Title:

RC BASIC SYSTEM
LOGICAL DISC FORMATTING PROGRAM
OPERATING GUIDE

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Abstract:

Flexible discs used for secondary storage by RC BASIC systems require a special format. This publication tells how to operate the Logical Disc Formatting Program, which provides facilities for formatting, listing, resetting, and copying such discs.

CONTENTS

1. INTRODUCTION

Flexible discs used for secondary storage by RC BASIC systems require a special format. The Logical Disc Formatting Program, which can run simultaneously with RC BASIC, permits the user to format and maintain such discs. This guide tells how to operate the program.

The formatting program has four different functions:

NEW	:	To format a flexible disc.
LIST	:	To list the contents of a flexible disc.
RESET	:	To reset a flexible disc.
COPY	:	To copy one flexible disc to another.

The program, which is operated from the console, starts by outputting the text

```
>LDF00
LOGICAL DISC FORMATTING PROGRAM
SELECT FUNCTION: NEW/LIST/RESET/COPY
```

Before selecting a function, the user should place a flexible disc in at least one drive unit.

A function is selected as follows:

Press the CTRL and G keys at the same time. When the program outputs the character >, type

LDF00

(i.e. the letters LDF and the digits 00) and press the RETURN key. Then type

<function>

and press the RETURN key, <function> being one of the four command words NEW, LIST, RESET, or COPY.

The program will now ask the user one or more questions, all according to the function selected. The four functions are described separately in Sections 2 to 5. Note that each user response must be terminated by pressing the RETURN key.

When a selected function has been performed, the program will again output the text SELECT FUNCTION: NEW/LIST/RESET/COPY. The user can now do one of three things:

Select a new function.

Enter RC BASIC by pressing the ESCape key (when an RC BASIC system was loaded along with the formatting program).

Load an RC BASIC system.

2. NEW

The NEW command is used when a flexible disc is to be formatted (re-formatted). The format of a flexible disc as used in RC BASIC is described in Chapter 7 of the RC BASIC Programming Guide (RCSL 31-D406).

When the NEW function is selected, as described in Section 1, the program outputs the question

UNIT NAME:

Here the user should type either $FD0 or $FD1, depending on whether the flexible disc to be formatted is placed in drive unit 0 or 1.

The second question is

UNIT ID:

Here the user can type any identification (0 to 30 characters). This identication will be output on the terminal when the flexible disc is initialized from RC BASIC (the INIT command, described in Chapter 7 of the RC BASIC Programming Guide).

The third question is

UNIT SIZE:

Here the user should type a number in the range 3 to 1850. This number defines the size of the flexible disc. The size is expressed as the number of blocks, each containing 128 bytes (characters).

Now the logical discs must be created. A flexible disc may contain any number of logical discs. For each logical disc, the program asks three questions:

LD NAME:
LD SIZE:
PROTECTION KEY:

After LD NAME: the user should type the name of the next logical disc to be created (1 to 8 characters).

After LD SIZE: the user should type a number defining the size of the logical disc expressed as the number of blocks.

After PROTECTION KEY: the user should type a number in the range 0 to 65535. This key must then be specified when a user connects his terminal to the logical disc, if he wishes to write to, delete, create, or rename a file (the CONNECT command, described in Chapter 7 of the RC BASIC Programming Guide). If the protection key is 0 (zero), the logical disc is not protected.

When no more logical discs are to be created, the user should answer the next LD NAME: question by pressing the RETURN key.

3. LIST

The LIST command is used when a listing of the logical discs on a flexible disc is desired.

When the LIST function is selected, as described in Section 1, the program outputs the question

UNIT NAME:

Here the user should type either $FD0 or $FD1, depending on whether the flexible disc to be listed is placed in drive unit 0 or 1.

The listing will contain the name, size, and protection key of each logical disc on the specified flexible disc.

4. RESET

The RESET command is used when a flexible disc must be reset. This is necessary if a flexible disc is removed from the drive unit (or a system breakdown occurs) while one or more terminals are connected.

When the RESET function is selected, as described in Section 1, the program outputs the question

UNIT NAME:

Here the user should type either $FD0 or $FD1, depending on whether the flexible disc to be reset is placed in drive unit 0 or 1.

The program now makes a search of the main catalog, which contains entries describing the logical discs on the flexible disc (see Chapter 7, Section 7.1, of the RC BASIC Programming Guide).

If an entry is found in which the USERS field is not equal to zero, then that logical disc was in use when the flexible disc was removed.

The USERS field is now set to zero, and the program proceeds to a search of the subcatalog of the logical disc in question, examining the entries that describe the files in the logical disc.

If a file was being used for reading (USERS field in the subcatalog entry > 0), then USERS is set to zero.

If a file was being used for writing (USERS field in the subcatalog entry -1), then USERS is set to zero and the file is cleared (by assigning zero to the subcatalog entry fields LAST BLOCK and LAST BYTE).

For each logical disc that is reset, the program outputs the text

LD: <ldname> RESET

For each write file that is cleared, the program outputs the text

WRITE FILE: <filename>

5. COPY

The COPY command is used when one flexible disc is to be copied to another flexible disc.

When the COPY function is selected, as described in Section 1, the program outputs two questions:

```
FROM UNIT:
TO UNIT:
```

After FROM UNIT: the user should type either $FD0 or $FD1, depending on whether the flexible disc to be copied is placed in drive unit 0 or 1.

After TO UNIT: the user should type the name of the other drive unit, in which a flexible disc is also placed, i.e. $FD1 or $FD0.

6. ERROR MESSAGES

If an error is detected during reading from or writing to a flexible disc, the message

I/O ERROR: <xxxxx>

will be output, <xxxxx> being an error code from 00120 to 00134.

The meanings of these error codes are explained in Appendix A of the RC BASIC Programming Guide.

7. EXAMPLES

User input, which is terminated by pressing the RETURN key, is shown underlined in the following two examples. Comments are given on the right. Note that the COPY function has not yet been implemented.

7.1 Formatting and listing a flexible disc

```
>LDF00

LOGICAL DISC FORMATTING PROGRAM

SELECT FUNCTION: NEW/LIST/RESET ?  NEW

UNIT NAME: $FD0
UNIT ID: FORMATTING EXAMPLE 77.02.09
UNIT SIZE: 1850

LD NAME: DISC1
LD SIZE: 300
PROTECTION KEY: 1

LD NAME: DISC2
LD SIZE: 250
PROTECTION KEY: 2

LD NAME: DISC3
LD SIZE: 800
PROTECTION KEY: 23

LD NAME: DISC4
LD SIZE: 450
PROTECTION KEY: 778

LD NAME:

SELECT FUNCTION: NEW/LIST/RESET ?  LIST

UNIT NAME: $FD0

LIST OF UNIT: $FD0
UNIT SIZE: 01850
UNIT ID: FORMATTING EXAMPLE 77.02.09

LD NAME      SIZE    KEY
DISC1        00300   00001
DISC2        00250   00002
DISC3        00800   00023
DISC4        00450   00778

SELECT FUNCTION: NEW/LIST/RESET ?
```

User creates four logical discs with different sizes and keys.

7.2 Resetting a flexible disc

```
>LDF00
LOGICAL DISC FORMATTING PROGRAM
SELECT FUNCTION: NEW/LIST/RESET ?  RESET
UNIT NAME: $FD0
UNIT: $FD0 RESET
UNIT SIZE: 01850
UNIT ID: FORMATTING EXAMPLE 77.02.09
LD: DISC4 RESET
WRITE FILE: TESTFILE
SELECT FUNCTION: NEW/LIST/RESET ?
```

← DISC4 was in use when the flexible disc was removed.

The file TESTFILE on DISC4 has been cleared.