

January 22, 1958

MEMO TO: Mr. D. W. Sweeney

SUBJECT: Keys and Lights for Card Reader

The meeting was held on January 20, 1958 with Dr. Buchholz and Mr. Calvert's group to decide final specifications for these keys and lights. The decision was reached were as follows:

KEYS:

LOAD-READY - Causes cards to feed until the first card has passed the second reading station. Sets the reader in the READY status, turning on the ready light, and turning off the READ CHECK light if it was on.

STOP - This key intended to be used for temporarily stopping the mechanism during a run. It operates differently according to whether it is depressed in the middle of a multiple read operation or at the end of an operation. If depressed in the middle of a multiple operation, the mechanism will simply hang up. The same operation will be resumed as soon as the LOAD-READY key is depressed. The card reader remains BUSY throughout. If depressed during the last cycle of an operation, this key sets the reader in the NOT READY status at the end of that cycle.

UNLOAD - Causes the mechanism to feed cards without reading, regardless of the state of the card levers.

SIGNAL - Sets the SIGNAL bit in the ECW immediately. This will cause an unit signal interrupt, at the end of the current operation and as soon as the computer is enabled.

END-OF-FILE - The depression of this key sets a latch which signifies that the card reader is ready to read the last card of a file. It turns on the END-OF-FILE light. When this light is on, the last card in the hopper will be allowed to pass through the feed, and the read instruction

following that which caused the information of the last card to enter memory will give rise to end of file indication. When the END-OF-FILE light is not on, the feed stops as soon as the last card leaves the hopper. Note that this is a new definition. It enables further cards to be placed in the hopper without the possibility of having empty stations in the feed.

POWER ON -

POWER OFF -

LIGHTS:

READY - Turned on by the LOAD-READY key, and remains on as long as the card reader remains in the ready status. Turned off by any circumstance which takes the card reader out of ready status, such as depressing STOP key, hopper running out of cards, and card jam.

END-OF-FILE - Turned on by depressing END-OF-FILE key. Signifies that the last card in the hopper is the last card in the file (see END-OF-FILE key). May be turned off by a second depression of the END-OF-FILE key. Turned off automatically when an End-of-File indication is sent to the computer.

OUT-OF-MATERIAL - Is on whenever the hopper is empty or the stacker is full. When the card reader reaches an Out-of-Material condition, an End-of-File indication and interrupt is sent to the computer. A word is transmitted to memory whose leftmost bit is unity. This will distinguish from a true End-of-File indication, which causes an all zero word to be sent to memory. An Out-of-Material interrupt will not occur when the hopper empties, if the END-OF-FILE light is on.

READ-CHECK - Turned on by a control instruction. Turned off by depression of the LOAD-READY key. Intended for use by the program whenever an error is detected in data coming from the card reader.

FEED-CHECK - Turned on by a card jam or similar calamity. Turned off by clearing jam or by depressing UNLOAD key.

RESERVED - Turned on and off by control instructions. To be used by the program to inform the operator as to whether or not it is using the card reader.

POWER ON or UNRESERVED - Final definition of this light has not been reached. Your comments are solicited.

OTHER FUNCTIONS - The following redefinitions should be noted:

An offset stacking device is called for. Its action will be initiated by a control instruction, probably the same instruction which turns on the **READY-CHECK** light. If given within one card cycle, it will offset the card following the error card.

The Engineers strongly question the advisability of special circuitry to confine the buffer to thirteen words when operating in the **ECC** mode. I allowed this objection, since we are able to use control words having a count of thirteen when in the **ECC** mode.

This is the definition on which Mr. Calvert's group are going to work. Any objections should be made immediately.

HGJ
H. C. Jones

HGJ/jcv

cc: Dr. W. Buchholz
Mr. J. D. Calvert
Mr. E. F. Codd
Mr. E. W. Coffin
Mr. J. C. Gibson
Mr. H. G. Kolsky ←
Miss B. McDonough
Mr. B. Moncreiff