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Title:

DOMUS - Utility DUAL  
User's Guide

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RCSL No: 43-GL8560

Edition: February 1979

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Keywords:

RC3600, DOMUS, Utility, Dual processor.

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Abstract:

This manual describes how to autoloading the second processor in a dual processor system if DOMUS is used in the primary processor.

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1. INTRODUCTION.

1.

This program loads the second processor in a dual processor system. First the program autoloads the second processor via the front end processor adapter (FPA) and transmits the FPA relocatable binary bootstrap loader, which is taken from a disc file specified as parameter. The FPA bootstrap loader is able to receive relocatable binary modules and link them together to form an executable core-image as necessary to start up a MUS (DOMUS) system. The loader is described in detail in [3]. The binary modules to be transmitted should be specified in a disc file given as the second parameter to DUAL.

## 2. PARAMETER FORMAT.

2.

The syntax of the call follows the general rules given in [2], and the parameters are:

```
DUAL BOOT.<file1>  SYS.<file 2>
```

<file1> is a disc file containing the FPA relocatable binary bootstrap loader (FPBXX) in absolute binary format.

<file2> is a disc file containing a number of file names, where each file is a system module in relocatable binary format. Each file name can be of any number of characters but only the first five are significant and the rest is skipped. File names are separated by one or more characters with value less than 33. (ASCII space = 32).

The first name in the file has to be 'BASIS', thus identifying the file as a bootstrap command file. This name is checked by the program but not used as a file name. Correspondently the sequence of file names has to be terminated by the name 'END'.

```
Example: BASIS
          MUM
          MUJ
          MUB MUC MUR
          :
          :
          DOMUS
          MUI
          END
```

The default values of a call are:

```
DUAL BOOT.FPABT SYS.Q3600
```

3. ERROR MESSAGES.

3.

If an error is detected by the bootstrap loader in the second processor, information about the error is communicated to the DUAL program, which writes the message on the console. Standard DOMUS error messages are applied, and only a few is explained here.

Error messages from the bootstrap loader may be:

0017 \*\*\*ILLEGAL PROGRAM, FILE <file>

The specified file does not contain a legal relocatable binary module.

0018 \*\*\*SIZE ERROR, FILE <file>

Not enough memory to load the system. The memory was filled during load of file <file>.

0019 \*\*\*CHECKSUM ERROR, FILE <file>

The module on file <file> has a checksum error.

Status errors from the FPA in the second processor are displayed as message number (2000 + number of leftmost bit in the status) and the file name in the message is FPAR.

Status errors from the FPA in the first processor are displayed as described above but the file name in the message is FPAX.

4. LOADING A DOMUS SYSTEM.

4.

If the system to be loaded into the second processor is a normal DOMUS system containing the operating system Q, the sequence of modules specified in the command file should be as follows:

```
MUM ! MUS monitor!
MUU ! MUS system modules!
MUB
MUC
MUR
MUP ! Paging system module!
INT ! MUSIL interpreter!
FPAR ! FPA receiver driver!
FPAX ! FPA transmitter driver!
XCOMX ! Processor expansion program!
Q ! Operating system!
MUI ! MUS initialization!
```

The sequence may be altered but MUM must always be the first one and Q and MUI the last two in the order given, because MUI is removed after system start and Q expects the rest of the core above its own code to be free.



APPENDIX A - REFERENCES.

- [1] DOMUS User's Guide, Part I.  
Keywords: DOMUS, MUS, Operating System, Loader Disc.  
Abstract: This manual describes the disc operating system DOMUS for the RC3600 line of computers.
- [2] DOMUS User's Guide, Part II.  
Keywords: DOMUS, MUS, Operating System, Guide.  
Abstract: This manual describes the utility systems for the disc operating system DOMUS for the RC3600 line of computers.
- [3] FPA Relocatable Binary Bootstrap Loader. Programmer's Reference Manual.  
Keywords: MUS, Autoload, Bootstrap, Relocatable Binary Loader, FPA, Manual.  
Abstract: This manual describes how to communicate with the FPA rel.bin. bootstrap loader to build a (MUS) system in a RC3600 computer of modules transmitted via the FPA.

