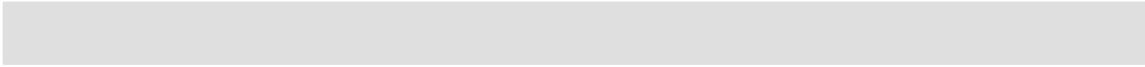


C BOOT SYSTEM



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C.1 OVERVIEW

The boot system load the CNC system software (flash RAM→DRAM), then starts it so that software can be executed.

The boot system provides the following maintenance functions for the CNC:

- (1) Registering a file in flash ROM
 - Reads a file from a memory card, in FAT format, into flash ROM.
- (2) Checking a file (series and edition) in flash ROM
- (3) Deleting a file from flash ROM
- (4) Batch saving and restoration of files of parameters and programs backed up by battery (SRAM area), to and from a memory card
- (5) Saving a file in flash ROM to a memory card
- (6) Formatting of a memory card
- (7) Deleting a file from a memory card

This manual describes the activation of the boot system, as well as the screen displays and operation for the functions listed above.

CAUTION

This control unit supports the use of a memory card as an input/output device. When a flash card is used, however, data can be written to a FANUC–recommended card only. Data can be read in the same way as with an ordinary SRAM card, provided the data has been saved in FAT format. Note that, when a flash card is used, the card capacity is reduced by 128KB. See the order list for details of the supported memory card types.

C.1.1 Starting the Boot System

In ordinary system activation, the boot system automatically transfers files from flash ROM to DRAM in the background.

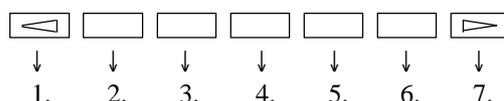
The user is not aware of this operation. However, the boot system must be operated manually, from menu screen, when maintenance is to be carried out or when the flash ROM does not contain a required file.

- 1 In system maintenance, for example, to replace a file in ROM
Operation : Turn the power on by simultaneously pressing the two soft keys at the right end.



Hold down the two keys until the boot system screen appears.

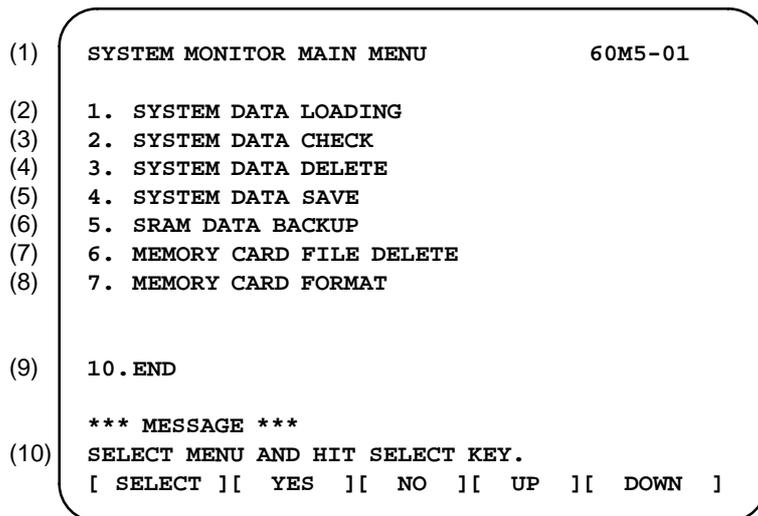
If soft keys are not provided (for example, when a touch pad is being used), use the MDI numeric keys. Hold down the **6** and **7** keys until the boot system screen appears.



C.2 SCREEN CONFIGURATION AND OPERATING PROCEDURE

- MAIN MENU screen

When the boot system is first started, the MAIN MENU screen is displayed. This screen is described below :

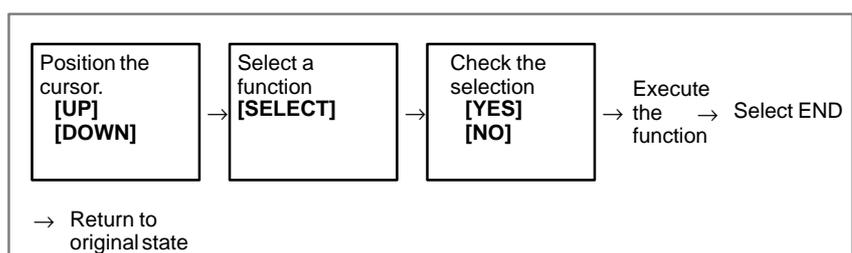


- (1) : Screen title. The series and edition of the boot system appear at the right end.
- (2) : Function for writing data to flash ROM.
- (3) : Function for checking the edition of a file in ROM.
- (4) : Function for deleting a file from flash ROM.
- (5) : Function for making a backup copy of the data stored on the memory card.
- (6) : Function for making a backup copy of the data in SRAM.
- (7) : Function for deleting a file from a memory card.
- (8) : Function for formatting a memory card.
- (9) : Function for terminating the boot system and starting the CNC.
- (10) : Condensed guidance or error message

- Operating procedure

Press the **[UP]** or **[DOWN]** soft key to select the desired function. After positioning the cursor to the desired function, press the **[SELECT]** soft key. Before executing a function, the system may request confirmation from the operator by having him/her press the **[YES]** or **[NO]** soft key.

- Basic operation



C.2.5 SRAM DATA BACKUP Screen

- **Description**

This screen is used to collectively save and restore parameters, programs, and other data, retained after the CNC power in SRAM is turned off, to and from a memory card.

- **Screen configuration**

Select “4 SRAM DATA BACKUP” on the SYSTEM MONITOR MAIN MENU screen. The following screen is displayed.

```
(1) SRAM DATA BACKUP
(2) [BOARD:MAIN]
(3) 1. SRAM BACKUP (CNC → MEMORY CARD)
    2. RESTORE SRAM (MEMORY CARD → CNC)
(4) END
(5) SRAM SIZE : 256K (BASIC)
(6) FILE NAME : SRAM256A. FDB

*** MESSAGE ***
(7) SELECT MENU AND HIT SELECT KEY.
    [ SELECT ][ YES ][ NO ][ UP ][ DOWN ]
```

- (1): Screen title
- (2): Names of accessing board
- (3): Menu
- (4): Returning to the previous menu
- (5): Size of SRAM mounted on the CNC
- (6): File name
- (7): Message

• Operating procedure

[Backing up data]

- 1 Select “1. SRAM BACKUP.” The following confirmation message is displayed. The backup file name may be displayed according to the SRAM capacity.
- 2 Press **[YES]** to start backup.

```
*** MESSAGE ***
BACKUP SRAM DATA OK ? HIT YES OR NO.
```

- 3 If a backup file is already on the memory card, you will be prompted to confirm whether to permit overwriting.
- 4 The name of the file being written to the memory card is displayed in the FILE NAME: field.

```
SRAM SIZE   : 0.5MB (BASIC)
FILE NAME   : SRAM0_5A.FDB → MEMORY CARD
*** MESSAGE ***
SRAM DATA WRITING TO MEMORY CARD.
```

Name of the file being saved

- 5 Upon terminating normally, the system displays the following message. Press the **[SELECT]** soft key.

```
*** MESSAGE ***
SRAM BACKUP COMPLETE. HIT SELECT KEY.
```

[Restoring the data]

- 1 Select “2. RESTORE SRAM.” The system displays the following message. Press the **[YES]** key.

```
*** MESSAGE ***
RESTORE SRAM DATA OK ? HIT YES OR NO.
```

- 2 The system displays the following message during restoration.

```
*** MESSAGE ***
RESTORE SRAM DATA FROM MEMORY CARD.
```

- 3 Upon terminating normally, the system displays the following message. Press the **[SELECT]** soft key.

```
*** MESSAGE ***
RESTORE COMPLETE. HIT SELECT KEY.
```

● Others

1 Name of backup file

The name of the backup file written to the memory card by the SRAM backup function depends on the size of the SRAM installed in the CNC.

When the size of SRAM is 1MB or larger, backup files are created in units of 512 KB.

Number of files SRAM size	1	2	3	4	5	6
256KB	SRAM256A.FDB					
0.5MB	SRAM0_5A.FDB					
1.0MB	SRAM1_0A.FDB	SRAM1_0B.FDB				
2.0MB	SRAM2_0A.FDB	SRAM2_0B.FDB	SRAM2_0C.FDB	SRAM2_0D.FDB		
3.0MB	SRAM3_0A.FDB	SRAM3_0B.FDB	SRAM3_0C.FDB	SRAM3_0D.FDB	SRAM3_0E.FDB	SRAM3_0F.FDB

The backup file for SRAM on the PMC-RE, CAPII, or LCB board will have the following extension:

Board	MAIN	PMC-RE	CAPII	LCB
Extension	FDB	PMC	CAP	LCB

CAUTION

If data such as parameters was restored from a memory card to SRAM in a system using an absolute pulse coder, set bit 4 (APZ) of parameter No. 1815 to 0, and set the reference point again.