

3300

3500

COMPUTER SYSTEMS
COSY/MASTER

REFERENCE MANUAL

CONTROL DATA
CORPORATION

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CONTROL DATA CORPORATION
Documentation Department
3145 PORTER DRIVE
PALO ALTO, CALIFORNIA

March, 1967
Pub. No. 60178800

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Printed in the United States of America

FOREWORD

This reference manual describes the COSY (compressed symbolic) task for maintaining and updating source decks in compressed symbolic format under the 3300/3500 MASTER operating system.

The reader's familiarity with the MASTER operating system is assumed.

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The 3300/3500 COSY (compressed symbolic) task provides a means of compressing information in a source deck by inserting special BCD characters to represent two or more consecutive blanks on a card. COSY may be used with any source language that does not contain any of the COSY control statements. Input and output may be in COSY and/or Hollerith format.

With COSY control statements the user may update and revise a COSY library and copy a COSY library from one file to another. Because 3300/3500 COSY accepts blocked tape packed in 3200 COSY format, the user can process COSY tapes prepared in the earlier 3200 format. Optional log and revision listings may be specified for the output of a COSY run.

2.1 COSY LIBRARY

A COSY library, on tape or on mass storage, consists of a group of COSY decks in blocks of 1280 characters (320 words). A COSY deck is a series of binary card images preceded by a BCD COSY deck identifier.

On a COSY library tape, the COSY decks are separated by end-of-file marks; the library terminates with a double end-of-file mark. The MASTER transfer function (XFER) must be used to transform unblocked tapes to the acceptable blocked format (see MASTER Reference Manual).

The transfer function is not used for mass storage files. COSY prepares all mass storage files.

On mass storage, a COSY library consists of a COSY-prepared directory followed by COSY decks.

The directory is a 1280-character block containing a three-word entry for each COSY deck on the file. Each entry consists of an eight-character (left justified, blank filled) deck name and the number of the block in which the deck identifier appears. The directory block holds 105 entries. If one block is insufficient, COSY links another block with the first.

2.2 HOLLERITH INPUT LIBRARY

A Hollerith input library may be on tape, mass storage, or cards. A Hollerith library also must be blocked in 1280 characters.

On tape, a Hollerith input library consists of a group of Hollerith source decks, each separated by an end-of-file mark. A double end-of-file mark terminates the library.

This library must be on a non-standard data set identifier (dsi). No searching is done on a Hollerith file; therefore, it must be positioned prior to entrance to COSY.

COSY accepts only one Hollerith deck per mass storage file. A deck terminates with the last block written.

**2.3
HOLLERITH
OUTPUT FILE**

A Hollerith output file is a series of Hollerith source decks. When COSY encounters ENDCOSY/, it writes FINIS and end-of-file records on the Hollerith output file specified on the last DECK/ card. COSY then rewinds the file or positions it to block one, ready for subsequent assembly or compilation. The Standard Hollerith Output file (SHO) is also positioned to block one. Blocked format of 1280 characters allows 15 Hollerith cards on one block.

**2.4
COSY
SCRATCH FILE**

COSY reserves dsi COSY as a scratch unit for corrections. This system-allocated file is used only if an excessive number of update records causes internal table overflow.

The user should not use the dsi COSY for any other file, since all information intended for this user file is placed on the COSY scratch file.

COSY, INP = XX, LOG = XX
 ↓
 list stuff from input on LOG errors are written on LOG
COSY CONTROL CARDS
 ↓
 read control cards from XX
 assumes 60
 assumes 61

The processing of input and output under COSY is directed by the five user-prepared control cards described below. If the user requests COSY output, the COSY task prepares a deck identifier card (COSY/) as the first card of the output deck.

When the deckname is used, it begins in column 1; the card name begins in column 10, and parameter fields begin in column 20.

3.1 DECK/

This card identifies the COSY deck and specifies the actions to be taken. A revision deck for the named COSY deck may precede the DECK/ card.

```
deckname DECK/ p1, ..., pn
```

deckname Names the COSY or Hollerith deck to be processed. A COSY deck may be on tape or on a mass storage file, or may follow the DECK/ card on INP.

A Hollerith deck may be on tape or mass storage, or may follow the DECK/ card on INP. Tape must be positioned to the beginning of the Hollerith deck. COSY accepts only one Hollerith deck for each mass storage file.

p₁, ..., p_n Specify the actions to be taken on the named deck. All seven parameters are optional and may appear in any order on the card. Parameters have the form:

name = dsi or name

Names are character strings beginning with I, L, R, H, C, E, or T. Name length is limited only by the number of card columns available.

dsi are alphanumeric strings of not more than four characters, the first of which is not *. dsi may be user-defined or standard (INP, OUT, PUN). If a nonstandard dsi is specified, the user must allocate and open the file, giving it that dsi, before calling COSY.

SHO is the only nonstandard file that is not user-allocated. COSY allocates and opens SHO using the system scratch pool.

I... specifies the dsi containing the input deck.

If the parameter is absent, or just I... is specified, COSY assumes input is on the standard input file, INP. (specified on COSY)

If I... = dsi, COSY assumes the deck is on the named dsi. If dsi is not INP and the first card image on the input medium is not a COSY deck identifier card, the image is assumed to be the first card of a Hollerith deck. The Hollerith deck must be terminated with a tape or card end-of-file, or with the last block written on the mass storage file.

If dsi is not INP and the first card image is a COSY deck identifier, then for tape, a forward search is made for the deckname, beginning with this deck identifier. If a double end-of-file is encountered without the deckname being found, the tape is rewound and searched again. If the deckname is still missing, COSY prints an error message on the OUT file, and reads the next control card.

For mass storage, if the file is not positioned to the deck sought, COSY reads the file directory and positions the file. If the deckname does not appear in the directory, an error message is printed on the OUT file and COSY reads the next control card.

L... Specifies that there is list output on the OUT file.

If the parameter is absent, there is no list output.

L assumed L=LOG

~~L may not be assigned to a dsi. Specifying L... dsi produces the diagnostic, R/L EQUATED TO DSI.~~

L=XX uses 104 KK

R... Designates that revisions are to be listed on the OUT file.

If the parameter is absent, there is no revision listing.

~~R may not be assigned to a dsi. Specifying R... dsi produces the diagnostic, R/L EQUATED TO DSI.~~

H... Specifies dsi to receive Hollerith output.

If the parameter is absent, there is no Hollerith output.

If H... = dsi, output is on the named dsi. COSY assumes the output medium is open and positioned.

If H... = SHO or just H... appears, COSY creates a scratch file with dsi ~~8250~~, unless this file has been already allocated and opened by a previous COSY run in the same job. Because SHO is released at the end of the job, it should be used only if assembly or listing of Hollerith output occurs in the same run. The user must schedule mass storage scratch for SHO on the MASTER control card, SCHED.

C... Specifies the dsi to receive COSY output.

If the parameter is absent, there is no COSY output.

If just C... appears, COSY output is on the ~~PUN~~⁶² file.

If C... = dsi, output is on the named dsi.

E... Specifies the edition number of new COSY output deck.

If E is absent, COSY increases the edition number of the input COSY deck by one (modulo 100) and inserts the new edition number in the deck identifier card of the output COSY deck.

If E is absent and the input deck has no edition number, the edition number on the output deck identifier is 1.

If E... = n ($1 \leq n \leq 99$), the output deck identifier card has edition number n.

T... Terminal column parameter stating the number of columns of significant information on the input cards.

If the parameter is absent or just T... appears, COSY assumes 72 columns of significant information.

Interpretation of the T parameter depends on the type of output specified, COSY or Hollerith, as shown in the following table.

B... Same as C except blocked

V... Variable length records are output

H, C, V, B are equipped as files if not defined
however, if C=62, is not equipped

Input Format	Output Format	$T \leq 72$	$T > 72$
COSY	Hollerith	<p>80 columns of information are on output card.</p> <p>Output card is formed by decompressing T columns of COSY card.</p> <p>Identification on COSY deck identifier card (columns 73-75) is placed in columns 73-75 of output card.</p> <p>Sequence number modulus 10^5 is generated and placed in columns 76-80 of Hollerith card.</p>	<p>80 columns of information are on output card.</p> <p>Output card is formed by decompressing T columns of COSY card. No identification is placed in columns 73-75 of Hollerith card.</p> <p>Sequence number having modulus 10^{80-T} is placed in columns T+1 to 80 of Hollerith output card.</p>
Hollerith	Hollerith	<p>T is the number of columns of significant information in Hollerith input deck.</p> <p>Columns 73-75 of new Hollerith deck are set equal to columns 73-75 of the first card of the Hollerith input deck.</p> <p>Sequence number having modulus 10^5 is generated and placed in columns 76-80 of each Hollerith card after it has been read from the Hollerith input file.</p>	<p>T is the number of columns of significant information in Hollerith input deck.</p> <p>No identification is placed in columns 73-75 of the Hollerith output cards.</p> <p>Sequence number having modulus 10^{80-T} is inserted beginning in column T+1 of the Hollerith output cards.</p>
COSY	COSY	T columns of information are processed.	T columns of information are processed.
Hollerith	COSY	T columns of information are compressed.	<p>T columns of information are compressed.</p> <p>Any part of a sequence number or identification number beyond column T on an input card will not appear in the output deck.</p>

When Hollerith, but not COSY, output is requested, no identification and sequence numbers are inserted in columns 73-80 of revision cards; *** is inserted in columns 73-75 of these cards. If COSY output is requested, identification and updated sequence numbers are placed on revision cards.

Default

Mode If the DECK/ card contains no parameters, COSY assumes all input is from the standard input file, INP, and produces no listing, revisions listing, Hollerith, or COSY output.

Precautions Hollerith input cards may or may not contain the most significant digits of the sequence numbers. If numbers are present, the user must insure that they are in sequence.

Input and output must not be assigned to the same dsi. This causes termination of the DECK/ or COPY/ function and produces an error message on the OUT file.

COSY or Hollerith output must not be assigned to dsi OUT if L or R is desired. Listing and revisions listing have lower priority than COSY or Hollerith output and will be suppressed. Log, L, and R may all be specified, however, if COSY and Hollerith are not requested on OUT. If COSY and Hollerith output are specified to the same dsi, the Hollerith output is suppressed.

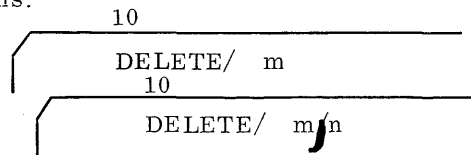
The COSY log precedes any other type of output (C, H, R, or L).

3.15
DEFAULT/

3.2
DELETE/

parameters as per DECK/. parameters indicated are assumed for deck/ cards when not specified on the deck/ card.

COSY deletes a specified number of cards and replaces them by any Hollerith cards immediately following a DELETE/ card. A DELETE/ card has two forms:



In the first form card m is deleted; in the second, cards m through n are deleted. The unsigned decimal numbers m and n are the sequence numbers in columns 76-80 of the Hollerith cards.

The number of Hollerith cards following a DELETE/ need not equal the number of cards deleted.

3.55
ENDSRCH/

LUN

3.56
REWIND/

LUN, LUN, LUN ... self explanatory

3.3
INSERT/

COSY inserts into the new Hollerith or COSY deck the Hollerith cards immediately following an INSERT/ card.

```
      10
┌──────────────────────────┐
│      INSERT/  r          │
```

The Hollerith cards are inserted after sequence number r, the unsigned decimal integer in columns 76-80.

3.4
COPY/

COPY/ transfers the COSY library from file q_1 to file q_2 , beginning at the current position of the COSY library and continuing up to, but not including, the named deck.

```
┌──────────────────────────┐
│ deckname COPY/  q1,q2  │
```

q_1 dsi of the input file (present COSY library)

q_2 dsi of the output file (new COSY library)

If no deckname is present, the entire COSY library is copied, beginning from its current position.

3.45
BCOPY/

The user must call *DEF for all MASTER file definition functions.
same as COPY/ except output is blocked

3.5
ENDCOSY/

An ENDCOSY/ card marks the end of a COSY task and returns control to MASTER. Any nonstandard output tape referenced on the last DECK/ card is rewound.

```
      10
┌──────────────────────────┐
│      ENDCOSY/          │
```

3.6 COSY DECK IDENTIFIER

When COSY output is requested on the DECK/ card, the COSY task generates a deck identifier card as the first card of the COSY output deck.

deckname COSY/ edition number ~~format~~ ~~identification~~
DATE TIME

- | | |
|-------------------|--|
| deckname | Begins in column 1. |
| edition
number | Begins in column 20. This is the number specified by the edition parameter on the DECK/ card. |
| format | Column 40 contains an M, designating that the output deck has been prepared in 3300 COSY format (Sec. 5.1.2). A COSY deck prepared in 3200 COSY format (Sec. 5.1.1) contains a blank in column 40. |
| identification | In columns 73-75, determined by the T parameter on the DECK/ card. If T is omitted or if $T \leq 72$, the identification is the sequence number in columns 73-75 of the input Hollerith deck or of the COSY identifier card of the input COSY deck. |

**4.1
MASTER
CONTROL CARDS**

The input COSY deck requires certain MASTER control cards in order to load and execute the COSY task. The control cards listed below will generally be part of the input deck. Other control cards that may be used are described in the MASTER Reference Manual. MASTER control cards contain the character \$ in column one.

**4.1.1
JOB**

A JOB card must appear in a job deck as the first card or, if a DIRECT card is used, as the second card.

```
$JOB,c,i,tl,l,p
```

- c One to eight BCD characters indicating the account to be charged.
- i One to eight BCD characters identifying the originator of the job.
- tl Time limit (1-1440 minutes) for job execution, beyond which MASTER terminates the job. The limit does not include background processing of files. If time limit is omitted, but one of the following parameters is specified, its comma must appear.
- l Print limit (1-99999 lines) for the OUT file, beyond which MASTER terminates the job. If line limit is omitted but punch limit is specified, its comma must appear.
- p Punched card limit for the PUN file (0-99999), beyond which MASTER terminates the job. If this field is terminated by a comma, comments may follow.

The parameters c and i must appear on the card, but the limits are optional. MASTER uses installation parameters for the time and line limits if they are not specified. If no punch limit is specified, the job will not have a PUN file.

**4.1.2
SCHED**

SCHED cards, one or two per job, immediately follow the JOB card in the job deck.

```

$SCHED, TIME=te, CLASS=cl, CORE=qp, SCR=seg, ABORT=d1,
RF=flg, peq1=u1, . . . , peqn=un

```

All fields are optional and may appear in any order on either card. If a peq field is repeated, the first entry has precedence. If another field is repeated, the second entry has precedence. A field cannot be continued from one card to another.

DO NOT SCHEDULE MORE THAN A JOB NEEDS. A job that requests excess core, mass storage, and peripheral equipment may wait needlessly for these facilities, which must be available before the job can be initiated. Also, when the job is processed, the unused facilities are withheld from other jobs requesting them.

TIME = te Estimated running time (0-99999 minutes). It is not a limit. MASTER uses the field to determine if the job is special; when the field is omitted, the job cannot qualify as a special job.

CLASS = cl cl class

E	Emergency
B	Background
I	Input/Output
C	Compute

When both TIME and CLASS fields appear on the SCHED cards and te lies in the special class range, the job acquires the higher class as determined by both fields. Thus, if the job is specified as E or B, which are higher classes than special, it maintains its specified class, but if it is specified as I or C, which are lower classes than special, it is classified as special.

When the CLASS field is omitted and the job does not qualify as special, it becomes I or C depending on installation parameter, class.

CORE = qp Estimate of the maximum amount of core in quarter pages used by tasks of the job residing in core simultaneously. The estimate includes requirements of library tasks such as compilers and assemblers. Estimates for object decks must allow for expansion of pseudo instructions, macros, library routines, etc.

If the loader determines that a requested task will exceed the estimated core, the job is terminated with a message on the OUT file.

When the CORE field is omitted, qp is set by the installation parameter, core.

SCR = seg Number of segments (250 maximum) of mass storage scratch area required by the job. Each segment is 10,000 words. SHO requires approximately one segment for each 400 Hollerith card images.

If the sum of the mass storage requirements indicated by the line and punch limits (JOB card) and the SCR and ABORT requests (SCHED card) exceeds the storage reserved for these files, the job is not initiated.

When the SCR field is omitted, seg is set to the installation parameter, scr.

ABORT = dl Recovery dump of tasks, dl lines in length, is taken if the job is abnormally terminated. MASTER reserves mass storage for dl lines of dump.

RF = flg A non-zero flg indicates that the job will use the Register File. When any task of the job is interrupted, the contents of file registers 40-77 are saved. When a task is again placed in execution, the contents are restored.

When flg is zero or the field is omitted, the Register File contents are not saved.

peq_i = u_i The peq fields schedule all peripheral equipment required by a job. peq identifies the hardware type; u designates the number of units or drives of that type required. If peq requirements exceed system capacity, the job cannot be scheduled. A job is initiated when all peq requirements are satisfied.

4.1.3 COSY

The COSY card directs MASTER to load and execute the COSY task. There are two card forms:

```
$COSY
$COSY (n)
```

The parameter n controls printing of a COSY log, a listing of all control cards and revision detail cards. If the first card form is used, the log is printed on the OUT file. If there is a non-blank character within parentheses, as in the second form, printing of the log is suppressed.

The COSY control card is an example of a Task Name card.

4.1.4 TASK NAME

A Task Name control card directs MASTER to call and load the named program task from the specified file (or from the library if no file is specified), to pass parameters if given, and to begin execution of the task. Usually, at least one Task Name card follows the SCHED cards for a job.

A Task Name card has one of the following forms:

```
$name
$name, dsi
$name, dsi(parameter string)
$name (parameter string)
```

name 1-4 alphanumeric characters identifying the task to be called; name is the only required parameter.

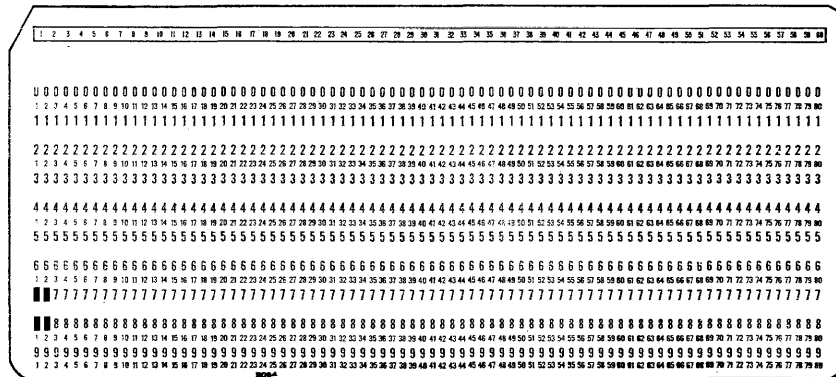
dsi the dsi of an opened file from which the named task is to be loaded. When dsi is zero or the field is omitted, MASTER searches the system library for the task.

parameter string parameters used by the called task. MASTER removes any spaces before passing the parameter string, with parentheses, to the called task.

When dsi is INP, the binary object deck for the task immediately follows the Task Name card. When the dsi is other than INP or *LIB, the loader relocates to block one for mass storage or rewinds the tape before loading. A source or data deck required by the task may follow the Task Name card on the INP file.

**4.1.5
END-OF-FILE**

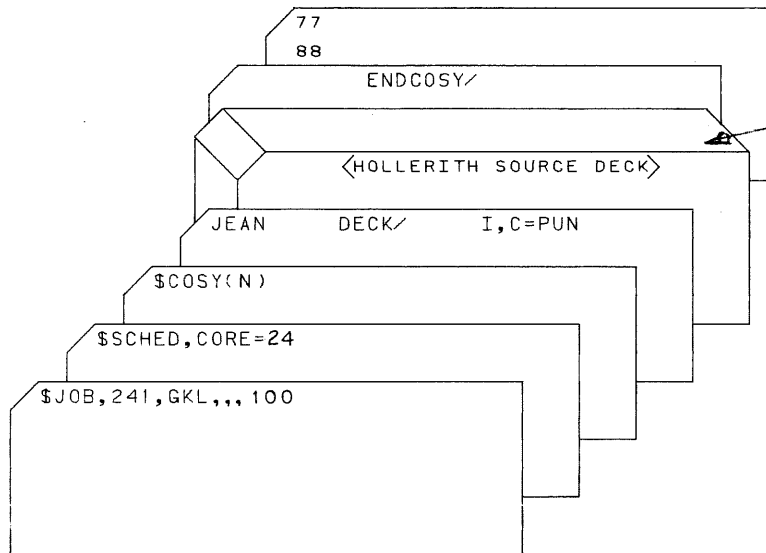
A job is terminated with an end-of-file card defined by 7, 8 punches in columns one and two.



**4.2
SAMPLE DECK
STRUCTURES**

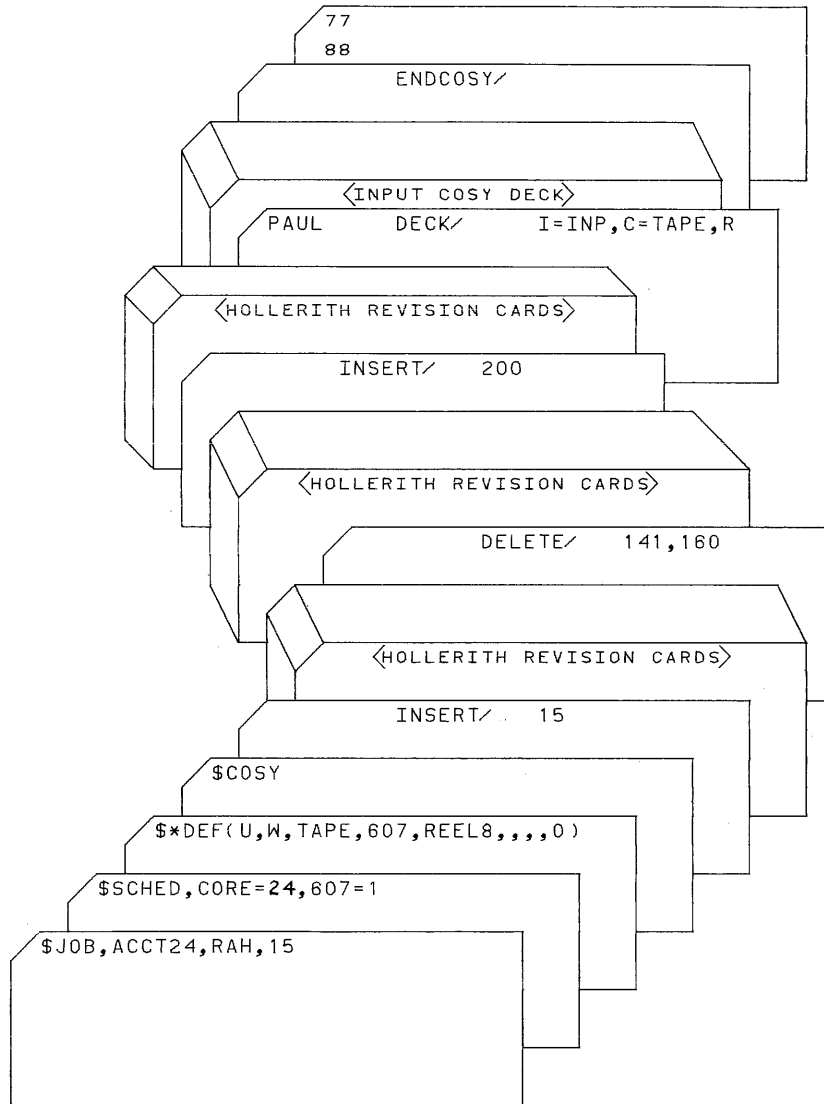
The following deck structures illustrate the use of COSY and MASTER control cards in the job deck. Notice that all revision cards (DELETE/, INSERT/, and their accompanying cards) appear in ascending order of sequence, m, n, r, for each deck. The user must allocate and open all needed nonstandard files except SHO (section 3.1). Peripheral requirements must be scheduled on a SCHED card for all files, including SHO, allocated or assigned to other than Class A mass storage.

- Generate a COSY deck from a Hollerith source deck.



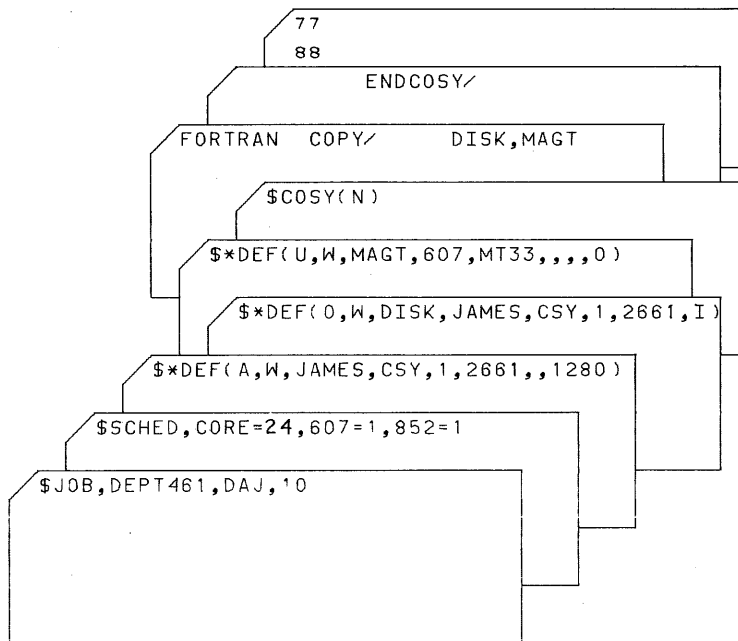
Hollerith input is from the standard input file, INP. COSY output is on the punch file, PUN. There is no listing on OUT. (N) on the COSY card represses the log. The deckname of the output COSY deck is JEAN.

- Update a COSY deck and place it on tape.



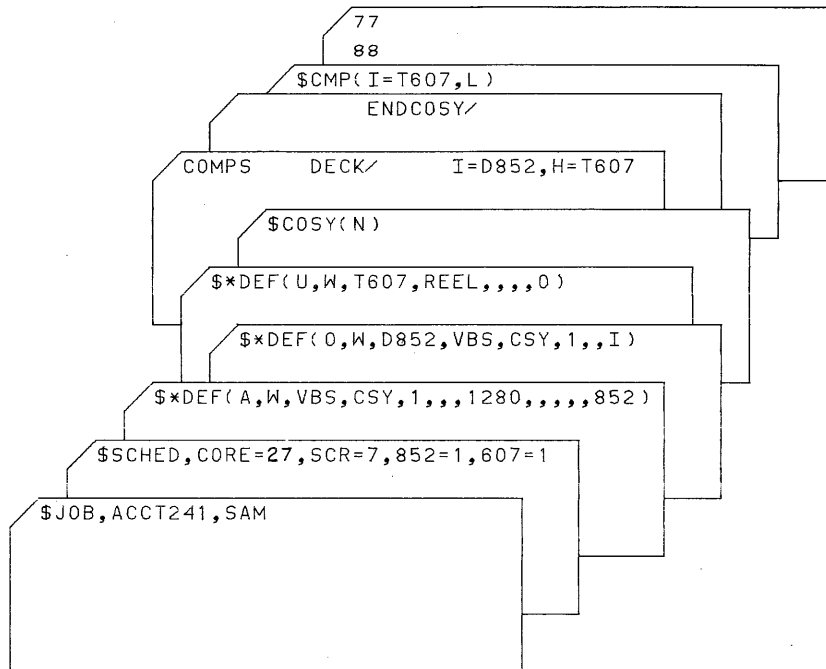
COSY input deck, beginning with COSY deck identifier card, is on standard input file,INP. COSY output is on magnetic tape having dsi TAPE. Hollerith cards are inserted after cards 15 and 200; cards 141 through 160 are deleted, and revisions are inserted in their places. Note ascending order of sequence numbers for revisions. Both COSY log and revisions listing are printed on OUT.

- Copy a COSY file from mass storage to tape.



Input COSY file is from 852 disk having dsi DISK. Output is on 607 tape unit having dsi MAGT. COSY file is copied up to COSY deck named FORTRAN.

- Convert COSY deck on mass storage to Hollerith deck on tape. Use this tape as input for a COMPASS assembly.



COSY input deck, COMPS, is from 852 disk having dsi D852. Hollerith output is a 607 tape unit with dsi T607. dsi T607 is then input for COMPASS assembly. COSY log is suppressed.

5.1 COSY BINARY CARDS

To allow use of existing COSY libraries, blocked COSY tape input accepts 3200 COSY BCD format. The 3200 format restricts the BCD character set available to the user; the 3300 format used under MASTER does not.

5.1.1 3200 FORMAT

In 3200 COSY BCD compressed format, COSY compresses card images by inserting special BCD characters for two or more sequential blanks. Octal numbers 16, 17, 35, 36, 37, 55, 56 and 57 represent two through nine consecutive blanks. If a card image contains more than nine consecutive blanks, $76xx_8$ is used; the 6-bit number xx is ten (decimal) less than the number of blanks. If the image contains more than 73 blanks, 7677_8 is used with one of the above special octal numbers. The character 12_8 indicates the end of a compressed card image. If the user employs any of the special characters above, COSY replaces it by 15_8 ; this restricts the character set available to the COSY user.

5.1.2 3300 FORMAT

The 3300 COSY format used under MASTER makes all BCD characters available to the user. COSY compresses a card image by inserting a special BCD character and value for two or more sequential blanks.

The system operates internally as follows:

- 12_8 is the special BCD character
- 1200_8 BCD character 12_8
- 1275_8 End of card character
- 1276_8 End of deck character
- 1277_8 End of revision set character
- $12xx_8$ xx consecutive blanks, $02 \leq x < 75$

The format of a COSY binary card is shown below.

<u>Card Column</u>	<u>Content</u>
1	12, 11, 7, 9 punches, plus a 3 punch for the last card of the deck
2	the high order digit of a 5 octal digit card sequence number (rows 4 - 6)
3-4	four low order digits of the 5 octal digit card sequence number
3-4	24-bit checksum
5-80	38 words of compressed symbolic

5.2 LISTING FORMATS

Listings and revision listings, specified by L and R on the DECK/ card, both follow the COSY log on the OUT file in the general format shown below.

<u>Printer Columns</u>	<u>Content</u>
5-76	Image of card columns 1 to 72
77-79	Identification
80-84	Sequence number (decimal)
88-94	DELETED
or	
88-95	INSERTED

Combinations of L, R, T, and C parameters on the DECK/ card determine which fields are present on any print line:

- INSERTED and DELETED appear if R is specified.
- If R is not specified, there is no printed record of deleted card images.
- Identification and revised COSY sequence numbers for inserted entries appear only if C... is specified; entries marked DELETED are printed with old COSY sequence numbers.
- If R but not C... is specified, *** replaces the identification and sequence numbers for inserted cards.
- Whenever $T > 72$, identification and sequence numbers are truncated accordingly.

The following error messages are written on the standard output file, OUT.

<u>Message</u>	<u>Cause</u>	<u>Action</u>
CANNOT FIND COSY DECK NAMED <deckname> ON a xxxx	Named COSY deck not present on specified input type a. a = INP - standard input MT - magnetic tape MS - mass storage device other than INP. xxxx - dsi of input file	Processing continues with next COSY control card Flag is set for abort at end of COSY run.
CONTINUATION REEL COULD NOT BE MOUNTED	Operator did not mount a reel requested by COSY on the typewriter.	COSY searches for next control card.
CONTROL CARD SEQUENCE ERROR	Control card not in acceptable order.	Next card is read.
COSY CHECKSUM ERROR DECKNAME <deckname> SEQUENCE NO xxxxx COMPUTED CHECKSUM = mmmmm CARD CHECKSUM = nnnnn		Processing continues.
COSY PACK ERROR (x) DSI xxxx	Call to PACK rejected; error recovery unsuccessful on dsi xxxx. Error type x, returned by blocker/deblocker, was cause of reject. x = 1 End of allocated, user- defined file. 2 Logical record is too large. 4 dsi not defined by PACKD. 6 New file segment cannot be opened, or COSY types request for another tape reel. 7 Output not possible; hard- ware malfunction or system error.	Job terminated. Dump is taken if requested.

<u>Message</u>	<u>Cause</u>	<u>Action</u>
COSY PACKC ERROR (x) DSI xxxx	x = 1 End of allocated, user-defined file. 4 dsi is not defined by a PACKD. 6 New file segment cannot be opened. 7 Output cannot occur; hardware malfunction or system error.	Job is terminated.
COSY PACKD ERROR (x) DSI xxxx	x = 3 more than 10 non-standard files specified to blocker/deblocker. 4 No open file with specified dsi. 5 Block area specified within blocker/deblocker.	Job is terminated.
COSY PICK ERROR (x) DSI xxxx	Call to PICK rejected; error recovery unsuccessful on dsi xxxx. Error type x, returned to blocker/deblocker, was cause of reject. x = 0 Read error. 4 dsi not defined by a PICKD. 5 Logical record area specified within blocker/deblocker. 6 New file segment could not be opened. 7 Input not possible; hardware malfunction or a system error.	Job is terminated. Dump is taken if requested.
COSY PICKC ERROR (x) DSI xxxx	Same as for COSY PICK ERROR.	Job is terminated.
COSY PICKD ERROR (x) DSI xxxx	x = 3 More than 10 nonstandard files specified to blocker/deblocker. 4 File with specified dsi is not open. 5 Block area specified within blocker/deblocker.	Job is terminated.

<u>Message</u>	<u>Cause</u>	<u>Action</u>
COSY SEQUENCE ERROR DECKNAME <deckname> SEQUENCE NO = xxxx PRECEDING SEQUENCE NO = yyyy	COSY record is out of sequence.	COSY file is skipped. Processing continues with next control card.
DECK CARD PARAMETER CONFLICT a = b	Parameters a, b assigned to same dsi.	COSY suppresses the lower priority output.
<deck name> COPIED	The named deck has been copied.	Processing continues.
ERROR IN COPY CARD	$q_1 = q_2$.	Processing continues with next control card.
FIRST RECORD NOT COSY I.D.	Input dsi not positioned at beginning of COSY file prior to COPY/ procedure.	COPY/ terminates; processing continues with next control card.
R/L EQUATED TO DSI	Parameter R or L on DECK/ was equated to a dsi.	Processing continues.
DSI xxxx NOT DEFINED	COPY/ card contains illegal parameter.	COSY searches for next control card.
ILLEGAL PARAMETER ON DECK CARD	Initial letter of parameter on DECK/ card not I, L, R, H, C, E, or T.	COSY ignores all further parameters; processing continues.
INPUT SEQUENCE ERROR	Revision is attempted with sequence numbers not in ascending order.	COSY searches for next control card.
INSUFFICIENT STORAGE AVAILABLE TO HANDLE ALL CORRECTIONS - JOB TERMINATED		Job is terminated. Dump is taken if requested.
LONG DSI ON DECK CARD	A dsi exceeds 4 characters.	Processing continues.
NO DECK NAME GIVEN ON DECK CARD	Columns 1-8 of DECK/ card are blank.	Processing continues with next control card.
NO DEVICE ASSIGNED DSI xxxx	User has not assigned dsi xxxx.	COSY searches for next control card.

<u>Message</u>	<u>Cause</u>	<u>Action</u>
NO INPUT SEQUENCE NUMBER xxxx	COSY could not find sequence number xxxx on input file.	Processing continues with next control card.
READ END OF FILE ON I	File mark was read where none was expected.	If dsi = INP, processing terminates. Otherwise, processing continues with next control card.
REVISION CARD SEQUENCE ERROR	Revision was attempted out of sequence.	Further revisions will be sequence checked, but will not be otherwise processed.
STANDARD FILE xxxx USED AS PARAMETER ON COPY CARD	xxxx is a standard dsi.	Processing continues with next control card.
UNINTERROGATED ERROR IN COSY DIRECTORY-JOB TERMINATED	COSY could not interpret directory.	Job is terminated.
WRONG T	T specified in DECK/ card is less than that given when the deck was compressed, resulting in a loss of infor- mation during unpacking operation.	Processing continues, using specified value of T.

COSY types the following message if it requires an additional tape reel:

MOUNT NEXT REEL CHx EQe Uuu

To comply, the operator:

Mounts requested reel
Presses MANUAL INTERRUPT
Types OK
Presses FINISH COSY continues processing.

To refuse, the operator:

Presses MANUAL INTERRUPT
Types NO
Presses FINISH COSY reads the next control card.

Sample COSY-COMPASS Run
for Batch Compiling Under OS3

```

7
8 JOB, job number, user identification number
8 20352, 22 / KEM
7
8 COSY,LOG - Log lists the revisions for EXMPL
      { Cosy Revisions for EXMPL }
EXMPL      DECK/      H =54,C
      { Rest of Cosy deck for EXMPL }
      { Other Cosy Revision decks }
      ENDCOSY/

7
8 COMPASS,I =54,P,X,L,R

7
8 LOAD,56
      MAP      (Optional, gives MAP)
      RUN      (RUN and MAP can start anywhere on card)

      { Data, }
      { if any }

77
88      (Optional)

7
8 TIME      (Optional, gives time used)

```

Note: A user is given 60 seconds of time and 100 512-word blocks of file space. The following cards, inserted after the JOB card, would alter these to 1,000 seconds and 200 blocks:

```

7
8 TIME=1000

7
8 MFBLKS=200

```

50441-24

CONTROL DATA

CORPORATION

COMMENT AND EVALUATION SHEET
3300/3500 Computer Systems
COSY/MASTER Reference Manual

Pub. No. 60178800

March, 1967

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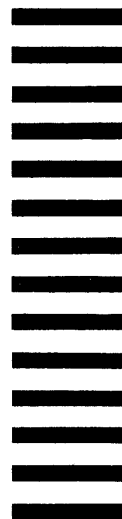
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