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# RC8000 PAPERTAPE READER PROCESS

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**Keywords:**

RC8000, external process.

**Abstract:**

This paper describes the conventions of an external process controlling a papertape reader connected to RC8000.

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General Rules.

Operation can only be initiated by an internal process that has initialized or reserved the device.

Sense Operation.

The device does not permit a sense operation, so a status zero is always delivered.

Sense Ready Operation.

The operation specifies the mode in which the tape must be read. The operation is delayed until a paper tape is loaded in the reader and the reset-button is pressed, if not already done. When a tape is loaded, 3 characters are read and converted according to the mode specified. The characters are kept until an input operation arrives.

Note that if mode = 6, the process should not be initialized between sense ready and the next input, as that may disturb the case situation.

Input Operation.

Characters are input to at storage area within the sending process. Three 8-bit characters are packed in each word. Unused character positions in the last input word are filled with NUL characters.

Input is terminated,

1) when the area is full, or
2) after a parity error, or
3) at the end of the paper tape,
4) after 3 characters, if first message after sense ready,

whichever occurs first.

In all cases input is terminated by an answer defining the actual number of characters transferred to the storage area.

Input Mode.

Characters can be input after removal of an odd or even parity bit, or directly as 8 bits without parity checking. Finally they can be input and converted from the Flexowriter code to the ISO 7-bit code. The case situation is set to lower case when the reader is initialized or reserved.

The input is part of the message:

| | | |
|---|---|---|
| mode: | 0 | odd parity |
| | 2 | even parity |
| | 4 | no parity |
| | 6 | Flexowriter to ISO conversion |

In mode 0, 2, and 6 input is terminated after a parity error. The erroneous character is replaced by a SUBSTITUTE character (ISO 26). In mode 6 however ALL HOLES characters are skipped.

Status Bits.

| | |
|---|---|
| 1 | parity |
| 2 | timer (after sense ready) |
| 5 | end of paper |

It should be noted that the input block can have a length greater than zero when the status word indicates an end of paper.

Messages and Answers.

| operation: | message: | answer: |
|---|---|---|
| sense | 0 | 0 |
| | | 0 |
| | - | 0 |
| sense ready | 0 < 12 + 4 | status word |
| | | 0 |
| | | 0 |
| input | 3 < 12 + mode | status word |
| | first storage address | number of halfwords |
| | last storage address | number of characters |

RETURN LETTER

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