed-upon performance requirements for other programs, we would suggest the following ground rules in the design of the card reader for the 7000 Series:

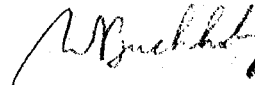
1. Card image transposition will be done via a 960-bit card image storage device which is part of the card reader electronic circuits. Entry into that storage device will be 80 bits (one row) at a time. Exit from that storage will be 8 bits plus a parity bit at a time, where every two consecutive 12-bit columns are converted into three consecutive 8-bit bytes for entry into the Exchange. The sequence of bits is from the 12 bit, column 1, to the 9 bit, column 80.
2. Translation will be done by computer programming. Except for thorough checking against mechanical and electrical malfunctioning, all holes will be read and transferred to the computer unconditionally without local program control in the card reader circuits.
3. All checking and comparison of the readings at the two brush stations will be done automatically by the card reader circuits, in conjunction with error recording and other maintenance aids.
4. All electronic circuits (transistors and/or cores) for the card reader are to be packaged together, preferably on a single circuit panel.
5. The exact packaging technique will be determined later. The circuit panel should be capable of being mounted either in the reader (together with a power supply) or on a separate rack, together with similar panels and a common power supply for other units; the choice depends on later considerations of compatibility with other programs.

We are looking ahead to achieving maximum standardization with other programs on the basis of one or the other of the following techniques, the first being, of course, the more desirable:

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1. Use the same reader as the above, both mechanically and electronically, with at most small variations, such as a different choice of byte size at the output of the storage device.
2. Use the same mechanical package but an entirely different circuit panel; the panels are, however, of the same size, use the same basic components, and can be mounted interchangeably in the same space.

Punches and printers will follow an analogous scheme.



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