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SECTION BF.10.01

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Identification

cdread7: A Spliceable Outer Module to convert 7-punch card images into linear binary data J. F. Ossanna

Purpose

This section describes a spliceable I/O-System outer module which converts 7punch card images into linear binary data. The card image format is the CTSS 7-punch format.

<u>Usaqe</u>

The segment <u>cdread7</u> uses the standard I/O-System outer calls <u>attach</u>, <u>detach</u>, <u>and read</u> (see Sections BF.1.00 for explanations and declarations). The user must first attach some 7-punch source such as the card-reader DIM or a file. Then <u>cdread7</u> is attached by the following call.

call attach(ioname1, "cdread7", ioname2, mode, status);

<u>ioname1</u> is the ioname on which <u>read</u> calls to <u>cdread7</u> are to be issued. The <u>type</u> is "cdread7". <u>ioname2</u> is the ioname that <u>cdread7</u> is to read from. <u>mode</u> is ignored. <u>status</u> is described in BF.1.07. At attach time <u>cdread7</u> issues a <u>setsize</u> call on <u>ioname2</u> to set the element size to 972 bits (each card image occupies 26 2/3 words out of 27 words).

The following call is made to read an entire 7-punch deck.

call read(ioname1, wksp, offset, n, nt, status);

<u>wksp</u> is a pointer to the caller's workspace. <u>offset</u> is an offset in 36-bit elements (words) in the workspace and indicates where in the workspace the returned data is to be stored. <u>n</u> is the maximum number of elements (words) that <u>cdread7</u> will attempt to transmit. <u>nt</u> is returned and is the actual number transmitted. See BF.1.07 for a description of <u>status</u>. Upon receipt of a <u>read</u> call <u>cdread7</u> will read card images from <u>ioname2</u> until an entire 7-punch deck has been converted, until <u>n</u> elements have been transmitted, or until a fatal error has occured. The fatal errors are: (1) a card is not in 7-punch format; (2) a checksum error has been found; MULTICS SYSTEM PROGRAMMERS ' MANUAL

(3) a card sequence error has been found; or (4) the 7-punch source has returned error status. In the first three cases the first word of <u>status</u> is returned nonzero. In the last case the status returned by the 7-punch source is returned as <u>status</u>. In all cases an error comment is written on user_output. If any valid data was transmitted prior to detecting an error, the proper count is returned in <u>nt</u>.

If a complete 7-punch deck is not read with a single read call because of error or because of <u>n</u> being too small, the remainder of the deck cannot ordinarily be read by a subsequent read call. In case of error, the error condition must first be corrected. In all cases, the 7-punch source must be backspaced to the beginning of the deck (i.e. to the card with sequence number zero). The following call is used to detach cdread7.

call detach(ioname1, ioname2, mode, status);

The instance of <u>cdread7</u> corresponding to <u>ioname1</u> detaches itself, and returns <u>status</u> indicating the detachment. No calls are made on <u>ioname2</u>. <u>mode</u> is ignored.