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SYSTEM/LDCONTRL

PRODUCT SPECIFICATION

REV LTR	REVISION ISSUE DATE	APPROVED BY	REVISIONS
B	1/28/82	R Grote	Changes for MARK 11.0 Release 2-1 Changed "CARD.IN" to "CARD". 4-1 Updated "Number 9" of the Restrictions.

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B1800/B1700 SYSTEM/LDCONTRL

PRODUCT SPECIFICATION

REV LTR	REVISION ISSUE DATE	APPROVED BY	REVISIONS
A	3/9/78		Software Release Level Mark 7.0. Formerly released as section six of P. S. 2212 5579, B1800/B1700 MCP UTILITIES.

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GENERAL MANAGER
SANTA BARBARA PLANT

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TABLE OF CONTENTS

GENERAL DESCRIPTION

SYSTEM/LDCONTRL (LOAD CONTROL) has the function of creating pseudo decks from physical card decks. Essentially it is a card-to-disk program with the following special features.

a. The name of the physical card deck for SYSTEM/LDCONTRL is CTLDCK. Thus, the first card in the reader should read:

```
? DATA CTLDCK
```

Following this file specifier should be the normal decks of cards which one would usually pass through the reader, including all control cards. One must be careful to make the distinction between a "pseudo deck" and a "pseudo card file". The pseudo deck includes both control cards and data up to an end card; a pseudo card file consists of all the cards after data CTLDCK and before ENDCTL. A typical pseudo card file might be:

```
? DATA CTLDCK
? EXECUTE A/B
? PRIORITY = 5
? DATA CARDS
  DATA FILE
? END % END DECK 1
? EXECUTE PROGB
? END % END DECK 2
      .
      .
      .
? ENDCTL
```

b. The pseudo card file is allowed to contain control statements (cards with an invalid character or question mark in column 1) which are written to disk along with normal data cards. Since control statements may be read as data, including the end statements, a special terminator is necessary to denote the end of the pseudo card file. This card is:

```
? ENDCTL
```

Thus, the pseudo card file contains all cards from the ? DATA CTLDCK statement to and excluding, ? ENDCTL statement.

c. One execution of SYSTEM/LDCONTRL can create many pseudo decks. As each ? END card (end of deck) is sensed by SYSTEM/LDCONTRL, the pseudo deck (disk file) is closed. If more decks are present following the one just closed,

a new pseudo deck is initiated.

d. SYSTEM/LDCONTRL may be initiated at any time by the LD message, and terminated by passing the ? ENDCTL statement through the card reader. More than one SYSTEM/LDCONTRL program may be entered into the mix by typing in multiple LD messages. This would most commonly be done when the system has more than one physical card reader.

e. SYSTEM/LDCONTRL can handle 80 column or 96 column card devices.

RELATED DOCUMENTATION

Name	Number
B1800/B1700 MCP II	P. S. 2212 5462
B1800/B1700 Software Operational Guide	1068731

PSEUDO DECK CHARACTERISTICS

The pseudo deck is a disk file on systems disk, consisting of card images, both program data and MCP control statements. The file characteristics are:

Record size	288 characters (3 96-character records)
Blocking factor	1
Records per area	100
Multi-file-id	"DECK"
File type	pseudo deck (=3)

SPECIAL CONSIDERATIONS

Invalid characters in control records are replaced by an EBCDIC question mark character (36F3). The last record of each deck must contain "?END".

If the user writes his own load control program the following restrictions must be observed:

a. The output file multi file ID must be "DECK".

b. When the load control program is executed the following control statements must be included:

FILE <card input internal file name> PSEUDO;

FILE <disk output internal file name> PSEUDO;

An easier method of accomplishing the same thing would be to name the load control program "SYSTEM/LDCONTRL" and use "CARD" for the CTLDCK internal file name and use "PSEUDO.DECK" for the disk output internal file name. If this was done the LD message could be used to initiate the load control program.

Pseudo decks are identified on disk as DECK/NNNNN, where NNNNN is a unique five digit number assigned by the MCP. Numbers are assigned starting with 00001 and incremented as each new file is created. The counter is reset when it reaches 99999 or when no pseudo decks are found to be in the disk directory. This assignment mechanism insures file uniqueness and allows the user to create his own pseudo decks.

OPERATOR CONTROL MESSAGES

The operator has the following control over pseudo decks:

1. RN <integer> - Number of readers

   This tells the MCP how many pseudo readers to initially set up. Each reader requires 288 bytes. A pseudo reader is a virtual card reader, and MCP alone decides which pseudo deck should be accessed through each pseudo reader. There is no relation between the number specified in the "RN" statement and the number of pseudo decks on system disk.

2. CD - Display card decks

   The MCP displays the number of each pseudo deck and the first 50 characters of the first card image in the deck. If a deck is in use, i.e., allocated to a pseudo deck, its name and the program using it is displayed. If the deck is in a pseudo reader at a data card or stream card and has not been opened, its labelled name is displayed.

3. LD - Initiate Load Control utility

   Initiates the SYSTEM/LDCONTRL program which builds pseudo decks from physical card decks.

4. RD <integer> [, <integer>....] or RD =/=
   Remove pseudo decks

   Remove deck <integer> or all pseudo decks from the disk directory. This message affects only decks not in use by a program pseudo reader.

5. ED <integer> - Eliminate deck

   Will remove a deck that is in a reader providing it is not currently in use by a program. Its purpose is to flush unwanted data decks from pseudo readers.

6. OL PSR - Monitor pseudo readers

   Reports the status of all pseudo reader entries.

7. IL #<integer> - Assign deck to program

   The IL message is used to assign a specific deck to a program when automatic file assignment cannot be performed (e.g., duplicate files, incorrect file-identifiers, etc.).

PSEUDO DECK PROCESSING

Pseudo decks are accessed by the pseudo reader driver routine in a serial fashion. If a pseudo reader is available, a buffer is obtained and the deck is passed to the Control-card Driver. When the Control-card Driver encounters a terminator card (? END, ? DATA N), control is returned to the pseudo reader driver. The reader is attached to a program by storing its address in the program's run structure nucleus. When a program terminates the pseudo deck is removed if an END card was encountered. Control messages in a pseudo deck are processed by the Control-card Driver in the MCP just like real cards, and only 72 card columns are used. Pseudo decks assigned to pseudo readers are accessed by the pseudo reader drive routine and passed to the Control-card Driver which then returns the data file name. The pseudo reader is then marked as a "pseudo data file" and the name is stored in the pseudo reader along with the job number if one was initiated. When a program opens a file, the MCP checks its tables for a physical card reader and/or pseudo data file with the same name and job number as the one requested by the program. If the file is found to be a pseudo file it is opened.

If there is more than one reader, whether physical or pseudo, whose label matches the file id and has not been assigned a job number, a duplicate file message is displayed.

RESTRICTIONS

1. Since all invalid characters are converted to "?", the presence of a "?" in column one will indicate to the MCP that the current record is a control card.

2. A maximum of 9,999 cards may exist in a single pseudo deck.

3. A pseudo reader cannot read a data file labelled "CTLDCK".

4. Stream and terminate may be used to replace DATA and END cards with the following precautions.

   a. The card must begin with an invalid character in card column 1.

   b. "STREAM" or "TERMINATE" must be the first token in the card after card column 1.

   c. The name on the terminate card must match the name on the stream card, otherwise it will be included as data.

   d. No embedded stream or terminate records will be allowed.

   e. All invalid characters on column 1 before the "TERMINATE" will be replaced by a null character (2002).

5. Currently a maximum of 10 pseudo readers is allowed at one time.

6. Any pseudo deck assigned to a pseudo reader cannot be de-allocated from the pseudo reader, except to be removed by "RD" or "ED" messages.

7. Insertion of a card image into a pseudo deck or deletion from it is not facilitated by the MCP. One may, however, write a user program to do such tasks.

8. There is no way to prevent a pseudo deck from being eventually allocated to some pseudo reader, except by removing it.

9. Dumping of a pseudo deck to a tape by SYSTEM/COPY is possible, but loading from tape will generate a data file instead of a pseudo deck.

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INDEX