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COMPUTER SYSTEMS GROUP
SANTA BARBARA PLANT

PLANT IDENT 0 1 4

DOCUMENT TRANSMITTAL

RECEIVED NOV 21 1978
GENERAL MANAGER
SANTA BARBARA PLANT

CONTROL DOC. | REV

SYSTEM/PRODUCT B1800/B1700

DISTRIBUTION TYPE

UNIT NAME

PROJ. NO.

COORD.

CHKR.

RECORDS ISSUE DATE

DOC PFX OR DWG SIZE	DOCUMENT NUMBER	REV OR ISSUE	DOCUMENT DESCRIPTION	ENG. RECORDS ONLY				REMARKS
				QTY REV PAGE	COPIES EACH PAGE	BOND	VELLUM	
IPS	2219 0326	A		1	2			
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Burroughs Corporation

COMPUTER SYSTEMS GROUP
SMALL SYSTEMS PLANT

B1800/B1700 SYSTEM/PATCH

I.P.S. 2219 0326

PRODUCT SPECIFICATION

REVISIONS

REV LTR	REVISION ISSUE DATE	PAGES REVISED ADDED DELETED OR CHANGE OF CLASSIFICATION	PREPARED BY	APPROVED BY
A	11/13/78	Original Release - Mark 8.0 Level Release		

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SANTA BARBARA PLANT

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INTRODUCTION

SYSTEM/PATCH is designed to merge one or more patch clusters to create a single patch file which may be used as the input file "CARDS" for SDL, MIL or FORTRAN. The program is especially designed to be used when compiling standard B1800/B1700 programs. Instead of a patch file, a pseudo deck may be created.

RELATED DOCUMENTATION

NAME	NUMBER
B1800/B1700 Software Operational Guide	1068731

FUNCTIONS

The program:

Creates a single patch file from one or more patch clusters. Files may be merged from different hardware types.

Checks sequence numbers to ensure that each is either all blanks or all digits.

Checks sequence numbers against highest sequence number previously encountered in the patch unit. Emits a warning if RESEQUENCING or "$# NO SEQERR" is set; otherwise, emits ERROR, thus suppressing merging. No sequence error warning will be issued on blank sequence cards if a "$# NO BLANK.SEQ.WARN" card is included.

Checks "$ VOID" cards to see that the end of the void range is greater than/or equal to the highest sequence number previously encountered in the patch unit, including the sequence number of the VOID card.

Gives a warning if a previous patch is replaced or deleted.

Adds patch identification (mark, level, version and transaction) to each record, thus creating 90 character records. These remain a permanent part of the record and will be printed on the listing by the compilers as long as the record remains in the source file.

Generates an input patch listing, optionally beginning each patch unit or a new page.

Generates a listing of the resultant merged file. Generates a merged listing by specified patch id ($#DOC).

Recognizes special comment cards ("$# COMMENT") for patch description purposes. COMMENT may be replaced by a % which may appear in any column after column two. ("$#%" = "$# COMMENT").

Allows up to 18 characters of special patch identification for things like date or initials. These are printed on the patch listings and merged listing but are not included in the resultant patch file.

Prints a heading.

Generates a pseudo deck, insteac of a patch file, if any cards are seen with $? in columns 1 and 2. All such cards (with the $? replaced by ? blank) are placed ir the pseudo deck preceding the patch cards and a ?END is generated after the patch cards. Be sure the number of pseudo readers is greater than 0 (RN1). The sequence field is blanked out on $? cards (pseudo control cards).

Allows a deck with no $# cards for the purpose of listing and checking. If no errors occur, a merged file (or pseudo deck) will be generated with blanks for BASE, VERSION and PATCH ID.

OPERATING INSTRUCTIONS

This program is controlled by cards with "$#" in columns 1 and 2. The following are recognized:

$# (BASE | MARK) <digit>.<digit>

This card is for specification of the previous or next release. Each patch card gets base information from the last mark card preceding it.

EXAMPLE: $# MARK 6.1

$# VERSION <version id>

This card is used to specify different versions between releases. It might be changed with each new source generation. Each patch card gets the version information from the last version card seen preceding it. The <version id> may be one or two alphanumeric characters.

EXAMPLE: $# VERSION A

$# PATCH <patch id> [<commentary>]

Each patch cluster must be preceded by this card. The <patch id> is normally the transaction number but may be any alphanumeric string up to 6 characters. Additional characters will be truncated. Periods may be imbedded in the 6-character string providing the string begins with a letter. The optional <commentary> is up to 18 characters (including blanks and special characters) beginning with the first non-blank after <patch id>.

EXAMPLE: $# PATCH D00254 7/29/74 LW

The following controls may be used individually or together. Their effect is to override the controls currently in use by System/Patch and to replace the old text with new text supplied on the "OVER" card.

```
$# OVER (<BASE>, | <MARK>) <digit>.<digit>
$# OVER VERSION <version id>
$# OVER PATCH <patch id> [<commentary>]
```

EXAMPLE: If the Base-Version-Patch id field contains and prints

7.0 B ABCDEF

the input card "$#OVER VERSION F" will cause the following change:

7.0 F ABCDEF

The use of the following controls will stop the printing of that particular control text which has been negated. The particular field is blanked out.

```
$# NO OVER BASE
$# NO OVER VERSION
$# NO OVER PATCH
```

```
$# [NO] SEQERR
```

Set by default. Causes sequence errors to be fatal (in which case termination occurs prior to merging). All sequence errors are converted to warnings if $# SEQ.ERR (or SEQERR) is reset. This includes $VOID cards with the end of range too low, in which case the end of range is treated as blank.

$# SEQ.BLANKS

Cards with blank sequence fields may be sequenced by setting "$# SEQ.BLANKS" around the $SEQ, $NO SEQ cards. If $SEQ is not set, $# SEQ.BLANKS has no effect. If $# SEQ.BLANKS is not set, $SEQ cards are handled as before. If a non-dollar card with a non-blank sequence field is enccuntered while sequencing blanks, an error is given. While $# SEQ.BLANKS is set, all $SEQ and $NO SEQ cards are deleted. If either the base or increment is missing, the following are used:

(1) Missing increment - last used increment or 1000.

(2) Missing base - If the $SEQ card has a sequence number, that is used. If no sequence numbers have been seen, 1000 is used. Otherwise the last sequence number plus the new increment is used.

An "S" is printed to the left of the sequence number on the LISTP listing for all newly sequenced cards. $# SEQ.BLANKS may be set and reset anywhere.

$# NO BLANK.SEQ.WARN

Warnings and errors may be suppressed for cards with blank sequence fields by including a "$# NO BLANK.SEQ.WARN" card. This is for cosmetic purposes and should be used cautiously.

$# [NO] LIST

Set by default. Causes listing of merged file.

$# LISTNEW

When generating a new symbolic, $LIST has no effect. To get a listing of the new symbolic, the option "$# LISTNEW" (or LIST.NEW) has been added.

$# [NO] LISTP

Set by default. Causes listing of input cards by patch unit. Paging between patches is suppressed for LISTP. The printer will not be opened if all of the following conditions prevail:

1. The first card of the CARDS file is $# NO LISTP and LISTP is not subsequently turned on.

2. $# LIST is turned off.

3. No other printer output is requested.

4. No errors or warnings occur.

$# PAGEP

This causes each patch cluster to begin on a new page in the LISTP listing.

$# COMMENT <commentary>

These cards are printed or the patch listing and then discardec.

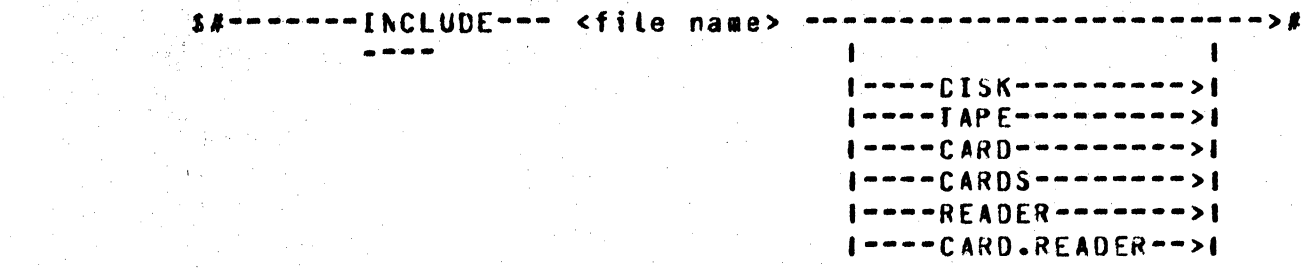
$#% <commentary>

The % sign may replace the word COMMENT. The % sign may be in any column after column 2.

EXAMPLE: $# COMMENT: IMPLEMENTS READ, PRINT AND PUNCH
$# %: IMPLEMENTS READ, PRINT AND PUNCH

$# INCLUDE <file name> | <pack/mf/f>

The syntax for merging files from different hardware types is:



The file name may be one or two levels. Quotes are needed only if blanks or slashes are required in a file id. Otherwise, blanks and slashes are delimiters. Two levels of INCLUDE are allowed; any number of INCLUDE cards is allowed. If an INCL card has no hardware type, the previously specified type is assumed. If none has been specified, DISK is assumed. The action of an INCL record is to switch input to the first record of the specified file. Upon encountering EOF, input is switched back to the record following the INCL record. If the INCL file has 90 character records, it will be assumed to have patch id information and the information will be retained.

Pack-name may appear on a separate card (see $# PACK below) or on an INCLUDE card as part of the file-id (A/B/C). If both a $# PACK card and a pack-name on the INCLUDE card are present, the pack-name on the INCLUDE card takes precedence.

$# PACK (<pack id> | SYSTEM)

If no PACK card has appeared, SYSTEM is assumed. PACK applies only to INCLUDE files. The <pack id> applies until another PACK card is seen.

$# DOC

This causes a listing by patch id of the merged file. "$# DOC" is reset by default.

$# NEW

If the option "$# NEW" is set, the patches will be merged into a file "SOURCE" (DEVICE=TAPE, USE.INPUT.BLOCKING) to create a new file "NEWSOURCE" (DEVICE=TAPE, RECORDS = 90/20). The new source should be exactly as though SOL had created it (including resequencing). All $ cards are discarded.

$# END

This serves as an end of file for SYSTEM/PATCH so that extra cards stored behind it are ignored. "$# END" denotes end-of-file whether it is in the CARDS file or in an INCLUDE file.

FILES

CARDS	Input Card File
LINE	Printer File
IPF	Intermediate Patch File (Disk Random)
PATCH	Resultant Merged File (Default Disk)
SOURCE	Input for $#NEW
NEWSOURCE	Output for $#NEW

NOTE: "CARDS" is not closed until EOJ so the compile deck will wait until after "PATCH" is locked.

RESTRICTIONS

The total patch deck may not exceed 16374 patch cards.

All input must be EBCDIC and only EBCDIC output is generated.

Each sequence number must be all blanks or all digits.

Only one keyword is recognized on a $# card.

Compiler control options "SEQ" and "VOID" are recognized but only if they are first on the $ card. (Note: "SEQ" may be preceded by "NO".) Any other compiler directing option appearing on the "$ SEQ" card will produce the following error message: "$-OPTION NOT PERTAINING TO SEQ SHOULD BE ON SEPARATE CARD."

SYSTEM/PATCH does not yet catch the case where a patch falls within a resequenced range of a previous patch in the same deck. Until it does, resequencer beware.

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SAMPLE DECKS

SAMPLE DECK SETUP = PSEUDO DECK

```
?    EX SYSTEM/PATCH DA CARDS
$?   CO BRD/PATCH
$?   FI SOURCE NAME PATCH/750504 TAPE;
$?   DATA CARDS
$#   BASE 5.0
$#   VERSION XA

     <patch clusters>

?    END
```

SAMPLE DECK SETUP

```
?    EX SYSTEM/PATCH
?    FI PATCH NAME MCPI/PATCH;
?    DATA CARDS
$#   BASE 4.1
$#   VERSION A
$#   NO LISTP
$#   PATCH OPTION
$#   COMMENT: CONTAINS COMPILER OPTION CARDS
$    MERGE
$    NO LIST
$#   PATCH D00154  7/29/74 - CK
$#   COMMENT: CORRECTS PROBLEM WITH TAPE EOF.
     <PATCHES>
$#   PATCH DEBUG
$#   COMMENT: DEBUGGING ONLY - TO BE REMOVED ********
     <PATCHES>
?    END
?    COMPILE MCPI/EXP
?    FI CARDS NAME MCPI/PATCH DISK;
?    FI SOURCE NAME MCPI/SOURCE TAPE;
?    END
```

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