

REVISIONS

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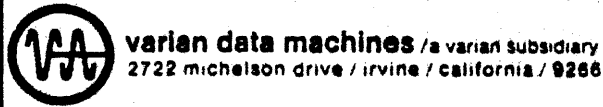
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NEXT ASSEMBLY

MODEL NO.
 V70



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TITLE
 V70 VORTEX COMSY EXTERNAL REFERENCE SPECIFICATION

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SECTION 1
EXTERNAL SPECIFICATION

1.1 INTRODUCTION

COMSY is a source record COMpression and edit System. It is a background task that constructs files of programs in a compressed format for later updating and decompression. It has provision for maintaining these files as sequential files on magnetic tape and RMD or as random accessed files on RMD.



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SECTION 2 ORGANIZATION

COMSY is scheduled by the job-control processor (JCP) directive /COMSY. Once activated, COMSY inputs and executes directive from the SI logical unit. COMSY directives specify both the action to be taken and the logical units and files to be used.

2.1 COMSY COMPRESSION

COMSY compresses 80 character ASCII records into modules called decks. A COMSY deck consists of an ASCII deck identification record and any number of sixty word binary records. The deck identification record is described in Section 4.3.4.

COMSY binary records consist of a sequence count in word 0, a checksum in word 1, and compressed ASCII text in words 2 through 59. The last record of a deck contains its sequence number as a negative number. The checksum is a value which is obtained by summing the 116 8 bit bytes contained in words 2 - 59 in an unpacked array with each byte right justified in a word with the remainder of the word zeros.

COMSY compresses the ASCII text by reducing two or more imbedded blanks to a two character sequence the first of which is an ASCII NUL character (200_g) and the second of which is the count of the number of blanks imbedded minus two. During compression, characters 73 - 80 are ignored and any trailing blanks are dropped and replaced by an end of record character represented by an ASCII rub-out (377_g). The last compressed record of a deck is followed by an ASCII EOT character (204_g).

2.2 COMSY SEQUENTIAL FILES

A sequential COMSY file is a file of COMSY decks which contain unpacked records. The last deck is followed by a .FILE directive and an end-of-file. Sequential files may be recorded on magnetic tape or RMD. Although COMSY will allow input of decks from a card reader, it is not programmed to consider the handling of files from cards.



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2.3 COMSY RANDOM FILES

A random COMSY file is a VORTEX/VORTEX II RMD file which contains a deck directory and COMSY decks. COMSY decks are recorded in 120 word blocks of two 60 word records per block. This provides faster access to specific COMSY decks than can be obtained on a sequential file.

2.4 COMSY COMMON FILES

A COMSY common file is a file containing up to nineteen decks which may be inserted into COMSY decks as updates. Each common file contains a directory which allows random accessing of the decks which it contains. Common decks may be entered into a common file by transferring an existing COMSY deck or by input of 80 character source records. Common decks are stored on RMD in uncompressed form to allow for speedy insertion into other decks.

When initialized COMSY assumes that the common file is assigned to unit CM with the default logical unit as lun 9 (GO File). A different common file may be utilized by assigning it to unit CM with a UNIT directive.

2.5 SEQUENCE AND EDITION NUMBERS

During the compression of 80 character source records COMSY truncates characters 73 - 80. Any identification or sequence numbers contained in these characters is lost. In order that different versions of the same deck may be identified, COMSY maintains a deck edition number. A decks edition number appears in its identification records.

Within a deck, COMSY identifies records by their relative positions in the deck. The first record has a sequence number of one, the second, two, etc. COMSY updating directives require the use of these sequence numbers to specify the location of insertions and deletions.

When 80 character source records are output COMSY inserts the deck edition number in character positions 73 - 74 and the record sequence number in positions 75 - 80 of each record. When a new COMSY deck is not being output, the edition number used is the edition number of the input and the sequence numbers refer to each records position in the input deck. Inserted records are denoted by the insertion of asterisks in place of edition and sequence numbers. If a new COMSY deck is being output, the edition number used is the edition number of the new deck and the sequence numbers refer to each records position in the new deck. In this case, inserted records will have an edition and sequence number.



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SECTION 3

COMSY INPUT/OUTPUT

COMSY utilizes seven logical units, some of which are reassignable by use of the .ASSIGN and .UNIT directives. The following table contains the logical unit names, default assignments and usage.

Default VORTEX

<u>COMSY Name</u>	<u>LUN</u>	<u>Default Unit</u>	<u>Usage</u>
SI	2	SI	Directive input. Source record input. COMSY deck input.
PI	4	PI	Source record input. COMSY deck input. COMSY file input.
BO	7	BO	Unblocked decompressed output. COMSY deck output. COMSY file output.
LO	5	LO	List output.
SS	8	SS	Block decompressed output.
SW	102	SW	Temporary update storage .
CM	9	GO	Common deck storage.

NOTE: SS, SW and CM must be on RMD.

SECTION 4

COMSY DIRECTIVES

This section describes the COMSY directives.

a. I/O assignment and option selection:

ASSIGN	Assign non-RMD logical unit
UNIT	Assign and open RMD file (with rewind)
SET	Set COMSY options
GANG	Select and specify output of identification field

b. Deck creation, copying and checking:

DECK	Build COMSY deck from source input
COMDECK	Build a common deck
COPY	Copy decks or files
RANDOM	Build a random file
APPEND	Append to a random file
EDIT	Edit a random file
LIST	List decknames in a file
CHECK	Check sequence and checksums

c. Updating:

INSERT (ADD)	Record insertion
REPLACE (DELETE)	Record deletion and replacement
COMMON	Common deck insertion
COMSY	Deck decompression

d. End-of-file and exit:

FILE	Logical end-of-file
END	Exit COMSY



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COMSY directives must begin with a period as the first character of the record and must contain no imbedded blanks. Directives are terminated at the first blank with the exception, of the .COMSY record which is the first record of a COMSY deck. Comments may appear after the terminating blank.

The general form of a COMSY directive is .

.name,p(1),p(2)...p(n)

where

name is one of the directives names given above

each p(n) is a parameter defined below under the descriptions of the individual directives.

4.1 INPUT/OUTPUT ASSIGNMENT AND OPTION SELECTION DIRECTIVES

These directives are used to replace the default logical units assigned by COMSY with user specified logical units and to select user options.

4.1.1 ASSIGN Directive

This directive specifies a logical unit assignment for a COMSY reassignable unit. This directive cannot be used for an RMD logical unit. It has the form:

.ASSIGN,unit,lun,R

Where:

unit is the name of a COMSY reassignable unit. Allowable unit may be SI, PI, BO, LO, and SS.

lun is the two character name or the logical unit number of the VORTEX/VORTEX II logical unit to be assigned.

R is the character R which along with its preceding comma is optional. If present, it indicates the unit is to be rewound prior to use.



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If the result of the assignment is a reassignment of unit BO or the logical unit, lun, currently assigned to BO, COMSY checks to see if any COMSY output had been written on BO since the last assignment of BO. If so, a .FILE directive and an end-of-file are output to BO prior to making the assignment. Additionally, if the current assignment of BO is to an RMD file (see 4.1.2), the file is closed with update.

If the logical unit, lun, being assigned is currently assigned to unit PI and the current assignment is to an RMD file, the file is closed without update prior to making the assignment.

Reassignment of an lun to the same unit as is currently assigned is permitted and should be used to rewind units when necessary.

Examples: Assign M0 as PI and logical unit 25 as BO specifying rewind of BO.

```
.ASSIGN,PI,M0  
.ASSIGN,BO,25,R
```

4.1.2 UNIT Directive

This directive specifies a logical unit and file assignment for a COMSY reassignable unit on RMD. It has the form:

```
.UNIT,unit,lun,file,key
```

where:

- unit is the name of a COMSY reassignable unit which may be assigned to RMD. Allowable units may be PI, BO or CM.
- lun is the two character name or the logical unit number of the RMD partition containing the file to be assigned.
- file is the name of the file to be assigned and opened.
- key is the one character key for the assigned partition, lun. This parameter along with its preceding comma may be omitted when the partition does not require a key.



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If the result of the assignment is a reassignment of unit BO or the logical unit, lun, currently assigned to BO, COMSY checks to see if any COMSY output had been written on BO since the last assignment of BO. If so, a .FILE directive and an end-of-file are output to BO prior to making the assignment. Additionally, if the current assignment of BO is to an RMD file, the file is closed with update.

Since COMSY compares only the partition logical unit numbers and ignores file names, it is not possible to have two files referenced with the same logical unit number. If this is required, an alternate logical unit number should be assigned to the partition outside of COMSY. The normal logical unit number is then used for one file and the alternate may be used for the other.

Reassignment of an lun and file to the same unit as is currently assigned is permitted and should be used to reposition to beginning of file when necessary.

Examples: Assign file OFILE on logical unit 25, key equal X, to PI.

```
.UNIT,PI,25,OFILE,X
```

Assign files OFILE to PI and NFILE to BO. Both files are on logical unit 20. The partition has no key.

```
/ASSIGN,25,20  
/COMSY  
.UNIT,PI,20,OFILE  
.UNIT,BO,25,NFILE
```

4.1.3 SET Directive

This directive is used to turn on selected user options. It has the general form:

```
.SET,P(1),P(2)...P(n)
```

where

each P(i) is one of the parameters listed in the table below.



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The appearance of a parameter in the list turns the selected option on. All options whose parameters do not appear in the list are turned off. Any options which are previously set on and which are to remain on must appear in the list. The resulting option setting remain in effect until another SET directive is encountered.

If no parameters appear, the standard default options as indicated in the table below will be set. The standard default options are automatically set when COMSY is initialized. The acceptable parameters are:

<u>Parameter</u>	<u>Default</u>	<u>Option</u>
A	on	Addition/deletion listing
C	on	Compile file output
E	off	End-of-file insertion
I	off	Input source records from PI
L	off	List output
N	off	New decks to be output
S	off	Source record output
Vn	off	VORTEX option switch
Y	off	Copy option



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Examples: Set the options to input source records from PI and output a new COMSY deck.

.SET,I,N

Set the standard default options which are to output to the compile file and list all additions/deletions.

SET

The following sections describe the characteristics of the above options.

4.1.3.1 Addition/Deletion List Option (A)

When this option is turned on all records which are added or deleted are listed on the LO unit. Records which are deleted are preceded on the line by *D*. Records which are added or inserted are preceded by *A*. The update directive which caused deletions and/or additions is listed preceding the deleted or added records.

4.1.3.2 Compile File Option (C)

When this option is turned on it indicates that 80 character source records which are decompressed are to be output to SS for submission to FORTRAN or DASMR. Records are packed three to a sector. The last sector will be blank filled when necessary. Records from successive decompression of different COMSY decks may be concatenated on the compile file, however, the last RMD sector occupied by records from a deck may contain up to two trailing blank records. If each deck is a separate subprogram, the last record is an END, FORTRAN and DASMR will ignore the trailing blank records and begin processing with the first record of the next sector. COMSY closes the file with update after each deck insertion.

4.1.3.3 Source Record Output Option (S)

When this option is turned on it indicates that 80 character source records which are decompressed are to be output a record at a time to unit BO.



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4.1.3.4 End-of-file Option (E)

When this option is turned on and the source record output option is also on (S), an end-of-file is output on BO after the last record of each deck is output.

4.1.3.5 New Deck Option (N)

When this option is turned on, it indicates that a new COMSY deck is to be output to BO for each COMSY deck or source deck input. Any updates which are applied to a COMSY deck input will be included in the deck output. The new deck retains the same name and date of origination, however, the edition number is incremented by one and the date of last update is set to the current date.

4.1.3.6 Copy Option (Y)

When this option is turned on it has the same effect as the new deck option (N), with the following addition. In addition to outputting a new deck for each COMSY deck or source deck processed, any COMSY decks which are passed over during a search for a specific COMSY deck will be copied without modification to BO.

4.1.3.7 Input Source from PI Option (I)

When a DECK directive is encountered, this option will cause COMSY to input source records from PI until a FILE directive or an end-of-file is encountered. When this option is turned off source records are input from SI.

4.1.3.8 List Output Option (L)

When this option is turned on 80 character source records will be listed on unit LO.

4.1.3.9 VORTEX Switch Option (Vn)

This option is used to control the conditional assembly of programs. When the option is turned on it causes COMSY to examine the first source record of each COMSY deck which is being decompressed. If the first record is a DASMR SET directive of the form:

1	8	16
VORTEX	SET	C



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Where:

C is any character

The character in position 16 is replaced by character n. Character n may be omitted, in which case a 2 is placed in position 16.

Examples:

A DASMR SET directive of the following form appears as the first record of a deck.

VORTEX SET 1

A COMSY SET directive of the form:

.SET,V4,.....

would cause the above record to be changed to

VORTEX SET 4

and a COMSY SET directive of the form

.SET,V,.....

would cause the above record to be changed to

VORTEX SET 2

NOTE: If the first record of a deck does not contain a SET directive in the form indicated above, the option has no effect on that deck.



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4.1.4 GANG Directive

This directive specifies a three character identification code which is to be inserted into the identification field, character positions 73-75, of all 80 character source records which are output as a result of the source record output as a result of the source record output option (S is Set). The identification code replaces the deck edition number which is normally inserted in each record. The GANG directive has the general form:

`.GANG,xxx`

where

`xxx` is any three ASCII characters including blank.

If the parameter is omitted, the comma is absent, the normal edition number insertion made is reinstated. The GANG directive has no effect on other forms of COMSY output.

Example: Output a COMSY deck in 80 character source record made with the identification field set to COM.

`.GANG,COM`
`.SET,S`

4.2 DECK CREATION, COPYING AND CHECKING

These directives are used to create, copy and check the validity of COMSY decks and files.

4.2.1 DECK Directive

This directive is used to specify the name of a deck and to direct COMSY to input 80 character source records from unit SI or PI. The form of the directive is

`.DECK,deckname`

where

`deckname` is a one to eight ASCII character name to be assigned to the deck,



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If the input from PI option is on (I), input is from unit PI, otherwise, input is from unit SI. Records are input until a FILE directive or an end-of-file condition is encountered on the input unit. Output created as a result of this directive is controlled by the on or off conditions of the user options as specified by the last SET directive encountered.

Examples: Input source records from SI and output a new COMSY deck with the deckname SOURCE, listing the records on the printer.

```
.SET, N, L
.DECK, SOURCE
    n 80 character source records
.FILE
```

Input source records from logical unit M0 and output a new COMSY deck with the deckname ALPHA on logical unit 25.

```
.ASSIGN, PI, M0
.ASSIGN, BO, 25
.SET, I, N
.DECK, ALPHA
```

4.2.2 COMDECK Directive

This directive is used to specify the name of a common deck and to cause COMSY to transfer the deck to the common file (see Section 2.4). A special form of the directive is used to open an existing common file. The directive has the form:

```
.COMDECK, deckname, S
```

where

deckname is a one to eight ASCLL character name to be assigned to the deck.

S is the optional character S which when present causes COMSY to input 80 character source records from PI until a .FILE or end-of-file is encountered.



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If no parameter appears, COMSY will input a COMSY deck from SI using the name of the COMSY deck input as the common deck name. If parameter S and its preceding comma are absent COMSY will search the COMSY file on PI for the named COMSY deck and transfer it to the common file.

Common decks are transferred to a common file as uncompressed records packed three records per RMD sector. Decks may be added to an existing common file up to a maximum of nineteen decks after which an error will be indicated. Common decks which are to be used in any one update of a COMSY deck must reside in the same common file as there is no provision for changing common file once an update is started.

Upon initialization, the common file is defaulted to the VORTEX GO file. The UNIT directive may be utilized to assign CM to a different user file. A special COMDECK directive of the form:

```
.COMDECK,*
```

will cause COMSY to open the file currently assigned to CM assuming that the file already contains a directory and existing common decks. If this directive does not appear COMSY will assume that the file assigned to CM does not contain valid common information. It should be noted that a common file which resides in the VORTEX GO file will not be retained between COMSY executions within the same job.

Examples: Assign an existing common file, CMFILE, on logical unit 25 as the common file and add COMSY deck COMMON from the file on PI into it.

```
.UNIT,CM,25,CMFILE  
.COMDECK,*  
.COMDECK,COMMON
```

In put 80 character source records from PI and transfer them to the common file with a common deck name of COMF.

```
.COMDECK,COMF,S
```



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4.2.3 COPY Directive

This directive is used to copy COMSY decks on unit PI to a file on unit BO. It has the form:

`.COPY,first,last`

where

- first** is the optional deckname of the first deck to be copied. COMSY will search the file on PI for the named deck. If the parameter is absent, COMSY will copy decks from the current position on PI.
- last** is the optional deckname of the last deck to be copied. If the parameter is absent, COMSY will copy decks until a FILE directive or end-of-file is encountered on PI.

Input to COPY is always in the form of COMSY decks. PI may be an existing random file in which case decks are copied in the order in which they were placed in the file. Output from COPY is controlled by the settings of the user selectable output options. If the new deck (N) or copy (Y) options are set, output is in the form of COMSY decks. Otherwise, output is in the form selected by the remaining user options (S, E, C and L). The output file is always sequential. Random files may be copied by utilizing the RANDOM directive.

Examples: Copy decks from the current position on PI until the deck named ADECK is copied. Output is to be COMSY decks.

```
.SET,N
.COPY,,ADECK
```

Copy decks starting from deck FIRST to end-of-file

```
.COPY,FIRST
```

Copy the deck named MYDECK only

```
.COPY,MYDECK,MYDECK
```



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4.2.4

RANDOM Directive

This directive is used to copy COMSY decks from an existing sequential or random COMSY file into a new random file. It has the form:

`.RANDOM, first, last`

where

`first` is the optional deckname of the first deck to be copied. COMSY will search the file on PI for the named deck. If the parameter is absent, COMSY will copy decks from the current position on PI.

`last` is the optional deckname of the last deck to be copied. If the parameter is absent, COMSY will copy decks until a FILE directive or end-of-file is encountered on PI.

During the process of copying COMSY constructs a directory which will allow random accessing of the file. The input file may be an existing random file. If so, any deleted decks (decks which contain the deckname *DELETED) will be omitted from the output file.

At the completion of the copy, the output file is closed and must be reopened for subsequent use. Once a random file is created, additions to the file are made by use of the APPEND directive.

Examples: Build a random file called RFILE on logical unit 22, key X, from a COMSY file on tape unit M0.

```
.ASSIGN, PI, M0
.UNIT, BO, 22, RFILE, X
.RANDOM
```

In the above example include only those decks which are between and include DECKA DECKZ.

```
.RANDOM, DECKA, DECKZ
```



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4.2.5 APPEND Directive

This directive is used to copy COMSY decks from an existing sequential or random COMSY file into an existing random file. It has the form:

```
.APPEND,first,last
```

where the parameters first and last are the same as these parameters on the RANDOM directives. Decks which are copied are appended to the end of the existing random file.

At the completion of the copy, the output file is closed and must be reopened for subsequent use.

Examples: Append decks FDECK to and including LDECK from a tape on logical unit 18 to an existing random file, RFILE, on logical unit 22, key X.

```
.ASSIGN,PI,18,R  
.UNIT,BO,22,RFILE,X  
.APPEND,FDECK,LDECK
```

Append decks from FDECK until the end of the input file.

```
.APPEND,FDECK
```

Append all decks from current position to the end-of-file

```
.APPEND
```

4.2.6 EDIT Directive

This directive is used to edit existing random files. It may be used to delete a deck, rename a deck or change a deck edition number. It has the form:

```
.EDIT,op,deckname,newname,newedition
```

where:

op is DEL to delete deckname or REN to rename deckname and /or change the edition number



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deckname is the current name of the effected deck.
newname is the optional new deckname for the specified deck.
newedition is the optional new edition number for the specified deck.

COMSY does not remove the entry for a deleted deck from the directory nor is the deck removed from the file. The deckname is replaced by the name *DELETED in both the directory and in the deck's COMSY record. Delete decks may be dropped by copying a random file to a new file utilizing the RANDOM directive.

EXAMPLES: Delete deck named ALPHA

```
.EDIT,DEL,ALPHA
```

Rename deck currently named as BETA with new name GAMMA and edition 01

```
.EDIT,REN,BETA,GAMMA,01
```

4.2.7 List Directive

This directive is used to list the deck information from the COMSY records of all the decks contained in the file assigned to PI. It has the form:

```
.LIST
```

Listing starts from the current position on PI, with no rewind, and continues until a FILE directive or end-of-file is detected. The listing contains deck position, deckname, edition, original COMSY date, last update date, deck size and file accumulated size. Deck size is the number of records in the deck including the initial COMSY record.

4.2.8 CHECK Directive

This directive is used to verify the contents of a COMSY file on PI to list the deck information from the COMSY records of the decks contained in the file. It has the form:

```
.CHECK
```

Verification starts from the current position on PI, with no rewind, and continues until a FILE directive or end-of-file is detected. A listing is produced with the same format as that produced by the LIST directive. All records contained within the decks are checked for checksum and sequence. When an error is detected an error message is output prior to the deck information for the erroneous deck.



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4.3 UPDATING DIRECTIVES

These directives are used to update an existing COMSY deck and to cause decompression when required. The updating directives INSERT, ADD, REPLACE, DELETE and COMMON must directly precede as a group the COMSY directive which specifies the deck to be processed. All other directives required to produce a desired result must precede the updating directives. Sequence numbers must always be in ascending order (NOTE: Equal is not considered ascending).

4.3.1 INSERT (ADD) Directive

This directive is used to insert new records after the record with the sequence number specified. It has the form:

.INSERT,seqno

or

.ADD,seqno

Where seqno is the sequence number, in the COMSY deck to be processed, of the record after which new records are to be inserted. Records directly following the INSERT directive are inserted until another directive is encountered. When an addition/deletion listing is checked (see SET directive) added records are preceded by *A*.

Example:

Insert new records after record number 8 and after record number 15.

```
.INSERT,8
  ABX=10
  ABY=ABX*25
.INSERT,15
  READ(5,100)IBUF
.COMSY,HTEST
```

4.3.2 REPLACE (DELETE) Directive

This directive is used to delete old records and to optionally replace the deleted records with new records. It has the form:

.REPLACE,first,last

or

.DELETE,first,last



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Where:

first is the sequence number of the first record to be deleted.

last is the optional sequence number of the last record to be deleted. If omitted only the record specified by first is deleted.

REPLACE and DELETE both operate in the same manner and are interchangeable. Records are first deleted from output and then replaced by new records which directly follow the directive until another directive is encountered. New records may be omitted to cause deletion only. When an addition/deletion listing is created (see SET directive), deleted records are preceded by *D* and added records by *A*.

Example:

Replace records 15 through 19 with new records and delete record 24.

```
.REPLACE,15,19
  LDA      TEMP
  STAE     ALPHA
.DELETE,24
.COMSY    (process next deck from PI)
```

4.3.3 COMMON Directive

This directive is used to insert a deck from the common file after a specified input record or in place of specified input records. It has the form:

```
.COMMON,name,action,first,last
```

Where:

name is the name of the deck to be inserted from the common file currently open.

action is the directive INSERT or the directive REPLACE to specify designed action. ADD or DELETE are not acceptable.

first is the sequence number of the input record after which the common deck is to be inserted or is the first record to be replaced.

last is the optional sequence number of the last record to be replaced. If omitted only the record specified by first is replaced.



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This directive essentially operates in the same manner as INSERT and REPLACE with the exception that the new records are in the common file rather than following the directive.

Example:

Place decks COM1 and COM2 in the common file and then insert COM1 at record 2 and replace records 25 - 32 with COM2.

```
.COMDECK,COM1      (see COMDECK Directive)
.COMDECK,COM2
.COMMON,COM1,INSERT,2
.REPLACE,16
    LDXI      5
.COMMON,COM2,REPLACE,25,32
.
.
.COMSY,PROGA
```

4.3.4 COMSY Directive

This directive specifies the COMSY deck which is to be processed. Updates directly preceding the COMSY directive will be applied during processing. It has the following two forms: —

- (1) .COMSY,deckname,newname,newedition
- (2) .COMSY,deckname,edition,odate,update

Where in form (1)

deckname	is the optional name of the deck to be processed
newname	is the optional new name to be assigned to the deck if a new COMSY deck is to be output
newedition	is the optional new edition number to be assigned to the deck if a new COMSY deck is to be output



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Where in form (2)

deckname	is the eight character deckname (including blanks)
edition	is the two character edition number (00-99)
odate	is the date the original COMSY edition was created
update	is the date the deck was updated

When deckname is omitted in form (1), the deck to be processed is the next deck on unit PI. When deckname is present, it is the name of the deck to be searched for in the COMSY file assigned to PI. The input file may be in sequential or random format. During the search on a sequential file, decks passed over will be copied to BO if the copy option is selected (see SET directive).

The second form of the COMSY directive is the COMSY record which is output by COMSY as the first record of a COMSY deck. When a COMSY deck is to be processed from SI, form (1) above must be omitted. Although COMSY originates form (2) it may be modified or replaced by the user, however, character positions within the record are fixed therefore field sizes must not be changed.

Example:

Process deck ABLE changing its name to BAKER and edition to 09.

```
.COMSY,ABLE,BAKER,09
```

4.4 END-OF-FILE AND EXIT DIRECTIVES

These directives are used to specify a logical end-of-file and to exit COMSY.

4.4.1 FILE Directive

This directive is used to specify a logical end-of-file. It may replace or be replaced by a physical end-of-file or a disc end-of-file. It has the form:

```
.FILE
```



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4.4.2 END Directive

This directive causes COMSY to exit. It may optionally specify that a series of JCP directives be executed. It has the form:

`.END,NN,directive`

Where:

`NN` is an optional numeric parameter specifying the number of pages to be allocated by a JCP `/MEM` directive. It omitted its preceding comma is omitted.

`directive` is optionally, any legal JCP directive without a slash (`/`).

Prior to exiting, a check is made to determine if any new COMSY decks have been output on BO. If so, a FILE directive and an end-of-file are output to BO. If BO is assigned to a file on RMD, the file is closed with update.

When the first parameter is present COMSY performs the JCP/MEM function as if a `/MEM,NN` directive had been processed by JCP. If the second parameter is present, the parameter, preceded by a slash (`/`), is transferred into the JCP input buffer and if the compile file output option is on, the JCP functions.

```
/ASSIGN,PI=SS,PO=DUM
/PFILE,PI,,SS
```

are performed as if they had been input to JCP

Example:

```
/COMSY
.SET,N,C
.DELETE,5
.COMSY,PROG1
.END,3,DASMR,B
```

The above directives will cause program PROG1 to be input from PI, record 5 will be deleted, a new COMSY deck will be output to BO, assembler input will be blocked and output to SS, and COMSY will cause the following JCP functions to be performed.



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/ASSIGN,PI=SS,PO=DUM
/PFILE,PI,,SS
/MEM,3
/DASMR,B



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SECTION 5

ERROR PROCESSING

When COMSY detects an error, a diagnostic message is printed on the LO logical unit and processing is terminated. COMSY exits by executing a FORTRAN STOP statement which contains the error number of the error detected. FORTRAN displays the STOP statement in the form:

```
COMSY STOP n
```

Where n is the error number

5.1 ERROR MESSAGES

The following are the COMSY error numbers and associated types of errors detected:

<u>Error No.</u>	<u>Error Type</u>
1.	Directive not understood
2.	Missing directive.
3.	Input was not .COMSY or .FILE when searching for a named COMSY deck on PI.
4.	Record sequence error on binary COMSY input.
5.	Record checksum error on binary COMSY input.
6.	Parameter list in error.
7.	Missing .COMSY directive on PI.
8.	Updates were not terminated by a .COMSY directive.
9.	Sequence number greater than 99999 on an update directive.
10.	Update sequence numbers not ascending.
11.	.COMSY deck specified, not on COMSY file on PI.
12.	Incorrect unit.
13.	Incorrect logical unit number.
14.	Common decks limited to 19.
15.	Common deck not found.
16.	Update directive not understood.
17.	I/O error.
18.	Erroneous end-of-file condition.
19.	Directory error on a random file.



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