P D P - 1 1

R O L L I N   U T I L I T Y   P R O G R A M

Version Number V07

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NOTE

PREFACE

This document, DEC-11-OROAA-B-D, describes the loading pro-
cedures and operation of the Version V07 ROLLIN Utility Program for
the PDP-11 and supersedes the document of the same title,
DEC-11-OROAA-A-D. The format of DECtapes and magtapes produced by
ROLLIN Version V07 is not totally compatible with the format of
previous versions.

The Version V07 ROLLIN provides the following features in addi-
tion to those previously available.

    a)   Perform transfer operations between RP03 disk
        drives and from an RP03 disk drive to magtape.

    b)   Format DECpack cartridges on RK11/RK03 and RK11/RK05
        disk drives and disk packs on RP11/RP03 disk drives
        prior to a transfer operation.

    c)   Perform magtape to magtape copy operations.

    d)   Perform a verify operation in conjunction with a
        copy operation.

    e)   Perform a write lock operation on an input RK03 or
        RK05 drive prior to a transfer operation.

ROLLIN Version V07 does not support RK11/RK02 DECpack cartridges.

CONTENTS

CHAPTER 1

LOADING PROCEDURES

ROLLIN is a stand-alone program, which, when loaded into core, either from its distribution medium or from a ROLLIN formatted DECtape or magtape, overwrites any resident monitor present, and runs by itself in core. The ROLLIN program run is terminated and the Monitor is restored by following the procedure described in Chapter 4. ROLLIN is used to transfer data quickly between a disk and either DECtape or magtape or between DECpack disk cartridges or disk packs. Disk devices handled by ROLLIN are the RF11, RC11, RK11 and RP11-C. ROLLIN assumes no file structure on disk or DECtape; transfers are performed in image mode. Magtapes are treated as file-structured devices in that each ROLLIN file is preceded by a DOS/BATCH-11 compatible *file label* (see section 3.2 for a description of magtape format).

When transferring data onto DECtape or magtape, ROLLIN automatically writes an initial record containing a tape sequence number called a *reel label*. For DECtape transfers, the reel label also contains the number of blocks of data transferred. The reel label guards against mounting tapes out of sequence when returning data to a disk device.

Preceding all data records on a DECtape or the first file on a magtape, ROLLIN copies a core image of itself. This image permits ROLLIN to be bootstrapped from DECtape or magtape to load the remainder of the tape.

1.1   DECTAPE BOOTSTRAP

ROLLIN can be loaded from DECtape as follows:

> Mount the DECtape reel containing ROLLIN[1] on DECtape unit 0.
> Set the transport switches to WRITE LOCK and REMOTE.
>
> Move the CPU ENABLE/HALT switch to its HALT position.

---

[1] This does not imply a DOS/BATCH-11 or RSTS-11-formatted tape, but rather a tape that was previously dumped by ROLLIN or the tape on which ROLLIN is distributed by DEC. ROLLIN tapes contain the ROLLIN image at the beginning of the tape (refer to Figure 3-1).

If the BM792-YB Hardware Loader is on the system,

     Set the CPU Switch Register to 173100.
     Depress the CPU LOAD ADDRESS switch.
     Move the CPU ENABLE/HALT switch to its ENABLE position.
     Set the CPU Switch Register to 177344.
     Depress the CPU START switch.

If the MR11-DB Hardware Loader is on the system,

     Set the CPU Switch Register to 173120.
     Depress the CPU LOAD ADDRESS Switch.
     Move the CPU ENABLE/HALT switch to its ENABLE position.
     Depress the CPU START switch.

ROLLIN is read from DECtape and started. It prints:

     ROLLIN V07
     #

and awaits a command.

1.2   MAGTAPE BOOTSTRAP

ROLLIN can be loaded from magtape as follows:

     Mount a magtape reel containing ROLLIN on magtape unit 0.
     The tape must be at the load point. Turn the unit ON LINE.
     (For more detailed instructions see the magtape hardware
     manual.)

     Move the CPU ENABLE/HALT Switch to its HALT position.

     If the BM792-YB Hardware Loader is on the system, deposit the
     following routine in core via the console switch registers.

Address	Contents	Symbolic
10000	12700	MOV #172524,R0
10002	172524	
10004	5310	DEC (R0)
10006	12740	MOV #60011,-(R0)
10010	60011	
10012	105710	TSTB (R0)
10014	100376	BPL .-2
10016	5710	TST (R0)
10020	100767	BMI .-20
10022	12710	MOV #60003,(R0)
10024	60003	
10026	105710	TSTB (R0)
10030	100376	BPL .-2
10032	5710	TST (R0)
10034	100777	BMI .
10036	5007	CLR PC

Set the CPU Switch Register to 010000.

Depress the LOAD ADDR Switch.

Move the CPU ENABLE/HALT switch to its ENABLE position.

Depress the CPU START switch.

If the MR11-DB Hardware Loader is on the system,

Set the CPU Switch Register to 173136.

Depress the CPU LOAD ADDRESS switch.

Move the CPU ENABLE/HALT switch to its ENABLE position.

Depress the CPU START switch.

ROLLIN is read from magtape and started. It should print:

ROLLIN V07
#

and await a command. If the machine hangs in the RUN state at location
10034, a magtape error has occurred. Halt the machine, rewind the
magtape manually, and restart the bootstrap procedure.

1.3 LOADING ROLLIN FROM PAPER TAPE

ROLLIN is distributed on a self-starting binary paper tape.
This paper tape is loaded with the absolute binary loader which is
described in section E.2 of the Paper Tape Software Programming
Handbook. ROLLIN is automatically started and prints:

ROLLIN V07
#

and awaits a command.

CHAPTER 2

ROLLIN COMMANDS

2.1   COMMAND FORMAT

     ROLLIN prints a # character on the console teleprinter whenever
it is ready to accept a command.   ROLLIN commands are of the form.

          #dev1:/option 1<dev2:/options

or, more simply:

          #/options

where:

          dev1:   is the output device designator
          option 1   can be the formatting switch option
          dev2:   is the input device designator
          /options   indicates one or more legal switch options

The # character is underlined in examples to indicate that it is
printed by ROLLIN rather than typed by the operator.   The ROLLIN
switches are listed for reference in Table 2-2 and explained in
Chapter 3.

     Legal device designators are shown in Table 2-1.

Table 2-1

Device Designators

Device Designator	Device Medium
DC:	An RC11 disk controller with one RS64 disk unit (one platter) and a capacity of 64K processor words.
DF:	An RF11 disk controller with one RS11 disk unit (one platter) and a capacity of 256K processor words.
DKn: (n = Ø to 7)	An RK11 disk controller with one to eight RKØ3 or RKØ5 drive units. One RKØ3/Ø5 DECpack cartridge has a capacity of 1200K processor words. DK: is equivalent to DKØ:

Table 2-1 (Cont'd.)

Device Designators

Device Designator	Device Medium
DPn: (n = Ø to 7)	An RP11-C disk controller with one to eight RPØ3 disk drive units. One RPØ3 formatted disk pack has a capacity of 20,000K processor words.
DTn: (n = Ø to 7)	One TC11 control unit with up to four TU56 dual transports or eight DECtape drive units. Each drive is designated by a unique number selectable between zero and seven.
MTn:filename (n = Ø to 7)	One TM11 control unit with up to eight TU1Ø magtape transports. Each transport is designated by a unique unit number selectable between zero and seven. A filename (from one to six alphanumeric characters) must be specified for disk to magtape transfers but not for magtape copy operations.

An example of a ROLLIN transfer command is shown below:

       #MTØ:DAT8<DC:

The above command dumps the entire contents of an RS64 disk onto a magtape file called DAT8 on the magtape reel mounted on unit Ø.

2.2 EDITING COMMANDS TO ROLLIN

Editing procedures for ROLLIN command strings are identical to those for DOS/BATCH-11 and RSTS-11 command strings.

While typing a command line, the operator can use the RUBOUT key repeatedly to delete preceding characters. The entire command line can be deleted by typing CTRL/U.

When ROLLIN is printing on the teleprinter, typing CTRL/O inhibits further printing.

Table 2-2

ROLLIN Option Switch Descriptions

Option Switch	Abbreviation	Meaning
/BOOT:dev	/BO:dev	This general-purpose bootstrap switch, which loads the first 256 words of core from the device and then branches to location 0, is used to bootstrap DOS/BATCH-11 or RSTS-11; for example: #/BO:DK loads and starts a DECpack DOS/BATCH-11 or RSTS-11 system.
/DATE: dd-mmm-yy	/DA:dd-mmm-yy	Used in writing the FILE LABEL on magtape. /DA causes the specified date to be entered in the FILE LABEL. The format for the day is day-month-year; for example: #/DATE:1-FEB-73
/FIND	/FI	Used with magtape only. When reading from magtape, /FI rewinds the tape and searches for the specified file. When dumping to magtape, /FI causes the tape to skip past all the files previously written on the tape.
/FORMAT	/FO	Used, on the output side of a transfer command string, to format a DECpack cartridge on an RK03/05 disk drive or a disk pack on an RP11-C/RP03 disk drive before a transfer operation begins.
/HELP	/HE	Types a brief explanation of ROLLIN options on the console.
/NOLABEL	/NO	On dumping disk to DECtape, this option inhibits the *reel label* record from being written (see sections 3.1 and 3.2 for a description of the reel label and instances of use of the /NO switch).
/NUMBER:n	/NU:n	The decimal number specified by n is the total number of units of disk space to transfer. A unit of disk space is 1K processor words, where K=1024. The maximum value for n is determined by the type of disk drive as shown below.

Table 2-2 (Cont.d)

ROLLIN Option Switch Descriptions

Option Switch	Abbreviation	Meaning
		Maximum n
		Drive Type (units of 1K words)
		RC11 64
		RF11 256
		RKØ3/Ø5 1200
		RPØ3 20000
		If the /NU switch value is not specified, the entire disk is used.
/PLATTERS:n	/PL:n	For use with RF11 or RC11 disks only, n is the number of disk platters to load or dump. /PLATTERS:1 is always assumed if not specified.
/RWIND	/RW	When reading or writing magtape, this switch causes the tape to be rewound before use.
/SKIP:n	/SK:n	When reading or writing magtape, this switch causes the tape to skip past n end-of-file marks before starting a read or write.
/TRACK:n	/TR:n	The decimal number specified by n is the unit of disk space at which the transfer operation begins. A unit of disk space is 1K processor words, as is defined in the description of the /NU:n switch in this table. If the /TR switch value is not specified, the first unit of disk space on the drive is used. The first unit is defined as /TR:Ø.
/VERIFY	/VE	Used only in image copy operations to ensure that the copy can be read and, when read, is the same as the original.
/WLOCK	/WL	Used with a DECpack device designator to force a write lock on an input drive unit.

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CHAPTER 3

TRANSFER OPERATIONS

3.1 DISK/DECTAPE OPERATIONS

DECtape is a block-structured device. DECtape reels contain
578 blocks, each 256 words in length. When ROLLIN writes a DECtape,
it dumps its own image onto blocks Ø to 19, writes a reel label onto
block 2Ø, then dumps data from the disk onto blocks 21 through 532.
This means that 128K words of data can be kept on each tape. Hence,
an RF11 controller with one RS11 disk requires two DECtapes, while
an RKØ3 or RKØ5 DECpack cartridge requires ten DECtapes for a com-
plete dump.

When a disk is restored from DECtape, ROLLIN checks the label
block on each reel to ensure that the tapes are used in the proper
sequence, and that the number of blocks restored does not exceed the
number of blocks dumped. If this is not the case, an error message
is printed.

3.1.1 Disk to DECtape Dump

To dump a disk to DECtape, simply type DT: as the output device
and the disk device designator as the input device. For example:

    #DT:<DKØ:

dumps an RKØ3 or RKØ5 disk cartridge Ø onto ten DECtapes (unit Ø would
be used first, then units 1,2,3,4,5,6 and 7, the ninth tape would then
go back to unit Ø and the tenth to unit 1). This is the normal order
for using tapes, the user could override this by typing the actual
units to use. For example:

    #DT2:,DTØ:<DF:

would dump the RF11 disk onto two tapes, using unit 2 first, and then
unit Ø.

The /NOLABEL switch option is used when writing over the first part of
a DECtape previously written by ROLLIN. For example, suppose we have
just patched the DOS/BATCH-11 monitor. This monitor normally resides on
the first 28K of the RF11 disk. Now suppose we want to dump this
patched monitor on the first 28K of an earlier disk dump. This can
be done by mounting the first dump tape on unit Ø, loading ROLLIN,
and typing the following command

        #DTØ:<DF:/NUMBER:28/NOLABEL

This will write out the first 28K of the disk without rewriting the
DECtape label. Now, when we restore from this tape, ROLLIN will read
the entire tape, and not just the first 28K.

3.1.2 Restoring Disk from DECtape

    This is simply the reverse of the dump operation and takes a
similar command. For example:

        #DF:<DT:

would restore the RF11 from two reels of DECtape on units Ø and 1.

    As before, reel numbers can be given explicitly, if desired;
for example

        #DF:<DT1:,DT2:,DT3:,DT4:/PLATTERS:2

would load a 2-platter RF11 disk (512K) from four DECtapes, mounted
on units 1, 2, 3, and 4, in that order .

3.2 DISK/MAGTAPE OPERATIONS

    Magtapes are written by ROLLIN with 8ØØ BPI density and odd
parity. On 9-channel drives each 16-bit word takes two frames of
tape. On 7-channel drives core-dump mode is used, so each 16-bit
word takes four frames of tape.

Each dump operation writes one file on the tape. This file
normally consists of a 7-word file label record containing the
filename (always with the .ROL extension), UIC (always [1,1]),
protection code (always 155 decimal), and date. This is followed by
a 256-word reel label record that contains the reel sequence number
for this file. Following this are the actual data records. Each
data record, except possibly for the final one, contains 4K
words (8K bytes) of data. ROLLIN closes the file by writing
three end-of-file (EOF) records, one to end the file and two
more to indicate the end-of-data (EOD) on the magtape. ROLLIN then
backspaces over two of the EOF records to leave the tape cor-
rectly positioned for performing another dump. There is one
exception to this file format. If, before writing the file
label, the tape is positioned at the load point (beginning-of-
tape), two records are written immediately following the file
label. These two records contain a bootstrap and an image of
ROLLIN, and they are used in conjunction with the procedure given in
Chapter 1 to load ROLLIN from magtape.

The file label is DOS/BATCH-11 compatible, permitting mixing of
ROLLIN files and DOS/BATCH-11 files on a single tape and cataloging
of the tape via the /DI option of DOS/BATCH-11 PIP. However, DOS/
BATCH-11 records are required to be 256 words in length, while ROLLIN
makes more efficient use of the tape by writing 4K words in each
record. This means that ROLLIN files cannot be read in file structured
mode by DOS/BATCH-11 (READ/WRITE). TRAN can, of course, be used with
ROLLIN files. (See the DOS/BATCH-11 Monitor Programmer's Handbook).

3.2.1 Disk to Magtape Dumps

To illustrate dumping from disk to magtape, suppose a system
had one RF11 disk and two RK05 drives. These could be dumped as
three files by the following commands:

```
#MTØ:DFDMP<DF:/RWIND/DATE:1-FEB-73
#MTØ:DKØDMP<DKØ:/DATE:1-FEB-73
#MTØ:DK1DMP<DK1:/DATE:1-FEB-73
```

The filename must be specified with magtape; the date is optional but should be specified. The magtape now has three files on it: DFDMP.ROL, DKØDMP.ROL, DK1DMP.ROL. Note that the file extension is *never* specified by the user; the extension is always ROL.

This assumes that a tape has been mounted, WRITE ENABLEd, on unit Ø. To use another unit simply designate MT1:, MT2:, etc. in place of MTØ:.

A large 2400-foot reel can easily hold this much data; however, a small 600-foot reel would not have enough room for a complete dump of the second RKØ5. When ROLLIN detects the end-of-tape, it backspaces over the last data record, writes three end-of-file records, and prints the following message:

TAPE FULL, TYPE M TO MOUNT ANOTHER REEL AND CONTINUE, ANYTHING ELSE TO ABORT REQUEST:

If another tape is available, type M followed by the RETURN key. ROLLIN now prints the following message:

TYPE RETURN TO CONTINUE WHEN READY.

Now mount the new tape (it must be on the same unit number). Type the RETURN key and ROLLIN will finish the dump.

After a tape has been dumped it is recommended that the WRITE ENABLE ring be removed.

Figure 3-1 illustrates the format of a tape with two files on it, the first of which is a dump of an RS11 disk, and the second is a dump of an RKØ5 DECpack disk cartridge.

```
LOAD
POINT
        ┌─────────────────┐
        │   FILE LABEL    │
        ├─────────────────┤
        │  ROLLIN BOOT    │
        ├─────────────────┤
        │                 │
        │     ROLLIN      │
        │     IMAGE       │
        ├─────────────────┤
        │   REEL LABEL    │
        ├─────────────────┤
        │   4K DATA       ┐
        │   RECORD        │
        ├─────────────────┤ │      RS11 DUMP
        │       ·         │ │
        │       ·         │ ├   64 4K RECORDS
        │       ·         │ │
        ├─────────────────┤ │
        │   4K DATA       │
        │   RECORD        ┘
        ├─────────────────┤
        │                 │
        │      EOF        │
        ├─────────────────┤
        │   FILE LABEL    │
        ├─────────────────┤
        │   REEL LABEL    │
        ├─────────────────┤
        │   4K DATA       ┐
        │   RECORD        │
        ├─────────────────┤ │      RKØ5 DUMP
        │       ·         │ │
        │       ·         │ ├   3ØØ 4K RECORDS
        │       ·         │ │
        ├─────────────────┤ │
        │   4K DATA       │
        │   RECORD        ┘
        ├─────────────────┤
        │      EOF        │
        ├─────────────────┤
        │      EOF        │
        ├─────────────────┤
        │      EOF        │
        └───────╱─────────┘
```
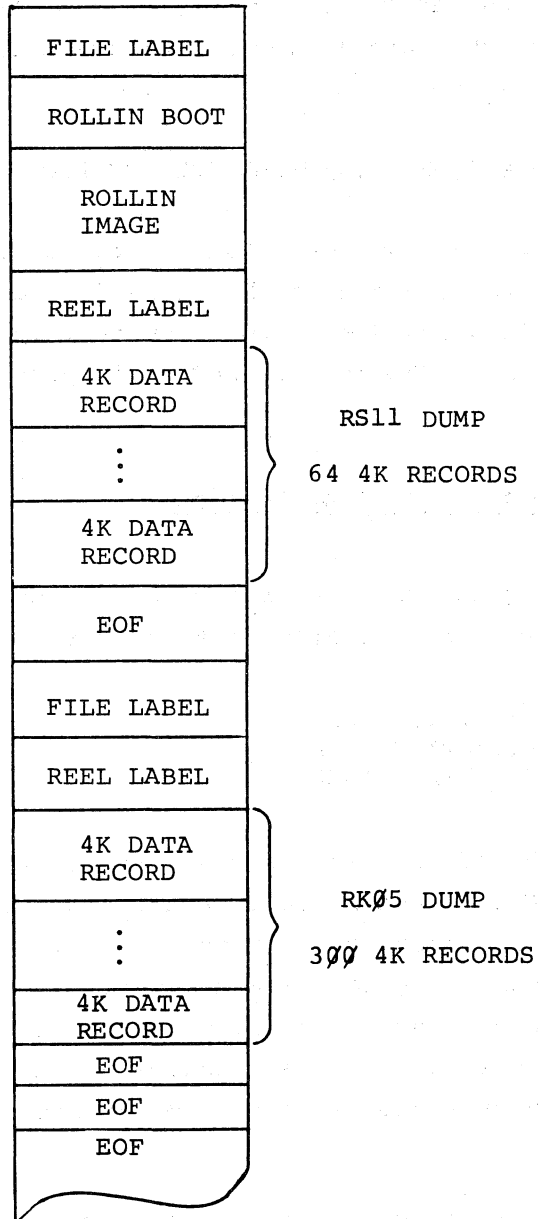
Figure 3-1   ROLLIN Magtape Format

If a magtape reel contains data files (either ROLLIN core-
image files or DOS/BATCH-11 files) and the user desires to add more
data files, the /SKIP:n switch can be used to read over n files on the
reel and dump the data in the proper position. For example, the
command string shown below

<u>#</u>MTØ:DCDMP<DC:/RWIND/DATE:27-DEC-73/SK:3

causes the reel of magtape on unit Ø to be rewound first. A search
is performed for the end of the third file on the reel. The contents
of the RS64 disk are dumped to a fourth file on the reel which is
named DCDMP.ROL. The date 27-DEC-73 is placed in the file label
record.

3.2.2 Restoring Disk from Magtape

Returning to our illustrative case, the three files mentioned
above could be restored from magtape by the following commands:

<u>#</u>DF:<MTØ:DFDMP/FIND
<u>#</u>DKØ:<MTØ:DKØDMP
<u>#</u>DK1:<MTØ:DK1DMP

Here, the /FIND switch rewinds the tape and searches for
the file DFDMP.ROL which would in this example be the first file on
the tape. While /FIND may always be used, if you are certain that
the tape is correctly positioned, omitting /FIND will greatly speed
the restoring process since the tape is not rewound. ROLLIN will,
in any case, verify that the filename is the same as the specified
name, and the extension is ROL, and indicate the error if it is
not.

This again assumes that the tape dumped by the commands given
in Section 3.2.1 has been mounted on unit Ø. If an end-of-file is
encountered during the read, as would be the case with a 600-foot
reel, then ROLLIN will ask for another reel by printing:

END-OF-FILE DURING READ, TYPE
M TO MOUNT ANOTHER REEL, OR K TO KILL REQUEST:

If the second reel is available, respond M followed by the RETURN
key. ROLLIN now prints the following message:

TYPE RETURN TO CONTINUE WHEN READY.

Now dismount the current tape and mount the continuation tape
(it must be on the same unit number, as before). Type return and
ROLLIN will finish the read.

3.3 COPY AND VERIFYING OPERATION

The ROLLIN program allows the user to perform a copy operation
and, optionally, to specify a verify action in conjunction with the
copy operation. The verify action is specified by use of the
/VERIFY switch in the copy command string. Devices upon which a copy
is performed are magtape drives, the RKØ3 or RKØ5 disk drives, and
RP11-C/RPØ3 disk drives.

In the execution of the copy operation, no header or label
information is automatically written. An exact image of the medium
on the input device is transferred to the same type medium on the
output device. The verify action, if specified, is performed as a
second pass of the copy operation. The following three sections
describe procedures to perform copy operations for magtape, DECpack
and disk pack devices.

3.3.1 Magtape Procedures

To copy a magtape, mount the input reel with the write ring
removed on drive unit Ø and mount the reel on which the copy is to
be written on unit 1, with the write ring attached. If the input
reel is written in 9-track format, it must be mounted on a 9-track
drive. Reels written on a 7-track drive must be mounted on a 7-track
drive. A copy can be made on either a 7-track or 9-track drive,
regardless of the format of the input. The 9-track format, however,
has twice the information storage capacity of the 7-track format
at the same density. Also, 9-track drives are always written and
read at a density of 800 BPI.

A copy operation with a verify action is accomplished as follows:

```
#MT1:<MTØ:/VE
```

When the copy operation is completed, ROLLIN prints the following message:

STARTING VERIFICATION PASS

The verification action ensures that the copy can be read, and that, when read, it is identical to the input. If multiple copies are to be made of the same input reel, it is suggested that the copy be used as input to the subsequent copy operation. Such a course of action lessens wear on the original master reel. The unit number of the previous copy is then used for input, the original reel is taken down and a new reel mounted in its place, and the drive unit number of the new reel is used for output.

Completion of the verification action is signalled by a pound sign (#) being printed at the terminal. If any other messages are printed before the pound sign (#) is printed, the copy operation was not successful. The unit number of the device causing the fatal error is printed in the error message.

3.3.2 DECpack Procedures

Copies of DECpack cartridges can be made by using either RKØ3 or RKØ5 disk drives. To safeguard the input cartridge, the drive on which it is mounted can be write locked by using the /WL switch, either in a single action or in combination with the copy command string. Either of the following two commands is acceptable.

```
#DK1:/WL
#DKØ:<DK1:/WL
```

To format a cartridge prior to writing a copy to it, the user specifies the /FORMAT switch on the output side of the command string. Verification can be specified also by using the /VE switch. The following command string demonstrates the use of the /FORMAT and /VE switches with write lock.

```
#DK1:/FO<DKØ:/WL/VE
```

Upon initialization of execution of the above command string, the following message is printed.

STARTING RK FORMAT PASS

When formatting is completed and copying begins, the following message is printed.

END RK FORMAT PASS

When copying is complete, the following message is printed.

STARTING VERIFICATION PASS

If any other messages are printed prior to the pound sign (#), the copy operation was not successful. The error message indicates the drive unit number on which the error occurred.

3.3.3 Disk Pack Procedures

The user copies a disk pack mounted on an RP11-C/RPØ3 drive in the same manner as he copies DECpack cartridges. He may use the /FORMAT and /VERIFY switches similarly, with one variation. Formatting a disk pack on an RPØ3 drive requires enabling of the format toggle switch on the RP11-C controller. The ROLLIN program prints messages which instruct the user to set and disable the format switch. The following command string causes the disk pack mounted on RPØ3 drive unit 1 to be formatted and an image copy to be transferred to it and verified from RPØ3 drive unit Ø.

#DP1:/FO<DPØ:/VE

The messages informing the user of the actions taken are the same as those occurring when a DECpack cartridge is formatted, copied and verified. The only exception is that the messages to set and disable the format toggle switch on the RP11-C controller replace the messages STARTING RK FORMAT PASS and END RK FORMAT PASS.

CHAPTER 4

RESTORING THE MONITOR

The ROLLIN program runs in a stand-alone state in the memory
of a PDP-11 computer. When the ROLLIN program run is completed, the
user may restore the DOS/BATCH-11 or RSTS-11 Monitor by using the
/BO switch and indicating the device which contains the monitor, as
in the following example,

```
#/BO:DK
BATCH VØ8-Ø2
$
```

The above command string caused the BATCH-11 Monitor to be read
from RKØ3 or RKØ5 drive unit Ø and loaded into core. The identification
message indicates the monitor is successfully bootstrapped and the user
can follow the proper login procedures. The /BO switch is described in
Table 2-2.

CHAPTER 5

ERROR AND INFORMATION MESSAGES

Error messages printed by the ROLLIN program are succinct and require
little interpretation by the operator.

SYNTAX ERROR, COMMAND IGNORED.

DISK ERROR,--REQUEST KILLED.

THE REEL LABEL INDICATES THAT THE REST OF THE TAPE WAS
NOT DUMPED, TYPE K TO KILL REQUEST AT THIS POINT, ANYTHING
ELSE TO PROCEED IN THE FACE OF DANGER:

LABEL INDICATES THAT THE TAPE IS OUT OF SEQUENCE. TYPE P TO PROCEED,
M TO MOUNT ANOTHER REEL, OR K TO KILL REQUEST:

PREMATURE END-OF-FILE, REQUEST KILLED.

TAPE FULL, TYPE M TO MOUNT ANOTHER REEL AND CONTINUE.
ANYTHING ELSE TO ABORT REQUEST:

SELECT ERROR ON MTn:

MAGTAPE WRITE PROTECT ERROR.

FATAL MAGTAPE ERROR

SPECIFIED DEVICE DOES NOT EXIST.

REACHED END-OF-DATA ON SKIP, OPERATION KILLED.

HUNG DEVICE DTn
TYPE K TO ABORT, ANYTHING ELSE TO TRY AGAIN:

MOUNT TAPE ON DTn, TYPE RETURN TO CONTINUE WHEN READY.

TOO FEW DECTAPE UNITS WERE SPECIFIED. REQUEST KILLED.

DISK ERROR ON UNIT n -- REQUEST KILLED.

END OF FILE DURING READ, TYPE M TO MOUNT ANOTHER REEL,
OR K TO KILL REQUEST:

MAGTAPE FILENAME DOES NOT MATCH SPECIFIED NAME.

CAN'T FIND SPECIFIED FILE ON TAPE

NO OUTPUT FILENAME SPECIFIED.

MAGTAPE RECORD TOO LONG FOR BUFFER

VERIFICATION ERROR-COPY IS BAD

VERIFY IS NOT IMPLEMENTED FOR THIS COMMAND

ERROR DURING FORMAT PASS - RESTART

DISK NOT READY - TYPE CR TO TRY FORMAT AGAIN

INDEX

READER'S COMMENTS

NOTE: This form is for document comments only. Problems
with software should be reported on a Software
Problem Report (SPR) form.

Did you find errors in this manual? If so, specify by page.

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Did you find this manual understandable, usable, and well-organized?
Please make suggestions for improvement.

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Is there sufficient documentation on associated system programs
required for use of the software described in this manual? If not,
what material is missing and where should it be placed?

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Please indicate the type of user/reader that you most nearly represent.

☐ Assembly language programmer
☐ Higher-level language programmer
☐ Occasional programmer (experienced)
☐ User with little programming experience
☐ Student programmer
☐ Non-programmer interested in computer concepts and capabilities

Name _____ Date _____

Organization _____

Street _____

City _____ State _____ Zip Code _____
                                                    or
                                                  Country

If you require a written reply, please check here. ☐

--- Fold Here ---

--- Do Not Tear - Fold Here and Staple ---