MITSUBISHI

PROGRAMMABLE CONTROLLER

MELSEC-A

Operating Manual

SW0IVD-MINIP
MELSECNET/MINI-S3 Data Link Software Package

MITSUBISHI ELECTRIC

● SAFETY PRECAUTIONS ●

(Read these precautions before using.)

When using Mitsubishi equipment, thoroughly read this manual and the associated manuals introduced in this manual. Also pay careful attention to safety and handle the module properly.

These precautions apply only to Mitsubishi equipment. Refer to the CPU module user's manual for a description of the PC system safety precautions.

These ● SAFETY PRECAUTIONS ● classify the safety precautions into two categories: "DANGER" and "CAUTION".

⚠DANGER	Procedures which may lead to a dangerous condition and cause death or serious injury if not carried out properly.
⚠CAUTION	Procedures which may lead to a dangerous condition and cause superficial to medium injury, or physical damage only, if not carried out properly.

Depending on circumstances, procedures indicated by ⚠CAUTION may also be linked to serious results.

In any case, it is important to follow the directions for usage.

Store this manual in a safe place so that you can take it out and read it whenever necessary. Always forward it to the end user.

Revisions

* The manual number is noted at the lower left of the back cover.

Print Date	*Manual Number	Revision
Nov. 1996	IB (NA)-66708-A	First printing

INTRODUCTION

Thank you for choosing a Mitsubishi MELSEC-A Series General Purpose Programmable Controller.
Before using your new PC, please read this manual thoroughly to gain an understanding of its functions so you can use it properly.
Please forward a copy of this manual to the end user.

Table of Contents

1 Overview ..... 1- 1~1- 5

1.1 Function Overview 1- 1
1.2 Operation Overview 1- 3
1.3 Key Table 1- 4
1.4 Abbreviations and Terms Used in this Manual 1- 5

2 System Configuration ..... 2- 1~2- 2

2.1 System Configuration 2- 1
2.2 Precaution for System Configuration 2- 2
2.2.1 Precaution regarding the hardware ..... 2 - 2
2.2.2 Precaution in the software configuration 2- 2

3 System Startup and Operation Procedure ..... 3- 1~3-13

3.1 Installing and Starting MINIP 3- 1
3.1.1 Installing MINIP 3- 1
3.1.2 Deleting MINIP 3- 4
3.1.3 Starting MINIP 3- 5
3.2 Starting MINIP in Windows 3.1 and Precautions 3- 6
3.3 Selecting Auto-write to HD/FD 3- 7
3.3.1 HD/FD auto-write selection operation 3- 7
3.3.2 Directory display operation 3- 9
3.4 Common Display Column in the Screen 3-10
3.5 Function List 3-11

4 Set Link Initial Data ..... 4- 1~4-12

4.1 Set Link Initial Data 4- 1
4.2 Initial Data Setting Mode Menu Selections 4- 6
4.2.1 Setting total number of remote stations 4- 7
4.2.2 Setting the remote terminal data 4- 8
4.2.3 Divided refresh remote I/O data setting 4-11

5 Edit Character Generator ..... 5- 1~5-19

5.1 Character Generator Edit 5- 1
5.2 Precaution When Creating or Modifying the Characters 5- 6
5.2.1 Character dot structure 5- 6
5.2.2 Character code configuration 5- 7
5.3 Selections in the Character Generator edit Mode Menu 5- 8
5.3.1 Pattern display 5- 9
5.3.2 Creating/Modifying the character patterns 5-11
5.3.3 Registering the existing pattern 5-15
5.3.4 Storage list display 5-18
5.3.5 Clearing character generator memory 5-19

6 Edit Message ..... 6- 1~6-23

6.1 Edit message 6- 1
6.2 The Edit Message Mode Menu Selection 6- 9
6.2.1 Message mode setting 6-10
6.2.2 Creating and modifying the message pattern 6-12
6.2.3 Message pattern display 6-18
6.2.4 Registering the device comment 6-19
6.2.5 Device comment display 6-21
6.2.6 Clearing message and comment data 6-22

7 Make ROM Data ..... 7- 1~7- 8

7.1 Functions of ROM Mode 7- 1
7.2 Precautions when in ROM Mode 7- 1
7.3 ROM Mode Menu Selections 7- 2
7.3.1 Reading from the HD/FD 7- 3
7.3.2 Writing to the HD/FD 7- 5
7.3.3 Verifying with the HD/FD 7- 7

8 File Maintenance ..... 8- 1~8-22

8.1 Functions in the File Maintenance 8- 1
8.2 Common Operations in the File Maintenance 8- 2
8.2.1 Setting a system name 8- 2
8.2.2 Setting a file name 8- 3
8.2.3 Changing drive 8- 4
8.2.4 Specifying machine name (subsystem) 8- 5
8.2.5 Specifying a comment 8- 5
8.3 Operations in the File Maintenance 8- 6
8.3.1 Directories for registered data 8- 6
8.3.2 Reading from the HD/FD 8- 8
8.3.3 Writing to the HD/FD 8-10
8.3.4 Verifying with the HD/FD 8-12
8.3.5 Copying data on the HD/FD 8-14
8.3.6 Deleting file 8-16
8.3.7 Reading from the FD (A6GPP file) 8-17
8.3.8 Writing to the FD (A6GPP file) 8-19
8.3.9 Verifying with the FD (A6GPP file) 8-21

9 Print ..... 9- 1~9-23

9.1 functions in the Print Mode 9- 1
9.2 Precaution When in Print Mode 9- 1
9.3 Setting a Printer 9- 2
9.4 Setting Printout Data 9- 3
9.4.1 Printing a print title 9- 3
9.4.2 Printing initial data 9- 6
9.4.3 Printing character patterns 9- 9
9.4.4 Printing a message list 9-12
9.4.5 Printing a comment list 9-15
9.4.6 Printing a message pattern (single) 9-18
9.4.7 Printing a message pattern (continuous) 9-21

10 DOS 10- 1

11 Error Messages ..... 11- 1~11- 2

Appendix ..... A- 1~A-11

Appendix 1 JIS Code List ..... A- 1
Appendix 2 Dot Patterns of Semi-grahip Characters ..... A- 4
Appendix 3 Character Pattern/Message Pattern Designe Sheet ..... A- 6
INDEX A-10

About this manual

The following lists the manuals related to MINIP:

Related Manuals

Manual Name	Manual No. (Type code)
SW0IVD-ROMA ROM Function Software Package Operating Manual Describes about placing ROM-writer converted data to the ROM (included in the package)	IB66671 (13JF34)

1 Overview

This manual describes about the SW0IVD-MINIP software package, which creates:

- initial data
- character generator data
- message data

for MELSECNET/MINI-S3 data link systems, and performs ROM writer data (Intellec HEX format) conversion as well as data conversion between A6GPP/A6PHP and IBM PC/AT, etc.

> To place the data converted to ROM writer data to the ROM, SW0IVD-ROMA software package is used. Refer to "SW0IVD-ROMA Software Package Operating Manual" for the operation methods.

1.1 Function Overview

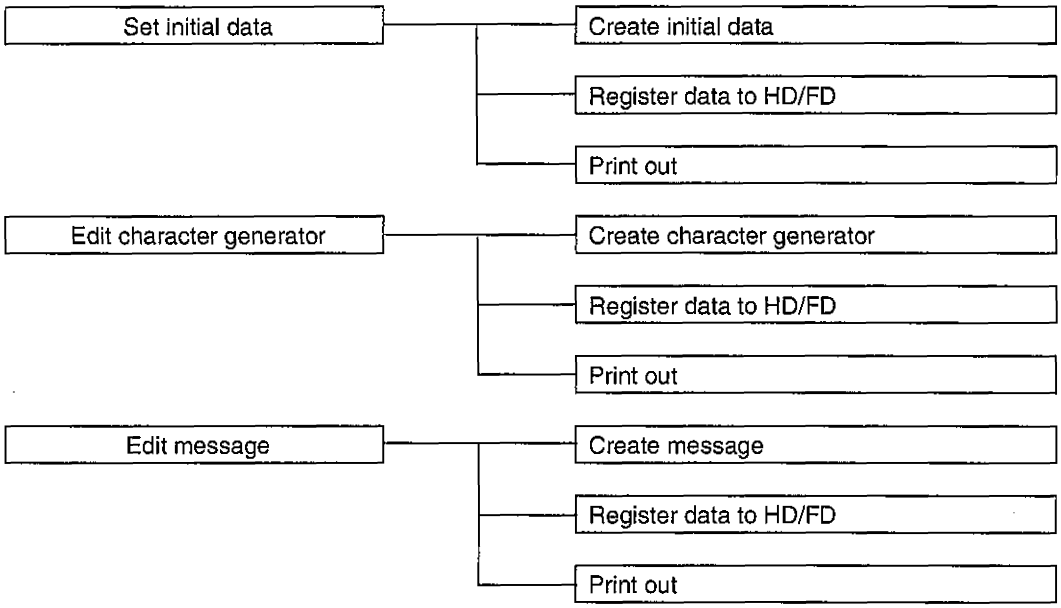
The master module switches between the extended mode and I/O mode depending on the type of connected remote module.
MINIP must create the initial data, character generator data, and message data when the master module is used with the extended mode.

Table 1.1 Relationship of the mode and data created by MINIP

Data created by MINIP	I/O mode	Extended mode	
		No operating box	Operating box exists
Initial data	X	○	○
Character generator data	X	X	○
Message data	X	X	○

○: Creation required X: Creation not necessary

The following functions can be used with MINIP:

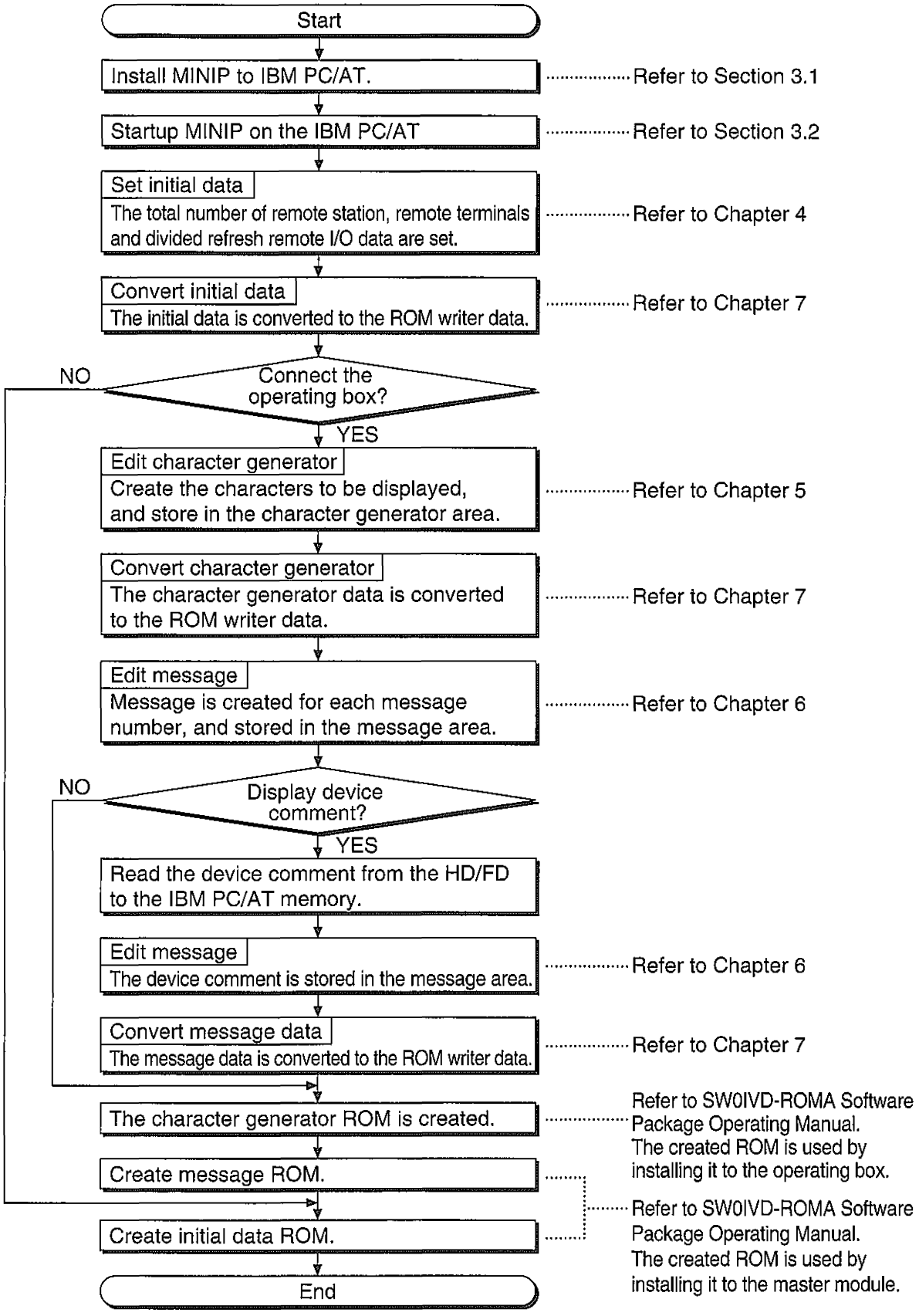


Function	Description	Detailed explanation
Set initial data	The MELSECNET/MINI-S3 initial data (total number of remote stations, remote terminal data, and divided refresh remote I/O data) are set in the PC memory.	Chapter 4
Edit character generator	Create the characters to store in the character generator ROM installed on the operating box (AJ35T(PT)-OPB), and register the characters. (The character generator is the character dot pattern displayed on the operating box.)	Chapter 5
Edit message	Create and register the messages (messages displayed on the operating box) stored in the message ROM installed to the master module.	Chapter 6
Convert set data conversion	Convert the PC memory's initial data, character generator data and message data to data that can be transferred to the ROM using ROM writer, and store in the HD/FD. Also, the converted data to the PC.	Chapter 7
Register/read data to HD/FD	Write the created initial data character generator data, and message data to the HD/FD and store. Also, read the created data from the HD/FD.	Chapter 8
Print out of set data	Print out the initial data, character generator data and message data in the PC memory. Also, perform screen copy in the PC.	Chapter 9

Note) In this manual, the link data is referred to as initial data.

1.2 Operation Overview

The overview of the MINIP operation is shown below:



1.3 Key Table

The key operation description in this manual uses the general keys used for all keyboards.
When the key in this document are different from the key on your keyboard, refer to the corresponding keys according to the table below:

Key description in this document	IBM PC/AT
Esc	Esc
Tab	Tab
Shift	Shift
Space	
Enter	Enter
BackSpace	Back space
Ins	Insert
Del	Delete
Home	Home
End	End
PageDown	Page Down
PageUp	Page Up
F1	F1
F2	F2
F3	F3
F4	F4
F5	F5
F6	F6
F7	F7
F8	F8
F9	F9
F10	F10

1.4 Abbreviations and Terms Used in this Manual

The abbreviations and terms used in this manual are shown below:

1) IBM PC/AT. . . . . Generic name for IBM PC/AT machines or PC-compatible machines.
2) SW0IVD-MINIP . . . . . Abbreviation for the SW0IVD-MINIP MELSECNET/MINI-S3 data link software package.
3) MINIP . . . . . Abbreviation for SW0IVD-MINIP.
4) MINI-S3 system. . . . . Abbreviation for MELSECNET/MINI-S3 data link system.
5) ROMA . . . . . Abbreviation for SW0IVD-ROMA ROM function software package.
6) Master module. . . . . Genetic name for AJ71PT32-S3, AJ71T32-S3, AISJ71PT32-S3, and A1SJ71T32-S3 MELSECNET/MINI-S3 master modules.

MEMO

2 System Configuration

2.1 System Configuration

The system configuration for operating MINIP is shown below:

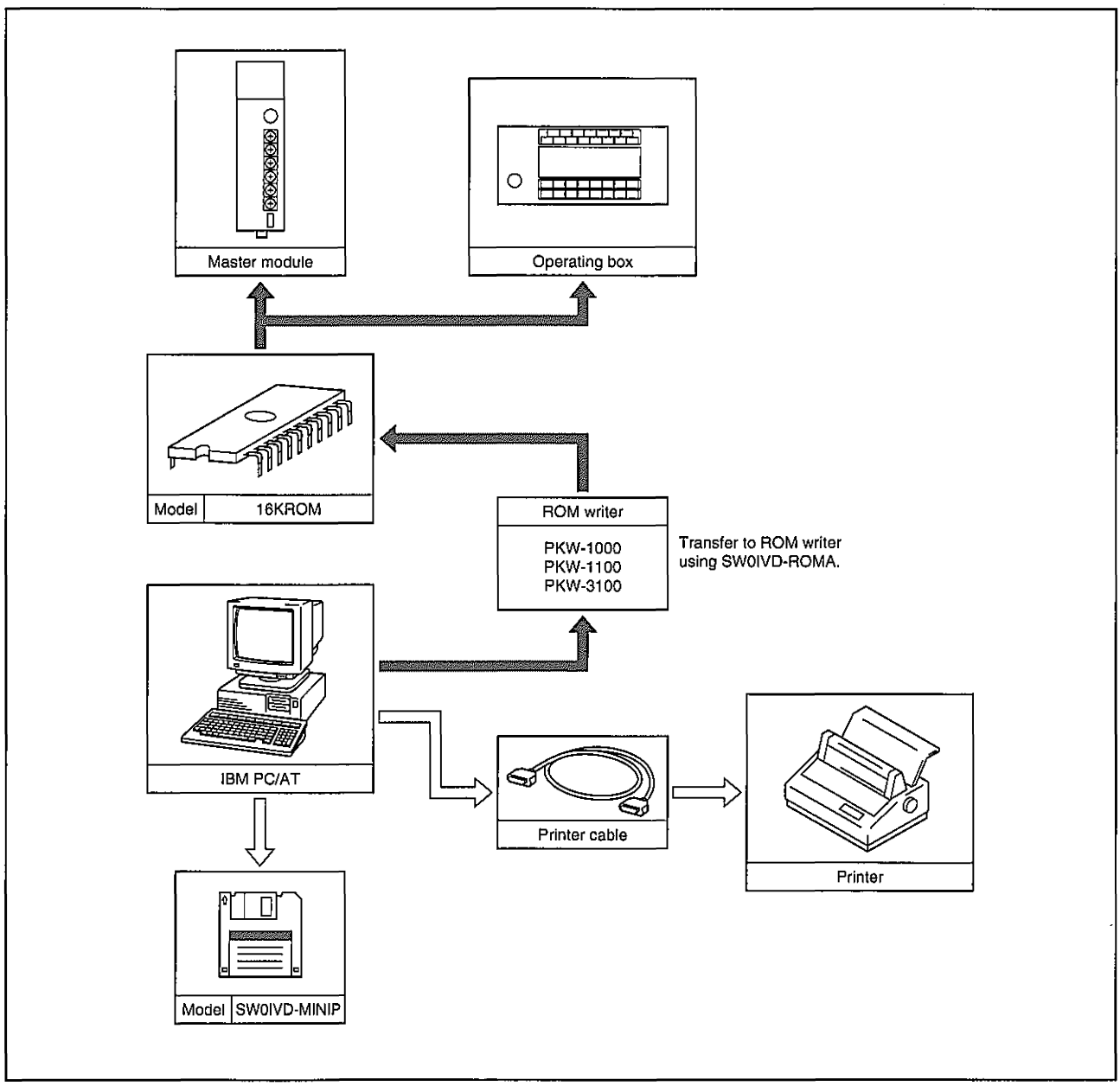


Figure 2.1 System configuration

2.2 Precaution for System Configuration

2.2.1 Precaution Regarding the Hardware

(1) The devices tested at our laboratory are as follows:

- IBM PS/V
- IBM Thinkpad
- DECpc Celebris
- COMPAQ PROLINE
- COMPAQ PRESARIO
- PACKARD BELL

(2) At least 400k bytes are required for the main memory.

2.2.2 Precaution in the Software Configuration

(1) Use the following versions of operating systems:

- PC-DOS: J5.02/V or higher
- MS-DOS: 5.0/V or higher
- MS-Windows: 3.1 (When started in the DOS-compatible box)

(2) When registering the SW0IVD-MINIP to the hard disk, at least 1 megabyte of hard disk space must be available.

(3) A minimum of 512K bytes are required for EMS memory.

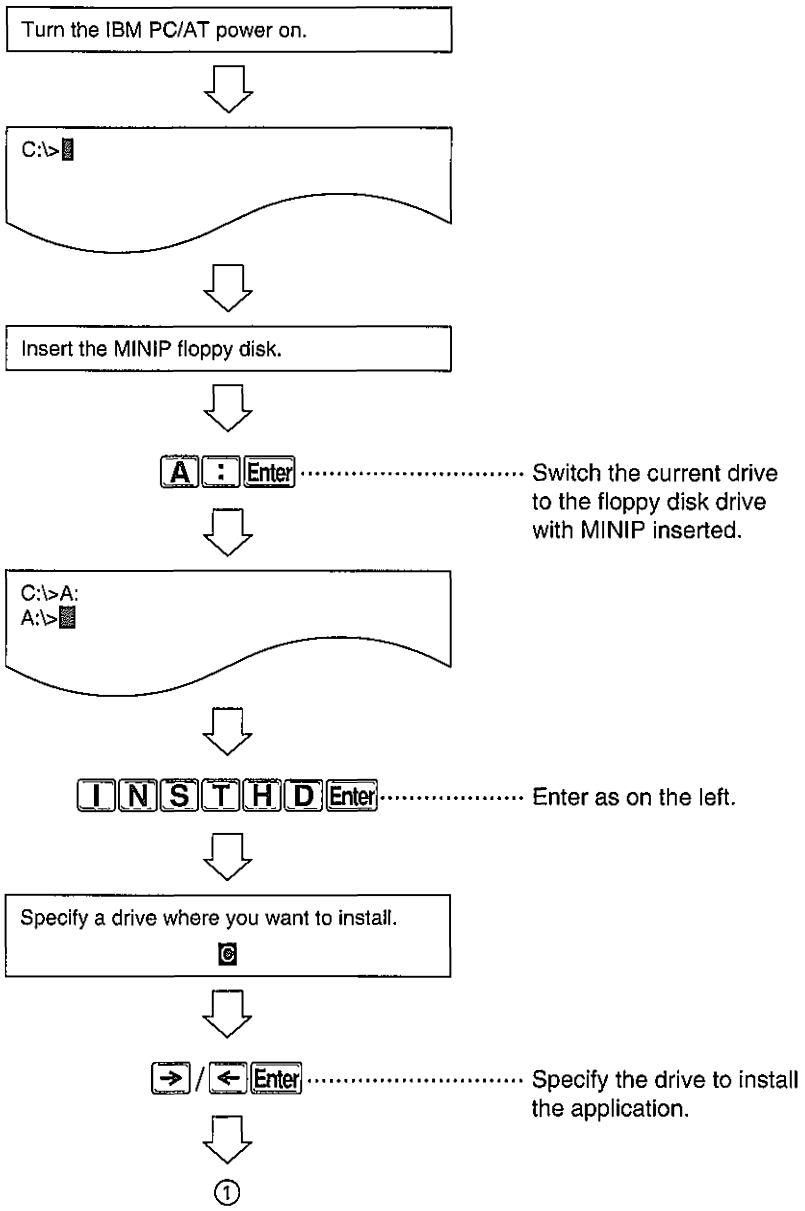
3 System Startup and Operation Procedure

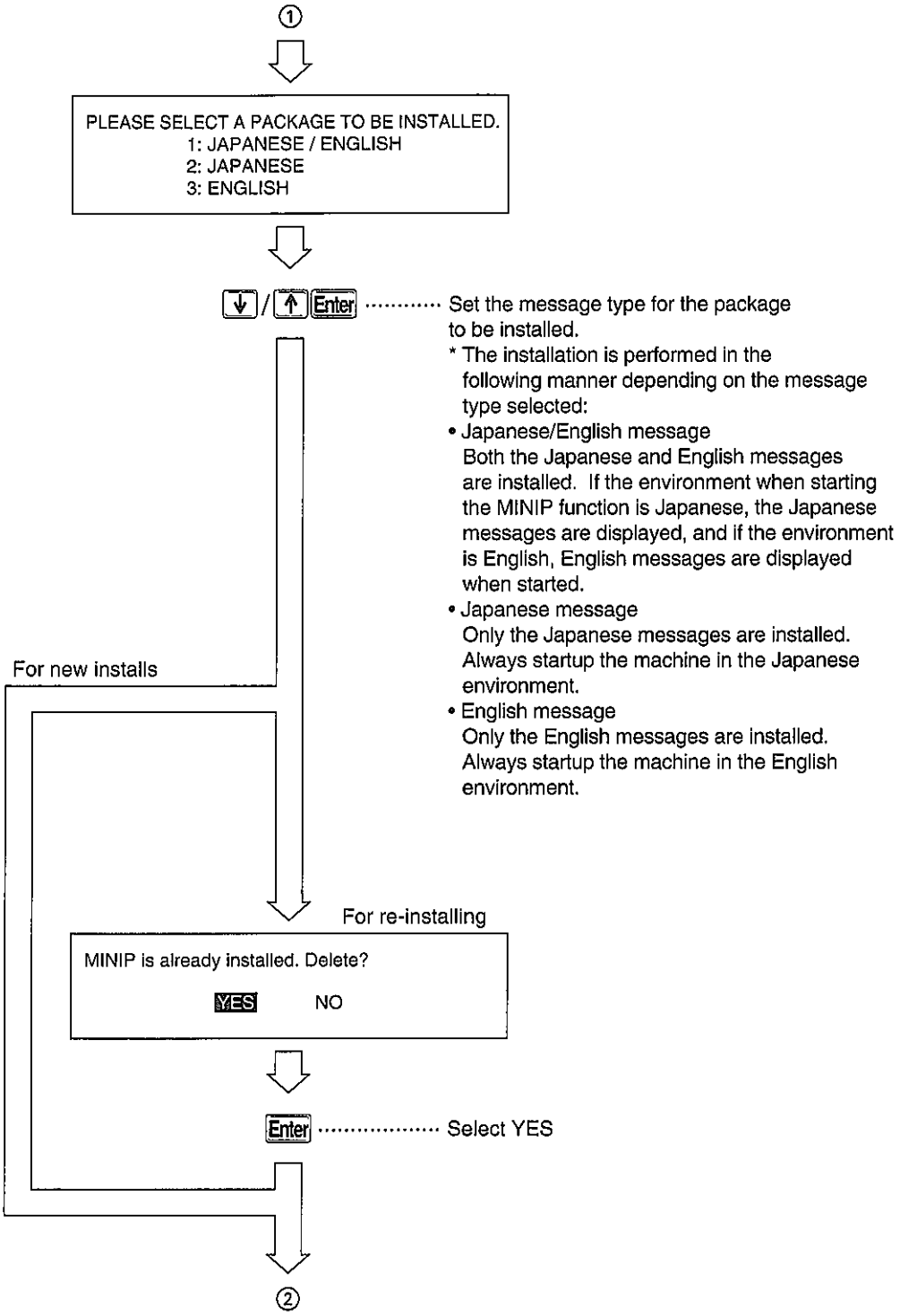
The installation procedure of this software package to hard disk and the startup procedure are described in this chapter.

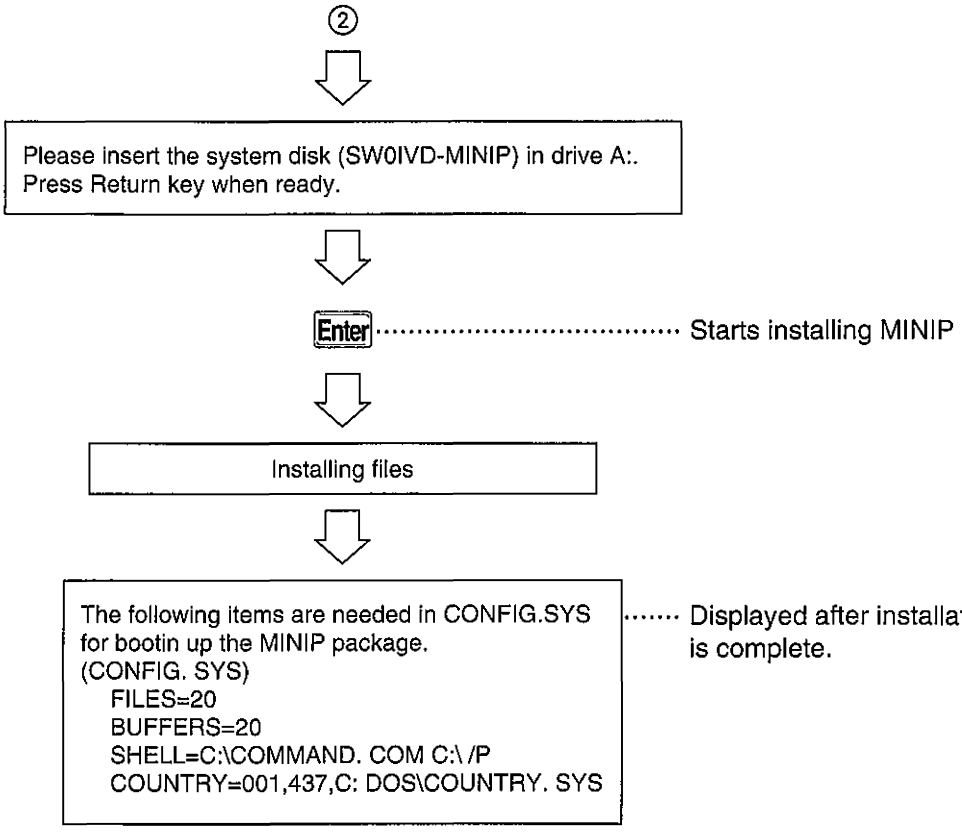
3.1 Installing and Starting MINIP

3.1.1 Installing MINIP

The following description uses A drive as the floppy disk drive to insert the MINIP disk, and C as the destination drive.



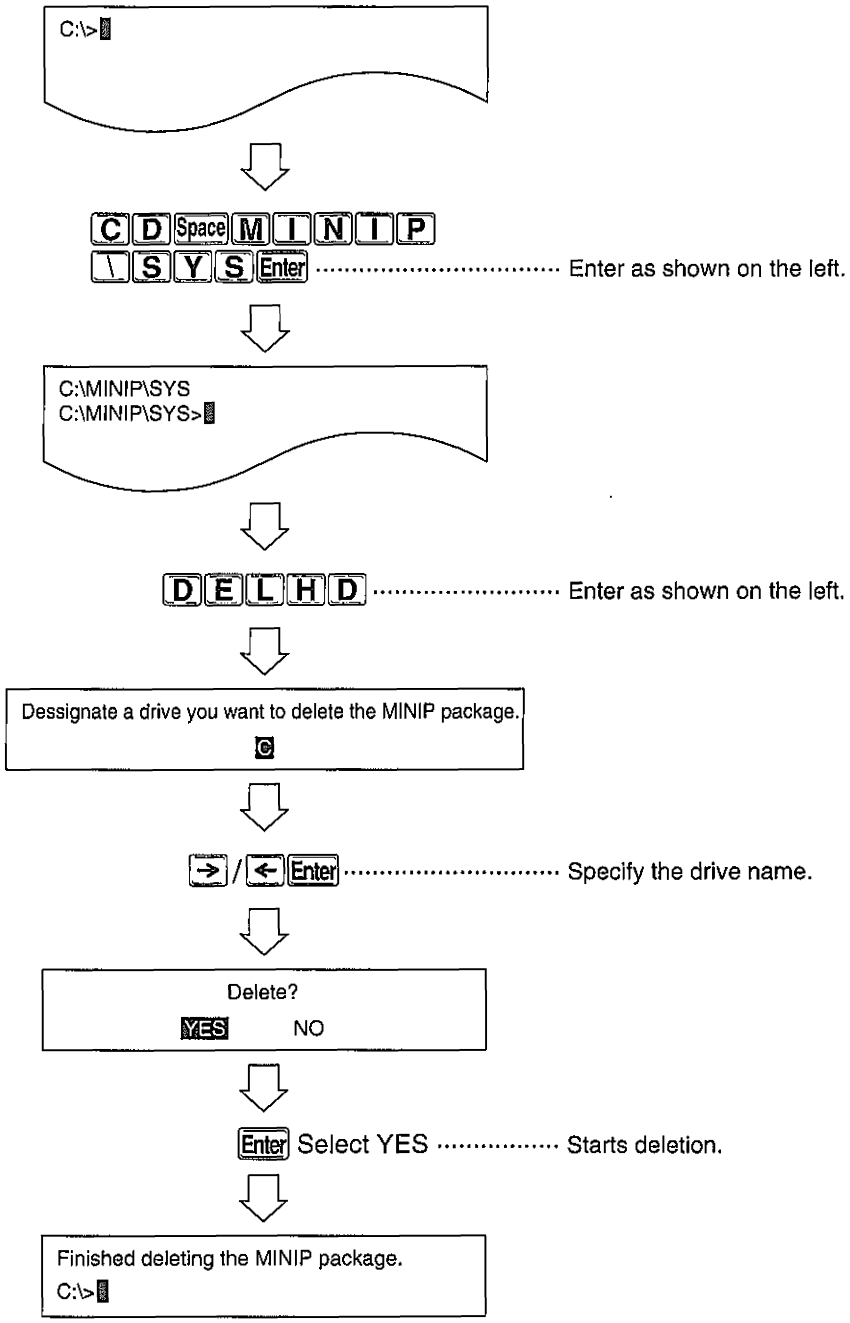

①
PLEASE SELECT A PACKAGE TO BE INSTALLED.
1: JAPANESE / ENGLISH
2: JAPANESE
3: ENGLISH
↓ / ↑ Enter ····· Set the message type for the package to be installed.
* The installation is performed in the following manner depending on the message type selected:
• Japanese/English message
Both the Japanese and English messages are installed. If the environment when starting the MINIP function is Japanese, the Japanese messages are displayed, and if the environment is English, English messages are displayed when started.
• Japanese message
Only the Japanese messages are installed. Always startup the machine in the Japanese environment.
• English message
Only the English messages are installed. Always startup the machine in the English environment.
For new installs
For re-installing
MINIP is already installed. Delete?
YES NO
Enter ····· Select YES
②



Point

When an error occurs during installation, re-install the package.

3.1.2 Deleting MINIP



3.1.3 Starting MINIP

The following is necessary in the CONFIG.SYS to startup MINIP. Modify the CONFIG.SYS as necessary.

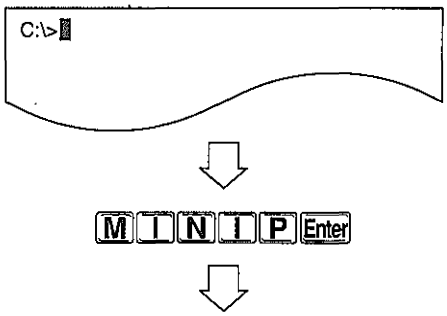
```
FILES=20
BUFFERS=20
SHELL=C:\COMMAND. COM C:\ /P
COUNTRY=001,437,C: \DOS\COUNTRY. SYS
```

The batch file to startup MINIP is created in the root as MINIP.BAT during MINIP installation.
Modify and add lines to MINIP.BAT as necessary.
(Contents of MINIP.BAT after MINIP installation)

```
C: *1
CD \MINIP\SYS
MINIP %1
```

*1: The drive name is overwritten to the drive where MINIP was installed.

(Starting MINIP)



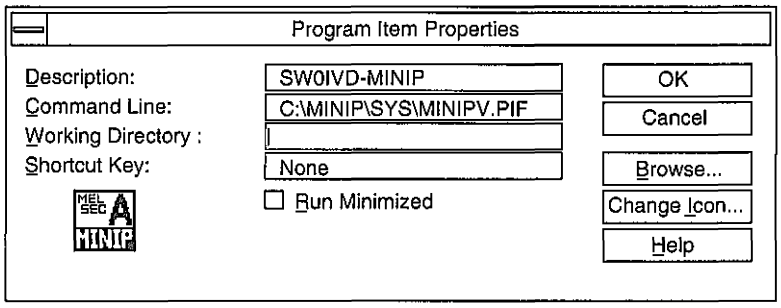

```
Copyright(c) 1996 Mitsubishi Electric Corporation
MELSEC-A SERIES  MELSECNET/MINI-S3
SW0IVD-MINIP    Version 00A

     ** SELECT MODE **    USE  F1 .. F8

          F1 SET LINK INITIAL DATA

          F2 EDIT CHARACTER GENERATOR

          F3 EDIT MESSAGE

          F4 MAKE ROM DATA

          F5 FILE MAINTENANCE

          F6 PRINT

          F7 DOS

          F8 EXIT
```

3.2 Starting MINIP in Windows 3.1 and Precautions

Registering the MINIP startup icon in Windows 3.1 and the precautions when starting MINIP are shown below.
It is assumed that Windows 3.1 is already started.

(1) Registering the icon

(a) Select "New..." from the File menu in the Program Manager.
(b) Select "Program Group" and enter the program title. (The file name entry not required.)
(c) Select "New..." from the File menu in the Program Manager.
(d) Select "Program Item" and enter the title.
(e) Select "Browse..." and select the "MINIPV.PIF" file in the \MINIP\SYS directory.



(f) Select "Change Icon..." and select "Browse..." in the "Change Icon" screen.
(g) Select either "MINIP.ICO" or "MINIP_N.ICO" in the \MINIP\SYS directory.
(h) Press OK, and one of the following icons is displayed:

(MINIP. ICO)

(MINIP_N. ICO)

(2) Starting MINIP

Double-click on the MINIP icon created in (1).

(3) MINIP operation

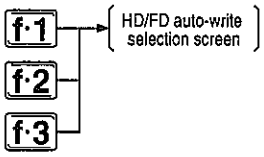
The operations after starting MINIP is the same as when started on DOS. (Mouse operations cannot be performed.)

3.3 Selecting Auto-write to HD/FD

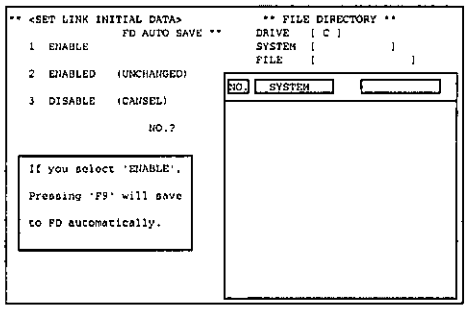
HD/FD auto-write can be selected in the initial data setting mode, character generator editing mode, or message editing mode.
When the auto-write to HD/FD is selected, pressing [F9] would automatically save data to the HD/FD while in the initial data setting mode, character generator editing mode, or message editing mode. Also, auto-write setting/cancel can be performed while displaying the specified HD/FD directory.

3.3.1 HD/FD Auto-write Selection Operation

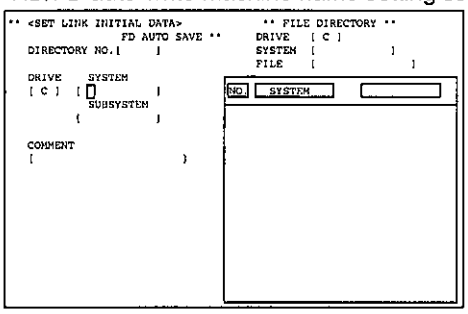
Operation to get to the HD/FD auto-write selection screen



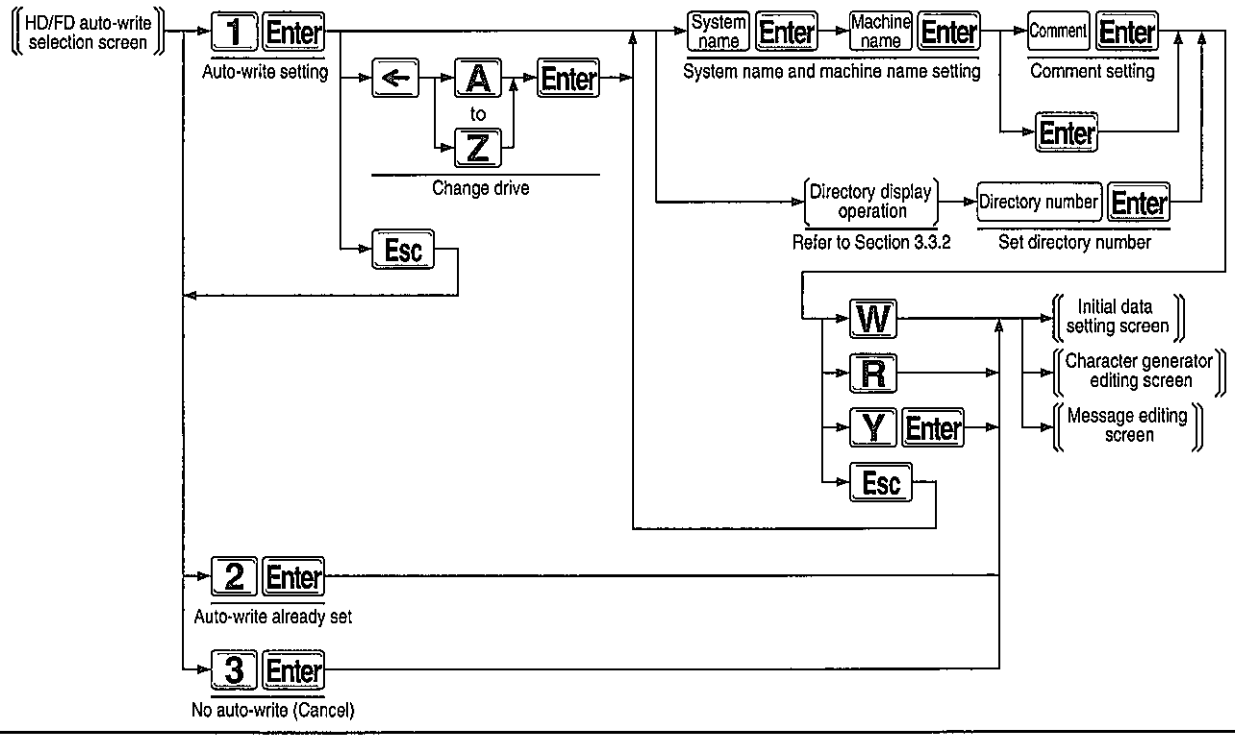
HD/FD auto-write selection screen



HD/FD auto-write machine name setting screen



Operations in the HD/FD auto-write selection screen



Description

(1) There are two functions that can be selected in the HD/FD auto-write selection screen: [F8] auto-write, and [F10] file directory.

(2) When [1] [Enter] (set new auto-write) is entered in the HD/FD auto-write selection screen, the system name, machine (subsystem) name, or directory number must be set.

(a) A maximum of 8 characters can be used to set the system name and machine name with alphanumeric and "–" (minus) keys. However, the first character must be an alphabet letter.

(b) A maximum of 20 characters can be used to set the comment, using alphanumeric, kana characters, and symbols.
When comment is not set, press [Enter] only.

(c) For the directory number, the file number with the same extension (RMN, CMN, and MMN) as the corresponding data can be set from the files displayed in the file directory.

(3) After the comment is set, the following message is displayed if the system name or machine name specified in the HD/FD already exists as a file.

Same system name exists. Rewrite - Press 'W', Read-Press 'R'.

1) If [W] is entered, the contents of system name/machine name files are all cleared in the HD/FD, and auto-write function starts.
2) If [R] is entered, auto-write function is started after the contents of specified file name and machine name are read to the PC.

(4) If the files for specified system name/machine name do not exist in the HD/FD after the comment is set, the following message is displayed:

Do you want to create it? <Y><CR>/Cancel<ESC>

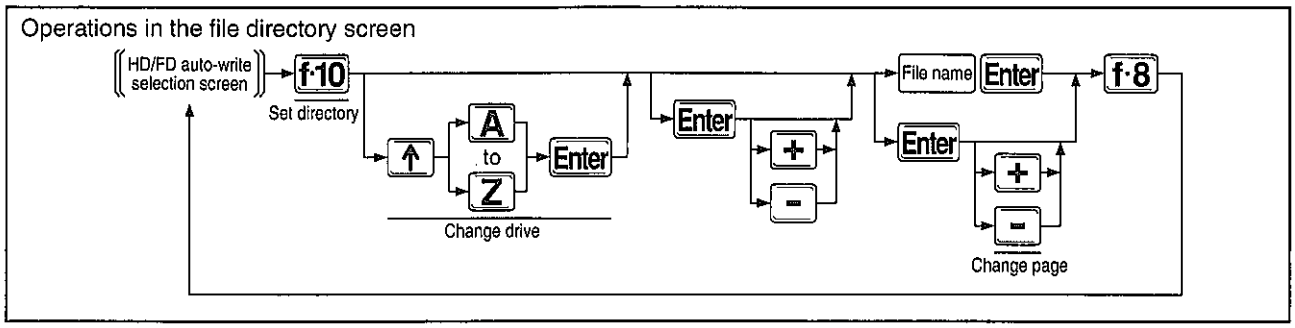
1) When [Y][Enter] is entered, a new system name and machine name are created in HD/FD and starts the auto-write function.
2) When [Esc] is entered, the cursor is displayed in the "system name" setting and the system name and machine name can be set again.

Point

The HD/FD auto-write is automatically canceled when the following operations are performed:

- The PC power supply is turned off or reset.
- When the character generator, or message/comment clear is selected.
- When a function other than verification and directory is selected in the FDD mode.
- When an error occurs during auto-write execution
- When read function is selected in ROM mode.

3.3.2 Directory Display Operation



Description

(1) File directory setting function can be invoked by pressing [F10].

(2) The file directory operation is performed after the drive and system names are set.

(3) When changing the drive, press the [↑], and move the cursor to the appropriate drive column to set the drive.

(4) In the system name setting, the system name can be entered directly, set after the system name directory.

(a) When setting the system name directly, enter the [system name] [Enter].
(b) When setting the system name after the directory, press [Enter] when the cursor is in the appropriate system name column. After the system name is displayed, type [system name].

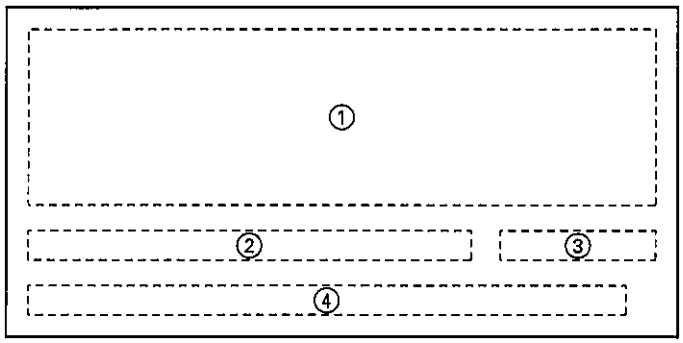
(5) When the system name is set, the cursor is displayed at the file name column.
In the file name directory, all files can be read, or the files in the specified machine can be read.

(a) When reading all files, press [Enter].
(b) When reading the files with the specified machine(subsystem) name or specified extension, specify the file name (machine name or extension), and press [Enter].
Refer to Section 8.2.2 for details of file names.

(6) After executing the directory, press [F8] to start the HD/FD auto-write setting function.

3.4 Common Display Column in the Screen

The common display columns to each PC screen are described below:



	Item	Display Description
①	Data display area	Operation guidance typed data, read data, etc. are displayed for each mode. [ ]: The set data contents, and whether the setting can be changed are displayed. ( ): The above data setting range is displayed, and operation keys for selection are displayed.
②	Message display area	Messages such as error messages regarding the entered data and operation are displayed.
③	HD/FD file name display area	When the HD/FD auto-write is set, the corresponding file name and drive are displayed.
④	Mode display area	In the mode selection, the effective function keys are displayed. The mode currently in operation is displayed inverted.

3.5 Function list

The MINIP functions are shown in Table 3.1.

Table 3.1 Function list

Mode	Function	Description
[F1] Set link initial data	Total number of linked stations setting	Sets the total number of linked stations for MELSECNET/MINI-S3. (Default is 64.)
	Set remote terminal setting	Sets the number of remote terminals connected to the MELSECNET/MINI-S3, and sets the remote terminal attribute, station number, and FROM/TO first address.
	Divided refresh remote I/O setting	Sets the number of divided refresh remote I/Os connected to the MELSECNET/MINI-S3, and sets the station number of the divided refresh remote I/O, number of digits for input, and number of digits for output.
[F2] Edit Character generator	Display pattern	The characters stored in the character generator area are displayed on the PC screen.
	Create and modify pattern	The character is created or modified from the character code specification. • 820 characters excluding fixed 204 characters can be created. (Total 1024 characters) • Characters can be created in 1 character modules. • When using 2 characters, store two 1-character, containing each part.
	Existing pattern registration	The existing pattern can be registered or modified from the character code specification. The following are existing patterns registered in MINIP: • JIS non-kanji characters: 453 characters • JIS first-level kanji characters: 2965 characters • Module symbols: 14 kinds Read, specified character registration can be performed by character code specification.
	Registration list	The list of whether each of 1024 characters (character code 0 to $3FF_H$) is registered/not registered is displayed.
	Clear character generator memory	The following in the PC character generator memory can be performed: • All clear (when creating new character generator, etc.) • Clear by range specification (when using part of character generator, etc.)
[F3] Edit Message	Set message mode	The number of messages, number of comments for a message (automatically determined by setting the number of messages), and display mode are set. • Number of messages: Max. 400 • Number of comments: Max. 1920
	Create and modifying message pattern	By specifying the message number, the corresponding message data are listed. The message can be created or modified while checking the registered characters.
	Display message pattern	By specifying the message number, the corresponding message can be displayed in a pattern in 8 character modules, and the created message can be confirmed.
	Device comment registration	The device comment created in the GPP function can be registered as a message confirmed.
	Display device comment	32 registered messages can be displayed, and the registered messages can be checked.
	Clear message or comment data	All or partial clearing (specified by range) can be performed for the PC message comment data (message and comment data).

Table 3.1 Function list (continued)

Mode	Function	Description
[F4] ROM	Read	Read the following data converted from HD/FD to ROM writer are read into the PC memory. • Link data (identifier: RHX) • Character generator data (identifier: CHX) • Message data (identifier: MHX)
	Write	Convert the following data in the PC memory to the ROM writer data, and write to HD/FD. • Link data (identifier: RHX) • Character generator data (identifier: CHX) • Message data (identifier: MHX)
	Verify	Verify the following data in the PC memory with the one converted to the HD/FD ROM writer are verified. • Link data (identifier: RHX) • Character generator data (identifier: CHX) • Message data (identifier: MHX)
[F5] FDD	Directory	List all system names and file names in the HD/FD. The functions 2 to 6 listed below can be executed while the directory is displayed.
	Read	Read the following data from HD/FD into the PC memory. • Link data (identifier: RMN) • Character generator data (identifier: CMN) • Message data (identifier: MMN) • Device comment data Read from the kana comment (KANACOM.BIN) already created by the GPP function.
	Write	Write the following data created in the PC memory to the HD/FD. • Link data (identifier: RMN) • Character generator data (identifier: CMN) • Message data (identifier: MMN)
	Verify	Verify the following data in the PC memory with the one in the HD/FD. • Link data (identifier: RMN) • Character generator data (identifier: CMN) • Message data (identifier: MMN)
	Copy	Copy the following data in the HD/FD in the HD/FD. • Link data (identifier: RMN) • Character generator data (identifier: CMN) • Message data (identifier: MMN)
	Delete	Delete the specified data in the HD/FD.
	Read	Read the following data created in A6GPP/A6PHP from the FD to the PC memory. • Link data (identifier: RMN) • Character generator data (identifier: CMN) • Message data (identifier: MMN) • Device comment data Read from the kana comment (KANACOM.BIN) already created by the GPP function.

Table 3.1 Function list (continued)

Mode	Function	Description
[F5] FDD	Write	Write the following data created in the PC memory to the FD for A6GPP/A6PHP. • Link data (identifier: RMN) • Character generator data (identifier: CMN) • Message data (identifier: MMN)
	Verify	Verify the following data in the PC memory with the one the FD for A6GPP/A6PHP. • Link data (identifier: RMN) • Character generator data (identifier: CMN) • Message data (identifier: MMN)
[F6] Printer	Set printer	The paper length and print start position setting is performed when the following printer is set in the basic utility.
	Set printout data	Set the printout data and starting page, and execute the printout. • Print title printing: Sets the machine name and comments, and prints the printout data cover page. • Initial data printing: Prints the set link data (total number of remote stations, number of remote terminals, number of divided refresh remote I/Os and station number). • Character pattern printing: Prints each character in the PC character generator data in dot pattern. • Message list printing: Prints message number mode, comments, etc. in the PC memory as a list. • Comment list printing: Prints list of comment number, comment, device, etc. in the PC memory. • Message pattern printing: Prints the message in the PC memory in dot pattern. Also, an image combining the 3 messages can be printed.
[F7] DOS	DOS	Starts the DOS prompt.
[F8] End	End	Returns to the basic utility screen.

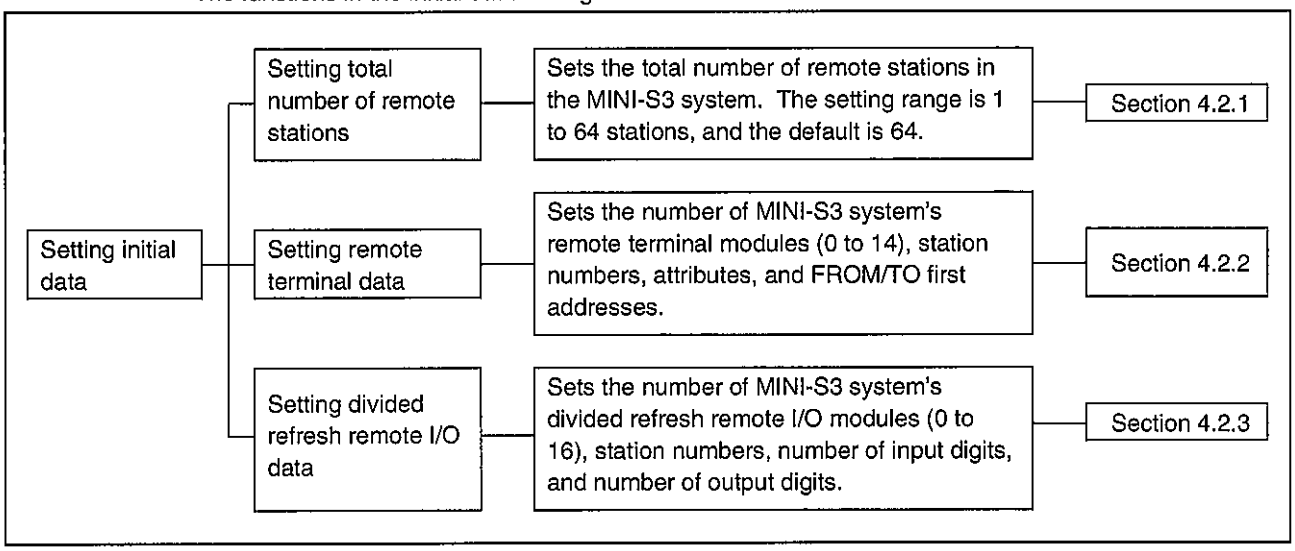
MEMO

4 Set Link Initial Data

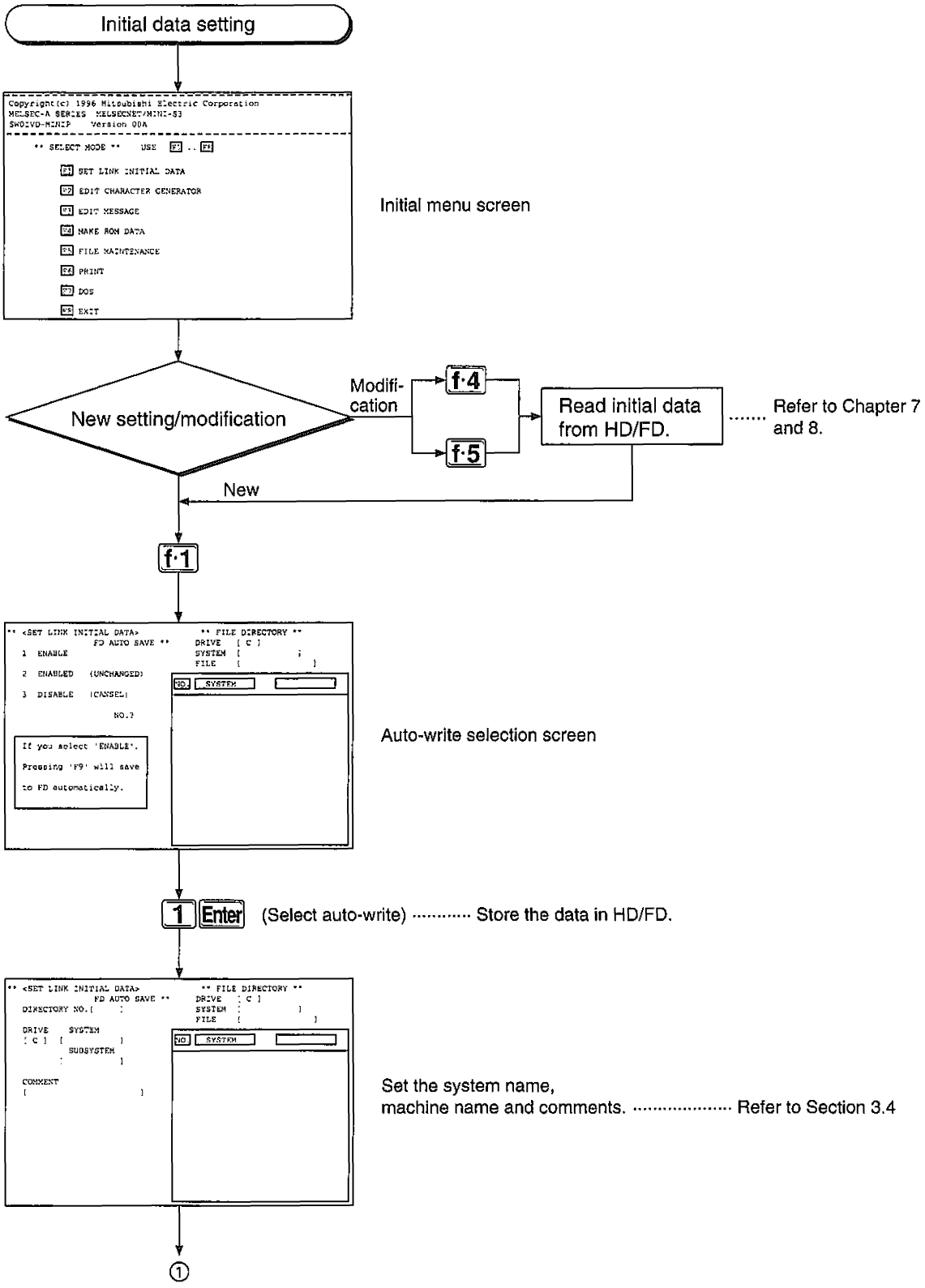
4.1 Set Link Initial Data

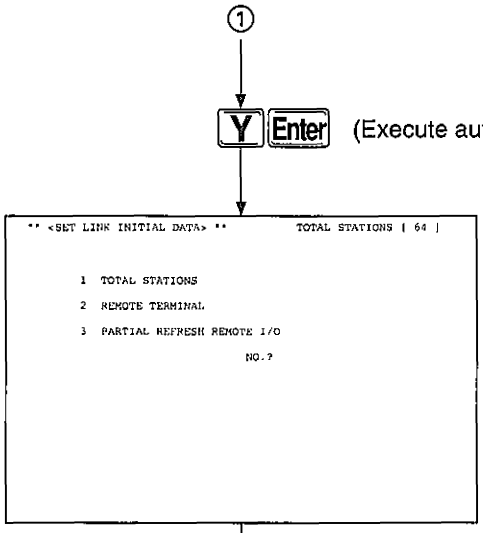
This chapter describes how to set the MINI-S3 system link initial data.
The initial data contains the total number of remote stations, remote terminal data, divided refresh remote I/O data. When not using remote terminals such as the operation machine and RS-232C interface module, the remote terminal data does not have to be set.
When the divided refresh type remote I/O module is not used, the divided-refresh type remote I/O data does not have to be set.

The functions in the initial data setting mode are as follows:



The operation overview for the initial data setting is as follows:

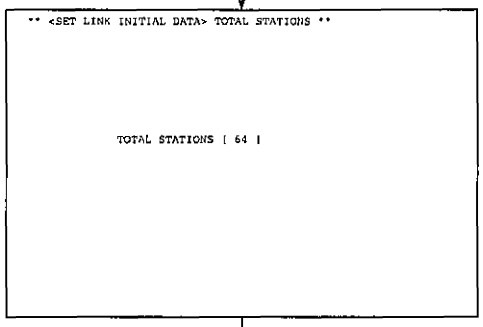




① → Y Enter (Execute auto-write)

Initial data setting screen

1 Enter (Select total number of remote stations setting)

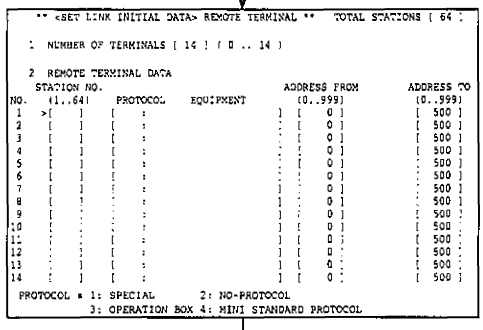


Set total number of remote stations ····· Section 4.2.1

f·9 (Execute auto-write to HD/FD)

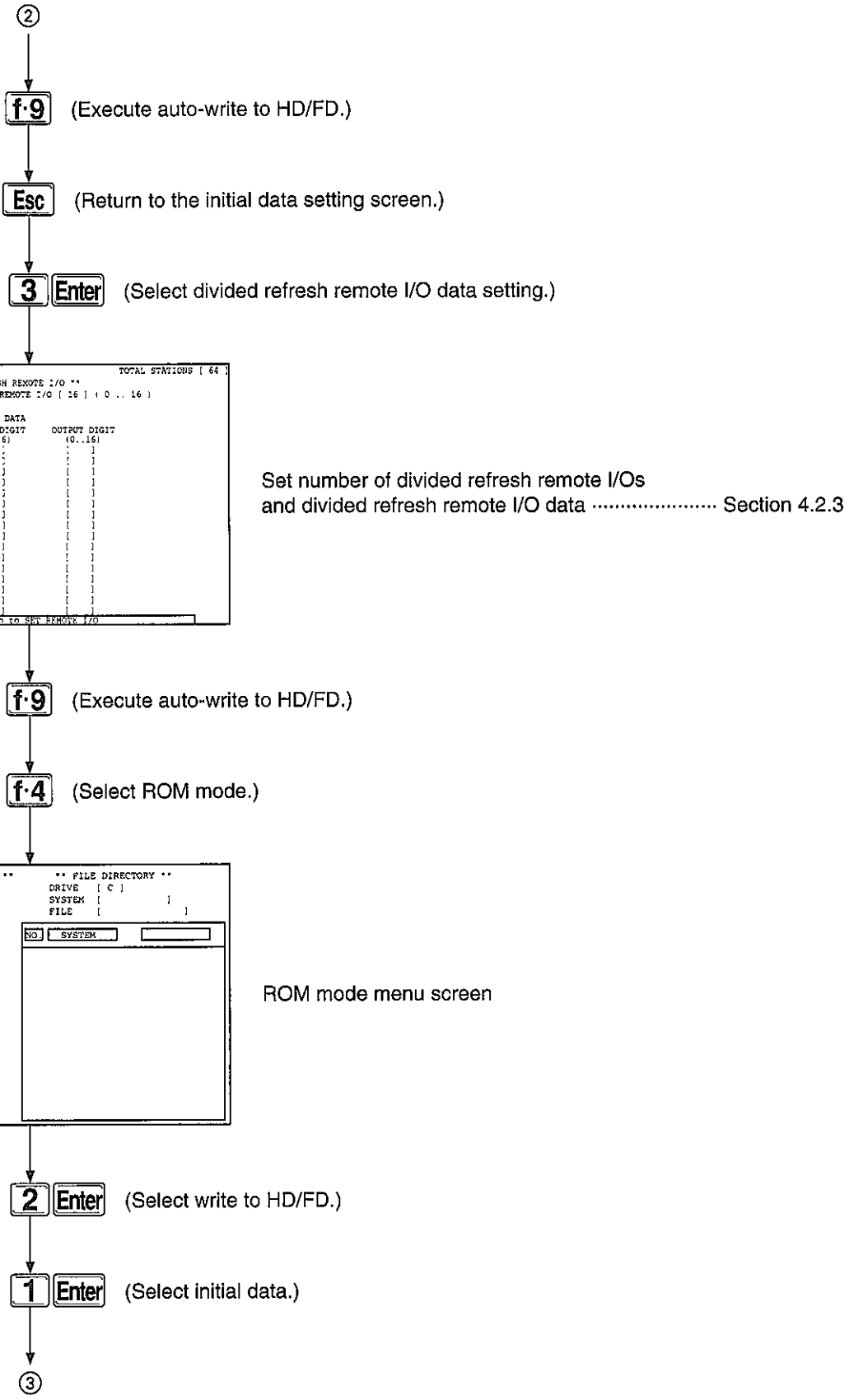
Esc (Return to initial data setting screen)

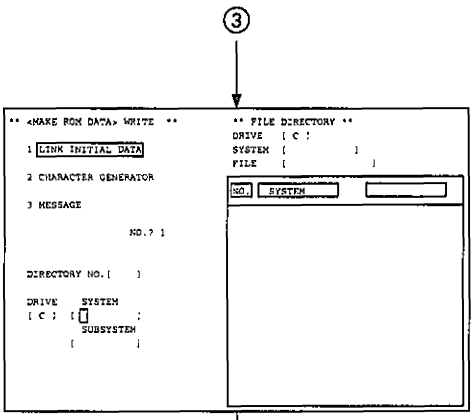
2 Enter (Select remote terminal data setting)



Set number of remote terminals
and remote terminal data. ····· Section 4.2.2

② (Next page)

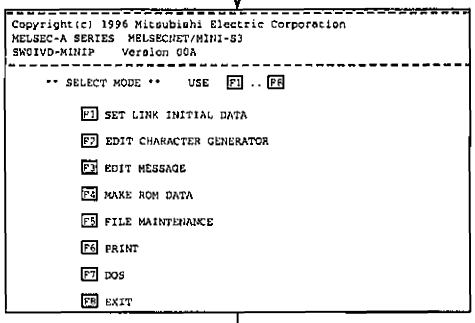

②
f·9 (Execute auto-write to HD/FD.)
Esc (Return to the initial data setting screen.)
3 Enter (Select divided refresh remote I/O data setting.)
** <SET LINK INITIAL DATA> TOTAL STATIONS [64]
PARTIAL REFRESH REMOTE I/O **
1 NUMBER OF PARTIAL REFRESH REMOTE I/O [16] (0 .. 16)
2 PARTIAL REFRESH REMOTE I/O DATA
STASION NO. INPUT DIGIT OUTPUT DIGIT
NO. (1..64) (1..16) (0..16)
Specify station No. (END) Go to SET REMOTE I/O
Set number of divided refresh remote I/Os
and divided refresh remote I/O data ····· Section 4.2.3
f·9 (Execute auto-write to HD/FD.)
f·4 (Select ROM mode.)
** <MAKE ROM DATA> FUNCTION **
1 READ
2 WRITE
3 VERIFY
NO.?
** FILE DIRECTORY **
DRIVE [C]
SYSTEM [ ]
FILE [ ]
NO SYSTEM
ROM mode menu screen
2 Enter (Select write to HD/FD.)
1 Enter (Select initial data.)
③



Set system name and machine name. ····· Section 7.3.2

Y Enter (Execute write.)

Esc Esc Esc (Return to initial menu screen.)



Initial menu screen

f·8 (End MINIP operation.)

Y Enter (Return to DOS prompt screen.)

Creating ROM by ROMA

Refer to the SW0IVD-ROMA ROM Function Software Package Operating Manual.

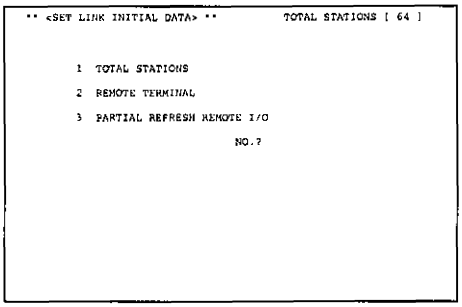
4.2 Initial Data Setting Mode Menu Selections

The dissented data setting screen is read from the menu screen in the initial data setting mode.

Operation to get to the initial data setting menu screen

f·1 → { HD/FD auto-write selection operation } → { Initial data setting menu screen }

Initial data setting menu



Initial data setting menu operations

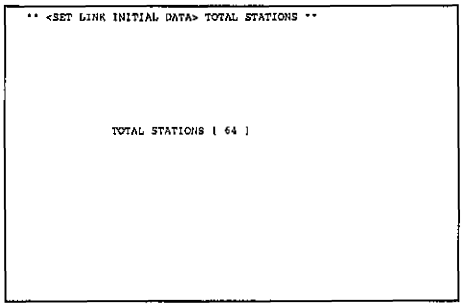
{ Initial data setting menu screen } → 1 Enter (Set total number of remote stations)
→ 2 Enter (Set remote terminal data)
→ 3 Enter (Set divided refresh remote I/O data)

4.2.1 Setting total number of remote stations

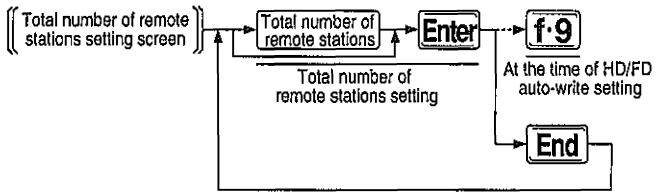
The total number of remote stations are set for the MINI-S3 system.

Operation to get to the total number of remote stations

Total number of remote stations setting screen



Operations to get to the total number of remote stations setting screen



Description

(1) The total number of remote stations is set for the MINI-S3 system.
The range is 1 to 64. The default is 64.

(2) If the total number of remote stations are already set, that value is used.
When the set data is not to be modified, press [Enter].
When modifying the data, press [End], then enter the total number of remote stations, then press [Enter].
When reducing the set data, check the station numbers of remote terminal module and divided refresh remote I/O module where the operating system is set. The following message is displayed if the total number of remote stations less than the module station number is set:

And decrease LINK INITIAL DATA, OK? <Y><CR> / <ESC>

When [Y] is pressed, the data for the station numbers greater than the new total number of remote stations will be deleted.
When [N] is pressed, modification is not made to the total number of stations.

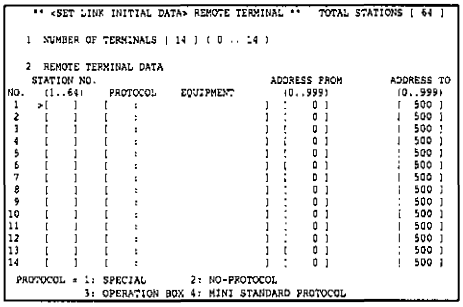
(3) When the HD/FD auto-write is selected, only the total number of remote stations is written to the HD/FD when [F9] is pressed.

4.2.2 Setting the remote terminal data

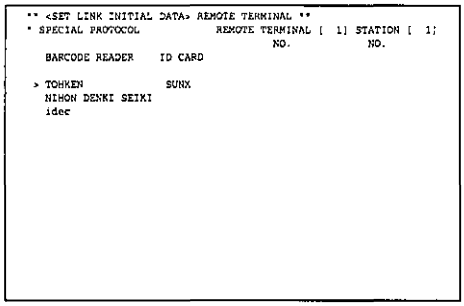
The number of remote terminal modules connected to the MINI-S3 system, station number, attribute, and FROM/TO first addresses are set.

Operation to get to the remote terminal data setting screen

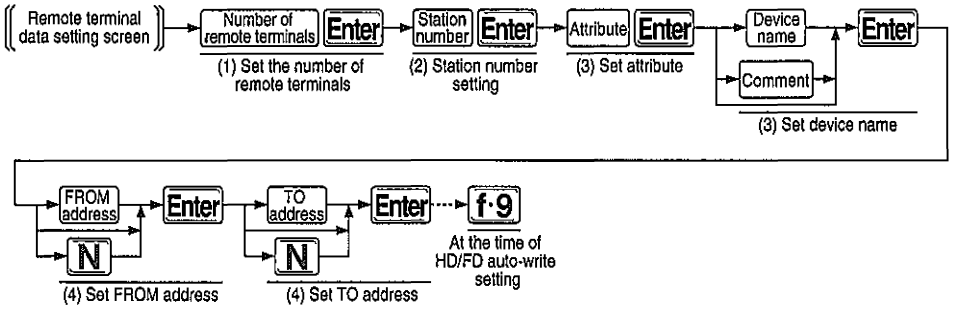
Remote terminal data setting screen



Unique protocol device name selection screen



Operations in the remote terminal data setting screen



Description

The remote terminal module includes the RS-232C interface module, operation machine, and A2C special module (such as AD61C and A68ADC).

(1) Number of remote terminals setting

(a) Sets the number of terminal modules connected to the MINI-S3 system. The setting range is 0 to 14.

(b) When the number of terminals is set, the data columns for that number are displayed.

(2) Station number setting

(a) The remote terminal module station number is set.
The setting range is 1 to 61.
4 stations are used for one remote terminal module.
Also, a duplicate station number cannot be set.

(3) Attribute and device name setting

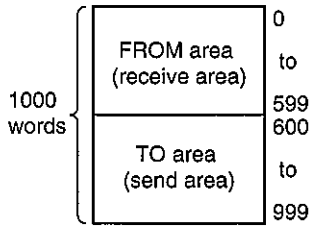
(a) The remote terminal module attribute (communication protocol) [1] to [4] are set.
[1]: Unique protocol (Bar code reader, from Idec NIHON DENKI SEIKI, TOHKEN, or ID cards from SUNX)
[2]: No procedure
[3]: Operation machine protocol
[4]: MINI standard protocol (such as AD61C and A68ADC)

(b) When [1] Unique protocol is specified, the device name is selected in the next screen. The device name is selected by moving the cursor to the corresponding area, and pressing [Enter]. When the device name is set, it returns to the previous screen, and the device name set in the device name column is displayed.

(c) When [2] to [4] is specified, the user comment (20 characters) can be set in the device name column.

(4) FROM/TO address setting

(a) The send/receive area allocation is performed in the buffer memory for communication with the remote terminal module using the FROM/TO command from the PC CPU. 1000 words are used for each remote terminal, and FROM/TO areas are allocated in those 1000 words.
The setting is made by specifying FROM/TO area is starting address (not actual address in buffer memory). The setting range is 0 to 999, and default is 0, 500. For example, if the FROM address is 0 and TO areas is 600, the FROM/TO area will be allocated as shown on the right:



(b) When not performing the address setting, press [N] [Enter].

(5) Miscellaneous

(a) When [End] is pressed, the cursor moves to the number of remote terminals setting column.

(b) When the data is already set, that data is displayed.
When clearing all data, press [F8].

Do you want to execute? <Y><CR>/Cancel <ESC>

The above message is displayed, and pressing [Y] [Enter] clears all data.

(c) When HD/FD auto-write is selected, the set contents are written to the HD/FD by pressing [F9].

(d) When the data setting is insufficient for the number of set remote terminals, and [Esc]/[F9] is pressed, the following message is displayed:

Insufficient data. OK? <Y><CR>\<ESC>

Pressing [Y] [Enter] will change the set value for number of divided remote terminal to the number of divided remote terminal for the set number of data.
Pressing [ESC], with the cursor at the present position, will not execute [ESC]/[F9].

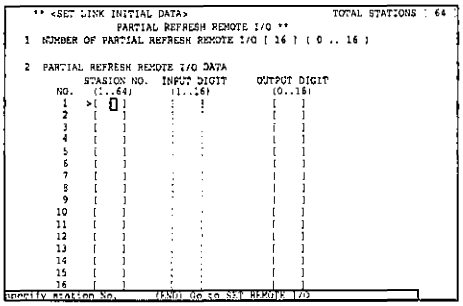
4.2.3 Divided refresh remote I/O data setting

The number of divided refresh remote I/O modules, station numbers connected to the MINI-S3 system, number of input digits and number of output digits are set.

Operation to get to the divided refresh remote I/O data setting screen

(Refer to section 4.2.)

Divided refresh remote I/O data setting screen



Operations in the divided refresh remote I/O data setting screen

Description

(1) Number of divided refresh remote I/Os setting

(a) The number of divided refresh remote I/O modules that will be connected to the MINI-S3 system is set.
The setting range is 0 to 16.

(b) When the number of modules is set, the data columns matching that number are displayed.

(2) Station number setting

(a) The station number of the divided refresh remote I/O module is set.
The setting range is 1 to 64.
Four stations are used by one divided refresh remote I/O module.
Also, duplicate station numbers cannot be set.

(3) Number of input/output digits setting

(a) The number of input digits (input points divided by 16) and number of output digits (output points divided by 16) is set for the divided refresh remote I/O module.
The setting range is 1 to 16.

(4) Miscellaneous

(a) When [End] is pressed, the cursor moves to the number of divided refresh remote I/Os setting column.

(b) When the data is already set, that data is displayed.
When clearing all data, press [F8].

Do you want to execute? <Y><CR/Cancel<ESC>

The above message is displayed, and pressing [Y] [Enter] clears all data.

(c) When HD/FD auto-write is selected, pressing [F9] writes the set contents to the HD/FD.

(d) When data setting is insufficient for the set number of divided refresh remote I/Os, and [Esc]/[F9] is pressed, the following message is displayed:

Insufficient data. OK? <Y><CR>/Cancel<ESC>

Pressing [Y] [Enter] will change the set value for number of divided refresh remote I/Os to the number of divided refresh remote I/Os for the set number of data.
Pressing [Esc], with the cursor at the present position, will not execute [Esc]/[F9].

5 Edit Character Generator

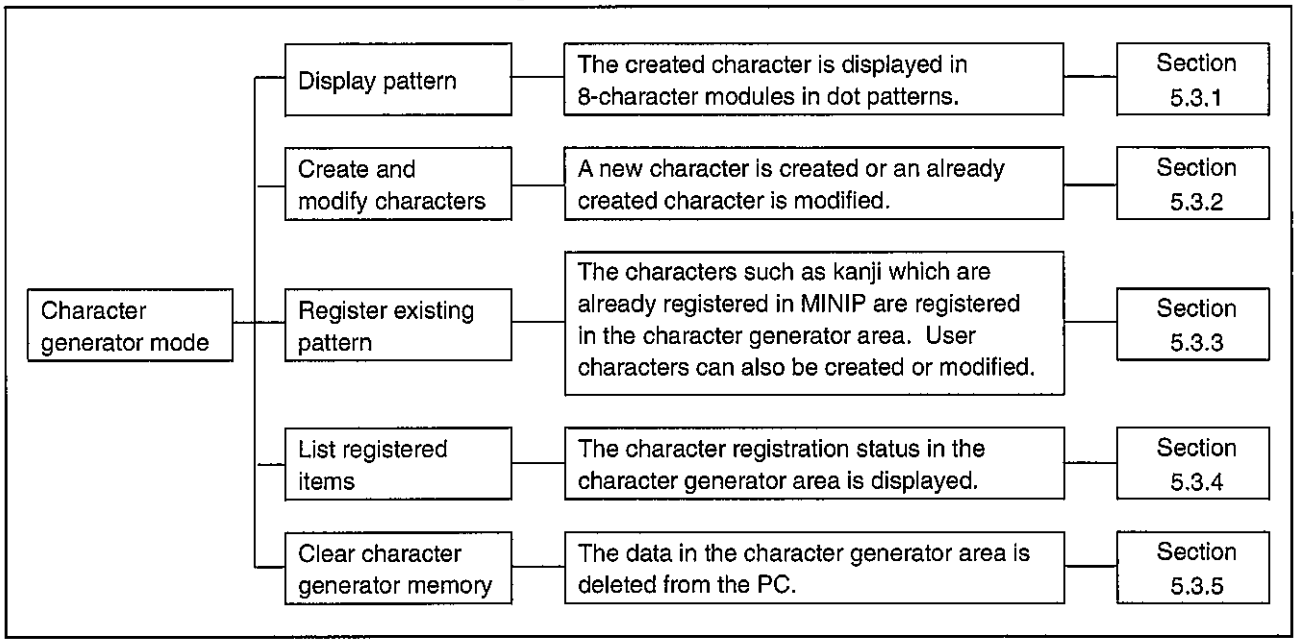
5.1 Character Generator Edit

The characters are created to be stored in the character generator ROM installed on the operation machine connected to the MINI-S3 system, and stored in the specified character generator area.

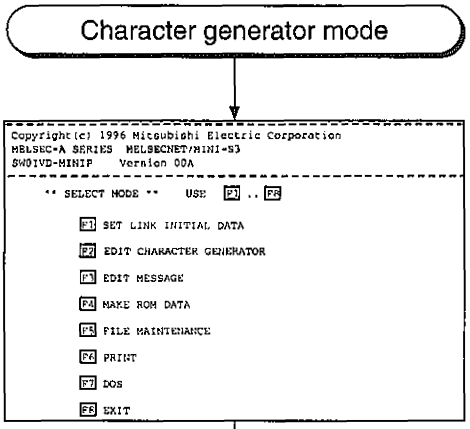
(1) ASCII code, kana, semigraphic characters (refer to Table 5.1) are stored in the character generator area, so they can be used as is.

(2) User characters (820 characters) can be created in 1 character modules.

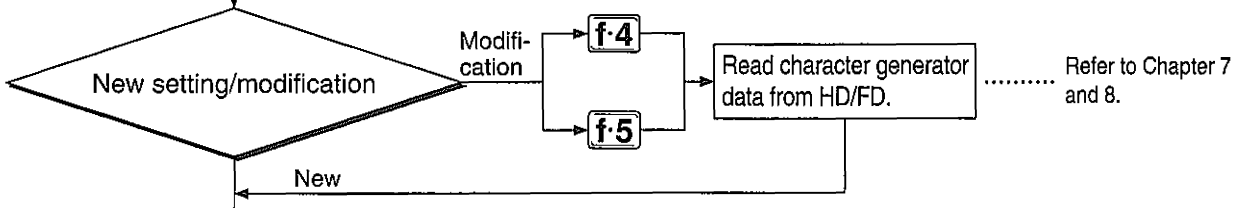
The functions in the character generator edit mode are as follows:



The operation overview for the character generator edit is as follows:

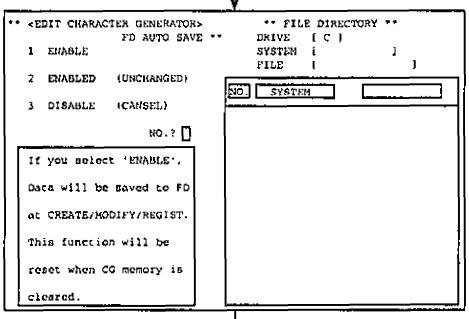


Initial menu screen



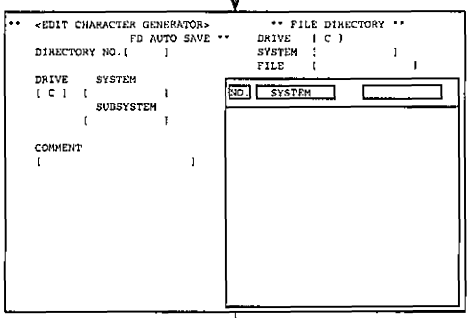
..... Refer to Chapter 7 and 8.

f·2



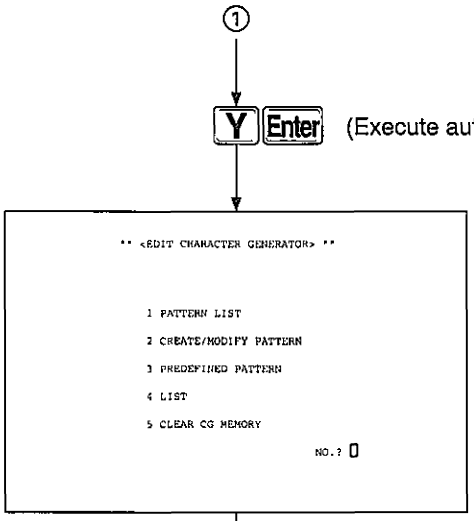
Auto-write selection screen

1 Enter (Select auto-write) ..... Store the data in HD/FD.

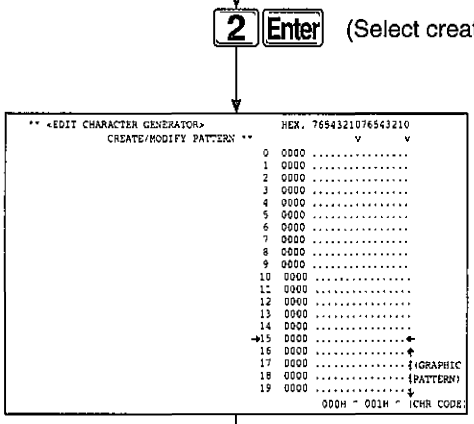


Set the system name, machine name and comments.

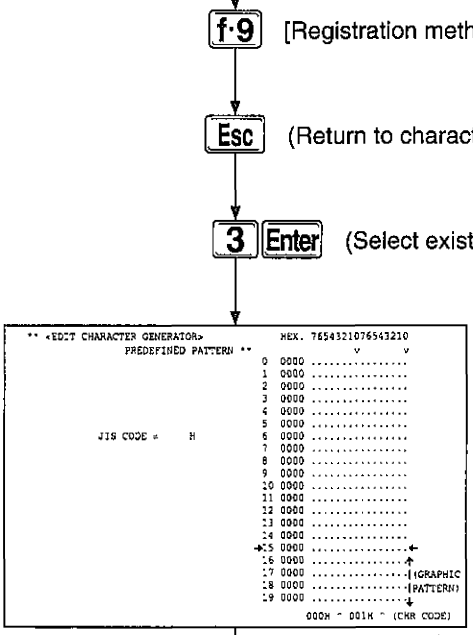
①



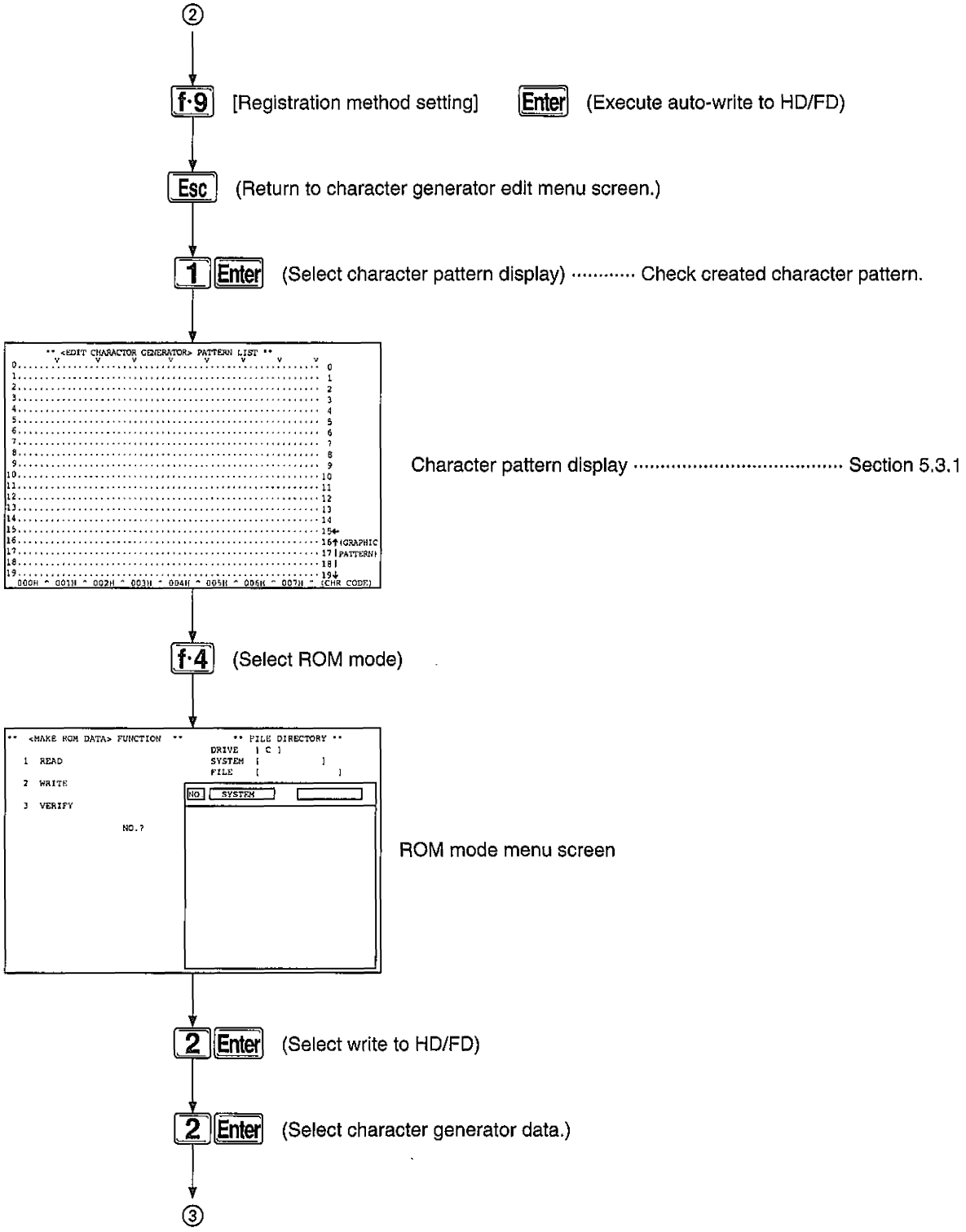
Character generator edit menu screen

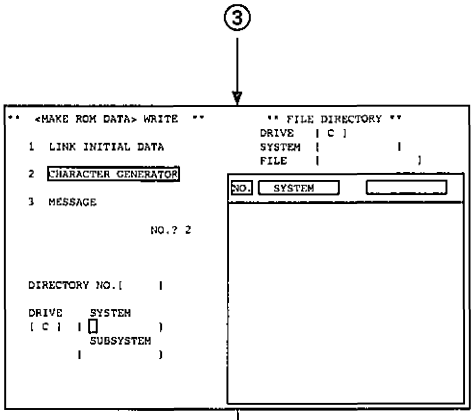


Select create character pattern,
modification, registration. ····· Section 5.3.2



Register existing pattern. ····· Section 5.3.3

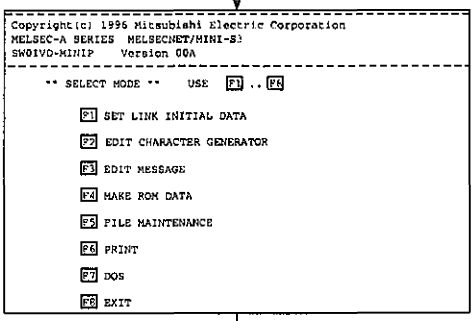

②
f·9 [Registration method setting]
Enter (Execute auto-write to HD/FD)
Esc (Return to character generator edit menu screen.)
1 Enter (Select character pattern display) ····· Check created character pattern.
** <EDIT CHARACTOR GENERATOR> PATTERN LIST **
Character pattern display ····· Section 5.3.1
f·4 (Select ROM mode)
** <MAKE ROM DATA> FUNCTION **
1 READ
2 WRITE
3 VERIFY
NO.?
** FILE DIRECTORY **
DRIVE [C]
SYSTEM [ ]
FILE [ ]
NO SYSTEM
ROM mode menu screen
2 Enter (Select write to HD/FD)
2 Enter (Select character generator data.)
③



Set system name and machine name. ····· Section 7.3.2

Y Enter (Execute write)

Esc Esc Esc (Return to initial menu screen.)



Initial menu screen

f·8 (End MINIP operation)

Y Enter (Return to basic utility screen.)

Creating ROM by ROMA

Refer to the SW0IVD-ROMA ROM Function Software Package Operating Manual.

5.2 Precaution When Creating or Modifying the Characters

The following describes the precautions when creating or modifying a character or registering to the character generator.

5.2.1 Character dot structure

(1) The display area for one character in the operation machine screen is 8x20 dots. (Refer to Figure 5.1.)

(2) An interval between characters can be created in the following manner:

1) For one character: Create with 7x20 dots (Refer to Figure 5.2)
2) For 2 characters such as kanji: Create with 15x20 dots (Refer to Figure 5.3)

(3) When intervals are not necessary between characters in the graphics, etc., create the characters with 8x20 dots. (Refer to Figure 5.4.)

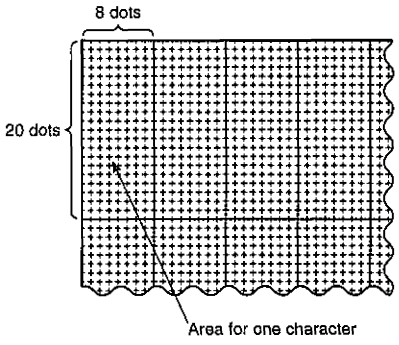


Figure 5.1

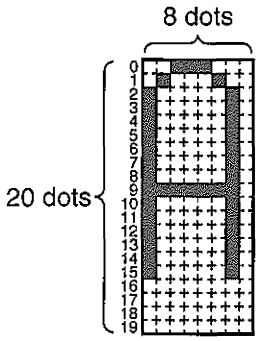


Figure 5.2

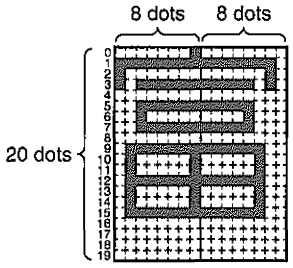


Figure 5.3

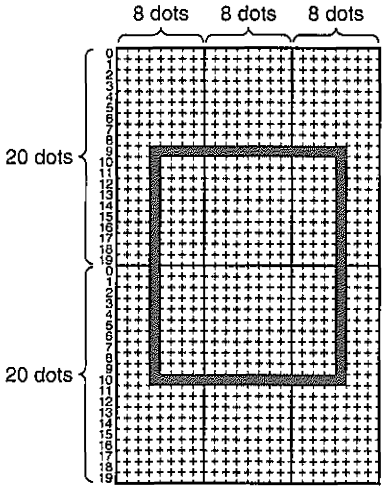


Figure 5.4

5.2.2 Character code configuration

(1) The character code is the address to register the character in the character generator area.
The code is used to display the character in the display device or to create a message screen.

(2) The character code is in the range 0H to 3FF$_H$ as shown in Table 5.1. However, only the following ranges can store the characters.

1) 0$_H$ to 1F$_H$
2) 80$_H$ to 8F$_H$
3) 9D$_H$ to 9F$_H$
4) FF$_H$ to 3FF$_H$

(3) One character can be stored for one character code.
For characters that use two characters, such as kanji, one character is stored for two character codes.

Table 5.1 Character code list

Character code upper 2-digits (Hex)	Character code lower 1-digit (Hex)																
	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F	
00																	*1
01																	
02	(SP)	!	"	#	$	%	&	'	(	)	*	+	,	−	.	/	
03	0	1	2	3	4	5	6	7	8	9	:	;	<	=	>	?	
04	@	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	*2
05	P	Q	R	S	T	U	V	W	X	Y	Z	[	¥	]	^	_	
06	`	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	
07	p	q	r	s	t	u	v	w	x	y	z	{	|	}	→	←	
08																	
09																	*1
0A	(SP)	｡	「	」	、	・	ヲ	ァ	ィ	ゥ	ェ	ォ	ャ	ュ	ョ	ッ	
0B	ー	ア	イ	ウ	エ	オ	カ	キ	ク	ケ	コ	サ	シ	ス	セ	ソ	
0C	タ	チ	ツ	テ	ト	ナ	ニ	ヌ	ネ	ノ	ハ	ヒ	フ	ヘ	ホ	マ	*2
0D	ミ	ム	メ	モ	ヤ	ユ	ヨ	ラ	リ	ル	レ	ロ	ワ	ン	゛	゜	
0E																	
0F																	
10																	
11																	
																	*1
3E																	
3F																	

Points

*1: User characters can be registered.
*2: The characters already registered in the MINIP cannot be modified or changed.
Refer to Appendix 3 for the details of semigraphic characters (90$_H$ to 9C$_H$, E0$_H$ to FE$_H$).

5.3 Selections in the Character Generator Edit Mode Menu

To edit the character generator, the setting screen of the usage object is read from the character generator edit mode menu screen.

Operation to get to the character generator edit menu screen

f·2 → { FD auto-write selection operation } → { Character generator edit menu screen }

Character generator edit menu screen

```
** <EDIT CHARACTER GENERATOR> **


   1 PATTERN LIST
   2 CREATE/MODIFY PATTERN
   3 PREDEFINED PATTERN
   4 LIST
   5 CLEAR CG MEMORY
                              NO.? 
```

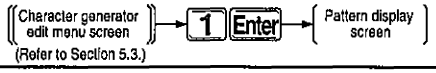
Operations in the character generator edit menu

{ Character generator edit menu screen } →
- 1 Enter (Pattern display)
- 2 Enter (Create and modify pattern)
- 3 Enter (Register existing pattern)
- 4 Enter (List registered items)
- 5 Enter (Clear character generator memory)

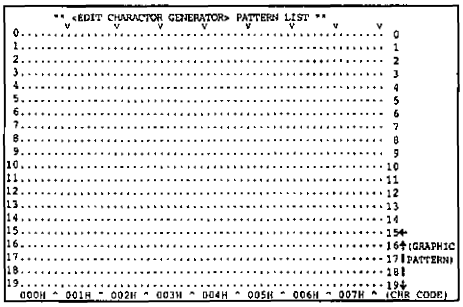
5.3.1 Pattern display

The characters registered in the character generator are displayed in the PC screen as dot patterns. The characters registered in the operations in Sections. 5.3.2 and 5.3.3 can be checked by viewing the PC screen.

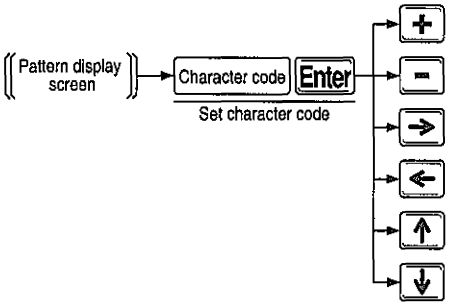
Operations to get to the pattern display screen



Pattern display screen



Operations in the pattern display screen



Description

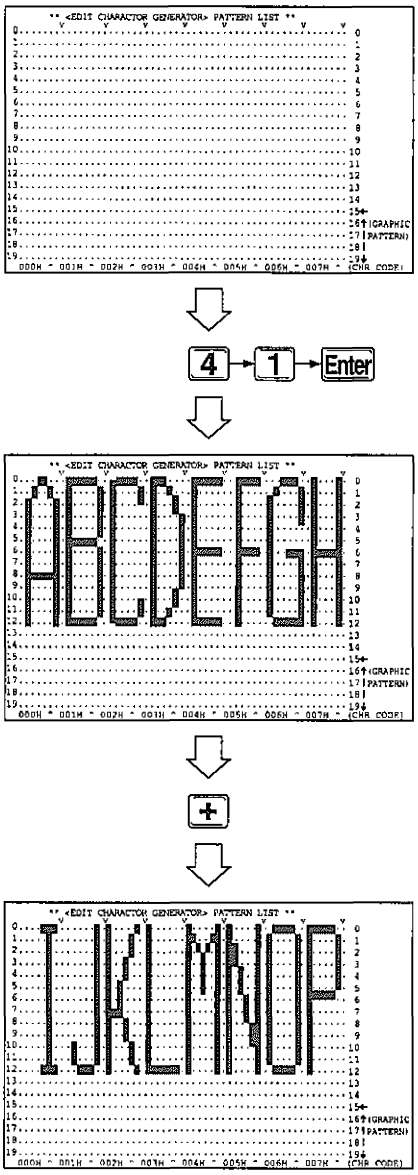
(1) When the character code (0 to $3FF_H$) is set for the character to be displayed, the 8 characters of dot patterns beginning with the specified character code are displayed.

(2) [0] to [9] and [A] to [F] keys are valid to set the character codes.

(3) The characters to be displayed can be changed in the following manner:

1) Reset the character codes.
2) Change the character code displayed using the following keys.
   [+]: +8H the character code
   [−]: −8H the character code
   [→]: +1H the character code
   [←]: −1H the character code
   [↑]: −10H the character code
   [↓]: +10H the character code

(4) The screen flow with the pattern display is as follows:



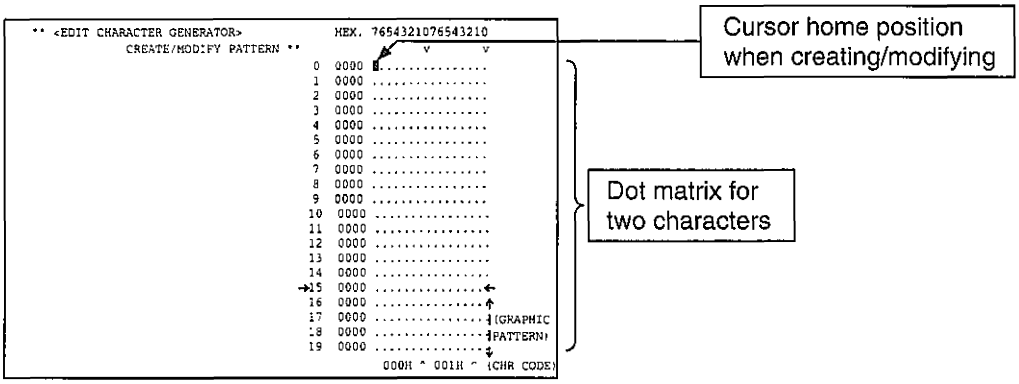
5.3.2 Creating/Modifying the character patterns

Creating a new character, or modifying and registering the already existing character is described.

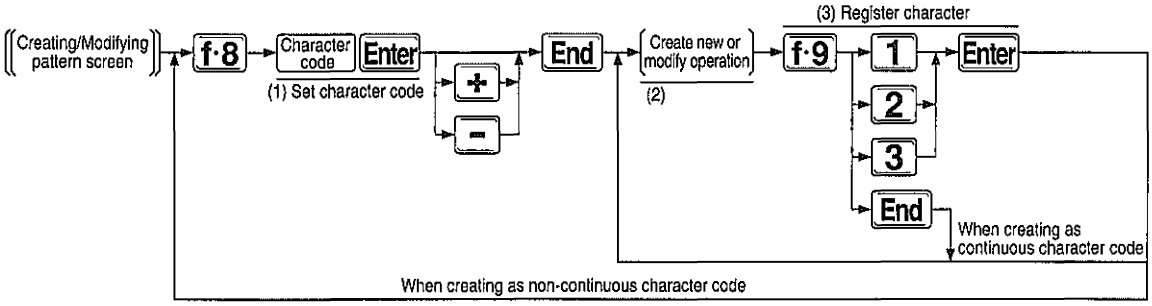
Operations to get to the creating/modifying pattern screen

(Refer to Section 5.3.)

Creating/modifying pattern screen



Operations in the creating/modifying pattern screen



Description

(1) Character code setting

(a) When selecting creating/modifying pattern, the dot matrix for character code 00H and 01H (two characters) are displayed. If the character is already registered, dot pattern for that character is displayed.

(b) By pressing [F8], the character code setting is enabled.

(c) The character code with the range shown below can be set, using the [0] to [9] and [A] to [F] keys.

Setting range	0_H to $1F_H$ 80_H to $8F_H$ $9D_H$ to $9F_H$ FF_H to $3FF_H$

(d) After specifying the character code, press [Enter]. Then, two characters of dot matrix from the character code set are displayed.
The character code can be changed by the following method:
1) Reset the character code.
2) Change the character code using the following keys:
[+]: +2 the character code
[–]: –2 the character code

(e) When the character code setting is complete, press [End]. The cursor moves to the dot matrix home position, and a character can be created.

(2) Creating/Modifying characters

(a) When the cursor is displayed at the home position in the dot matrix, the character can be created or modified.

(b) When creating a character, refer to the precaution section in Section 5.2.

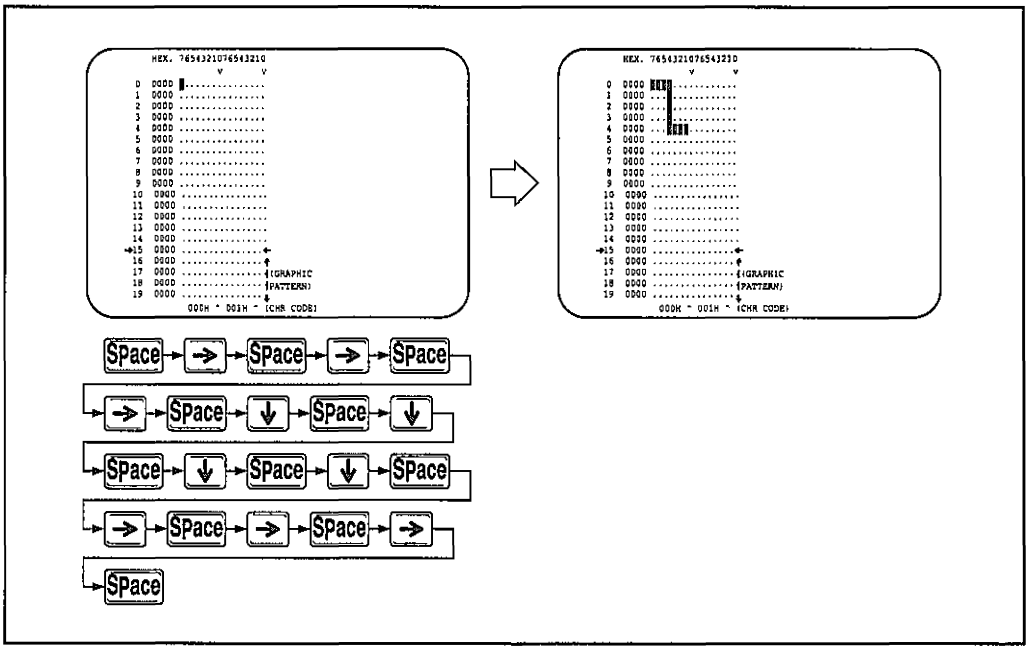
(c) There are two methods to create characters:
- Filling in each dot
- Set the value in the HEX. columns

Creating the character by filling in each dot.

(1) Move the cursor to the desired position by using the arrow keys <[→] [↓] [←] [↑]>and press the [Space] key to fill in the dot.

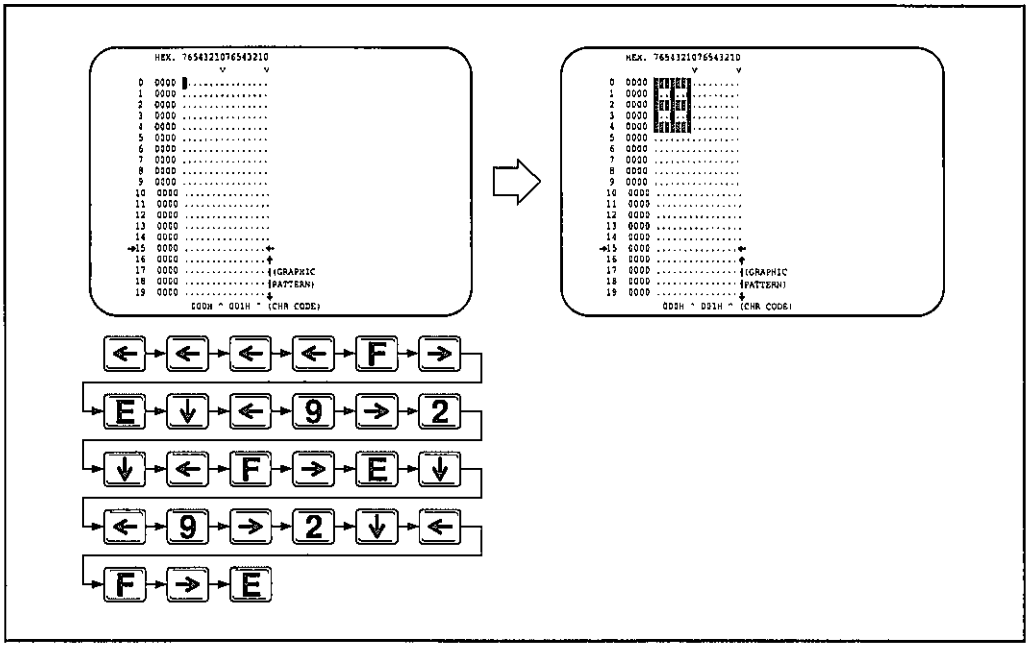
(2) Every time the [Space] key is pressed, the cursor position is filled in with black. When the [Space] key is pressed again in a black area, the fill is canceled,

(3) Example



Creating the character by setting the values in the HEX. columns.

(1) Move the cursor to the appropriate hex column using the arrow keys [→] [↓] [←] [↑], and set the HEX. value using the [0] to [9] and [A] to [F] keys.
(2) Setting the hex value, dot position on the dot matrix filled in with black to the value.
(3) Example



(d) When clearing the whole line of the dot matrix (two characters), press the [Home] button. The entire line where the cursor is positioned is all cleared.
(e) To return the cursor to the home position, press [F8] [End].
(f) To reset the character code, press [F8] [character code]. Take note, however, when the character code is changed without registering the character (pattern registration) to the PC memory the contents created are deleted.

(3) Register character

(a) When register the created or modified character to the character generator area, press [F9] and perform the following operation:

Operation	Function	When to use.
[1] [Enter]	Register only the younger character code of the two characters displayed.	Set when storing character one at a time.
[2] [Enter]	Register the two characters being displayed as separate characters.	Set when storing two characters at once, and used in one character modules.
[3] [Enter]	Register the two characters displayed as one character.	Set when using two characters as one module (character) such as kanji and hiragana. (When registered using this operation, the character cannot be split into two individual characters.)

(b) By the above registration operation, the character(s) displayed are registered in the PC memory. When in the HD/FD auto-write mode, performing the above operation stores the information in HD/FD as well.

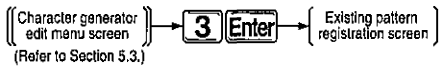
Point

Always perform the registration operation after the creation operation is complete.
When the screen is changed while changing the character code without register the character to the PC memory, the contents of the creation/modification will be lost.

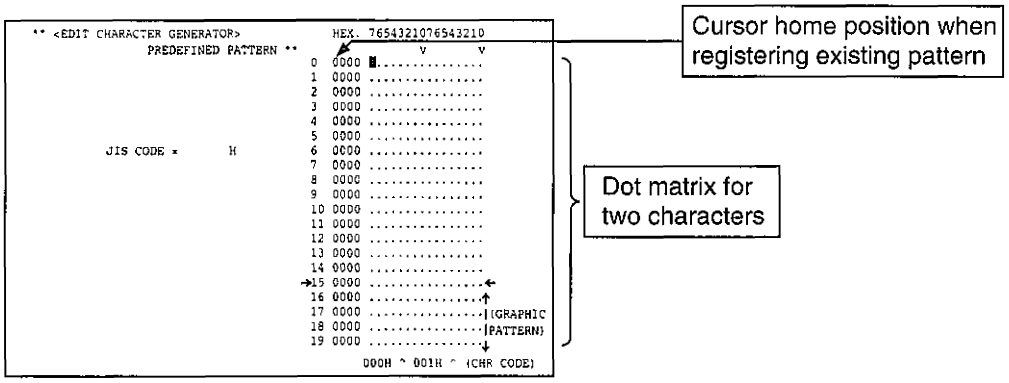
5.3.3 Registering the existing pattern

Register the dot patterns already existing in MINIP such as kanji in the character generator area.
User characters can be created or modified.

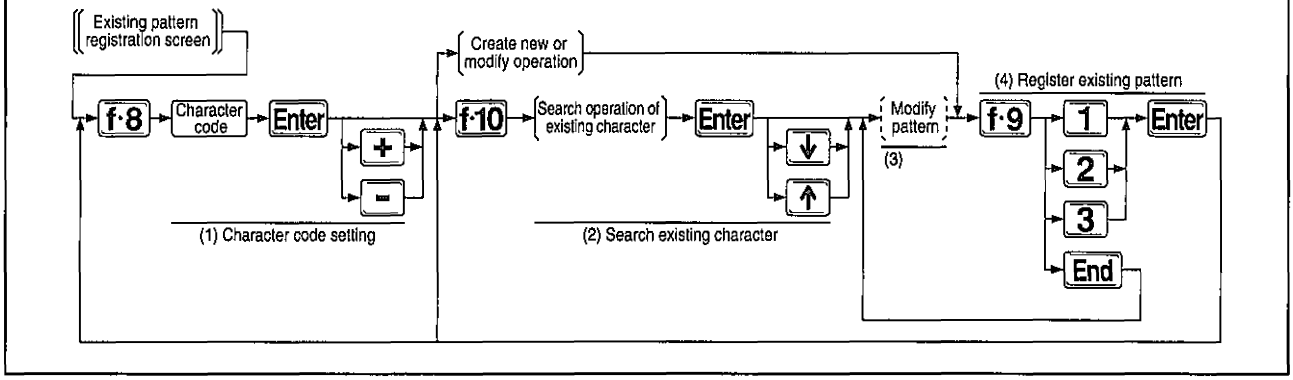
Operations to get to the existing pattern registration screen



Existing pattern registration screen



Operations for the existing pattern registration screen



Description

(1) Character code setting

(a) When the storage screen is selected for the existing pattern, the dot matrix for character codes 00H and 01H (two characters) are displayed. If the character is already registered, the dot pattern for that character is displayed.

(b) Pressing [F8] allows the character code setting.

(c) The character code in the following range can be set using the [0] to [9] and [A] to [F] keys.

Setting range	0_H to $1F_H$ 80_H to $8F_H$ $9D_H$ to $9F_H$ FF_H to $3FF_H$

The cursor is set to the home position when [End] is pressed, and creation/modification can be performed.

(d) When the character code is specified, press [Enter]. Then, dot matrix for two characters from the set character code are displayed.

(e) Using the [+]/[–] keys, the dot matrix can be viewed by shifting +2/–2 from the set character code. If the character is already registered, the dot pattern for that character is displayed.

(f) To reset the character code, repeat the operation from pressing [F8].
Take note, however, when the character code is changed without registering to the PC memory, the contents created will be deleted.

(2) Searching existing character

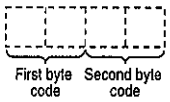
(a) The number of characters stored as dot patterns in MINIP is as follows:
JIS level-1 kanji: 2965 characters
JIS non-kanji: 453 characters
Module symbols: 14 types
} Refer to Appendix 2 for details.

(b) After displaying the dot matrix of the corresponding character code, press [F10] to invoke the existing pattern read function.
The function can be canceled by pressing [End].

(c) To search from the existing characters, the JIS codes must be set.

1) Find the JIS code of the corresponding character from the table in Appendix 1 and set it.

2) The following 4-digit code is set using the [0] to [9] and [A] to [F] keys.



3) Using the [↓]/[↑] keys, the displayed character can be changed by shifting the JIS code by +1/–1.
Pressing the [End] key sets the cursor to the home position, and the character can be created or modified.

(3) Modifying patterns

(a) To modify the dot pattern of the character being displayed, press [End] and perform the same operation as in Section 5.3.2.

(4) Register existing patterns

(a) When register the created or modified character or a read character from the existing pattern, press [F9] and perform the following operation:

Operation	Function	When to use.
[1] [Enter]	Register only the younger character code of the two characters displayed.	Set when storing character one at a time.
[2] [Enter]	Register the two characters being displayed as separate characters.	Set when storing two characters at once, and used in one character modules.
[3] [Enter]	Register the two characters displayed as one character.	Set when using two characters as one module (character) such as kanji and hiragana. (When registered using this operation, the character cannot be split into two individual characters.)

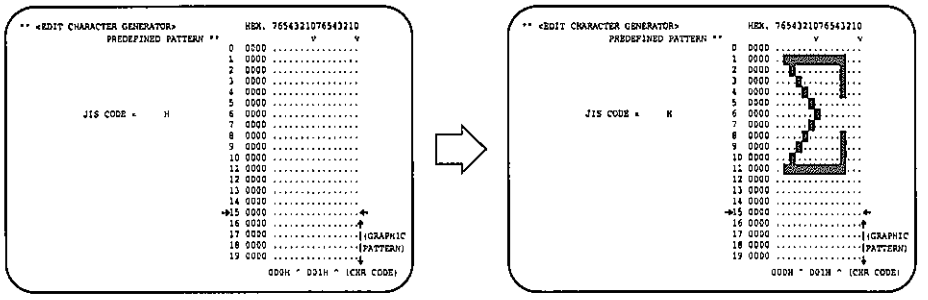
(b) By the above registration operation, the character(s) displayed are registered in the PC memory. When in the HD/FD auto-write mode, performing the above operation stores the information in HD/FD as well.

Point

Always perform the registration operation after the creation operation is complete.
When the screen is changed while changing the character code without register the character to the PC memory, the contents of the creation/modification will be lost.

The existing pattern storage screen flow is as follows:

When registering character "Σ" (JIS code 2632_H) as character code "100_H".



5.3.4 Storage list display

Character registration status for the character codes is displayed.

Operation to get to the registration list display

Registration list display

```
   ** <EDIT CHARACTER GENERATOR> LIST **        * : USED     =  204 CHRS
                                                . : NOT USED =  820 CHRS

  0123456789ABCDEF   0123456789ABCDEF   0123456789ABCDEF   0123456789ABCDEF
00.............. 10.............. 20.............. 30..............
01.............. 11.............. 21.............. 31..............
02********...... 12.............. 22.............. 32..............
03********...... 13.............. 23.............. 33..............
04********...... 14.............. 24.............. 34..............
05********...... 15.............. 25.............. 35..............
06********...... 16.............. 26.............. 36..............
07********...... 17.............. 27.............. 37..............
08.............. 18.............. 28.............. 38..............
09**********... 19.............. 29.............. 39..............
0A********...... 1A.............. 2A.............. 3A..............
0B********...... 1B.............. 2B.............. 3B..............
0C********...... 1C.............. 2C.............. 3C..............
0D********...... 1D.............. 2D.............. 3D..............
0E********...... 1E.............. 2E.............. 3E..............
0F*********..... 1F.............. 2F.............. 3F..............
   <000H .. 0FFH>     <100H .. 1FFH>     <200H .. 2FFH>     <300H .. 3FFH>
```

(1) When a character is registered for the corresponding character code, "*" is displayed. If not, "." is displayed.

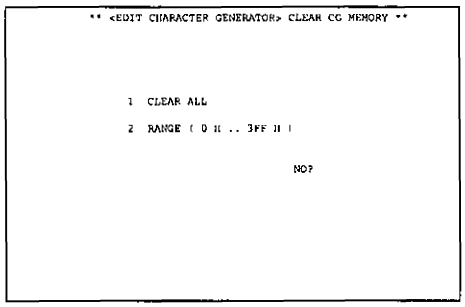
(2) To return to the character generator edit mode menu, press [Esc].

5.3.5 Clearing character generator memory

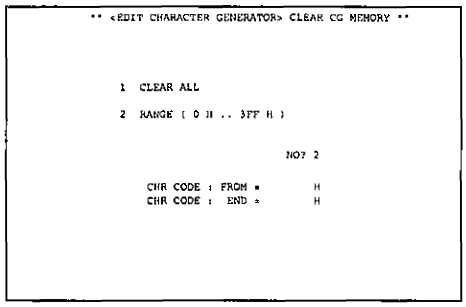
The data in the PC character generator memory is cleared.

Operation to get to the character generator memory clear screen

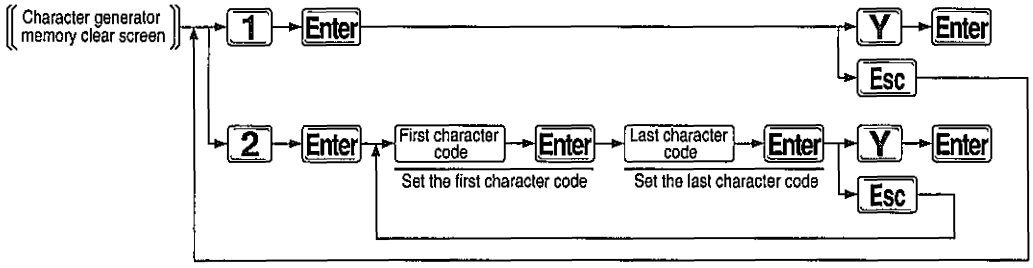
Character generator memory clear screen



Character generator memory clear (range specification) screen



Operations for the character generator memory clear screen



Description

(1) There are two methods to clear the character generator memory, clearing the total range and clearing specified range.
When modifying the character generator, or using the partial copy, clear the memory by specifying the range.

(2) For all range clear (press [1] [Enter]), all data except for the character codes 20_H to $7F_H$, 90_H to $9C_H$, and $A0_H$ to FE_H are all deleted in the character generator memory.

(3) Clearing by specifying range (press [2] [Enter]) clears within the range set by the first character code setting and last character code setting.
However, the character codes 20_H to $7F_H$, 90_H to $9C_H$, and $A0_H$ to FE_H are not cleared even if set to those ranges.
The character code ranges that can be set are 0H≤first code/ last code≤3FEH, and starting code≤final code.

(4) When the clear operation execution is complete, "Completed." is displayed.

MEMO

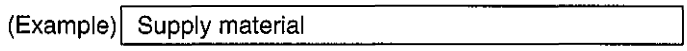
6 Edit Message

6.1 Edit message

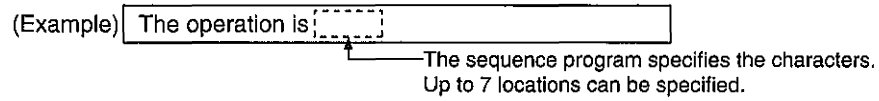
The messages, which are displayed on the LCD (liquid crystal display) of the operating box that is connected to MINI-S3 system, are edited.
A message number, a message (up to 30 1-byte characters), and the display mode have to be set as a message data.

The display mode is used to set the style how the message is displayed on the LCD of the operating box Create a message pattern according to the display mode type.

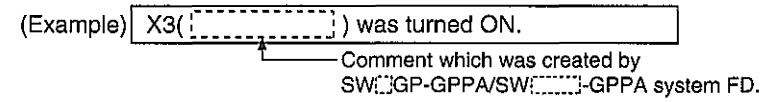
- Display mode 1
  Only a message is displayed.



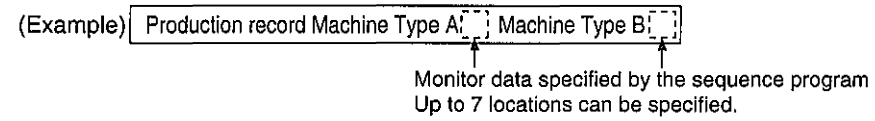
- Display mode 2
  A message and specified characters are displayed.



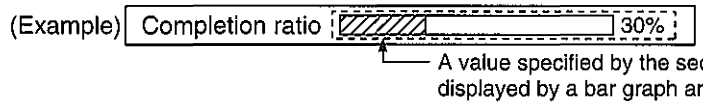
- Display mode 3
  A message and a comment regarding a device are displayed.



- Display mode 4
  A message and monitor data (numerical data) are displayed.



- Display mode 5
  A message and a bar graph are displayed.

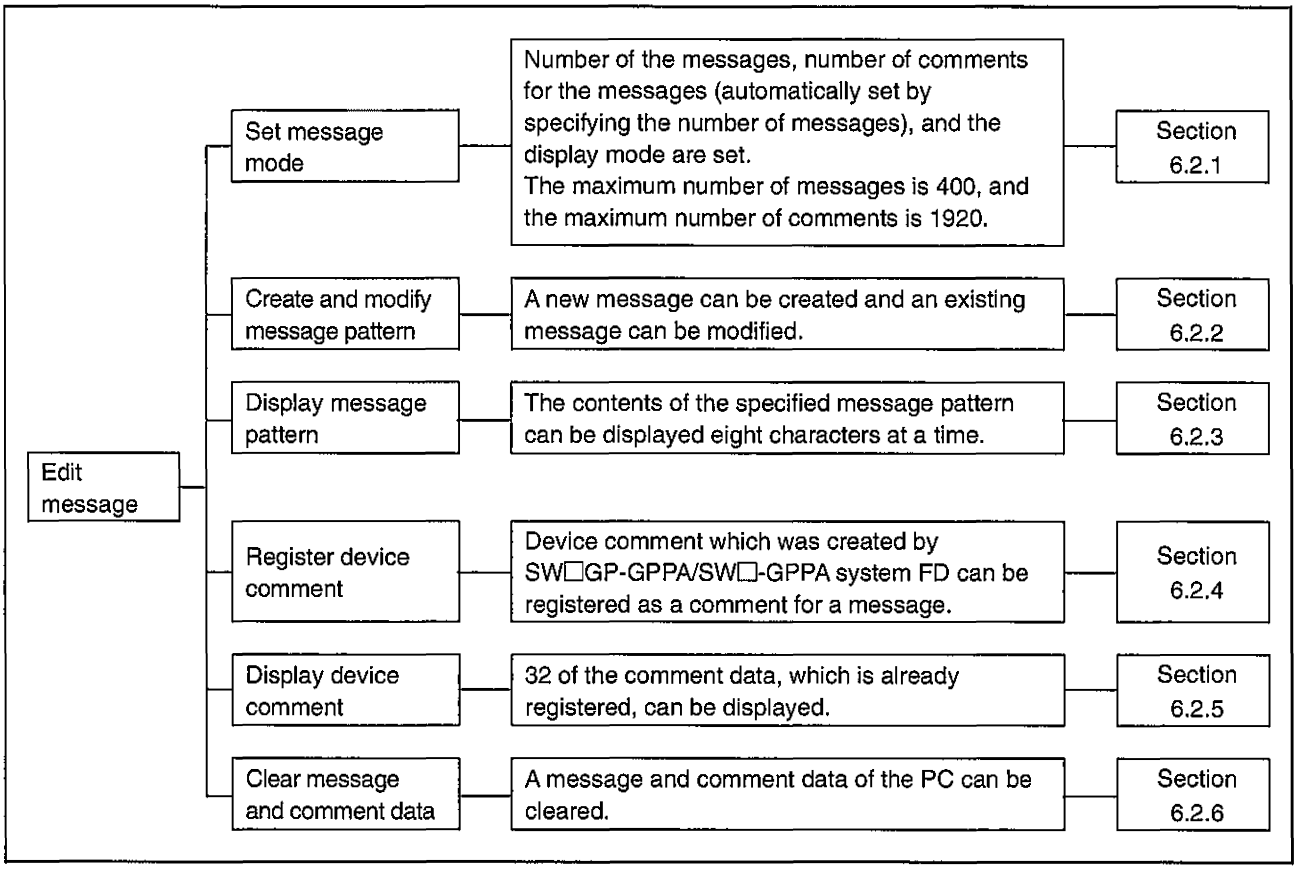


When a message is created, necessary characters have to be registered in the character generator area of the PC.
Nothing will be displayed if character codes, which are not registered in the character generator area of the PC, are specified.
Available characters for display:

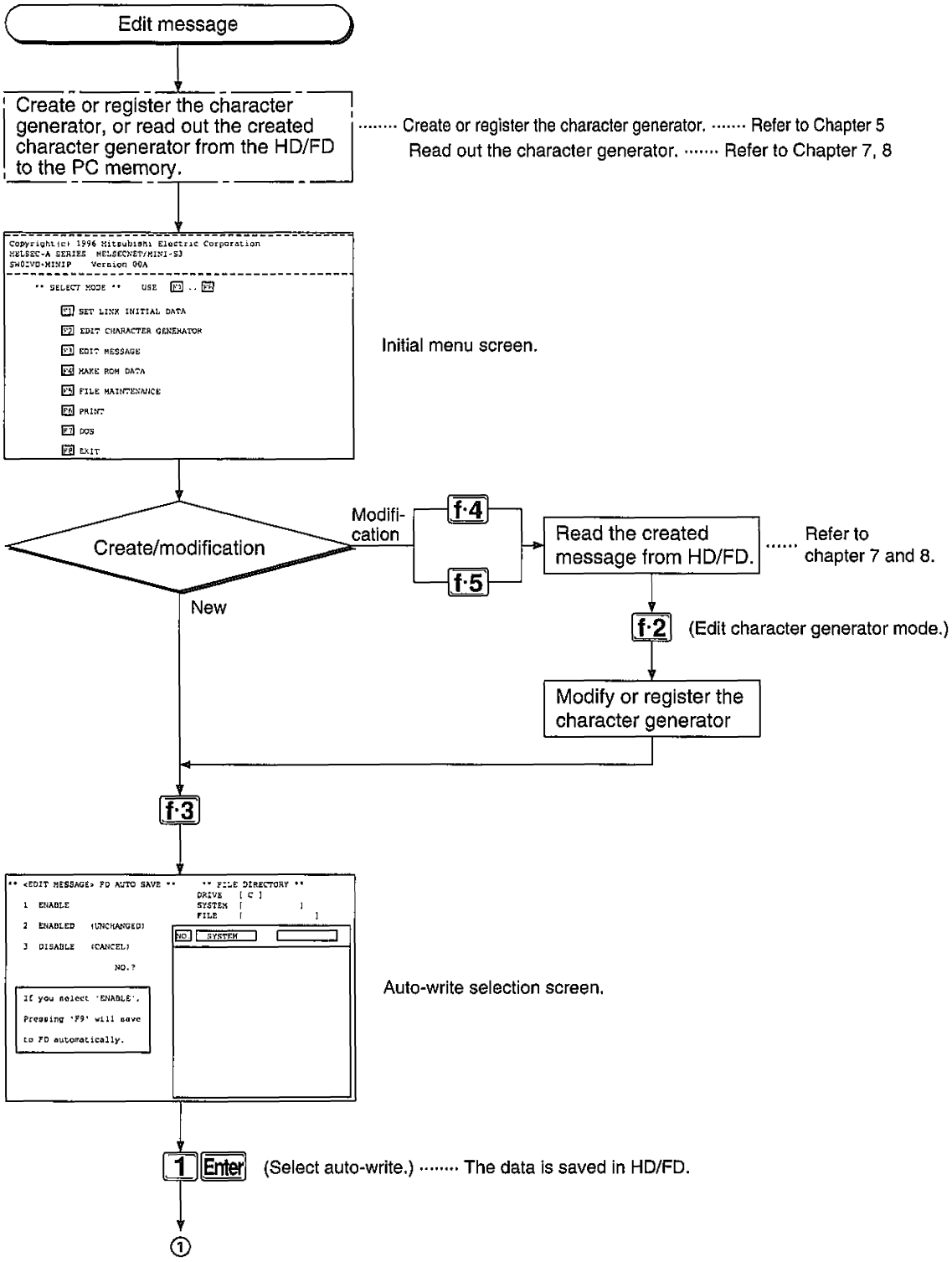
- 1-byte characters: alphanumeric characters, kana characters, special characters (already registered in the character generator)
- 2-byte characters: JIS characters
- User characters: Created by the user

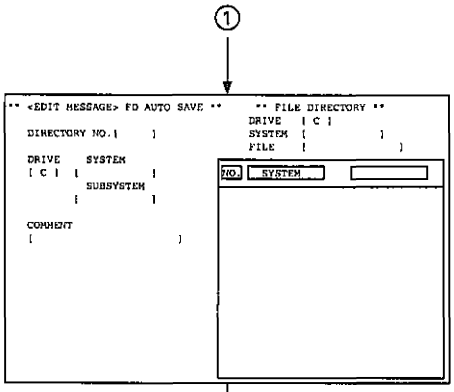
If the message number of an empty message is registered, the display can be cleared by specifying the empty message number.

Functions in the edit message mode are as follows:



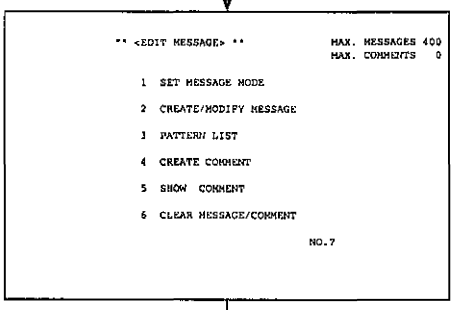
The overview of the edit message operation is as follows:





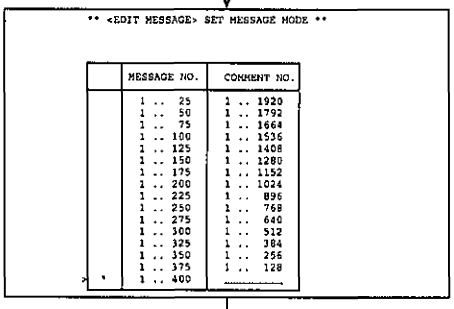
Set the system name, machine name (subsystem), and comment.

Y Enter (Execute auto-write.)



Edit message menu screen.

1 Enter (Select the message mode setting.)



Set the number of
messages and the mode. ..... Section 6.2.1

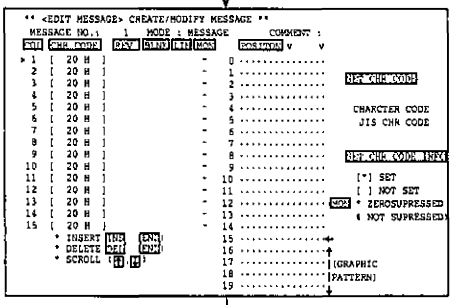
f·9 (Execute auto-write to HD/FD.)

Esc (Return to the message mode setting screen.)

Esc (Return to the edit message menu screen.)

2 Enter (Select create/modify message.)

②

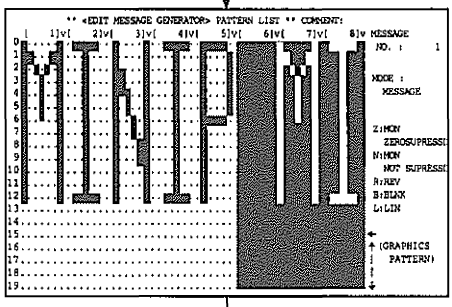


Create or modify message. ····· Section 6.2.2

f·9 (Execute auto-write to HD/FD.)

Esc (Return to the edit message menu screen.)

3 Enter (Select the message pattern display.) ····· Confirm the created message.



Display and check the message pattern. ····· Section 6.2.3

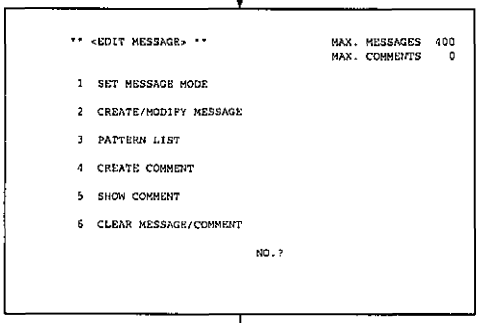
f·5 ("FD read " and "register device comment" operations can be omitted when "FDD mode select" and the device comment are not displayed.)

Read the created device comment from the FD

f·3 (Return to the message mode.)

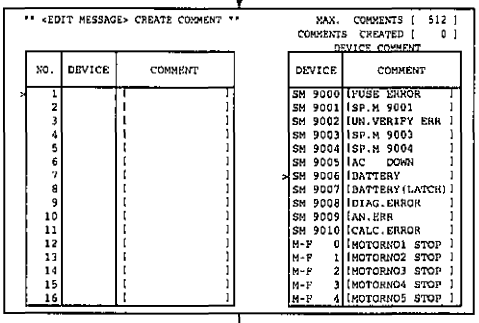
2 Enter (Select the auto-write setting done.)

③



Edit message menu screen.

4 Enter (Select comment registration.)

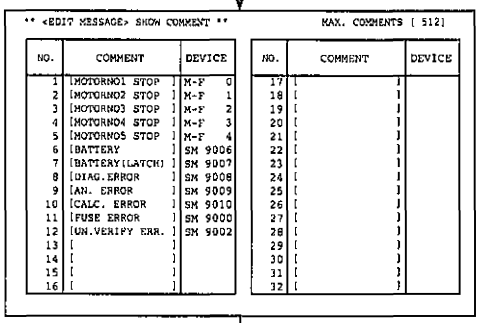


Register comment. ····· Section 6.2.4

f·9 (Execute auto-write to HD/FD.)

Esc (Return to edit message menu screen.)

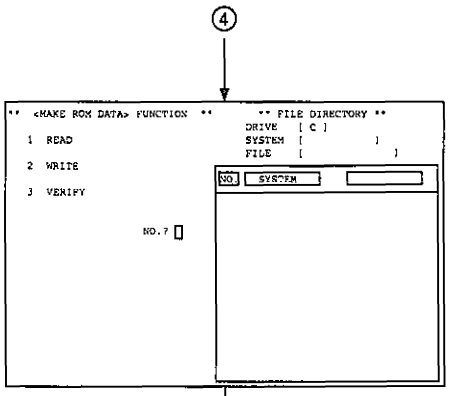
5 Enter (Select comment display.)



Comment display
Check the registered comment. ····· Section 6.2.5

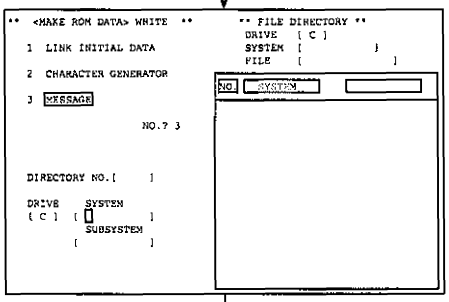
f·4 (Select ROM mode.)

④



2 Enter (Execute auto-write to HD/FD.)

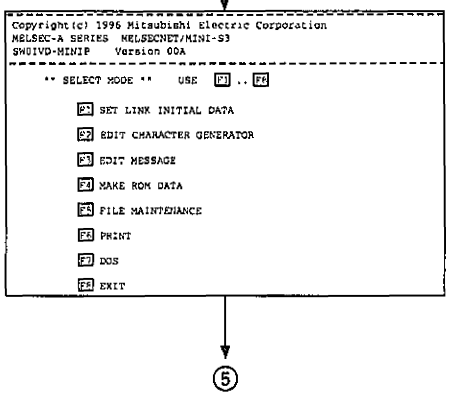
3 Enter (Select message data.)



Set system name and machine name. ····· Section 7.3.2

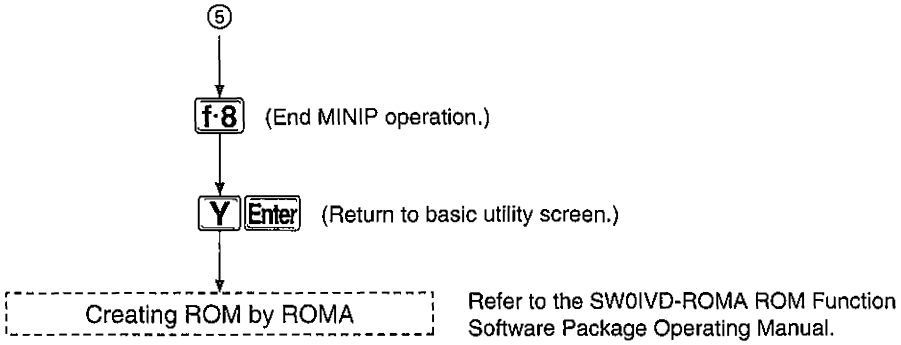
Y Enter (Execute write.)

Esc Esc Esc (Return to initial menu screen.)



Initial menu screen.

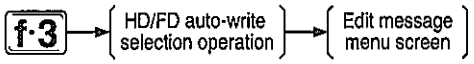
⑤


⑤
f·8
(End MINIP operation.)
Y
Enter
(Return to basic utility screen.)
Creating ROM by ROMA
Refer to the SW0IVD-ROMA ROM Function Software Package Operating Manual.

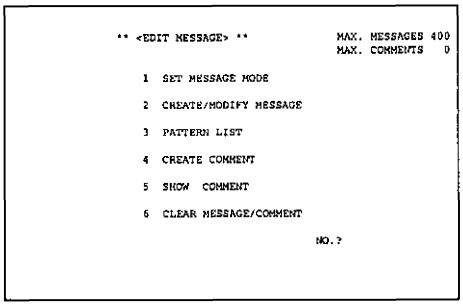
6.2 The Edit Message Mode Menu Selection

Read the applicable setting screen from the edit message mode menu screen to edit the message.

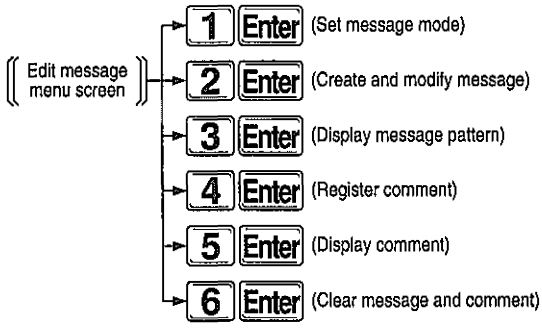
Operation get to the edit message menu screen



Edit message menu screen



Edit message menu screen operations



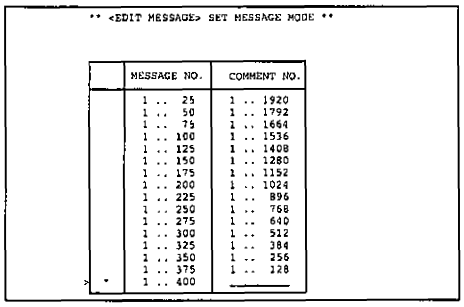
(1) [4] and [5] can not be selected when the number of comments is not registered (default) in the message mode setting.

6.2.1 Message mode setting

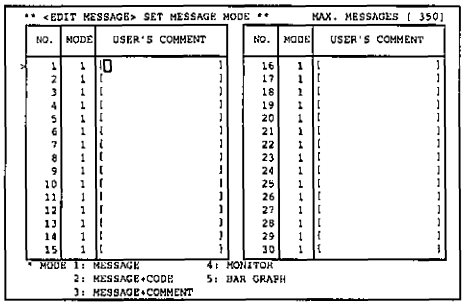
The number of registered messages, the number of comments, the message mode, and the user comment are set and registered.

Operation to get to the message mode setting screen

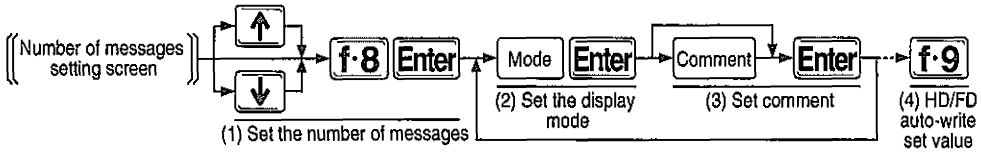
Number of messages setting screen



Message mode setting screen



Message mode setting screen operations



Description

(1) Number of messages setting

(a) Move the cursor to the desired number of messages column, then press [F8]. "*" is displayed in front of the data and the number of messages is set by pressing [Enter].
The default values for the number of messages are:
number of messages:1 to 400
number of comments:0

(b) If the cursor is moved after pressing [F8], [F8] needs to be pressed again since "*" is erased.

(2) Display mode setting

(a) Set the display mode of the message being registered. Press [1] to [5] and [Enter] to set.
[1]:Only the message is displayed.
[2]:A message and JIS characters are displayed.
[3]:A message and device comment are displayed.
[4]:Monitor data of the current values are displayed. Values of maximum of 7 locations can be displayed.
[5]:A bar graph is displayed.

(b) Use the following keys to change pages of the display message number:
[+]:Display the next 30 messages.
[–]:Display the previous 30 messages.

(3) User comment setting

When the display mode is set, a cursor is displayed in the "user comment" column and a comment can be entered.

(a) Alpha-numeric characters, kana characters, and special characters are valid and a maximum of 20 characters can be set.
Press only [Enter] key when no comment is set.
This comment is not displayed on the operation machine.

(4) Auto-write to the HD/FD

(a) When the auto-write to the HD/FD is set, the data which was set by the message mode is saved to the HD/FD by pressing [F9].

(5) Insert operation ([Ins] key)

This operation is used to insert a new message data between the existing message numbers.

(a) When [Ins] [Enter] are pressed in, the message numbers on and after the cursor are shifted down.
(b) After the message is inserted, the cursor moves to the setting column of the inserted message. Set the data according to the procedures described in steps (2) and (3).
(c) Press [End] to exit from the insert mode.

(6) Delete operation ([Del] key)

(a) When [Del] [Enter] are pressed, inverted [D] is displayed in front of the preset message number with cursor. Then press [Enter] to delete the line of data of that message number.
(b) The data after the deleted message number is shifted forward.
(c) Press [End] to exit from the delete mode.

(7) Copying the message data

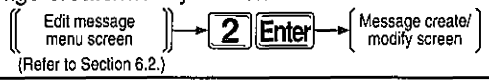
(a) Press [F8] on the message mode setting screen to copy data of the existing message number to the area of another message number.
(b) Press [Copy source message number] [Enter] and [Copy destination message number] [Enter] to execute the copy.
(c) Press [End] to exit from the copy mode.

6.2.2 Creating and modifying the message pattern

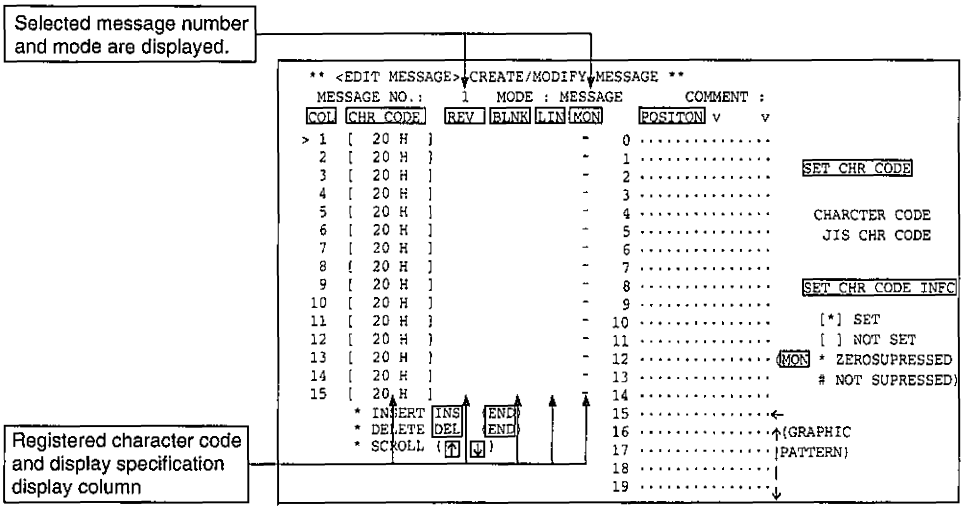
The message data, which is stored in the message ROM installed in the master module, can be created and modified.

The message can be created by specifying the character code registered in the character generator area.

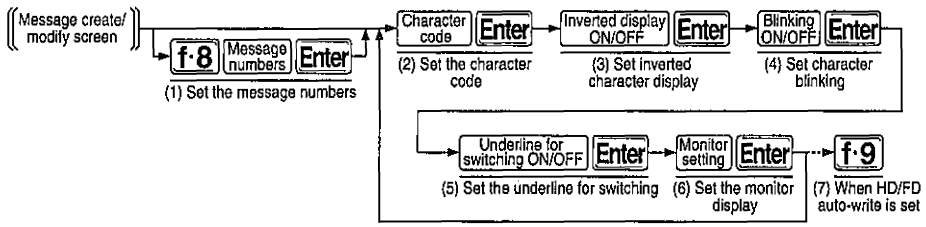
Operation to get to display the message create/modify screen



Message create/modify screen



Message create/modify screen operations



Description

(1) Message number setting

(a) When message create/modify is selected, following list is displayed;
message number, display mode and the character code stored in message Number1, display specifications (inverted, blinking, underline for switching, monitor)
A character which corresponds to the character code of the column pointed by the cursor (>) is displayed on the dot matrix to the right-hand side of the display.
By specifying the desired location, the character code and the display specifications can be registered for each character.
The default character code is 20_H and no display specification is set by default.
One message consists of 30 characters (columns).

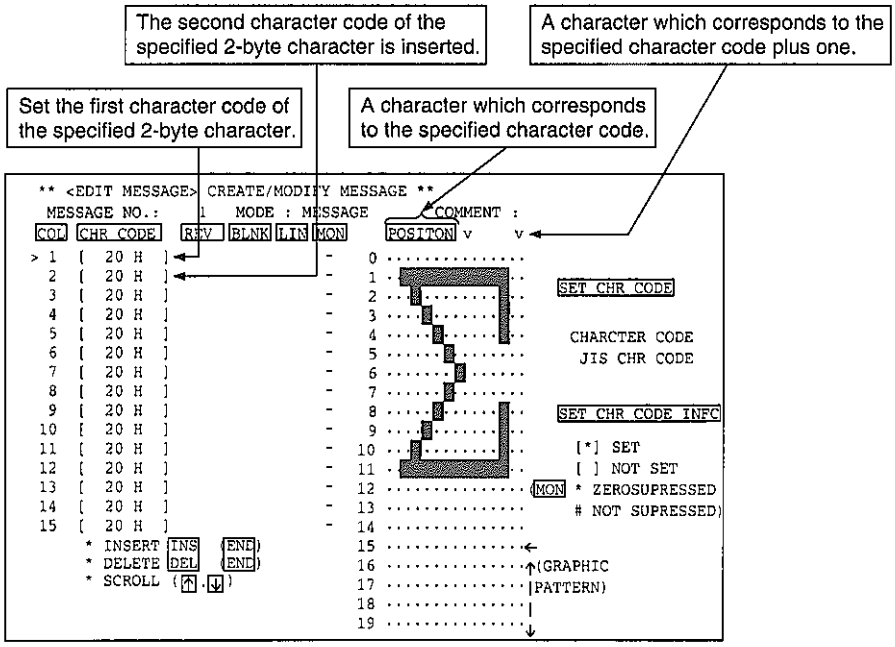
(b) Press [F8] to specify the message Number.

(c) Move cursor by [↓] and [↑] keys.

(2) Character code setting

(a) Set the character code (character code registered in the character generator area) of the desired character for displaying in the column pointed by the cursor. Character code between 0 and $3FF_H$ are allowed for setting.

(b) After the character code is set, the character corresponding to the specified character code is displayed in the dot matrix on the display.
When the character pattern is registered, however, if two characters are registered as one character by selecting "3", both two characters are displayed simultaneously when either the first or the second character is specified.
As the following example shows, when a character is registered in a column pointed by the cursor, the first character code is set at the location pointed by the cursor, and the second character code is automatically inserted in the column one after the cursor.



(c) When a specified character code is the second byte of a 2-byte character, the character code in the character code setting column is decremented by one and displayed.

(d) When a 1-byte character is changed to a 2-byte character, one character is inserted. When a 2-byte character is changed to a 1-byte character, a space code (20_H) is stored in the second byte.

(e) Press [F10] to enter JIS character input mode.
When a specified JIS character such as numbers, alphabets, kana, etc. is entered, its character code and the pattern is displayed in the character code column.
Press [End] to exit from the JIS character input mode.

(f) In the bar graph display mode, only the character codes for the first 6 columns can be set. Fixed characters for the bar graph are registered in the latter 24 columns.

(3) Inverted character display setting

(a) Inverted character display is specified.
[*] [Eneter]:Inverted display is specified. "*" is displayed in the applicable column of the display when registered.
[Enter]:No inverted display.

(b) In order to cancel the inverted display after the inverted display is once specified, move cursor to "inverted" column and erase "*" by the [Space] key, then press [Enter].

(4) Blinking character setting

(a) Blinking is specified for the displayed characters.
[*] [Eneter]:Blinking character is specified. "*" is displayed in the applicable column of the display when registered.
[Enter]:No blinking is specified.

(b) In order to cancel the blinking display after the blinking display is once specified, move cursor to "blinking" column and erase "*" by the [Space] key, then press [Enter].

(5) Underline for switching setting

(a) Underlines for switching under the displayed characters are specified.
Underlines are allowed to specify in the following columns:
1, 2, 5, 6, 9, 10, 13, 14, 17, 18, 21, 22, 25, 26, 29 and 30.
[*] [Eneter]:Underline is specified. "*" is displayed in the applicable column of the display when registered.
[Enter]:No underline is specified.
When the character pattern is registered, however, if two characters are registered as one character, both two characters are specified to be underlined when either the first or the second character is specified to be underlined.
Underline for switching can not be specified in the current-value monitor display mode.

(6) Monitor display set

(a) The display type of the monitor specification column on the operation machine display screen is specified.
The monitor can be set only in the current value monitor mode.
[*] [Enter]:Monitor set (with zero-suppressed) Example: 2
[#] [Enter]:Monitor set (not zero-suppressed) Example: 002
[Enter]:No monitor set

(b) When the monitor display set is finished, the character code and the display specifications of the applicable column are registered and displayed on the screen.

(7) Auto-write to HD/FD

Pressing [F9] will write data in the HD/FD when the auto-write to HD/FD is set.

Point
When the cursor (▒) is in the inverted, blinking, under line, or monitor set column, the entered data in the column pointed by the cursor (>) is not registered if [F9] is pressed.

(8) Insert operation

The insert operation is used to insert a new character between the columns which are already set.

(a) Press [Ins] to enter the insert mode.

(b) A new character is inserted at the location pointed by the cursor (>) by shifting down the data of the column pointed by the cursor for one column each.

(c) If a character is set in the last column of the message number. where the insert operation was performed, the character in the last column is deleted.
The character of the sixth column is deleted in the bar graph display mode.

(d) When two characters are registered as one character and the first or the second character code is inserted, two characters are inserted at once.

(e) Press [End] to exit from the insert mode.

(9) Delete operation

(a) Press [Del] to enter the delete mode.

(b) The data pointed by the cursor (>) is deleted and the data thereafter is shifted forward.
A space code (20_H) is stored in the last column.

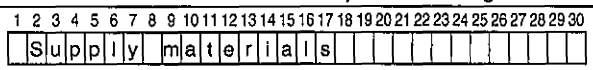
(c) When two characters are registered as one character and the first or the second character code is deleted, two characters are deleted at once.

(d) Press [End] to exit from the delete mode.

(10) Example: creating a message pattern

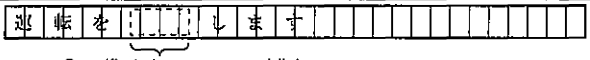
No.	Display mode	Example of creating a message pattern

No. 1 — Message



COL	CHR CODE	REV	BLINK	LIN	MON	COL	CHR CODE	REV	BLINK	LIN	MON
1	[20 H]				–	16	[6C H]				–
2	[53 H]				–	17	[73 H]				–
3	[75 H]				–	18	[20 H]				–
4	[70 H]				–	19	[20 H]				–
5	[70 H]				–	20	[20 H]				–
6	[6C H]				–	21	[20 H]				–
7	[79 H]				–	22	[20 H]				–
8	[20 H]				–	23	[20 H]				–
9	[6D H]				–	24	[20 H]				–
10	[61 H]				–	25	[20 H]				–
11	[74 H]				–	26	[20 H]				–
12	[65 H]				–	27	[20 H]				–
13	[72 H]				–	28	[20 H]				–
14	[69 H]				–	29	[20 H]				–
15	[61 H]				–	30	[20 H]				–

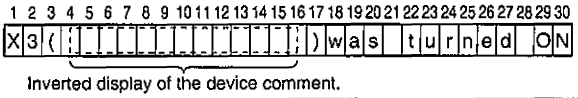
No. 2 — Message + specified characters (JIS code)



Specified characters can blink
Characters of up to 7 locations can be specified.

COL	CHR CODE	REV	BLINK	LIN	MON	COL	CHR CODE	REV	BLINK	LIN	MON
1	[118 H]				–	16	[127 H]				–
2	[119 H]				–	17	[20 H]				–
3	[11A H]				–	18	[20 H]				–
4	[11B H]				–	19	[20 H]				–
5	[120 H]				–	20	[20 H]				–
6	[121 H]				–	21	[20 H]				–
7	[20 H]		*		–	22	[20 H]				–
8	[20 H]		*		–	23	[20 H]				–
9	[20 H]		*		–	24	[20 H]				–
10	[20 H]		*		–	25	[20 H]				–
11	[122 H]				–	26	[20 H]				–
12	[123 H]				–	27	[20 H]				–
13	[124 H]				–	28	[20 H]				–
14	[125 H]				–	29	[20 H]				–
15	[126 H]				–	30	[20 H]				–

No. 3 — Message + device comment

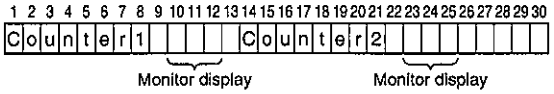


Inverted display of the device comment.

COL	CHR CODE	REV	BLINK	LIN	MON	COL	CHR CODE	REV	BLINK	LIN	MON
1	[58 H]				–	16	[20 H]	*			–
2	[33 H]				–	17	[29 H]				–
3	[28 H]				–	18	[77 H]				–
4	[20 H]	*			–	19	[61 H]				–
5	[20 H]	*			–	20	[73 H]				–
6	[20 H]	*			–	21	[20 H]				–
7	[20 H]	*			–	22	[74 H]				–
8	[20 H]	*			–	23	[75 H]				–
9	[20 H]	*			–	24	[72 H]				–
10	[20 H]	*			–	25	[6E H]				–
11	[20 H]	*			–	26	[65 H]				–
12	[20 H]	*			–	27	[64 H]				–
13	[20 H]	*			–	28	[20 H]				–
14	[20 H]	*			–	29	[4F H]				–
15	[20 H]	*			–	30	[4E H]				–

No. 4 — Message + current-value monitor

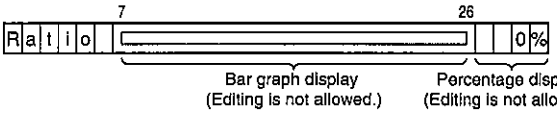
Example of creating a message pattern



Monitor displays of up to 7 locations can be specified for a message.

COL	CHR. CODE	REV	BLINK	LEN	MON	COL	CHR. CODE	REV	BLINK	LEN	MON
1	[43 H]			–		16	[75 H]			–	
2	[6F H]			–		17	[6E H]			–	*
3	[75 H]			–		18	[74 H]			–	*
4	[6E H]			–		19	[65 H]			–	*
5	[74 H]			–		20	[72 H]			–	
6	[65 H]			–		21	[32 H]			–	
7	[72 H]			–	*	22	[20 H]			–	
8	[31 H]			–	*	23	[20 H]			–	
9	[20 H]			–	*	24	[20 H]			–	
10	[20 H]			–		25	[20 H]			–	
11	[20 H]			–		26	[20 H]			–	
12	[20 H]			–		27	[20 H]			–	*
13	[20 H]			–		28	[20 H]			–	*
14	[43 H]			–		29	[20 H]			–	*
15	[6F H]			–		30	[20 H]			–	

No. 5 — Message + bar graph display



COL	CHR. CODE	REV	BLINK	LEN	MON	COL	CHR. CODE	REV	BLINK	LEN	MON
1	[52 H]				–	16	[94 H]				–
2	[61 H]				–	17	[94 H]				–
3	[74 H]				–	18	[94 H]				–
4	[69 H]				–	19	[94 H]				–
5	[6F H]				–	20	[94 H]				–
6	[20 H]				–	21	[94 H]				–
7	[90 H]				–	22	[94 H]				–
8	[94 H]				–	23	[94 H]				–
9	[94 H]				–	24	[94 H]				–
10	[94 H]				–	25	[94 H]				–
11	[94 H]				–	26	[92 H]				–
12	[94 H]				–	27	[20 H]				–
13	[94 H]				–	28	[20 H]				–
14	[94 H]				–	29	[30 H]				–
15	[94 H]				–	30	[35 H]				–

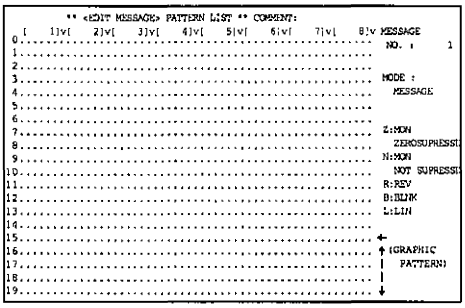
6.2.3 Message pattern display

The contents of the created message data are displayed eight characters at a time in a pattern on the PC screen.

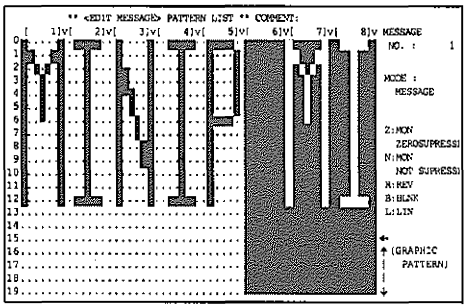
The created message can be checked.

Operation to get to the message pattern display screen

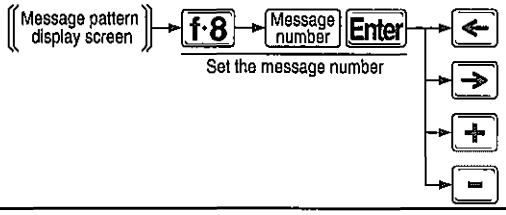
Message pattern display screen



Example of message pattern display



Message pattern display screen operations



Description

(1) Set the message number after pressing [F8]. The first eight characters of the specified message number will be displayed as a dot pattern on the PC screen.

(2) When the character is set for inverted, blinking, underline for switching, or monitor, the applicable alphabet is displayed above the message display area.
Z: Monitor (with zero-suppressed)
N: Monitor (without zero-suppressed)
R: Inverted
B: Blinking
L: Line

(3) Use the following keys to change the display location:
[←]:Decrement the display starting character by one.
[→]:Increment the display starting character by one.
[+]:Display the next eight characters.
[–]:Display the previous eight characters.

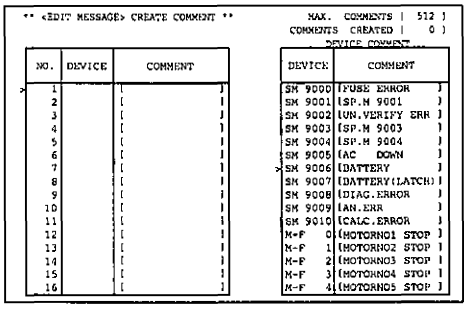
6.2.4 Registering the device comment

Previously created device comment is registered as a comment for the message.

Operation to get to the comment register screen

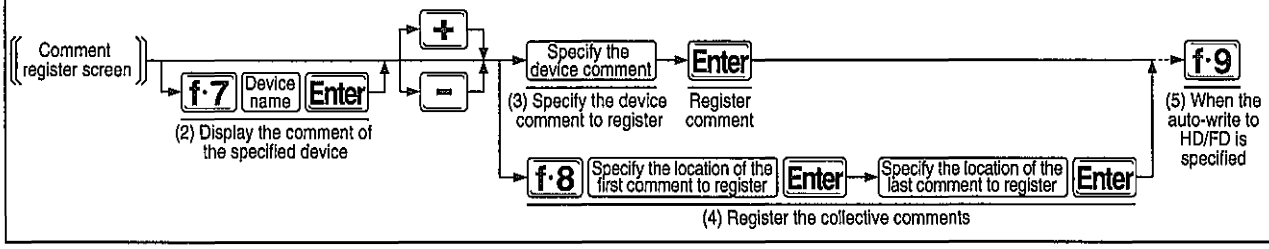
(Operation to read out the device comment) → ((Edit message menu screen)) (Refer to Section 6.2.) → 4 Enter → (Comment register screen)

Comment register screen



Device comment created by SW□GP-GPPA/SW□-GPPA

Comment register screen operations



Description

(1) Reading the device comment

(a) Read out the device comment created by SW□GP-GPPA/SW□-GPPA from the HD/FD to the PC before registering the device comment.
Refer to Section 8.3.2 and 8.3.7 about how to read it.

(2) Comment display of the specified device

(a) A device to displayed in the device comment in the device comment column is specified.
Press [F7] device name (X, Y, M, L, S, B, F, T, C, D, W, R, P, I, SM, SD) [Enter] to display the comment of the specified device.

(b) Use the following keys to change display of the specified device comment:
[+]:Next 16 comments will be displayed.
[–]:Previous 16 comments will be displayed.

(3) Registering comment (individual)

(a) Select the device comment to register from the device comment column by moving the right-hand cursor using [↑] [↓] keys.

(b) The comment of the device pointed by the cursor is registered by pressing [Enter], and it is displayed in the left column.
The comment number is registered sequentially from Number1.
If some numbers are set already, next number will be used to register.

(4) Registering comment (collective)

(a) Sequential device comments can be registered collectively.

(b) After pressing [F8], set the location of the first comment to register and the location of the last comment to register by moving the cursor on the right using [↑] [↓] keys. Pressing [Enter] will collectively register the comments of the specified area and they will be displayed in the left column.

(c) Press [End] to exit from the collective registering mode.

(5) Auto-write to HD/FD

(a) When the auto-write to HD/FD is set, the data is saved in the HD/FD by pressing [F9].

(6) Insert operation ([Ins] key)

It is used to insert a new comment data between the existing comment numbers.

(a) Press [Ins] to enter the insert mode.

(b) Move the right-hand cursor to the desired device comment column to insert.
Move the left cursor to the desired comment number to insert next, then press [Enter] to register the comment in the location pointed by the cursor. The comment number thereafter will be shifted down.

(c) Press [End] to exit from the insert mode.

(7) Delete operation ([Del] key)

Press [Del] to enter delete mode.

(a) Move the left cursor to the comment number to delete.
[D] is displayed when [Enter] is pressed, and pressing [Enter] again will delete the data from the corresponding comment number.
All of the data after the deleted comment number will be shifted forward.

(b) Press [End] to exit from the delete mode.

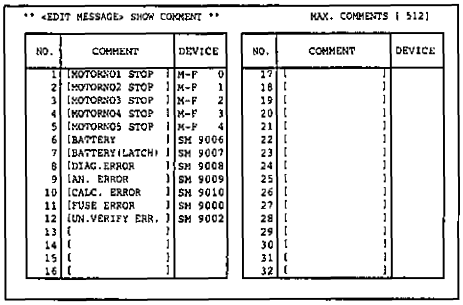
(c) To change display of the registered comment number data screen, use the following keys after pressing [F10]:
[+]:Next 16 comments will be displayed.
[–]:Previous 16 comments will be displayed.

6.2.5 Device comment display

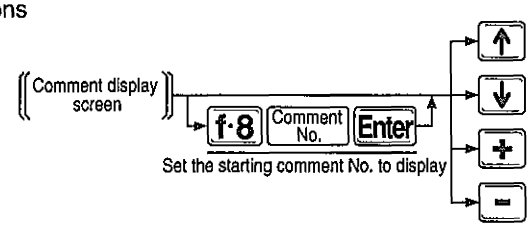
32 of the registered comment data in the PC can be displayed.
The registered messages can be checked.

Operation to get to the comment display screen

Comment display screen



Comment display screen operations



Description

(1) When the comment display is selected, 32 of the registered comment data starting from Number1 can be displayed.

(2) The first comment number for display can be specified by pressing [F8].

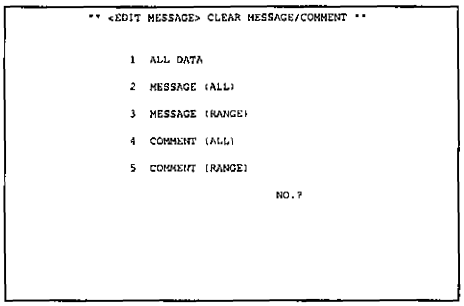
(3) Use the following keys to change the display screen:
[↑]: One line of comment is scrolled up.
[↓]: One line of comment is scrolled down.
[+]: Next 32 comments will be displayed.
[–]: Previous 32 comments will be displayed.

6.2.6 Clearing message and comment data

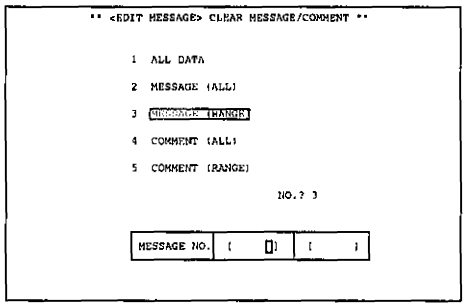
The message and comment data of the PC can be cleared.

Operation to get to the message and comment data clear screen

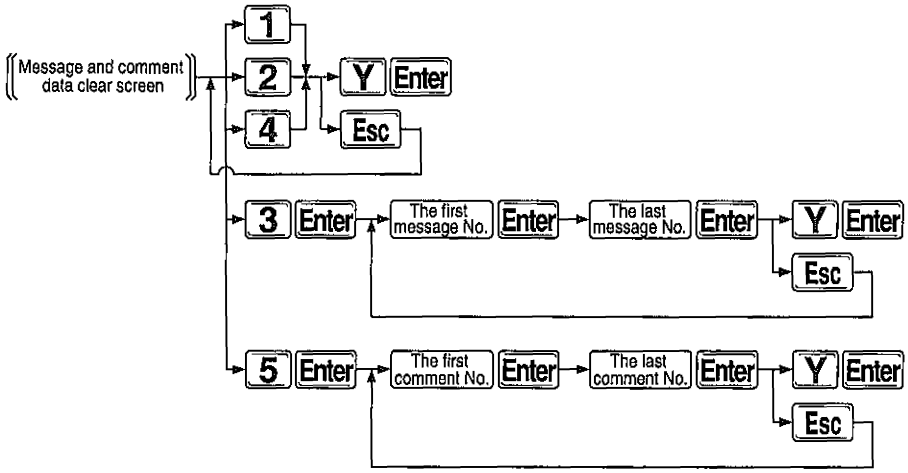
Message and comment data clear screen



Message data (specified area) clear screen



Message and comment data clear screen operations



Description

(1) All data clear

(a) All data (message and comment data) created in the edit message mode can be cleared by pressing [1] [Enter].

(b) All the message data created in the edit message mode can be cleared by pressing [2] [Enter].

(c) All the comment data created in the edit message mode can be cleared by pressing [4] [Enter].

(2) Message data clear (specified area)

(a) Message data of the specified area can be cleared by pressing [3] [Enter], then specifying the first message number and the last message number.
The specified message number must be equal to or less than the number of messages specified by the message mode, and the first number should be equal to or less than the last number.

(3) Comment data clear (specified area)

(a) Comment data of the specified area can be cleared by pressing [5] [Enter], then specifying the first comment number and the last comment number.
The specified Comment number must be equal to or less than the number of comments specified by the message mode and the first number should be equal to or less than the last number.

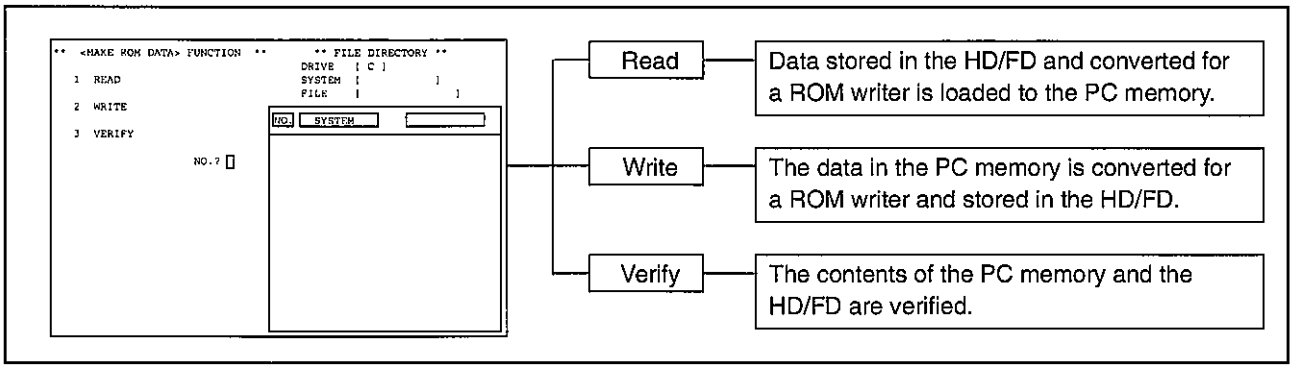
MEMO

7 MAKE ROM DATA

The data created in the initial data setting mode, character generator edit mode and edit message mode is converted so that it can be transferred to the ROM by a ROM writer and stored in the HD/FD.

7.1 Functions of ROM mode

The functions in the ROM mode are listed below:



7.2 Precautions when in ROM mode

(1) The initial data, the character generator data, and the message data are stored in separate files in the HD/FD.

(2) When no character is created in the character generator edit mode and write is executed, only the characters already registered in MINIP (character code: 20_H to $7F_H$, 90_H to $9C_H$, $A0_H$ to FE_H) will be converted to the data for ROM writer and written in the HD/FD.

(3) User comment of the message and the device data of the device comment can not be stored in the message data file which was converted for ROM writer. Therefore, the user comment and the device of the device comment are not displayed when the message data file is read.

(4) The following identifiers will be added to the data saved in the HD/FD in the ROM mode:

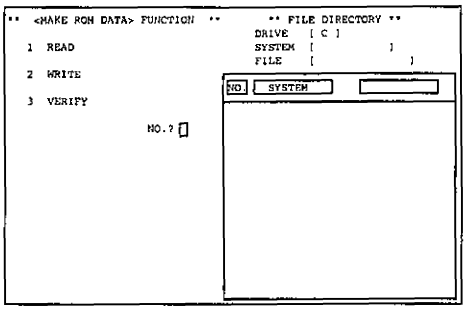
Identifier	Data name
RHX	Initial data
CHX	Character generator data
MHX	Message data

7.3 ROM Mode Menu Selections

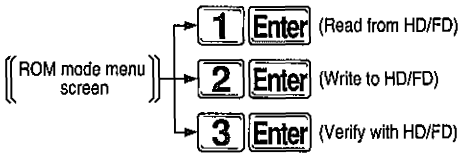
Read, write, and verification of data in the HD/FD is performed.

Operation to get to ROM mode menu screen

ROM mode menu screen



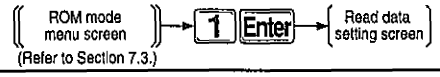
ROM mode menu screen operations



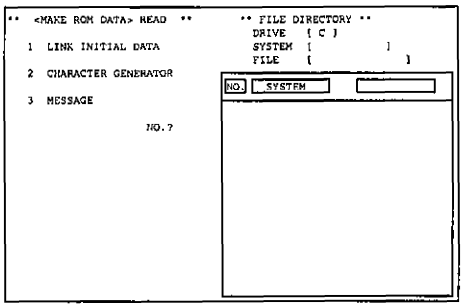
7.3.1 Reading from the HD/FD

The initial data, character generator data, and message data which is converted for ROM writer and stored in the HD/FD is read to the PC memory.

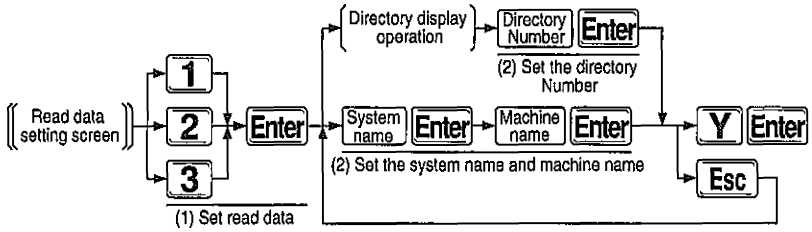
Operation to get to read data setting screen



Read data setting screen



Read data setting screen operations



Description

(1) Read data setting

Set the data to be read from the HD/FD to the PC memory.

[1]:Link setting data

[2]:Character generator data

[3]:Message Data

(2) System name and machine name (subsystem) setting

There are two methods to read data from the HD/FD; specifying the directory number and specifying the system name and the machine name (subsystem).

When the read data setting screen is displayed, the cursor appears in the system name setting column.

(a) When the directory number is specified:
1) When the file directory is displayed, enter the directory number.
2) When no file directory is displayed, follow the directory display operation (refer to Section 3.2.2), then enter the directory number.
(After the directory display operation, press [F8] and the cursor will be displayed in the directory number setting column.)

(b) When the system name and the machine name (subsystem) are specified:
1) Change the drive name, press [←] to move cursor to the drive column and enter the specified drive name.
The cursor will return to the system name column when [Enter] is pressed.
2) When the cursor is at the system name column, specify the system name and press [Enter]. The cursor will be located at the machine name (subsystem) column.
3) Specify the machine name (subsystem) then press [Enter].

(3) Reading data

(a) The following message will appear when [Enter] is pressed after entering the directory number:

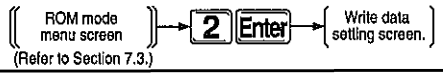
Do you want to execute? <Y><CR>/Cancel <ESC>

1) When [Y] [Enter] is pressed, data in the specified file is read from the HD/FD.
2) When [Esc] is pressed, the cursor is displayed in the directory number column.

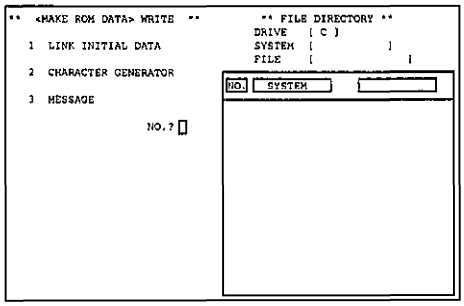
7.3.2 Writing to the HD/FD

The initial data, character generator data, and message data which is converted for ROM writer and stored in the HD/FD is written into the HD/FD.

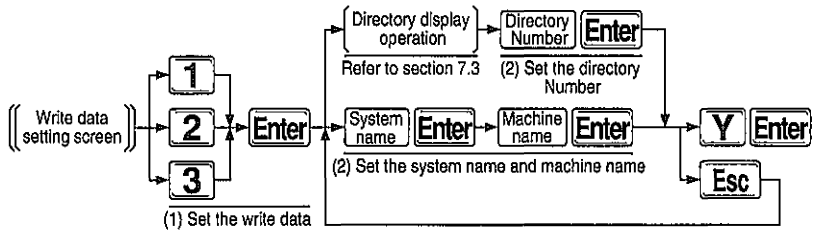
Operation to get to the write data setting screen



Write data setting screen



Write data setting screen operations



Description

(1) Write data setting

Set the data to be written into the HD/FD.

[1]: Link setting data

[2]: Character generator data

[3]: Message Data

(2) System name and machine name (subsystem) setting

There are two methods to write data into HD/FD; specifying the directory number, and specifying the system name and the machine name (subsystem).

When the write data is specified, the cursor appears in the system name setting column.

(a) When the directory number is specified:

1) When the file directory is displayed, enter the directory number

2) When no file directory is displayed, follow the directory display operation, then enter the directory number.

(After the directory display operation, press [F8] and the cursor will be displayed in the directory number setting column.)

(b) When the system name and the machine name (subsystem) are specified:

1) To change the drive name, press [←] to move cursor to the drive column and enter the specified drive name.
   The cursor will return to the system name column when [Enter] is pressed.
2) When the cursor is at the system name column, specify the system name and press [Enter]. The cursor will be located at the machine name (subsystem) column.
3) Specify the machine name (subsystem) then press [Enter].

(3) Writing data

(a) Following message will appear when [Enter] is pressed after entering the directory number:

Do you want to execute? <Y><CR>/Cancel <ESC>

1) When [Y] [Enter] is pressed, data of the specified file is written into the HD/FD with specified system name and machine name (subsystem).
2) When [Esc] is pressed, the cursor is displayed in the directory number column/system name setting column.

Points

When the system name and machine name (subsystem) are specified, and the same system name and machine name already exist, "Do you want to overwrite it? <Y><CR>/Cancel <ESC>" is displayed.

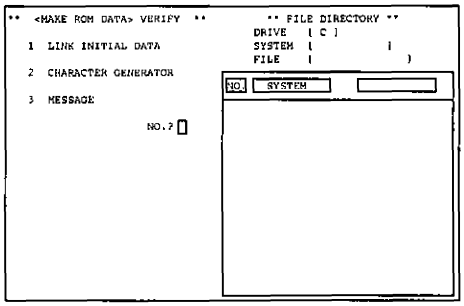
- Pressing [Y] [Enter] will overwrite.
- Pressing [Esc] will locate the cursor at the system name setting column.

7.3.3 Verifying with the HD/FD

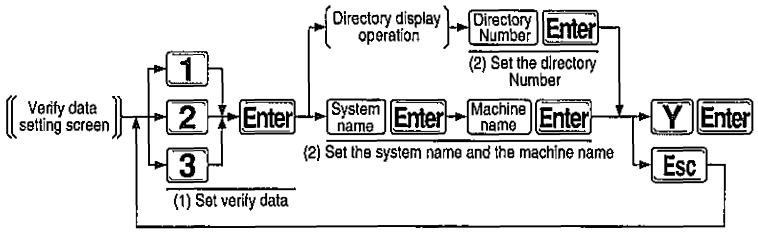
The data written in the HD/FD and the data in the PC memory are verified.

Operation to get to the verify data setting screen

Verify data setup screen



Verify data setup screen operations



Description

(1) Verify data setting

Set the data to verify.

[1]:Link setting data

[2]:Character generator data

[3]:Message data

(2) Verifying ROM data

There are two methods to compare contents of the HD/FD and that of the PC memory; specifying the directory number, and specifying the system name and the machine name (subsystem).

When the data to be verified is specified, the cursor appears in the system name setting column.

(a) When the directory number is specified:

1) When the file directory is displayed, enter the directory number.
2) When no file directory is displayed, follow the directory display operation (refer to Section 3.2.2), then enter the directory number.
   (After the directory display operation, press [F8] and the cursor will be displayed in the directory number setting column.)

(b) When the system name and the machine name (subsystem) are specified:

1) To change the drive name, press [←] to move cursor to the drive column and enter the specified drive name.
   The cursor will return to the system name column when [Enter] is pressed.
2) When the cursor is at the system name column, specify the system name and press [Enter]. The cursor will move to the machine name (subsystem) column.
3) Specify the machine name (subsystem) then press [Enter].

(3) Verifying data

(a) The following message will appear when [Enter] is pressed after entering the directory number:

Do you want to execute? <Y><CR>/Cancel <ESC>

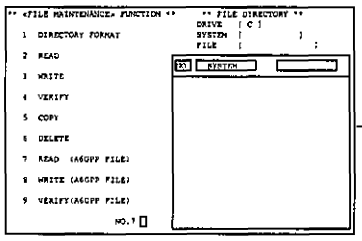
1) When [Y] [Enter] is pressed, data in the PC memory and the data of the specified file in the HD/FD are verified.
2) When [Esc] is pressed, the cursor is displayed in the directory number column.

8 File Maintenance

This is the mode used when writing and storing data created in the initial data setting mode, character generator edit mode or message edit mode onto HD/FD or when reading existing data from HD/FD.

8.1 Functions in the File Maintenance

Functions in the File Maintenance are shown below.

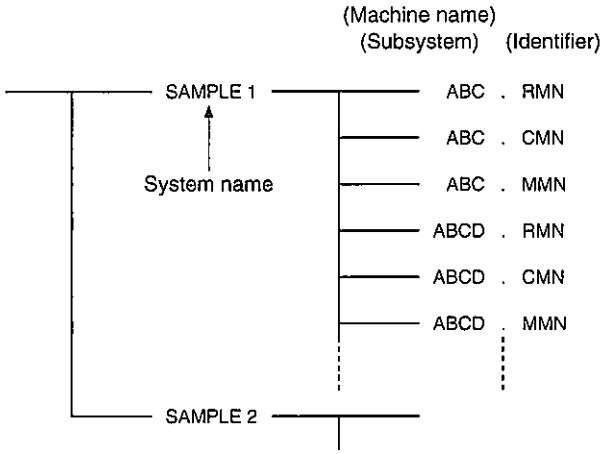


Directory	Displays a list of the file names and comments of the data registered in HD/FD. The following functions can be executed while displaying the directory.	Section 8.3.1
Read	Reads initial data, character generator data, message data and device comment data registered in HD/FD to PC.	Section 8.3.2
Write	Register initial data, character generator data and message data created in the PC memory onto HD/FD.	Section 8.3.3
Verify	Verifies data in HD/FD with data in the PC memory.	Section 8.3.4
Copy	Copies data registered in HD/FD onto other HD/FD or onto the same HD/FD.	Section 8.3.5
Delete	Deletes specified data in HD/FD.	Section 8.3.6
Read (A6GPP files)	Reads initial data, character generator data and message data for A6GPP/A6PHP registered in FD to PC.	Section 8.3.7
Write (A6GPP files)	Registers initial data, character generator data and message data created in the PC internal memory to FD by converting them into those for A6GPP/A6PHP.	Section 8.3.8
Verify (A6GPP files)	Verifies A6GPP/A6PHP data registered in FD with data in the PC memory.	Section 8.3.9

8.2 Common Operations in the File Maintenance

8.2.1 Setting a System Name

(1) A system name is a group name used when writing data onto HD/FD to classify multiple files.



(2) A system name is set up by the user using a maximum of eight characters. Alphanumeric characters and the minus (–) key are valid for the system name (no space should be used), and a system name should always begin with an alphabet letter.

(3) The directories for the system names can be read by the following operations:

(a) To read all the system names, simply press [Enter].

(b) To read similar system names, specify system names using "*".

□□□*....Reads all system names that share common parts other than the part specified by "*".

Only the variable part
is specified by "*".

Example) ABC-1
ABC-2 } To read all of ABC-1, ABC-2 and ABC-3, specify as "ABC*".
ABC-3

(4) A system name cannot be deleted unless all the files in the system name have been deleted.

8.2.2 Setting a File Name

(1) A file name acts as an index in the HD/FD, which is always necessary when writing data onto HD/FD.

(2) A file name is composed of the following:
File name = machine name (subsystem), identifier

(3) A machine name is set by the user using alphanumeric characters and the minus (–) key. Up to 8 characters can be used for a file name (no space should be used).
A file name should always begin with an alphabet letter.

(4) An identifier identifies the memory content and is automatically added following the machine name when writing each data onto HD/FD.

Identifier	Data name
RMN	Initial data
CMN	Character generator data
MMN	Message data
COT	Device comment data

(5) To read or delete a file name corresponding to the machine name and identifier specified, set a file name and press [Enter].

(6) When reading a file with an unclear name or deleting unnecessary files collectively, file names can be read/deleted easily by using "*" in the following manners:

(a) When reading/deleting all the files with the same machine name, but with different identifiers
machine name.* ....All the files with the machine name specified are read/deleted.

Example) ABC. RMN
ABC. CMN } To reading/deleting all of ABC.RMN, ABC.CMN and
ABC. MMN ABC.MMN specify as *ABC*.

(b) When reading/deleting all the files with the same identifier.
*.identifier.....All the files with the identifier specified are read/deleted.

Example) ABC. PMA
BCD. PMA } To reading/deleting all of ABC.PMN, BCD.PMA and
CDE. PMA CDE.PMA specify as *PMA*.

(c) When reading/deleting all the files with similar machine names (subsystems).

□□□□*.identifier ...All the files with machine names not specified by "*" and with the same identifier are read/deleted.

Only the variable part is specified by "*".

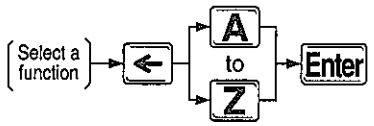
Example) ABC-1. PMA, ABC-2. PMA, ABC-3. PMA } To reading/deleting all of ABC-1.PMA, ABC-2.PMA andABC-3.PMA*ABC* specify as PMA.

(d) When deleting all the files in the HD/FD.

. .....deletes all the files in the HD/FD.

8.2.3 Changing drive

DRIVE [C] 	SYSTEM [ ] SUBSYSTEM [ ]



(1) When selecting a function from the file maintenance menu screen, the columns for specifying the drive, system name and machine name are displayed as shown above. (The cursor is displayed in the system name column.)

(2) When changing the drive displayed, move the cursor to the drive column using the [←] key to specify the drive.
When the drive is specified, the cursor returns to the system name column.

8.2.4 Specifying machine name (subsystem)

SUBSYSTEM [ ]	(Select a function) → Specify a machine name → Enter

(1) When specifying a machine name, edit with the following keys:

[→], [←].....Moves the cursor.

[BackSpace], [Del].....Erases a character where the cursor is placed, then shifts the cursor one charactert to left.

[Home].....Erases all the characters in the machine name column, then shifts the cursor to the leftmost in the column.

(2) A machine name can be set using a maximum of 8 characters.

(3) A machine name should be specified using 1-byte alphanumeric characters and '–' (a hyphen).

(4) A machine name should always begin with an alphabet.

Point

No space key can be used when specifying a machine name.
If a blank is set in a machine name using the [→] key, an error will occur.
Example) MINI_P

8.2.5 Specifying a comment

COMMENT [1-20-1996]	(Specify a machine name) → Specify a comment → Enter

(1) To specify a comment, edit with the following keys:

[→], [←].....Moves the cursor.

[Space].....Erases a character where the cursor is placed, and shift the cursor one character to right.

[BackSpace], [Del].....Erases a character where the cursor is placed, then shifts the cursor one charactert to left.

[Home].....Erases all the characters in the comment column and shift the cursor to the rightmost in the column.

(2) A comment with a maximum of twenty 1-byte characters (ten 2-byte characters) can be set.

(3) If a comment is unnecessary, simply press [Enter].

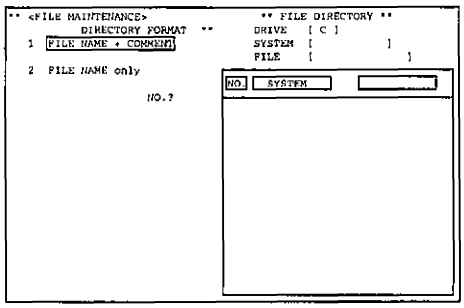
8.3 Operations in the File Maintenance

8.3.1 Directories for Registered Data

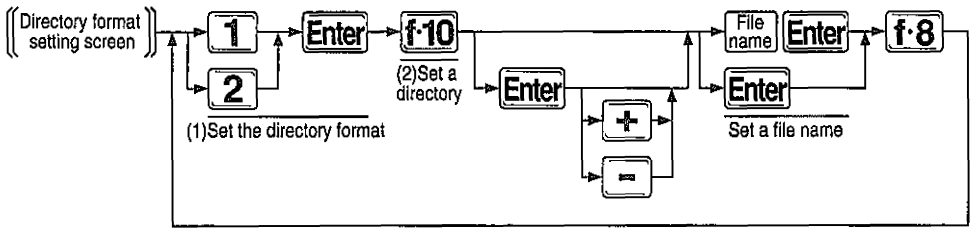
Read a list of system names and file names registered in the HD/FD as follows:

Operations to get to the directory format setting screen

Directory Format Setting Screen



Directory format setting screen operations



Description

(1) In the directory format setting screen, set either "file name + comment" or "file name only" for the display.

(a) To display "file name + comment" .....[1] → [Enter]
(b) To display "file name only" .....[2] → [Enter]

(2) Press [F10] to enter to the file directory setting function.

(3) Per form file directory operations after drive and a system name setup.

(4) To set up a drive, press the [↑] key to move the cursor to the drive column, then set a drive.

(5) There are two methods to set up a system name: to type a system name directly from the keyboard, and to set a system name after the directory for the system name.

(a) To type a system name directly from the keyboard, input [System Name] → [Enter].

(b) To set up a system name after the directory, press [Enter] while the cursor is displayed in the system column to display the system name. When the system name is displayed, input [System Name] → [Enter].

(6) When the system name is set, the cursor is displayed in the file name column.

In the file name directory, two operations, reading of all the files and reading of files in a specified a machine name (subsystem), can be performed.

(a) To read all the files, press [Enter].
(b) To read a file corresponding to the machine name or the identifier specified, specify the file name (the machine name or the identifier) and press [Enter].
Refer to Section 8.2 for the details of file names.

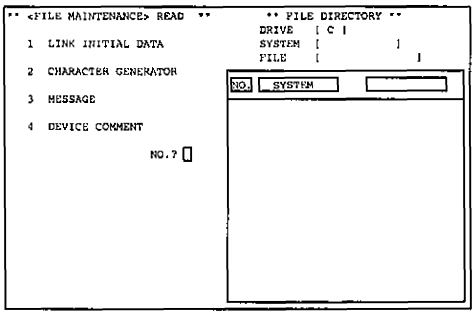
(7) After executing the directory, press [F8] to go to the directory format setting.

8.3.2 Reading from the HD/FD

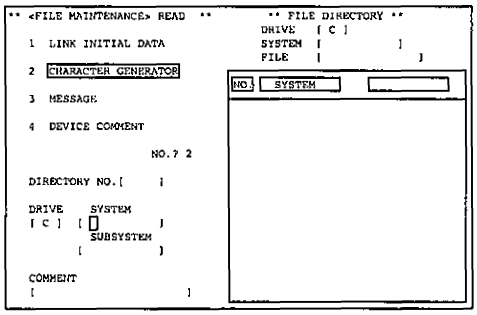
The initial data, character generator data, and message data which is registered in HD/FD is read to the PC memory.

Operations to get to the HD/FD read setting screen

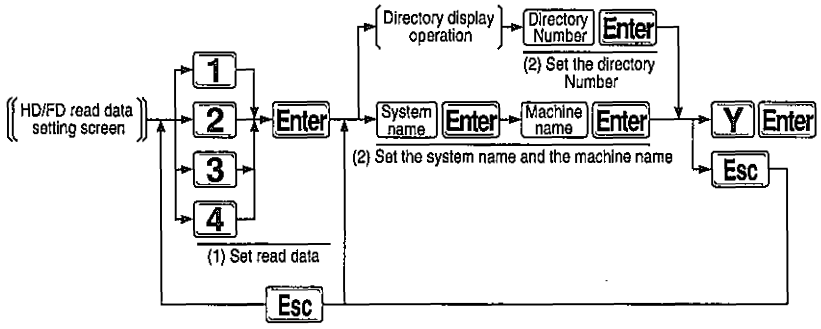
HD/FD read data setting screen



Character generator read data setting screen



HD/FD read data setting screen operations



Description

(1) Read data setting

Set the data to be read from the HD/FD to the PC memory.

[1]:Initial data

[2]:Character generator data

[3]:Message Data

[4]: Device comment data (Read kana comment created in GPP function)

(2) System name and machine name (subsystem) setting

There are two methods to read data from the HD/FD, specifying the directory number and specifying the system name and the machine name.

When the read data setting screen is displayed, the cursor appears in the system name setting column.

(a) When the directory number is specified.

1) When the file directory is displayed, enter the directory number.

2) When no file directory is displayed, follow the directory display operation (refer to Section 8.3.1), then enter the directory number.
(After the directory display operation, press [F8] and the cursor will be displayed in the directory number setting column.)

(b) When the system name and the machine name (subsystem) are specified.

1) Change the drive name, press [←] to move cursor to the drive column and enter the specified drive name.
The cursor will return to the system name column when [Enter] is pressed.
2) When the cursor is at the system name column, specify the system name and press [Enter].
The cursor will be located at the machine name column.
3) Specify the machine name then press [Enter].

(3) Reading data

(a) The following message will appear when [Enter] is pressed after entering the directory number.
[Do you want to execute? <Y><CR>/Cancel<ESC>]

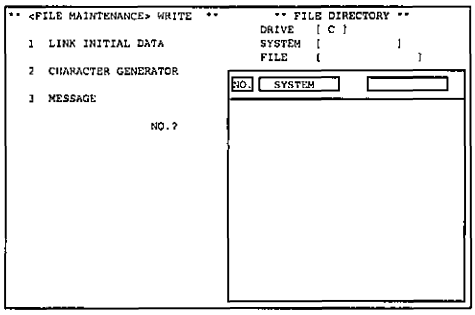
1) When [Y] [Enter] is pressed, data in the specified file is read from the HD/FD.
2) When [Esc] is pressed, the cursor is displayed in the directory number column.

8.3.3 Writing to the HD/FD

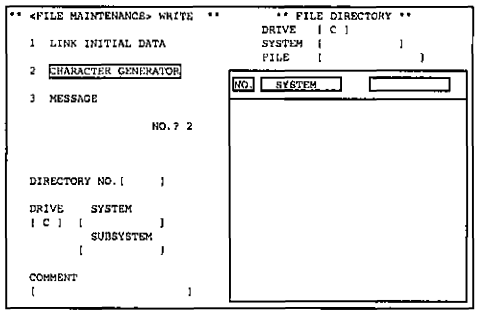
The initial data, character generator data, and message data which is converted for ROM writer and stored in the HD/FD is written into the HD/FD.

Operations to get to the HD/FD write data setting screen

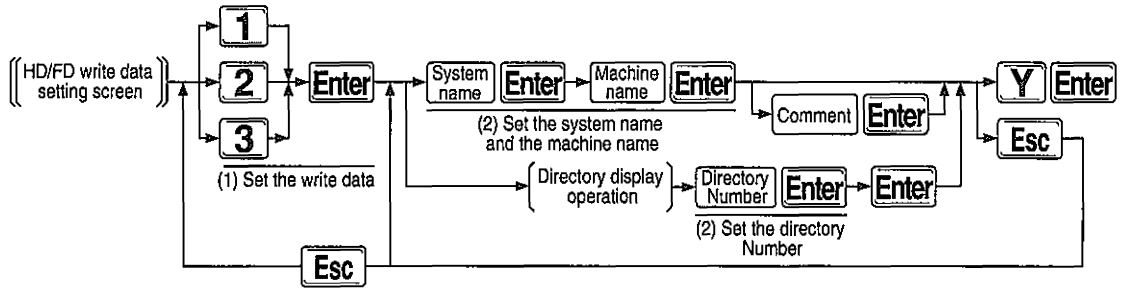
HD/FD write data setting screen



Character generator write data setting screen



HD/FD write data setting screen operations



Description

(1) Write data setting

Set the data to be written into the HD/FD.

[1]: Initial data

[2]: Character generator data

[3]: Message Data

(2) System name and machine name (subsystem) setting

There are two methods to write data into HD/FD, specifying the directory number, and specifying the system name and the machine name.

When the write data is specified, the cursor appears in the system name setting column.

(a) When the directory number is specified.

1) When the file directory is displayed, enter the directory number.
2) When no file directory is displayed, follow the directory display operation (refer to Section 8.3.1), then enter the directory number.
(After the directory display operation, press [F8] and the cursor will be displayed in the directory number setting column.)

(b) When the system name and the machine name (subsystem) are specified,

1) To change the drive name, press [←] to move cursor to the drive column and enter the specified drive name.
The cursor will return to the system name column when [Enter] is pressed.

2) When the cursor is at the system name column, specify the system name and press [Enter]. The cursor will be located at the machine name column.

3) Specify the machine name then press [Enter].

(3) Writing data

(a) Following message will appear when [Enter] is pressed after entering the directory number.
[Do you want to execute? <Y><CR>/Cancel<ESC>.]

1) When [Y] [Enter] is pressed, data of the specified file is written into the HD/FD with specified system name and machine name.

2) When [Esc] is pressed, the cursor is displayed in the directory number column/system name setting column.

Point

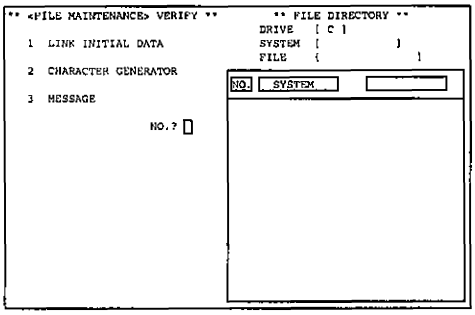
(1) When the system name and machine name are specified, and the same system name and machine name already exist, "Do you want to overwrite it? <Y><CR>/Cancel<ESC>" is displayed.
1) Pressing [Y] [Enter] will overwrite.
2) Pressing [Esc] will locate the cursor at the system name setting column.

8.3.4 Verifying with the HD/FD

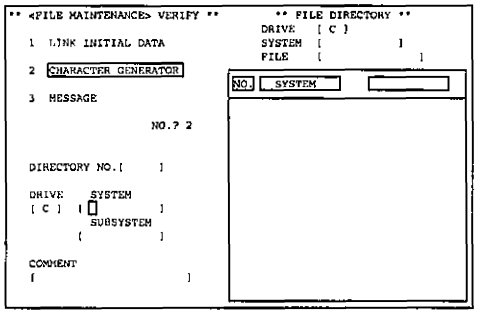
The data registered in the HD/FD and the data in the PC memory are verified.

Operation to get to the HD/FD verify data setting screen

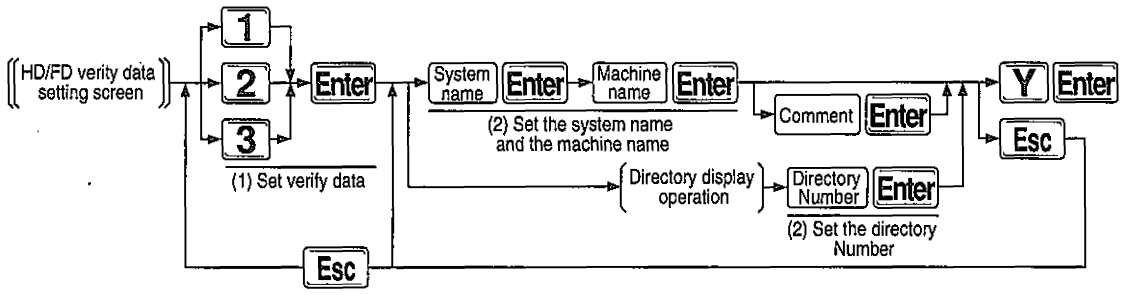
HD/FD verity data setting screen



Character generator verify screen



HD/FD verify data setting screen operations



Description

(1) Verify data setting

Set the data to verify.

[1]:Initial data
[2]:Character generator data
[3]:Message data

(2) Verifying ROM data

There are two methods to compare contents of the HD/FD and that of the PC memory, specifying the directory number, and specifying the system name(subsystem) and the machine name.
When the data to be verified is specified, the cursor appears in the system name setting column.

(a) When the directory number is specified.

1) When the file directory is displayed, enter the directory number.
2) When no file directory is displayed, follow the directory display operation (refer to Section 8.3.1), then enter the directory number.
(After the directory display operation, press [F8] and the cursor will be displayed in the directory number setting column.)

(b) When the system name and the machine name (subsystem) are specified.

1) To change the drive name, press [←] to move cursor to the drive column and enter the specified drive name.
   The cursor will return to the system name column when [Enter] is pressed.
2) When the cursor is at the system name column, specify the system name and press [Enter]. The cursor will move to the machine name column.
3) Specify the machine name then press [Enter].

(3) Verifying data

(a) The following message will appear when [Enter] is pressed after entering the directory number.
   [Do you want to execute? <Y><CR>/Cancel<ESC>.]

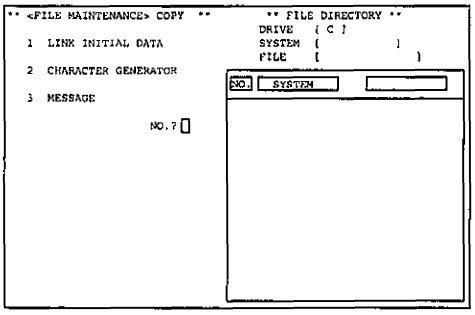
1) When [Y] [Enter] is pressed, data in the PC memory and the data of the specified file in the HD/FD are verified.
2) When [Esc] is pressed, the cursor is displayed in the directory number column/the system name setting column.

8.3.5 Copying Data on the HD/FD

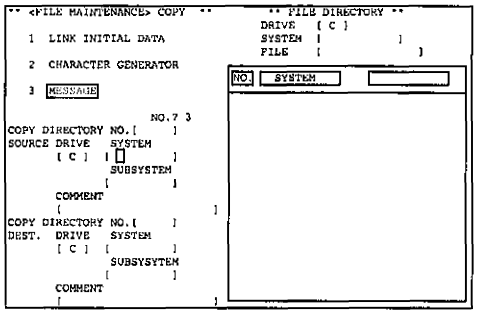
A file is copied from specified HD/FD to specified HD/FD.

Operation to get to the HD/FD copy screen

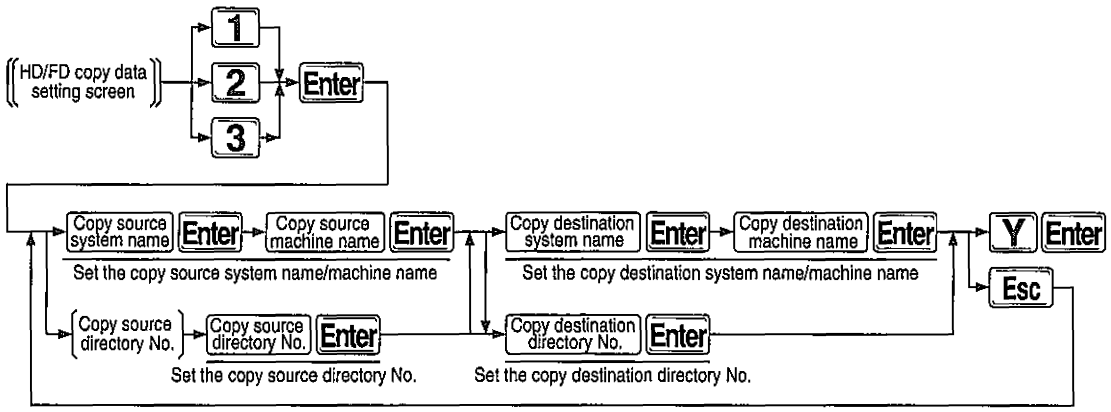
HD/FD copy data setting screen



Message data copy screen



HD/FD copy data setting screen operations



Description

(1) Copy data setting

Set data to be copied.

[1]:Initial data
[2]:Character generator data
[3]:Message data

(2) Copy file name setting

(a) Only the files corresponding to the system name, specified machine name (subsystem) or directory number (the file number carrying the same identifier as displayed in the file directory) of the data that are registered on HD/FD is copied onto the same HD/FD.
If the system name and the machine name are specified, files can be copied onto an other HD/FD.

(b) Combinations that can be copied are as follows:

1) HD ↔ FDD
2) HD ↔ HD
3) FDD ↔ FDD

(c) As in 1) of (b), to copy data using HD/FDD, the system names and machine names (subsystem) on the copy source and copy destination do not have to be the same.
If copying data on the same HD/FD as shown in 2) and 3), it is necessary to change the copy source and the copy destination system name and machine name. If the same system name and machine name are specified, it causes an error.

(d) If the directory number is specified as the copy destination, data in that directory number is overwritten.

Point

Data on the MINIP system FD cannot be copied.
Even if copy operation was completed, the copied FD cannot be used as the software package for the SW0□-MINIP MELSECNET/NINI-S3 data link.

(e) After the copy destination system name and machine name are set, the following message is displayed.

1) If the file set for the copy destination system name and machine name (subsystem) does not exist in the copy destination HD/FD
[Do you want to execute? <Y><CR>/Cancel<ESC>.]
When [Y] and [Enter] are pressed, the specified file is copied.
When [Esc] is pressed, the cursor returns to the copy source system name setting column and the system name can be reset.

2) If the file set for the copy destination system name and machine name exists in the copy destination HD/FD.
[Do you want to overwrite it? <Y><CR>/Cancel<ESC>.]
When [Y] and [Enter] are pressed, the file set for the copy destination system name and machine name are overwritten by the contents of the file set for the copy source system name and machine name.
When [Esc] is pressed, the cursor returns to the copy source system name setting column and the system name can be reset.

(f) When copying is in progress, "Executed..." is displayed in the message column, and the message displayed changes to "Completed" when the copy is completed.

(g) By pressing [F10], the screen changes to the file directory function.

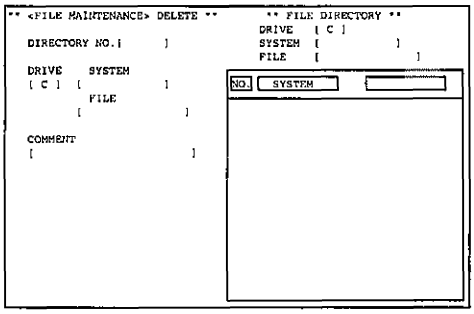
(h) By pressing [F8], the screen changes to the copy source directory number setting after the file directory is executed.

8.3.6 Deleting file

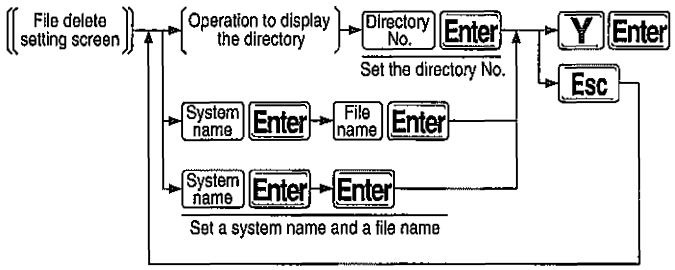
Delete an unnecessary file in the HD/FD as follows.

Operation to get to the file delete screen

File delete setting screen



File delete setting screen operations



Description

(1) A file can be deleted by specifying its directory number or system name and file name.

(2) If only the system name is specified, the system name can be deleted. However, the system name cannot be deleted if it contains a file name.

(3) When the system name and the file name are set, the following delete execution message is displayed.

[Do you want to execute? <Y><CR>/Cancel<ESC>.]

Press [Y] and [Enter] to start deletion.
Press [Esc] to return the cursor to the system name setting column and the system name can be reset.

(4) While deletion is in progress, "Executed..." is displayed in the message column, then it changes to "Completed" when the execution is completed.

(5) By pressing [F10], the screen changes to the file directory function.

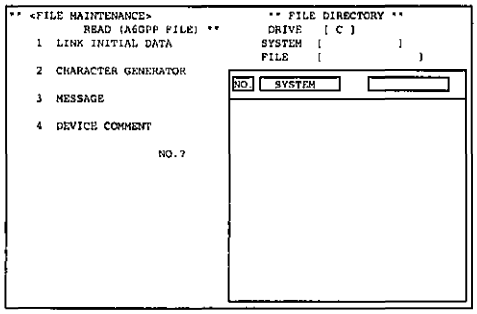
(6) By pressing [F8], the screen changes to the directory number setting if the file directory has been executed. Otherwise, the screen returns to the system name setting.

8.3.7 Reading from the FD (A6GPP file)

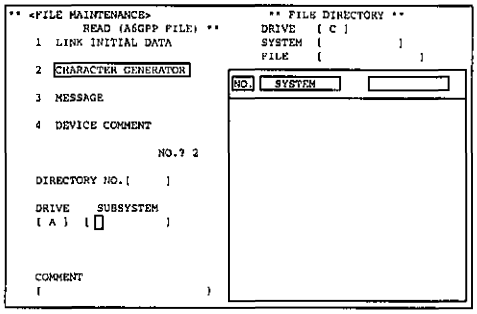
The initial data, character generator data, message data and, device comment data which is created by A6GPP/A6PHP and registered in FD is converted for PC and read to the PC memory.

Operation to get to FD read screen

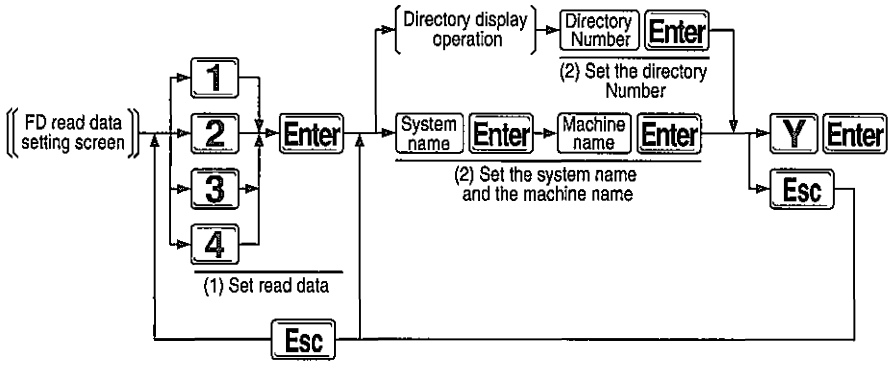
FD read data setting screen



Character generator read data setting screen



FD read data setting screen operations



Description

(1) Read data setting

Set the data to be read from the FD to the PC memory.

[1]:Initial data
[2]:Character generator data
[3]:Message Data
[4]: Device comment data (Read kana comment created in GPP function)

(2) System name and machine name (subsystem) setting

There are two methods to read data from the FD, specifying the directory number and specifying the system name and the machine name.
When the read data setting screen is displayed, the cursor appears in the system name setting column.

(a) When the directory number is specified.

1) When the file directory is displayed, enter the directory number.

2) When no file directory is displayed, follow the directory display operation (refer to Section 8.3.1), then enter the directory number.
(After the directory display operation, press [F8] and the cursor will be displayed in the directory number setting column.)

(b) When the system name and the machine name (subsystem) are specified:

1) Change the drive name, press [←] to move cursor to the drive column and enter the specified drive name.
The cursor will return to the system name column when [Enter] is pressed.
2) When the cursor is at the system name column, specify the system name and press [Enter]. The cursor will be located at the machine name column.
3) Specify the machine name then press [Enter].

(3) Reading data

(a) The following message will appear when [Enter] is pressed after entering the directory number.
[Do you want to execute? <Y><CR>/Cancel<ESC>.]

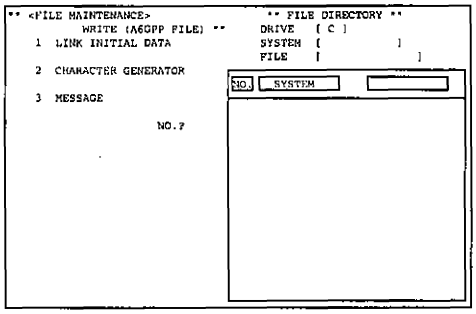
1) When [Y] [Enter] is pressed, data in the specified file is read from the FD.
2) When [Esc] is pressed, the cursor is displayed in the directory number column.

8.3.8 Writing to the FD (A6GPP file)

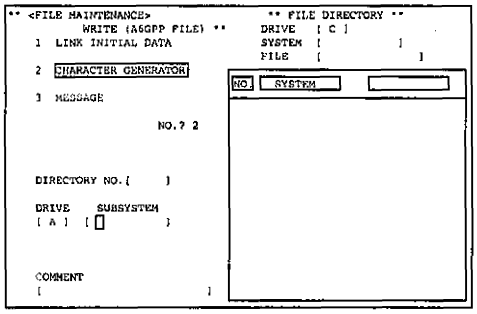
The initial data, character generator data, and message data is converted for A6GPP/A6PHP and written into the FD.

Operation to get to the FD write data setting screen

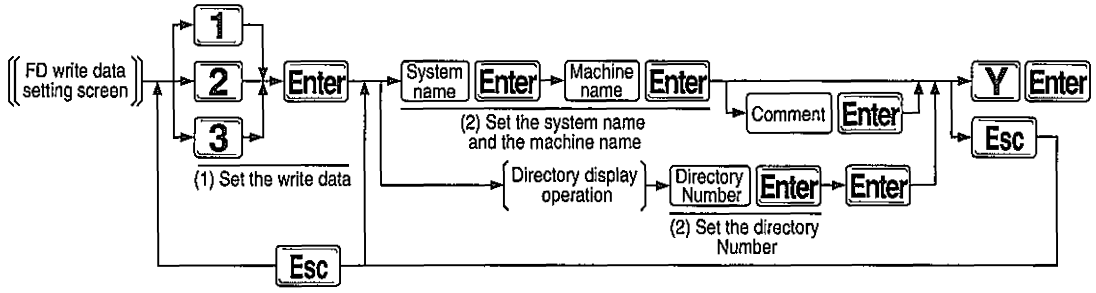
FD write data setting screen



Character generator write data setting screen



FD write data setting screen operations



Description

(1) Write data setting

Set the data to be written into the FD.

[1]: Initial data
[2]: Character generator data
[3]: Message Data

(2) System name and machine name (subsystem) setting

There are two methods to write data into FD, specifying the directory number, and specifying the system name and the machine name.
When the write data is specified, the cursor appears in the system name setting column.

(a) When the directory number is specified.

1) When the file directory is displayed, enter the directory number.
2) When no file directory is displayed, follow the directory display operation (refer to Section 8.3.1), then enter the directory number.
(After the directory display operation, press [F8] and the cursor will be displayed in the directory number setting column.)

(b) When the system name and the machine name (subsystem) are specified.

1) To change the drive name, press [←] to move cursor to the drive column and enter the specified drive name.
The cursor will return to the system name column when [Enter] is pressed.

2) When the cursor is at the system name column, specify the system name and press [Enter]. The cursor will be located at the machine name column.

3) Specify the machine name then press [Enter].

(3) Writing data

(a) Following message will appear when [Enter] is pressed after entering the directory number.
[Do you want to execute? <Y><CR>/Cancel<ESC>].

1) When [Y] [Enter] is pressed, data of the specified file is written into the FD with specified system name and machine name.

2) When [Esc] is pressed, the cursor is displayed in the directory number column/system name setting column.

Point

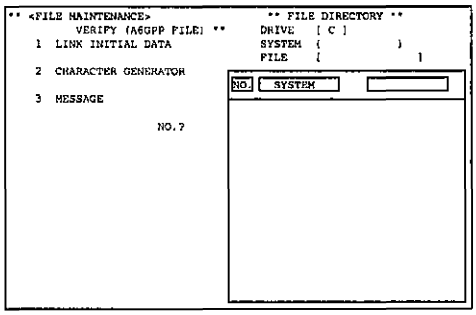
(1) When the system name and machine name are specified, and the same system name and machine name already exist, "Do you want to overwrite it? <Y><CR>/Cancel<ESC>" is displayed.
1) Pressing [Y] [Enter] will overwrite.
2) Pressing [Esc] will locate the cursor at the system name setting column.

8.3.9 Verifying with the FD (A6GPP file)

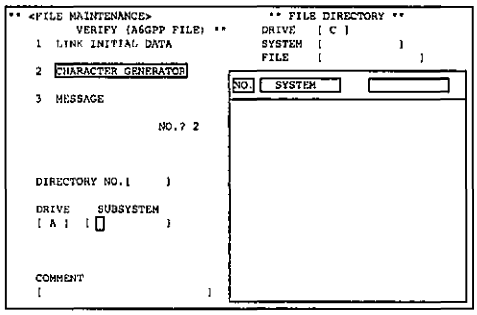
The data for A6GPP/A6PHP registered in the FD and the data in the PC memory are verified.

Operation to get to the FD verify data setting screen

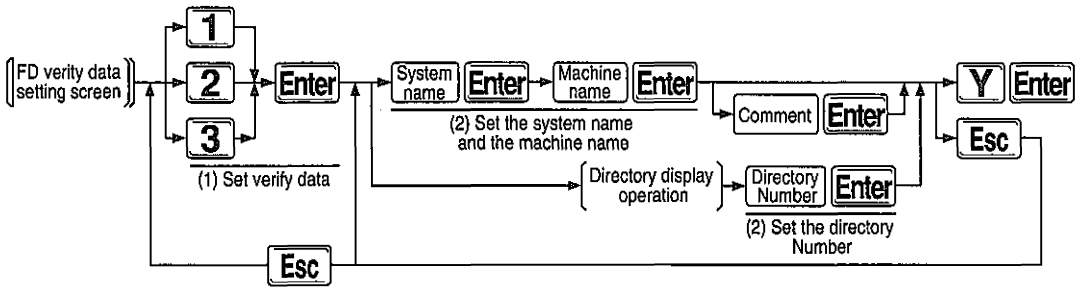
FD verity data setting screen



Character generator write verify screen



FD verify data setting screen operations



Description

(1) Verify data setting

Set the data to verify.

[1]:Initial data
[2]:Character generator data
[3]:Message data

(2) Verifying ROM data

There are two methods to compare contents of the FD and that of the PC memory, specifying the directory number, and specifying the system name and the machine name (subsystem).
When the data to be verified is specified, the cursor appears in the system name setting column.

(a) When the directory number is specified.

1) When the file directory is displayed, enter the directory number.
2) When no file directory is displayed, follow the directory display operation (refer to Section 8.3.1), then enter the directory number.
(After the directory display operation, press [F8] and the cursor will be displayed in the directory number setting column.)

(b) When the system name and the machine name (subsystem) are specified.

1) To change the drive name, press [←] to move cursor to the drive column and enter the specified drive name.
The cursor will return to the system name column when [Enter] is pressed.
2) When the cursor is at the system name column, specify the system name and press [Enter].
The cursor will move to the machine name column.
3) Specify the machine name then press [Enter].

(3) Verifying data

(a) The following message will appear when [Enter] is pressed after entering the directory number.
[Do you want to execute? <Y><CR>/Cancel<ESC>.]

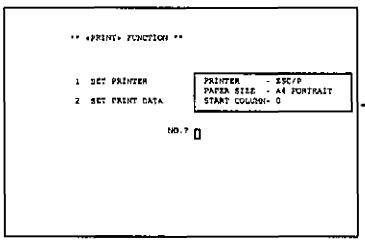
1) When [Y] [Enter] is pressed, data in the PC memory and the data of the specified file in the FD are verified.
2) When [Esc] is pressed, the cursor is displayed in the directory number column/the system name setting column.

9 Print

This is the mode used when printing link data, character generator data and message data in the PC memory.

9.1 Functions in the Print Mode

The following are functions in the print mode.



Print a print title	Prints specified machine names (subsystem) and comments and prepares the cover page of data printout.	Section 9.4.1
Print initial data	Prints initial data such as the total number of set remote stations, number of remote terminals, number of divided refresh remote I/O and station numbers.	Section 9.4.2
Print character patterns	Prints each character of character generator data stored in the PC memory in dot patterns.	Section 9.4.3
Print message list	Prints a list of message numbers, modes and comments stored in the PC memory.	Section 9.4.4
Print comment list	Prints a list of comment numbers, and devices stored in the PC memory.	Section 9.4.5
Print message pattern	Prints messages stored in the PC memory in dot patterns.	Section 9.4.6

9.2 Precaution When in Print Mode

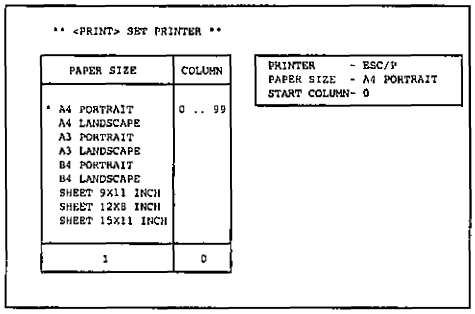
(1) When copying the PC screen, it is necessary to set a printer type and name beforehand.

9.3 Setting a Printer

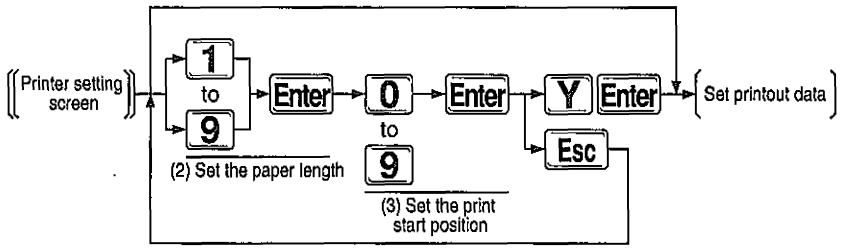
A printer is set as follows.

Operation to get to the printer setting screen

Printer setting screen



Printer setting screen operation



Description

(1) Paper length setting

The length of paper used for the printer is set.

[1]...A4 portrait
[2]...A4 landscape
[3]...A3 portrait
[4]...A3 landscape
[5]...B4 portrait
[6]...B4 landscape
[7]...Sheet 9x11 inches
[8]...Sheet 12x8 inches
[9]...Sheet 15x11 inches

If the paper length has been set previously, "*" is displayed in the corresponding place.

(2) Setting the print start position

The print start position of each line is set.

[0] to [9] [9] } For each line, print starts at the specified number of character(s) shifted to right from the printer head position.

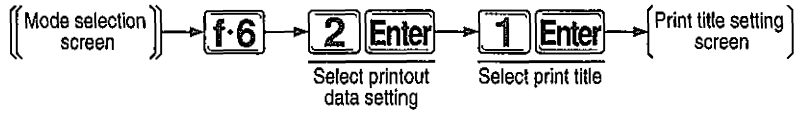
9.4 Setting Printout Data

Operations from selecting data to be printed to actual printing are described.

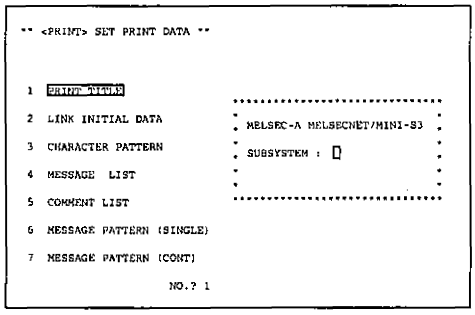
9.4.1 Printing a print title

A print title is printed as follows.

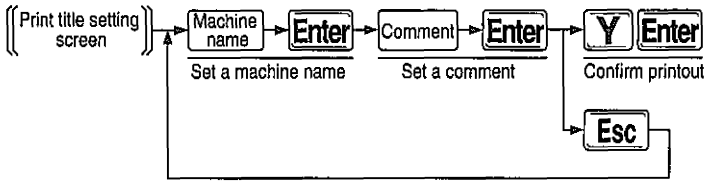
Operation to get to the print title setting screen



Print title setting screen



Print title setting screen operations



Description

(1) Machine name (subsystem) setting

An optional title can be set with a maximum of 8 characters. Alphanumeric characters and the minus [–] key can be used for the title. If setting up the same machine name as the one registered on HD/FD, it is useful to confirm the contents in the HD/FD.

(2) Comment setting

An optional comment can be set up with a maximum of 20 characters. Alphanumeric, kana and special characters can be used for the comment.

(3) Confirming the printout

Printing/not printing the set print title can be set.

(a) To start printing, press [Y] and [Enter].
"Printing...(<END>: Cancel)" is displayed.
When the print is completed, the cursor moves to the machine name setting column of each data setting screen.

(b) If not staring printing, press [Esc].
When [Esc] is pressed, the cursor moves to the same position as it would be placed at the completion of the printout.

(c) While printing is in progress, press [End] to cancel printing.
By pressing [End], the following message is displayed.
[Cancels printing. All right? <Y><CR>/Cansel<ESC>.]
1) When [Y] and [Enter] are pressed, printing is canceled and the cursor moves to the machine name (subsystem) setting column.
2) When [Esc] is pressed, printing is restarted and is executed to the end.

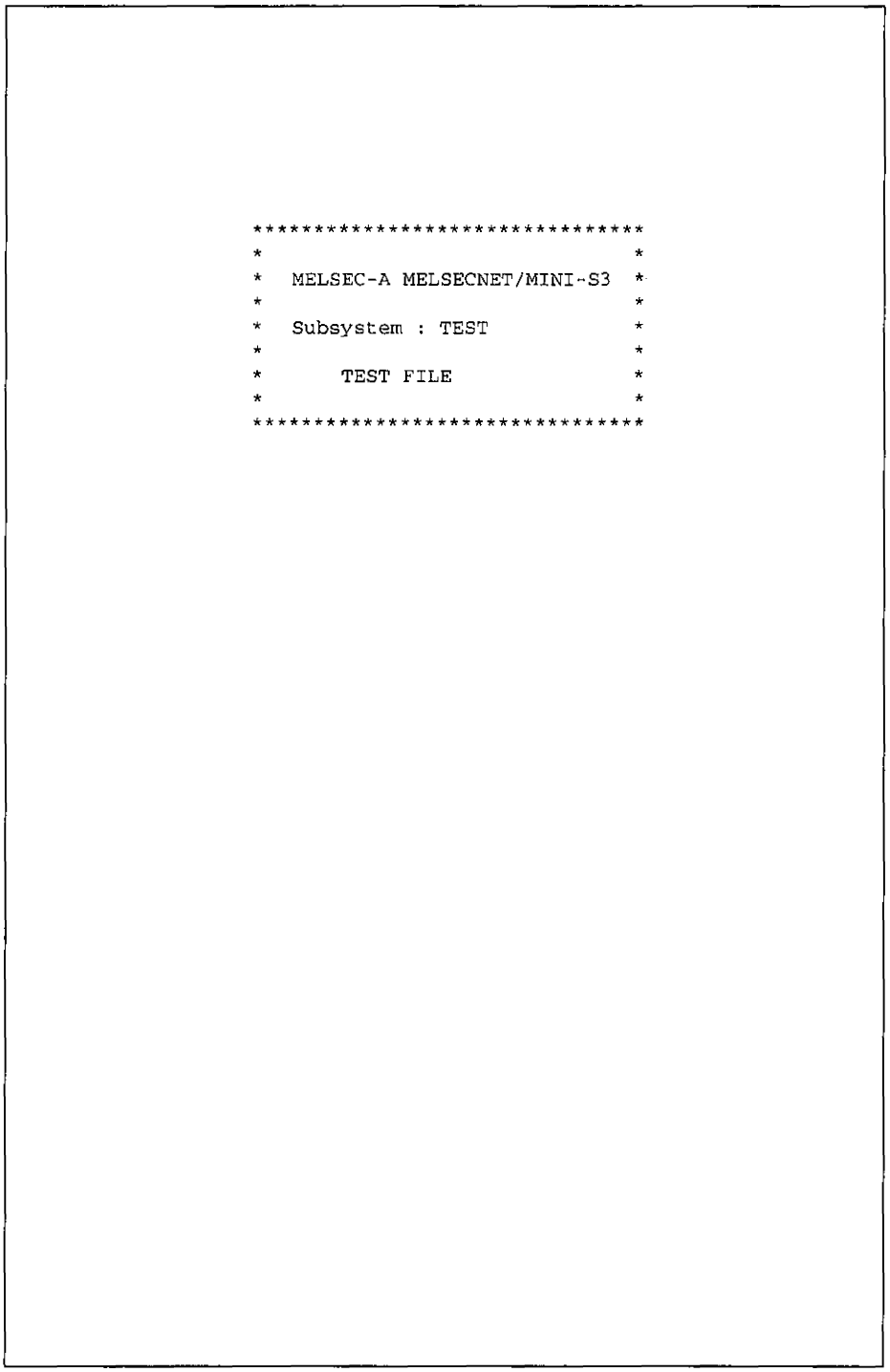
(4) Printout example

Printing a print title

Setting conditions

Machine name (subsystem) : TEST

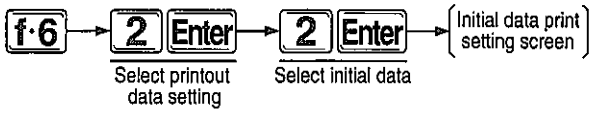
Comment : TEST FILE



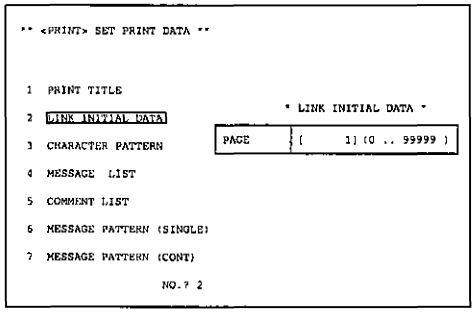
9.4.2 Printing initial data

Initial data for MINI-S3 system is printed as follows.

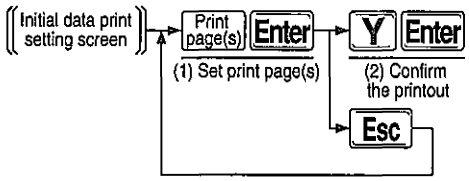
Operation to get to the initial data print setting screen



Initial data print setting screen



Initial data print setting screen operations



Description

(1) Print page setting

The starting page for the print is set.
As the page number is printed at the last line of papers, it makes file management easier.
The setting allowed range is 0 to 99999.
The default print page is 1.

(2) Confirming the printout

Printing/not printing the set initial data is set.

(a) To start printing, press [Y] and [Enter].
"Printing...(<END>: Cancel)" is displayed.
When the print is completed, the cursor moves to the machine name (subsystem) setting column of each data setting screen.

(b) If not starting printing, press [Esc].
When [Esc] is pressed, the cursor moves to the same position as it would be placed at the completion of the printout.

(c) While printing is in progress, press [End] to cancel printing.
By pressing [End], the following message is displayed.
[Cancels printing. All right? <Y><CR>/Cansel<ESC>.]
1) When [Y] and [Enter] are pressed, printing is canceled and the cursor moves to the machine name (subsystem) setting column.
2) When [Esc] is pressed, printing is restarted and is executed to the end.

(3) Printout example

Printing initial data

Setting conditions

Page specified: 1

Subsystem : TEST

** Link Initial Data **

* Total Stations [30]
* Remote Terminal Unit

NO.	Station No.	Protocol : Equipment	Address From	Address TO
1	1	Operation Box :	[0]	[500]
2	5	Operation Box :	[0]	[500]
3	9	No-Protocol :	[0]	[500]
4	13	No-Protocol :	[0]	[500]
5	17	No-Protocol :	[0]	[500]

Subsystem : TEST

** Link Initial Data **

* Total Stations [30]
* Partial Refresh Remote I/O Unit

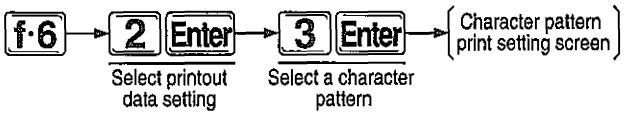
NO.	Station No.	Specify
1	21	0404

- 1 -

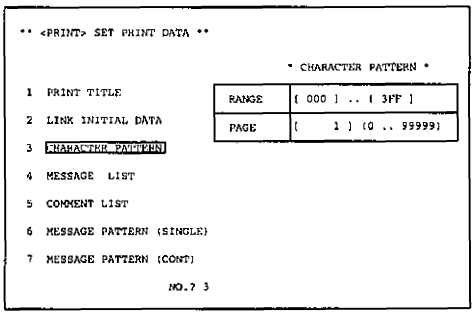
9.4.3 Printing character patterns

Characters registered in the character generator are printed in dot patterns.

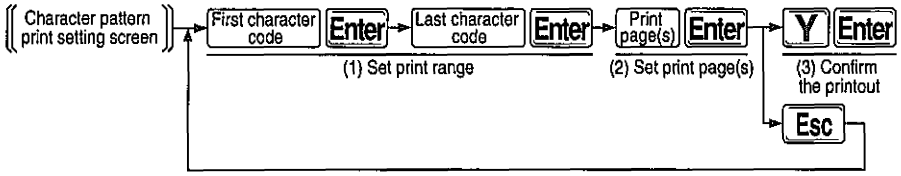
Operation to get to the character pattern print setting screen



Character pattern print setting screen



Character pattern print setting screen operations



Description

(1) Print range setting

The range of character codes corresponding to characters to be printed is set.
The setting allowed range is 0H to 3FFH.
The default of setting range is 0H to 3FFH

(2) Print page(s) setting

The starting page of print is set.
As the page number is printed at the final line of the paper, it makes file management easier.
The setting allowed range is 0 to 99999.
The default print page is 1.

(3) Confirming the printout

Printing/not printing the set character pattern is set.

(a) To start printing, press [Y] and [Enter].
"Printing...(<END>: Cancel)" is displayed.
When the print is completed, the cursor moves to the machine name (subsystem) setting column of each data setting screen.

(b) If not staring printing, press [Esc].
When [Esc] is pressed, the cursor moves to the same position as it would be placed at the completion of the printout.

(c) While printing is in progress, press [End] to cancel printing.
By pressing [End], the following message is displayed.
[Cancels printing. All right? <Y><CR>/Cansel<ESC>.]
1) When [Y] and [Enter] are pressed, printing is canceled and the cursor moves to the machine name (subsystem) setting column.
2) When [Esc] is pressed, printing is restarted and is executed to the end.

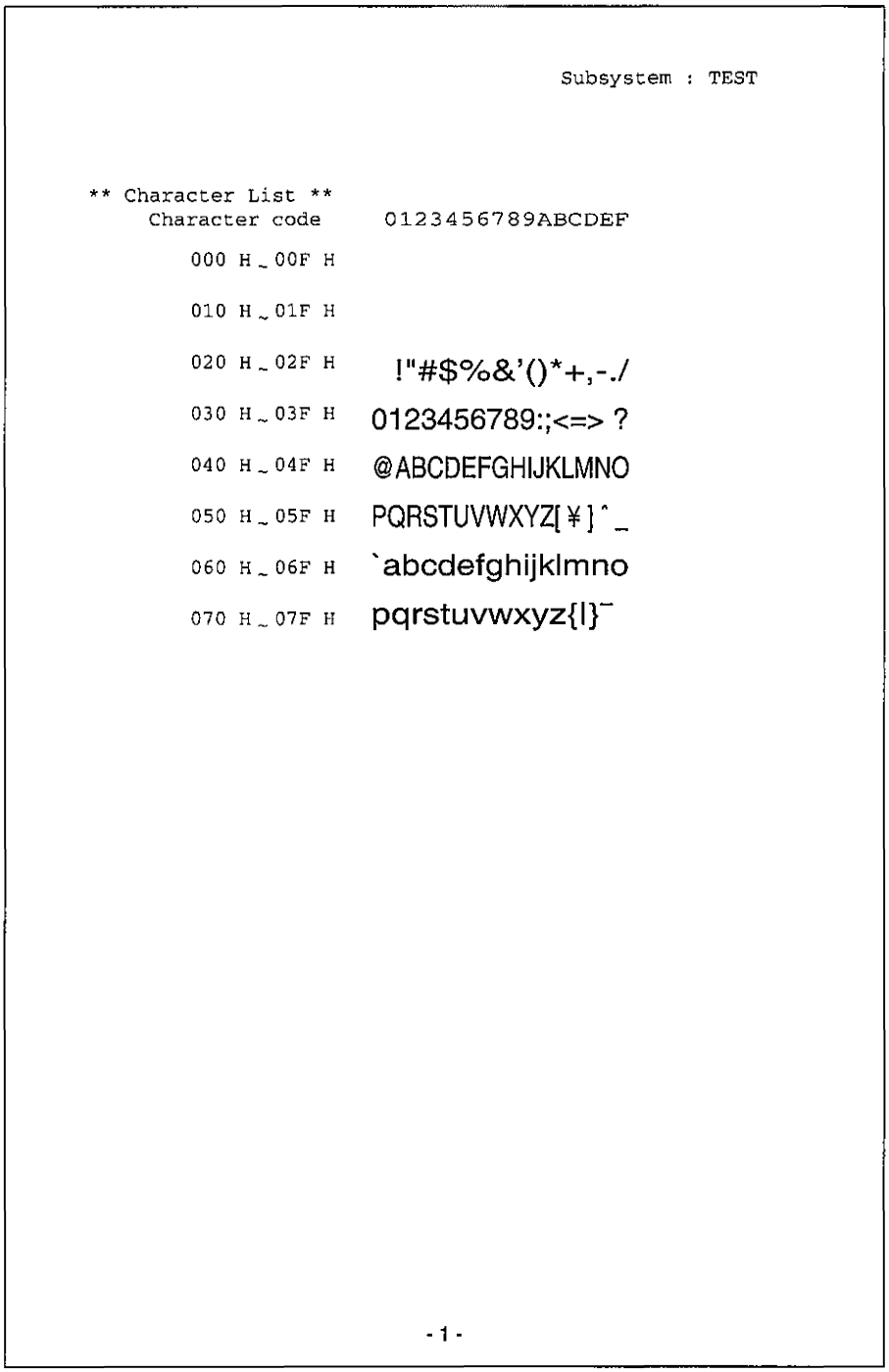
(4) Printout example

Printing character patterns

Setting conditions

Range specified: 000 to 07F

Page specified : 1



Subsystem : TEST

** Character List **

Character code 0123456789ABCDEF

000 H ~ 00F H

010 H ~ 01F H

020 H ~ 02F H !"#$%&'()*+,-./

030 H ~ 03F H 0123456789:;<=> ?

040 H ~ 04F H @ABCDEFGHIJKLMNO

050 H ~ 05F H PQRSTUVWXYZ[¥]^_

060 H ~ 06F H `abcdefghijklmno

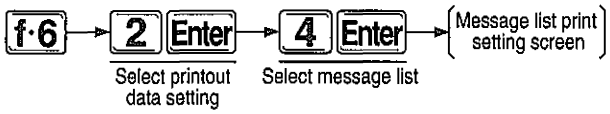
070 H ~ 07F H pqrstuvwxyz{|}¯

- 1 -

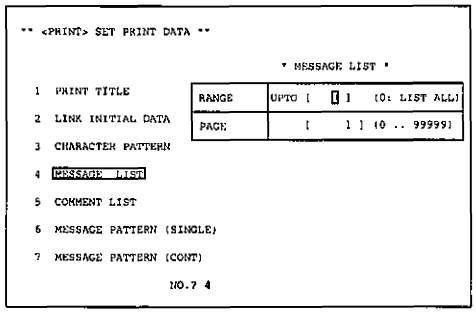
9.4.4 Printing a message list

Message data is printed as a list.

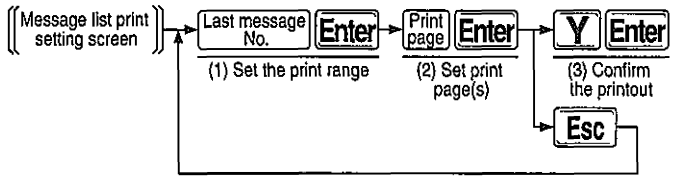
Operation to get to the message list printing screen



Message list print setting screen



Message list print setting screen operations



Description

(1) Print range setting

(a) The display mode and comments from message No. 1 to the specified message number are printed.

(b) The default print range is 0.

(c) If 0 is specified for the print range, all the data from message No. 1 to the largest number is printed.

(2) Print page setting

The starting page of print is set.

As the page number is printed at the last line of the paper, it makes file management easier.

The setting allowed range is 0 to 99999.

The default print page is 1.

(3) Confirming the printout

Printing/not printing the set message pattern is set.

(a) To start printing, press [Y] and [Enter].

"Printing...(<END>: Cancel)" is displayed.

When the print is completed, the cursor moves to the machine name (subsystem) setting column of each data setting screen.

(b) If not staring printing, press [Esc].
When [Esc] is pressed, the cursor moves to the same position as it would be placed at the completion of the printout.

(c) While printing is in progress, press [End] to cancel printing.
By pressing [End], the following message is displayed.
[Cancels printing. All right? <Y><CR>/Cansel<ESC>.]

1) When [Y] and [Enter] are pressed, printing is canceled and the cursor moves to the machine name (subsystem) setting column.
2) When [Esc] is pressed, printing is restarted and is executed to the end.

(4) Printout example

Printing a message list

Setting conditions

Range specified: until 3

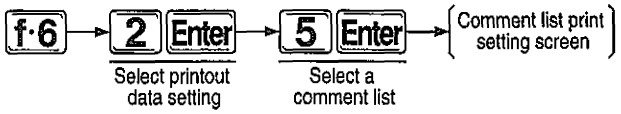
Page specified : 1

```
                                                Subsystem : TEST

** Message List **                          Message Number [ 350 ]

Message No.          Mode                          Comment

   1       [ Message                ] [ demo                  ]

   2       [ Message                ] [ MELSECNET/MINIP-S3    ]

   3       [ Message + Code         ] [test                   ]

                                - 1 -
```

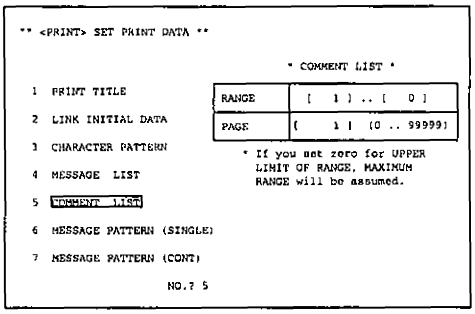
9.4.5 Printing a comment list

A list of data in the comment area is printed.

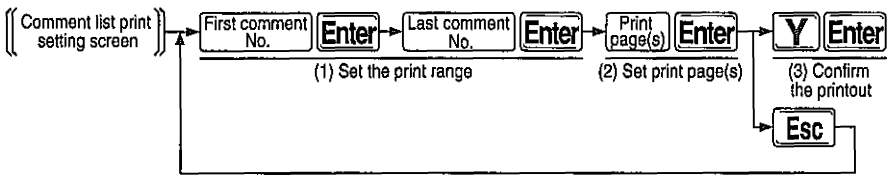
Operation to get to the comment list printing setting screen



Comment list print setting screen



Comment list print setting screen operations



Description

(1) Print range setting

(a) The comment list number range to print is set.

(b) The default print range is from 1 to the largest number.

(c) If 0 is specified in the last number column, the largest number is automatically specified.

(2) Print page setting

The starting page of print is set.

As the page number is printed at the final line of the paper, it makes file management easier.

The setting allowed range is 0 to 99999.

The default print page is 1.

(3) Confirming the printout

Printing/not printing the set comment list is set.

(a) To start printing, press [Y] and [Enter].
"Printing...(<END>: Cancel)" is displayed.
When the print is completed, the cursor moves to the machine name (subsystem) setting column of each data setting screen.

(b) If not executing printout, press [Esc].
When [Esc] is pressed, the cursor moves to the same position as it would be placed at the completion of the printout.

(c) While printing is in progress, press [End] to cancel printing.
By pressing [End], the following message is displayed.
[Cancels printing. All right? <Y><CR>/Cansel<ESC>.]
1) When [Y] and [Enter] are pressed, printing is canceled and the cursor moves to the machine name (subsystem) setting column.
2) When [Esc] is pressed, printing is restarted and is executed to the end.

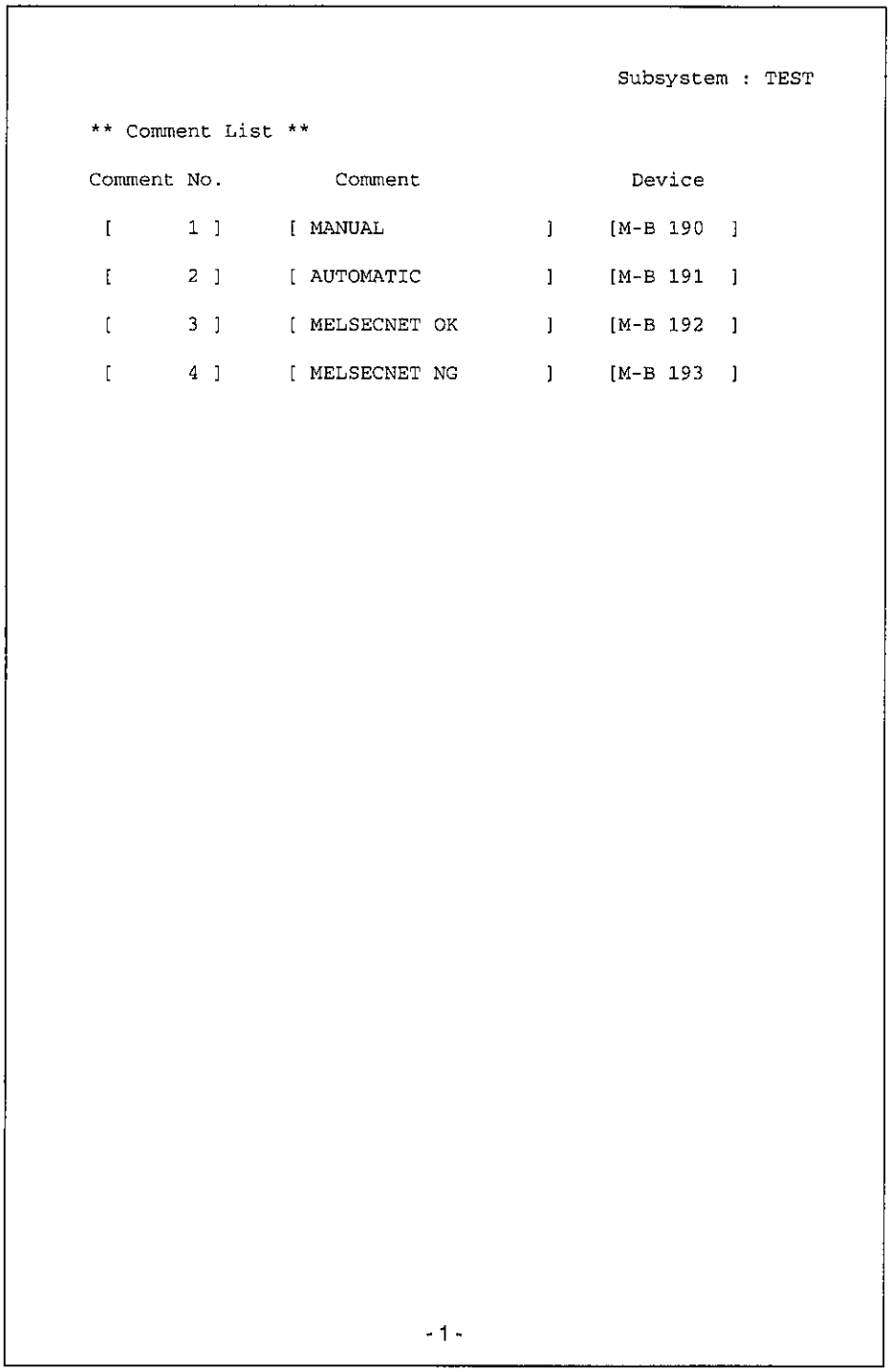
(4) Printout example

Printing a comment lis

Setting conditions

Range specified: 1 to 4

Page specified : 1



Subsystem : TEST

** Comment List **

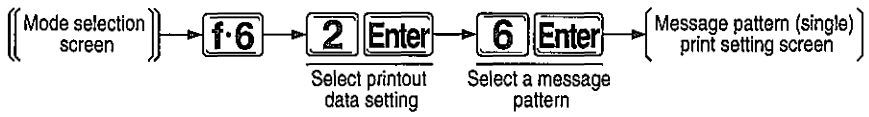
Comment No.	Comment	Device
[1]	[MANUAL]	[M-B 190]
[2]	[AUTOMATIC]	[M-B 191]
[3]	[MELSECNET OK]	[M-B 192]
[4]	[MELSECNET NG]	[M-B 193]

- 1 -

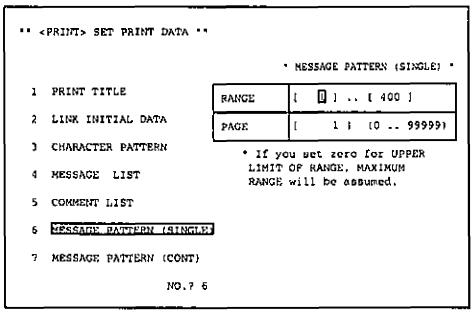
9.4.6 Printing a message pattern (single)

Message data is printed in the dot pattern.

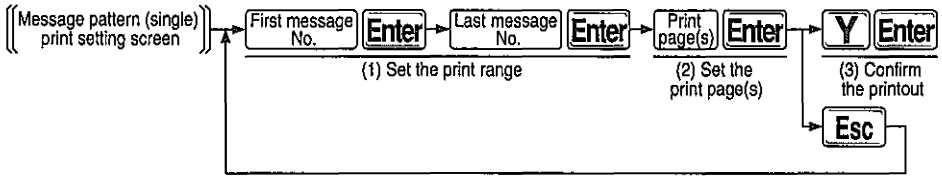
Operation to get to the message pattern (single) print setting screen



Message pattern (single) printing setting screen



Message pattern (single) print setting screen operations



Description

(1) Setting up the print range

(a) The message pattern No. range to be printed is set up.

(b) The default print range is from 1 to the largest number.

(c) If 0 is specified in the final number column, it specifies the print range until the largest number.

(2) Print page setting

The starting page of print is set.

As the page number is printed at the last line of the paper, it makes file management easier.

The setting allowed range is 0 to 99999.

The default print page is 1.

(3) Confirming the printout

Printing/not printing the set message pattern(single) is set.

(a) To start printing, press [Y] and [Enter].

"Printing...(<END>: Cancel)" is displayed.

When the print is completed, the cursor moves to the machine name (subsystem) setting column of each data setting screen.

(b) If not starting printing, press [Esc].
When [Esc] is pressed, the cursor moves to the same position as it would be placed at the completion of the printout.

(c) While printing is in progress, press [End] to cancel printing.
By pressing [End], the following message is displayed.
[Cancels printing. All right? <Y><CR>/Cansel<ESC>.]

(d) When [Y] and [Enter] are pressed, printing is canceled and the cursor moves to the machine name (subsystem) setting column.

(e) When [Esc] is pressed, printing is restarted and is executed to the end.

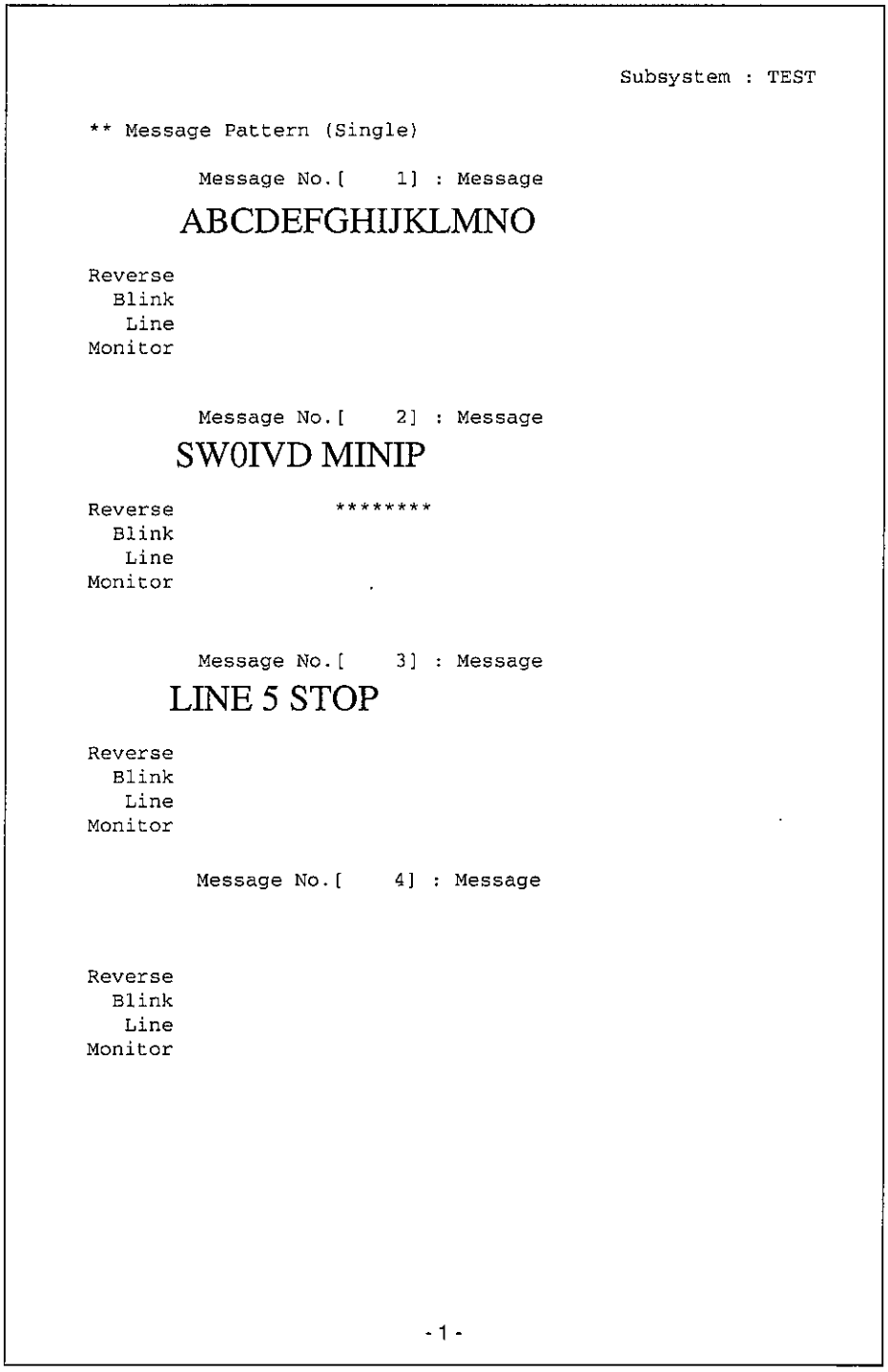
(4) Printout example

Printing message patterns (single)

Setting conditions

Range specified: 1 to 4

Page specified : 1



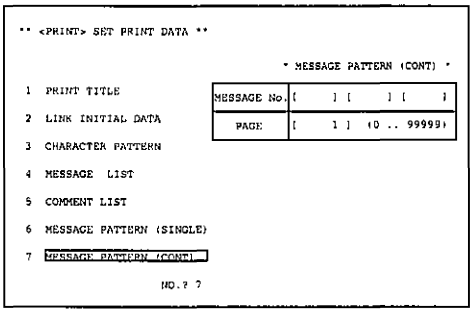
```
                                                Subsystem : TEST

** Message Pattern (Single)

          Message No.[    1] : Message
        ABCDEFGHIJKLMNO

Reverse
  Blink
   Line
Monitor

          Message No.[    2] : Message
        SW0IVD MINIP

Reverse              ********
  Blink
   Line
Monitor

          Message No.[    3] : Message
        LINE 5 STOP

Reverse
  Blink
   Line
Monitor

          Message No.[    4] : Message


Reverse
  Blink
   Line
Monitor
```

9.4.7 Printing a message pattern (continuous)

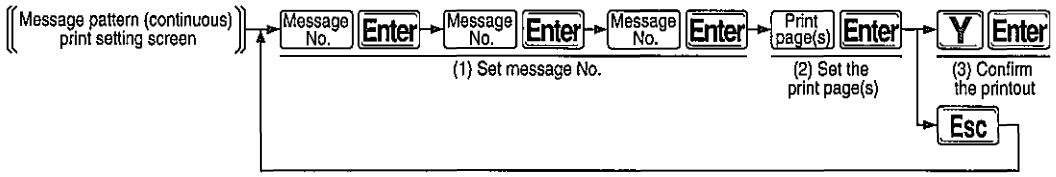
The specified three continuous message data is printed in the dot pattern.

Operation to get to the message pattern (continuous) print setting screen

Message pattern (continuous) printing setting screen



Message pattern (continuous) print setting screen operations



Description

(1) Setting the print message number

(a) The message No. to be printed is set up.

(b) A screen consists of three messages.

(2) Print page setting

The starting page of print is set.

As the page number is printed at the last line of the paper, it makes file management easier.

The setting allowed range is 0 to 99999.

The default print page is 1.

(3) Confirming the printout

Printing/not printing the set message pattern is (continuous) set.

(a) To start printing, press [Y] and [Enter].

"Printing...(<END>: Cancel)" is displayed.

When the print is completed, the cursor moves to the machine name (subsystem) setting column of each data setting screen.

(b) If not starting printing, press [Esc].

When [Esc] is pressed, the cursor moves to the same position as it would be placed at the completion of the printout.

(c) While printing is in progress, press [End] to cancel printing.
By pressing [End], the following message is displayed.
[Cancels printing. All right? <Y><CR>/Cansel<ESC>.]
1) When [Y] and [Enter] are pressed, printing is canceled and the cursor moves to the machine name (subsystem) setting column.
2) When [Esc] is pressed, printing is restarted and is executed to the end.

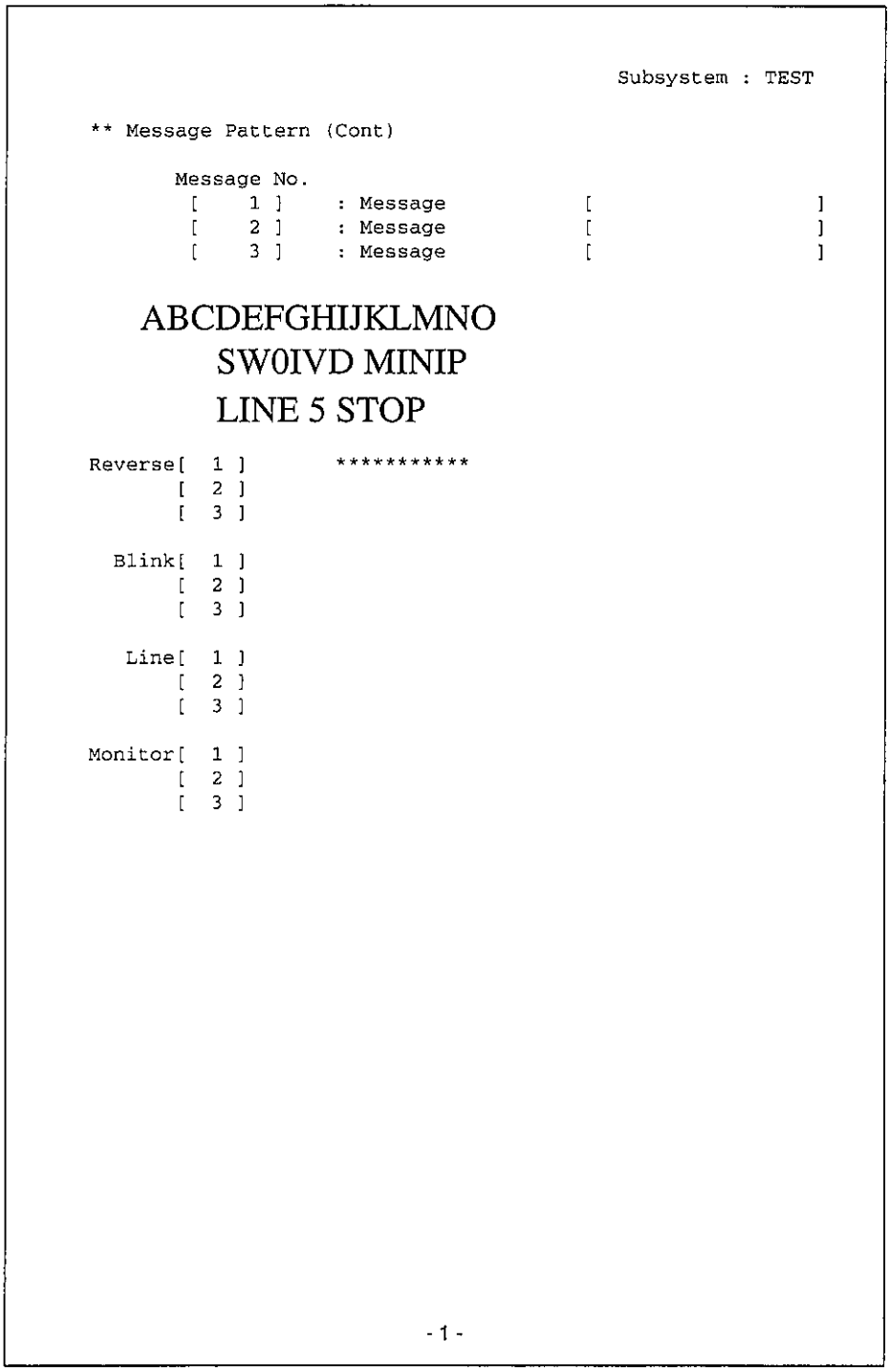
(4) Printout example

Printing message patterns (continuous)

Setting conditions

Numbers specified: 1, 2, 3

Page specified : 1



Subsystem : TEST

** Message Pattern (Cont)

Message No.

[1] : Message [ ]
[2] : Message [ ]
[3] : Message [ ]

ABCDEFGHIJKLMNO
SW0IVD MINIP
LINE 5 STOP

Reverse[1] **********
[2]
[3]

Blink[1]
[2]
[3]

Line[1]
[2]
[3]

Monitor[1]
[2]
[3]

- 1 -

MEMO

10 DOS

The DOS prompt screen is started as follows.

Operation to get to the DOS prompt screen

f·7 → (DOS prompt screen is displayed)

DOS prompt screen is displayed.

```
EXIT will return to MINIP
Microsoft(R) MS-DOS(R) Version *.**
         (C) Copyright Microsoft Corp 1981-1993


C:\>
```

Description

By pressing [F7], the DOS prompt screen is displayed.
To exit the DOS prompt screen, type [E][X][I][T] and press [Enter] will return to the MINIP initial menu.

MEMO

11 Error Messages

Error messages displayed in the message column in the bottom left of the screen are listed below in kana-alphabetical order:

Error message	Description	Corrective action
Disk is not for A6GPP.	When accessing an A6GPP file, a disk other than CP/M is loaded.	Insert a disk for A6GPP and re-execute it.
Cannot read COPYRITE. DAT.	Reading COPYRITE.DAT failed.	Re-install the system FD.
Cannot allocate EMS.	EMS memory space necessary for starting MINIP could not be secured at the start of MINIP.	Set up EMS in CONFIG.SYS. Or, secure 512k for the EMS area.
Cannot initialize EMS.	Initialization of EMS failed at the start of MINIP.	
Cannot use Front End Processor.	FEP was started from the menu where Kanji input is not allowed.	Kanji input is not allowed in the area where this message occurred.
Cannot execute FTK. COM.	FTK.COM startup failed.	Re-install the system FD.
Cannot save User-Font.	Saving of external character fonts failed at the start of MINIP.	
Cannot register User-Font.	Registration of external character fonts failed at the start of MINIP.	
No such message number.	A comment number that has not been registered was specified at the setting of the comment number.	Set the comment number that has been registered.
No such message number.	A message number that has not been registered was specified at the setting of the message number.	Set the message number that has been registered.
Write Error.	An error occurred when writing onto a disk.	FD might be defective. Replace FD.
Disk is Write-protected.	Writing was executed onto a disk with write protect.	Move FD's protect tab to the write enabled side.
Illegal character.	1-byte kana character was typed in the menu where 1-byte kana input is not accepted.	No kana characters can be used for the system name and the machine name.
Cannot read Kanji pattern.	Reading of a Kanji pattern to be used on MINIP was unsuccessful.	Re-install system FD.
Machine name is incorrect.	When an incorrect character is included in the machine name entered. • Character other than alphanumeric characters and a hyphen is included. • The machine name contains a space. • The first letter is not an alphabet.	Set a corret machine name.
Setting of station number is incorrect.	The number of stations overlap at multiple remote I/O modules.	Set a station number that does not overlap with others.
	A station number that is outside the allowed range was set.	Set a station number within the setting allowed range.
Fixed character.	When attempting to enter fixed character (0x20 to 0x7F, 0x90 to 0x9C, 0xA0 to 0xFE) in the character generator edit.	Change character codes to other than 20H to 7FH, 90H to 9CH, A0H to FEH. (Characters in 20H to 7FH, 90H to 9CH, A0H to FEH cannot be changed.)

Error message	Description	Corrective action
No comment read out.	When attempting to register a comment in the message mode before a comment file is read.	Read a comment file that was prepared by SW□-GPPA beforehand.
Cannot delete system name.	System name could not be deleted by the delete function of the File Maintenance.	Delete all the files in the system before deleting the system name.
System name is incorrect.	An incorrect character is included in the machine name entered. • Character other than alphanumeric characters and a hyphen is included. • The machine name contains a space. • The first letter is not an alphabet.	Set a correct system name.
Specified system name doesn't exist.	When reading a file, etc., a system name that does not exist was specified.	Specify a system name that exists.
Specified file doesn't exist.	When reading a file, etc., a file name that does not exist was specified.	Specify a file name that exists.
Erase error.	File delete failed in the FDD mode Maintenance.	Re-install the system FD.
Setting is Incorrect.	Setting details are incorrect or outside the setting range, etc.	Set correct data.
Cannot write due to lack of free disk space.	There is no space on the disk to write new data.	• Register data in a different HD/FD • Delete unnecessary files to secure memory space in FD.
Inconsistent data.	Data does not match as the result of verify function of the FDD mode Maintenance or the ROM mode.	Adjust to either of the data.
No directory information.	The directory number was specified without displaying the directory list.	Display a directory list, then specify the directory number.
Incorrect drive.	There is a mistake in specifying a drive.	Specify a correct drive.
Drive is not ready.	The drive is not ready.	Confirm a drive name.
File name error is incorrect..	An incorrect character is included in the file name entered. • Character other than alphanumeric characters and a hyphen is included. • The machine name contains a space. • The first letter is not an alphabet.	Set up a correct file name.
Printer is not ready.	The printer is not ready.	Make sure of the printer environment (power, cable, etc.).
Out of memory.	Necessary heap memory to start MINIP could not be secured at the time of MINIP's start up.	Secure memory by changing CONFIG.SYS, etc.
Read error.	A read error from the disk occurred.	• Change the drive, then read data again. • Make sure that other file name can be read.

Appendix

Appendix 1 JIS Code List

The following is a list of JIS code characters registered in MINIP.

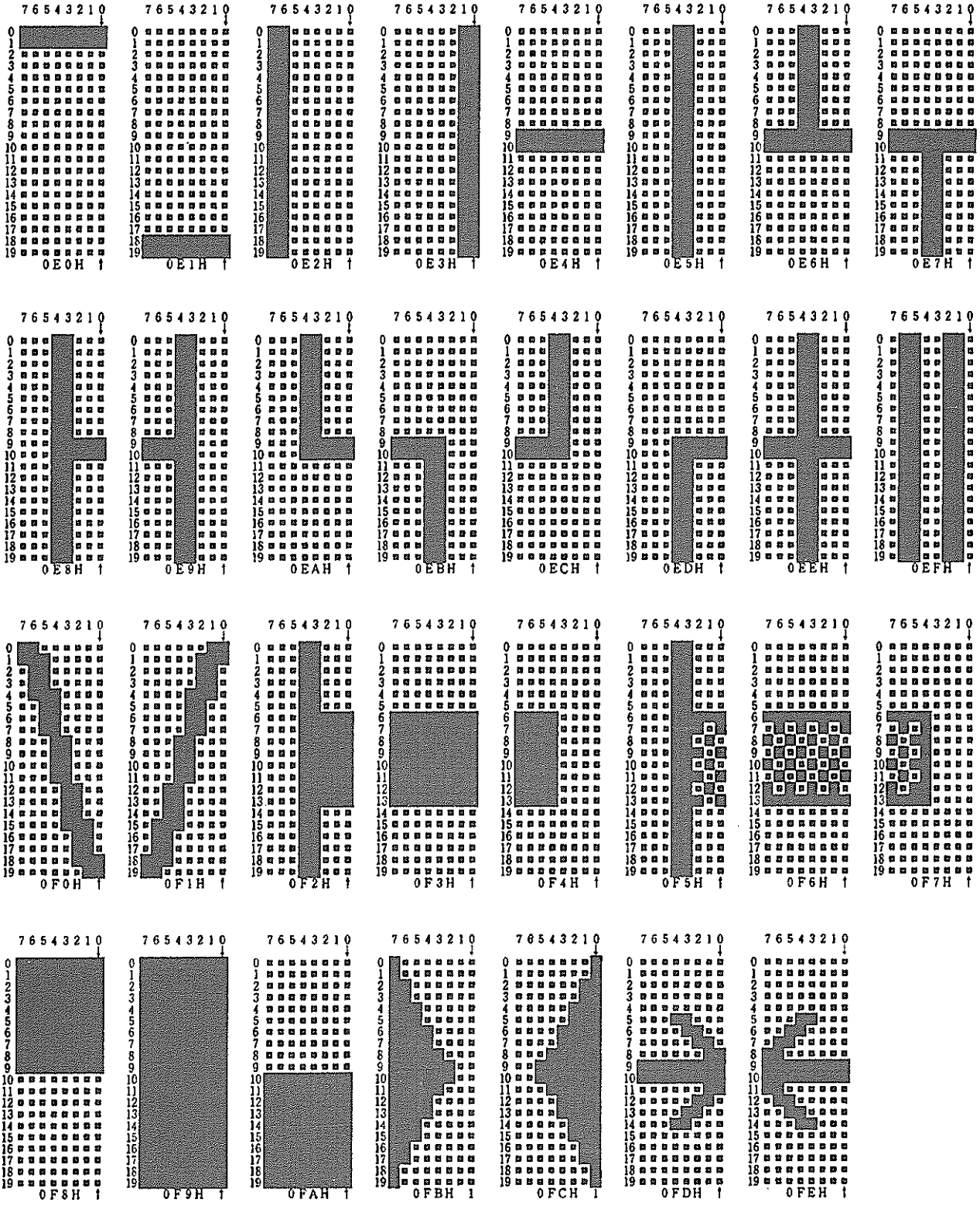
First byte	Second byte	21	22	23	24	25	26	27	28	29	2A	2B	2C	2D	2E	2F	30	31	32	33	34	35	36	37	38	39	3A	3B	3C	3D	3E	3F
	point position	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
21	1		、	。	，	．	・	：	；	？	！	゛	゜	´	｀	¨	＾	￣	＿	ヽ	ヾ	ゝ	ゞ	〃	仝	々	〆	〇	ー	―	‐	／
22	2	◆	□	■	△	▲	▽	▼	※	〒	→	←	↑	↓	〓																	
23	3																0	1	2	3	4	5	6	7	8	9						
24	4	ぁ	あ	ぃ	い	ぅ	う	ぇ	え	ぉ	お	か	が	き	ぎ	く	ぐ	け	げ	こ	ご	さ	ざ	し	じ	す	ず	せ	ぜ	そ	ぞ	た
25	5	ァ	ア	ィ	イ	ゥ	ウ	ェ	エ	ォ	オ	カ	ガ	キ	ギ	ク	グ	ケ	ゲ	コ	ゴ	サ	ザ	シ	ジ	ス	ズ	セ	ゼ	ソ	ゾ	タ
26	6	Α	Β	Γ	Δ	Ε	Ζ	Η	Θ	Ι	Κ	Λ	Μ	Ν	Ξ	Ο	Π	Ρ	Σ	Τ	Υ	Φ	Χ	Ψ	Ω							
27	7	А	Б	В	Г	Д	Е	Ё	Ж	З	И	Й	К	Л	М	Н	О	П	Р	С	Т	У	Ф	Х	Ц	Ч	Ш	Щ	Ъ	Ы	Ь	Э
28	8																															
29	9																															
2A	10																															
2B	11																															
2C	12																															
2D	13																															
2E	14																															
2F	15																															
30	16	亜	唖	娃	阿	哀	愛	挨	姶	逢	葵	茜	穐	悪	握	渥	旭	葦	芦	鯵	梓	圧	斡	扱	宛	姐	虻	飴	絢	綾	鮎	或
31	17	院	陰	隠	韻	吋	右	宇	烏	羽	迂	雨	卯	鵜	窺	丑	碓	臼	渦	嘘	唄	欝	蔚	鰻	姥	厩	浦	瓜	閏	噂	云	運
32	18	押	旺	横	欧	殴	王	翁	襖	鴬	鴎	黄	岡	沖	荻	億	屋	憶	臆	桶	牡	乙	俺	卸	恩	温	穏	音	下	化	仮	何
33	19	魁	晦	械	海	灰	界	皆	絵	芥	蟹	開	階	貝	凱	劾	外	咳	害	崖	慨	概	涯	碍	蓋	街	該	鎧	骸	浬	馨	蛙
34	20	粥	刈	苅	瓦	乾	侃	冠	寒	刊	勘	勧	巻	喚	堪	姦	完	官	寛	干	幹	患	感	慣	憾	換	敢	柑	桓	棺	款	歓
35	21	機	帰	毅	気	汽	畿	祈	季	稀	紀	徽	規	記	貴	起	軌	輝	飢	騎	鬼	亀	偽	儀	妓	宜	戯	技	擬	欺	犠	疑
36	22	供	侠	僑	兇	競	共	凶	協	匡	卿	叫	喬	境	峡	強	彊	怯	恐	恭	挟	教	橋	況	狂	狭	矯	胸	脅	興	蕎	郷
37	23	掘	窟	沓	靴	轡	窪	熊	隈	粂	栗	繰	桑	鍬	勲	君	薫	訓	群	軍	郡	卦	袈	祁	係	傾	刑	兄	啓	圭	珪	型
38	24	検	権	牽	犬	献	研	硯	絹	県	肩	見	謙	賢	軒	遣	鍵	険	顕	験	鹸	元	原	厳	幻	弦	減	源	玄	現	絃	舷
39	25	后	喉	坑	垢	好	孔	孝	宏	工	巧	巷	幸	広	庚	康	弘	恒	慌	抗	拘	控	攻	昂	晃	更	杭	校	梗	構	江	洪
3A	26	此	頃	今	困	坤	墾	婚	恨	懇	昏	昆	根	梱	混	痕	紺	艮	魂	些	佐	叉	唆	嵯	左	差	査	沙	瑳	砂	詐	鎖
3B	27	祭	拶	撮	擦	札	殺	薩	雑	皐	鯖	捌	錆	鮫	皿	晒	三	傘	参	山	惨	撒	散	桟	燦	珊	産	算	纂	蚕	讃	賛
3C	28	次	滋	治	爾	璽	痔	磁	示	而	耳	自	蒔	辞	汐	鹿	式	識	鴫	竺	軸	宍	雫	七	叱	執	失	嫉	室	悉	湿	漆
3D	29	宗	就	州	修	愁	拾	洲	秀	秋	終	繍	習	臭	舟	蒐	衆	襲	讐	蹴	輯	週	酋	酬	集	醜	什	住	充	十	従	戎
3E	30	勝	匠	升	召	哨	商	唱	嘗	奨	妾	娼	宵	将	小	少	尚	庄	床	廠	彰	承	抄	招	掌	捷	昇	昌	昭	晶	松	梢
3F	31	拭	植	殖	燭	織	職	色	触	食	蝕	辱	尻	伸	信	侵	唇	娠	寝	審	心	慎	振	新	晋	森	榛	浸	深	申	疹	真
40	32	澄	摺	寸	世	瀬	畝	是	凄	制	勢	姓	征	性	成	政	整	星	晴	棲	栖	正	清	牲	生	盛	精	聖	声	製	西	誠
41	33	繊	羨	腺	舛	船	薦	詮	賎	践	選	遷	銭	銑	閃	鮮	前	善	漸	然	全	禅	繕	膳	糎	噌	塑	岨	措	曾	曽	楚
42	34	臓	蔵	贈	造	促	側	則	即	息	捉	束	測	足	速	俗	属	賊	族	続	卒	袖	其	揃	存	孫	尊	損	村	遜	他	多
43	35	叩	但	達	辰	奪	脱	巽	竪	辿	棚	谷	狸	鱈	樽	誰	丹	単	嘆	坦	担	探	旦	歎	淡	湛	炭	短	端	箪	綻	耽
44	36	帖	帳	庁	弔	張	彫	徴	懲	挑	暢	朝	潮	牒	町	眺	聴	脹	腸	蝶	調	諜	超	跳	銚	長	頂	鳥	勅	捗	直	朕
45	37	邸	鄭	釘	鼎	泥	摘	擢	敵	滴	的	笛	適	鏑	溺	哲	徹	撤	轍	迭	鉄	典	填	天	展	店	添	纏	甜	貼	転	顛
46	38	董	蕩	藤	討	謄	豆	踏	逃	透	鐙	陶	頭	騰	闘	働	動	同	堂	導	憧	撞	洞	瞳	童	胴	萄	道	銅	峠	鴇	匿
47	39	如	尿	韮	任	妊	忍	認	濡	禰	祢	寧	葱	猫	熱	年	念	捻	撚	燃	粘	乃	廼	之	埜	嚢	悩	濃	納	能	脳	膿
48	40	函	箱	硲	箸	肇	筈	櫨	幡	肌	畑	畠	八	鉢	溌	発	醗	髪	伐	罰	抜	筏	閥	鳩	噺	塙	蛤	隼	伴	判	半	反
49	41	鼻	柊	稗	匹	疋	髭	彦	膝	菱	肘	弼	必	畢	筆	逼	桧	姫	媛	紐	百	謬	俵	彪	標	氷	漂	瓢	票	表	評	豹
4A	42	福	腹	複	覆	淵	弗	払	沸	仏	物	鮒	分	吻	噴	墳	憤	扮	焚	奮	粉	糞	紛	雰	文	聞	丙	併	兵	塀	幣	平
4B	43	法	泡	烹	砲	縫	胞	芳	萌	蓬	蜂	褒	訪	豊	邦	鋒	飽	鳳	鵬	乏	亡	傍	剖	坊	妨	帽	忘	忙	房	暴	望	某
4C	44	漫	蔓	味	未	魅	巳	箕	岬	密	蜜	湊	蓑	稔	脈	妙	粍	民	眠	務	夢	無	牟	矛	霧	鵡	椋	婿	娘	冥	名	命
4D	45	諭	輸	唯	佑	優	勇	友	宥	幽	悠	憂	揖	有	柚	湧	涌	猶	猷	由	祐	裕	誘	遊	邑	郵	雄	融	夕	予	余	与
4E	46	痢	裏	裡	里	離	陸	律	率	立	葎	掠	略	劉	流	溜	琉	留	硫	粒	隆	竜	龍	侶	慮	旅	虜	了	亮	僚	両	凌
4F	47	蓮	連	錬	呂	魯	櫓	炉	賂	路	露	労	婁	廊	弄	朗	楼	榔	浪	漏	牢	狼	篭	老	聾	蝋	郎	六	麓	禄	肋	録

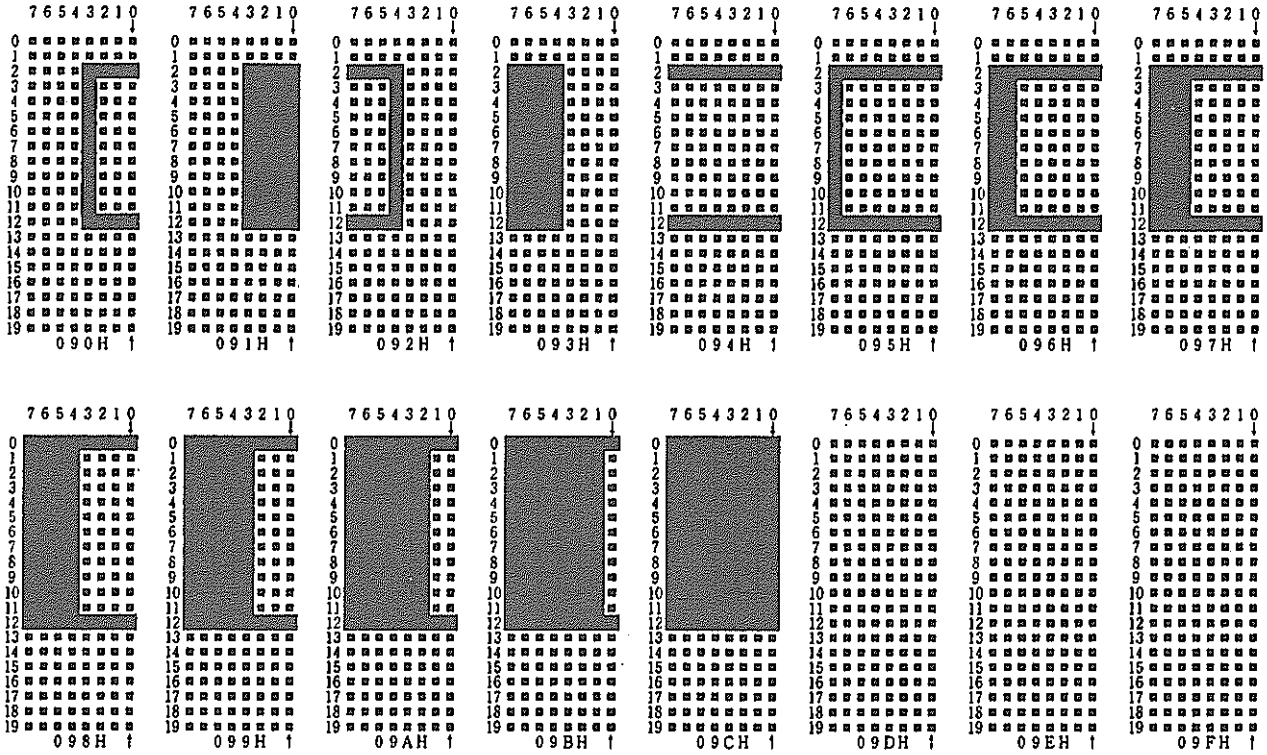
First byte \ Second byte	40	41	42	43	44	45	46	47	48	49	4A	4B	4C	4D	4E	4F	50	51	52	53	54	55	56	57	58	59	5A	5B	5C	5D	5E
point position	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62
21	1	＼	～	∥		…	‥	‘	’	“	”	（	）	〔	〕	［	］	｛	｝	＜	＞	《	》	「	」	『	』	【	】	＋	－	±
22	2																														
23	3		A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z			
24	4	だ	ち	ぢ	っ	つ	づ	て	で	と	ど	な	に	ぬ	ね	の	は	ば	ぱ	ひ	び	ぴ	ふ	ぶ	ぷ	へ	べ	ぺ	ほ	ぼ	ぽ	ま
25	5	ダ	チ	ヂ	ッ	ツ	ヅ	テ	デ	ト	ド	ナ	ニ	ヌ	ネ	ノ	ハ	バ	パ	ヒ	ビ	ピ	フ	ブ	プ	ヘ	ベ	ペ	ホ	ボ	ポ	マ
26	6		α	β	γ	δ	ε	ζ	η	θ	ι	κ	λ	μ	ν	ξ	ο	π	ρ	σ	τ	υ	φ	χ	ψ	ω						
27	7	Ю	Я																а	б	в	г	д	е	ё	ж	з	и	й	к	л	м
28	8																															
29	9																															
2A	10	min	sec	mm	μm	inch	deg	PLS	rpm	pps	kg	℃	mA	m^2	m^3																	
2B	11																															
2C	12																															
2D	13																															
2E	14																															
2F	15																															
30	16	粟	袷	安	庵	按	暗	案	闇	鞍	杏	以	伊	位	依	偉	囲	夷	委	威	尉	惟	意	慰	易	椅	為	畏	異	移	維	緯
31	17	胃	萎	飼	叡	営	嬰	影	映	曳	栄	永	泳	洩	瑛	盈	穎	頴	英	衛	詠	鋭	液	疫	益	駅	悦	謁	越	閲	榎	厭
32	18	伽	価	佳	加	可	嘉	夏	嫁	家	寡	科	暇	果	架	歌	河	火	珂	禍	禾	稼	箇	花	苛	茄	荷	華	菓	蝦	課	嘩
33	19	垣	柿	蝸	鈎	劃	嚇	各	廓	拡	撹	格	核	殻	獲	確	穫	覚	角	赫	較	郭	閣	隔	革	学	岳	楽	額	顎	掛	笠
34	20	汗	漢	潤	瀞	環	甘	監	看	竿	管	簡	緩	缶	翰	肝	艦	莞	観	諌	貫	還	鑑	間	閑	関	陥	韓	館	舘	丸	含
35	21	祇	義	蟻	誼	議	掬	菊	鞠	吉	吃	喫	桔	橘	詰	砧	杵	黍	却	客	脚	虐	逆	丘	久	仇	休	及	吸	宮	弓	急
36	22	鏡	響	饗	驚	仰	凝	尭	暁	業	局	曲	極	玉	桐	粁	僅	勤	均	巾	錦	斤	欣	欽	琴	禁	禽	筋	緊	芹	菌	衿
37	23	契	形	径	恵	慶	慧	憩	掲	携	敬	景	桂	渓	畦	稽	系	経	継	繁	罫	茎	荊	蛍	計	詣	警	軽	頸	鶏	芸	迎
38	24	言	諺	限	乎	個	古	呼	固	姑	孤	己	庫	弧	戸	故	枯	湖	狐	糊	袴	股	胡	菰	虎	誇	跨	鈷	雇	顧	鼓	五
39	25	浩	港	溝	甲	皇	硬	稿	糠	紅	紘	絞	綱	耕	考	肯	肱	腔	膏	航	荒	行	衡	講	貢	購	郊	酵	鉱	砿	鋼	閤
3A	26	袈	坐	座	挫	債	催	再	最	哉	塞	妻	宰	彩	才	採	栽	歳	済	災	采	犀	砕	砦	祭	斎	細	菜	裁	載	際	剤
3B	27	酸	餐	斬	暫	残	仕	仔	伺	使	刺	司	史	嗣	四	士	始	姉	姿	子	屍	市	師	志	思	指	支	孜	斯	施	旨	枝
3C	28	疾	質	実	蔀	篠	偲	柴	芝	屡	蕊	縞	舎	写	射	捨	赦	斜	煮	社	紗	者	謝	車	遮	蛇	邪	借	勺	尺	杓	灼
3D	29	柔	汁	渋	獣	縦	重	銃	叔	夙	宿	淑	祝	縮	粛	塾	熟	出	術	述	俊	峻	春	瞬	竣	舜	駿	准	循	旬	楯	殉
3E	30	樟	樵	沼	消	渉	湘	焼	焦	照	症	省	硝	礁	祥	称	章	笑	粧	紹	肖	菖	蒋	蕉	衝	裳	訟	証	詔	詳	象	賞
3F	31	神	祟	紳	臣	芯	薪	親	診	身	辛	進	針	震	人	仁	刃	塵	壬	尋	甚	尽	腎	訊	迅	陣	靭	笥	諏	須	酢	図
40	32	誓	請	逝	醒	青	静	斉	税	脆	隻	席	惜	戚	斥	昔	析	石	積	籍	績	脊	貰	赤	跡	蹟	碩	切	拙	接	摂	折
41	33	狙	疏	疎	礎	祖	租	粗	素	組	蘇	訴	阻	遡	鼠	僧	創	双	叢	倉	喪	壮	奏	爽	宋	層	匝	惣	想	捜	掃	挿
42	34	太	汰	詑	唾	堕	妥	惰	打	柁	舵	楕	陀	駄	騨	体	堆	対	耐	岱	帯	待	怠	態	戴	替	泰	滞	胎	腿	苔	袋
43	35	胆	蛋	誕	鍛	団	壇	弾	断	暖	檀	段	男	談	値	知	地	弛	恥	智	池	痴	稚	置	致	蜘	遅	馳	築	畜	竹	筑
44	36	沈	珍	賃	鎮	陳	津	墜	椎	槌	追	鎚	痛	通	塚	梅	掴	槻	佃	漬	柘	辻	蔦	綴	鍔	椿	潰	坪	壺	嬬	紬	爪
45	37	点	伝	殿	澱	田	電	兎	吐	堵	塗	妬	屠	徒	斗	杜	渡	登	菟	賭	途	都	鍍	砥	礪	努	度	土	奴	怒	倒	党
46	38	得	徳	瀆	特	督	禿	篤	毒	独	読	栃	橡	凸	突	椴	届	鳶	苫	寅	酉	瀞	噸	屯	惇	敦	沌	豚	遁	頓	呑	曇
47	39	農	覗	蚤	巴	把	播	覇	杷	波	派	琶	破	婆	罵	芭	馬	俳	廃	拝	排	敗	杯	盃	牌	背	肺	輩	配	倍	培	媒
48	40	叛	帆	搬	斑	板	氾	汎	版	犯	班	畔	繁	般	藩	販	範	釆	煩	頒	飯	挽	晩	番	盤	磐	蕃	蛮	匪	卑	否	妃
49	41	庇	描	病	秒	苗	錨	鋲	蒜	蛭	鰭	品	彬	斌	浜	瀕	貧	賓	頻	敏	瓶	不	付	埠	夫	婦	富	冨	布	府	怖	扶
4A	42	敷	柄	並	蔽	閉	陛	米	頁	僻	壁	癖	碧	別	瞥	蔑	箆	偏	変	片	篇	編	辺	返	遍	便	勉	娩	弁	鞭	保	舗
4B	43	棒	冒	紡	肪	膨	謀	貌	貿	鉾	防	吠	頬	北	僕	卜	墨	撲	朴	牧	睦	穆	釦	勃	没	殆	堀	幌	奔	本	翻	凡
4C	44	明	盟	迷	銘	鳴	姪	牝	滅	免	棉	綿	緬	面	麺	摸	模	茂	妄	孟	毛	猛	盲	網	耗	蒙	儲	木	黙	目	杢	勿
4D	45	餅	尤	貰	問	悶	紋	門	匁	也	冶	夜	爺	耶	野	弥	矢	厄	役	約	薬	訳	躍	靖	柳	薮	鑓	愉	愈	油	癒	諭
4E	46	寮	料	梁	涼	猟	療	瞭	稜	糧	良	諒	遼	量	陵	領	力	緑	倫	厘	林	淋	燐	琳	臨	輪	隣	鱗	麟	瑠	塁	涙
4F	47	論	倭	和	話	歪	賄	脇	惑	枠	鷲	亙	亘	鰐	詫	藁	蕨	椀	湾	碗	腕											

First byte \ Second byte	5F	60	61	62	63	64	65	66	67	68	69	6A	6B	6C	6D	6E	6F	70	71	72	73	74	75	76	77	78	79	7A	7B	7C	7D	7E
point position	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94
21	1	×	÷	=	≠	<	>	≦	≧	∞	∴	♂	♀	°	′	″	℃	¥	$	¢	£	%	#	&	*	@	§	☆	★	○	●	◎	◇
22	2																															
23	3			a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	p	q	r	s	t	u	v	w	x	y	z			
24	4	み	む	め	も	ゃ	や	ゅ	ゆ	ょ	よ	ら	り	る	れ	ろ	ゎ	わ	ゐ	ゑ	を	ん	う									
25	5	ミ	ム	メ	モ	ャ	ヤ	ュ	ユ	ョ	ヨ	ラ	リ	ル	レ	ロ	ヮ	ワ	ヰ	ヱ	ヲ	ン	ヴ	ヵ	ヶ							
26	6																															
27	7	н	о	п	р	с	т	у	ф	х	ц	ч	ш	щ	ъ	ы	ь	э	ю	я												
28	8																															
29	9																															
2A	10																															
2B	11																															
2C	12																															
2D	13																															
2E	14																															
2F	15																															
30	16	胃	楽	衣	謂	違	遵	医	井	亥	域	育	郁	磯	一	壱	溢	逸	稲	茨	芋	鰯	允	印	咽	員	因	姻	引	飲	淫	胤	蔭
31	17	円	園	堰	奄	宴	延	怨	掩	援	沿	演	炎	焔	煙	燕	猿	縁	艶	苑	薗	遠	鉛	鴛	塩	於	汚	甥	凹	央	奥	往	応
32	18	貨	迦	過	霞	蚊	俄	峨	我	牙	画	臥	芽	蛾	賀	雅	餓	駕	介	会	解	回	塊	壊	廻	快	怪	悔	恢	懐	戒	拐	改
33	19	楷	概	梶	鰍	潟	割	喝	恰	括	活	渇	滑	葛	褐	轄	且	鰹	叶	椛	樺	鞄	株	兜	竈	蒲	釜	鎌	噛	鴨	栢	茅	萱
34	20	岸	厳	玩	癌	眼	岩	翫	贋	雁	頑	顔	願	企	伎	危	喜	器	基	奇	嬉	寄	岐	希	幾	忌	揮	机	旗	既	期	棋	棄
35	21	救	朽	求	汲	泣	灸	球	究	窮	笈	級	糾	給	旧	牛	去	居	巨	拒	拠	挙	渠	虚	許	距	鋸	漁	禦	魚	亨	享	京
36	22	襟	謹	近	金	吟	銀	九	倶	句	区	狗	玖	矩	苦	躯	駆	駈	駒	具	愚	虞	喰	空	偶	寓	遇	隅	串	櫛	釧	屑	屈
37	23	鯨	劇	戟	撃	激	隙	桁	傑	欠	決	潔	穴	結	血	訣	月	件	倹	倦	健	兼	券	剣	喧	圏	堅	嫌	建	憲	懸	拳	捲
38	24	互	伍	午	呉	吾	娯	後	御	悟	梧	檎	瑚	碁	語	誤	護	醐	乞	鯉	交	佼	侯	候	倖	光	公	功	効	勾	厚	口	向
39	25	降	項	香	高	鴻	剛	劫	号	合	壕	拷	濠	豪	轟	麹	克	刻	告	国	穀	酷	鵠	黒	獄	漉	腰	甑	忽	惚	骨	狛	込
3A	26	在	材	罪	財	冴	坂	阪	堺	榊	肴	咲	崎	埼	碕	鷺	作	削	咋	搾	昨	朔	柵	窄	策	索	錯	桜	鮭	笹	匙	冊	刷
3B	27	止	死	氏	獅	祉	私	糸	紙	紫	肢	脂	至	視	詞	詩	試	誌	諮	資	賜	雌	飼	歯	事	似	侍	児	字	寺	慈	持	時
3C	28	爵	酌	釈	錫	若	寂	弱	惹	主	取	守	手	朱	殊	狩	珠	種	腫	趣	酒	首	儒	受	呪	寿	授	樹	綬	需	囚	収	周
3D	29	淳	準	潤	盾	純	巡	遵	醇	順	処	初	所	暑	曙	渚	庶	緒	署	書	薯	藷	諸	助	叙	女	序	徐	恕	鋤	除	傷	償
3E	30	醤	鉦	鍾	鐘	障	鞘	上	丈	丞	乗	冗	剰	城	場	壌	嬢	常	情	擾	条	杖	浄	状	畳	穣	蒸	譲	醸	錠	嘱	埴	飾
3F	31	厨	逗	吹	垂	帥	推	水	炊	睡	粋	翠	衰	遂	酔	錐	錘	随	瑞	髄	崇	嵩	数	枢	趨	雛	据	杉	椙	菅	頗	雀	裾
40	32	設	窃	節	説	雪	絶	舌	蝉	仙	先	千	占	宣	専	尖	川	戦	扇	撰	栓	栴	泉	浅	洗	染	潜	煎	煽	旋	穿	箭	線
41	33	掻	操	早	曹	巣	槍	槽	漕	燥	争	痩	相	窓	糟	総	綜	聡	草	荘	葬	蒼	藻	装	走	送	遭	鎗	霜	騒	像	増	憎
42	34	貸	退	逮	隊	黛	鯛	代	台	大	第	醍	題	鷹	滝	瀧	卓	啄	宅	托	択	拓	沢	濯	琢	託	鐸	濁	諾	茸	凧	蛸	只
43	35	畜	逐	秩	窒	茶	嫡	着	中	仲	宙	忠	抽	昼	柱	注	虫	衷	註	酎	鋳	駐	樗	瀦	猪	苧	著	貯	丁	兆	凋	喋	寵
44	36	吊	釣	鶴	亭	低	停	偵	剃	貞	呈	堤	定	帝	底	庭	廷	弟	悌	抵	挺	提	梯	汀	碇	禎	程	締	艇	訂	諦	蹄	逓
45	37	冬	凍	刀	唐	塔	塘	套	宕	島	嶋	悼	投	搭	東	桃	樽	棟	盗	淘	湯	涛	灯	燈	当	痘	祷	等	答	筒	糖	統	到
46	38	鈍	奈	那	内	乍	凪	薙	謎	灘	捺	鍋	楢	馴	縄	畷	南	楠	軟	難	汝	二	尼	弐	迩	匂	賑	肉	虹	廿	日	乳	入
47	39	梅	楳	煤	狽	買	売	賠	陪	逼	蝿	秤	矧	萩	伯	剝	博	拍	柏	泊	白	箔	粕	舶	薄	迫	曝	漠	爆	縛	莫	駁	麦
48	40	庇	彼	悲	扉	批	披	斐	比	泌	疲	皮	碑	秘	緋	罷	肥	被	誹	贅	避	非	飛	樋	簸	備	尾	微	枇	毘	琵	眉	美
49	41	敷	斧	普	浮	父	符	腐	膚	芙	譜	負	賦	赴	阜	附	侮	撫	武	舞	葡	蕪	部	封	楓	風	葺	蕗	伏	副	復	幅	服
4A	42	鋪	圃	捕	歩	甫	補	輔	穂	募	墓	慕	戊	暮	母	簿	菩	倣	俸	包	呆	報	奉	宝	峰	峯	崩	庖	抱	捧	放	方	朋
4B	43	盆	摩	磨	魔	麻	埋	妹	昧	枚	毎	哩	槇	幕	膜	枕	鮪	柾	鱒	桝	亦	俣	又	抹	末	沫	迄	儘	繭	麿	万	慢	満
4C	44	餅	尤	戻	籾	貰	問	悶	紋	門	匁	也	冶	夜	爺	耶	野	弥	矢	厄	役	約	薬	訳	躍	靖	柳	薮	鑓	愉	愈	油	癒
4D	45	欲	沃	浴	翌	翼	淀	羅	螺	裸	来	莱	頼	雷	洛	絡	落	酪	乱	卵	嵐	欄	濫	藍	蘭	覧	利	吏	履	李	梨	理	璃
4E	46	累	類	令	伶	例	冷	励	嶺	怜	玲	礼	苓	鈴	隷	零	霊	麗	齢	暦	歴	列	劣	烈	裂	廉	恋	憐	漣	煉	簾	練	聯
4F	47																																

Appendix 2 Dot Patterns of Semi-graphic Characters

The following shows the dot patterns of semi-graphic characters registered in character codes $E0_H$ to FE_H, 90_H to $9C_H$.



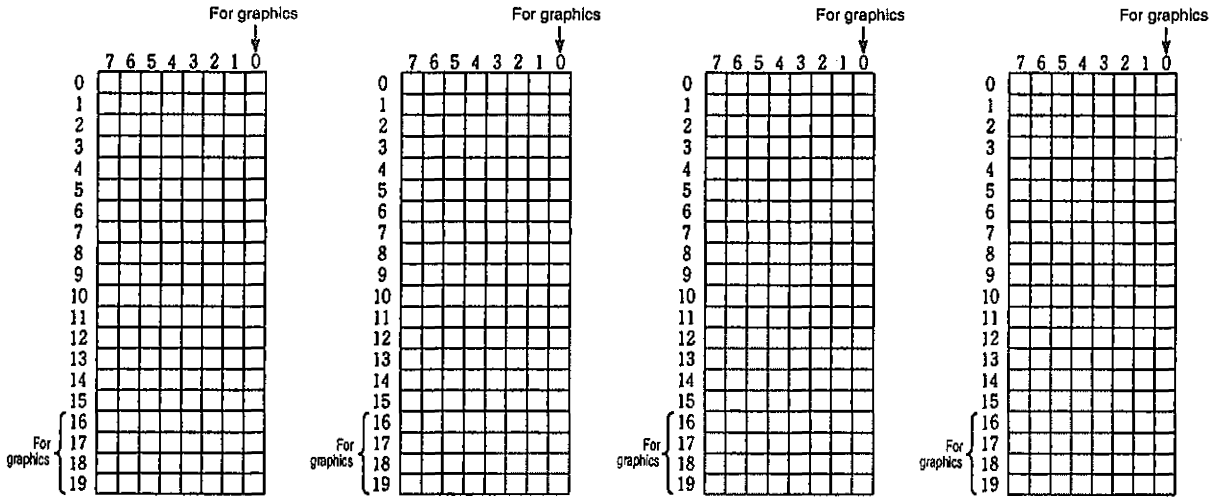

090H
091H
092H
093H
094H
095H
096H
097H
098H
099H
09AH
09BH
09CH
09DH
09EH
09FH

Appendix 3 Character Pattern/Message Pattern Design Sheet

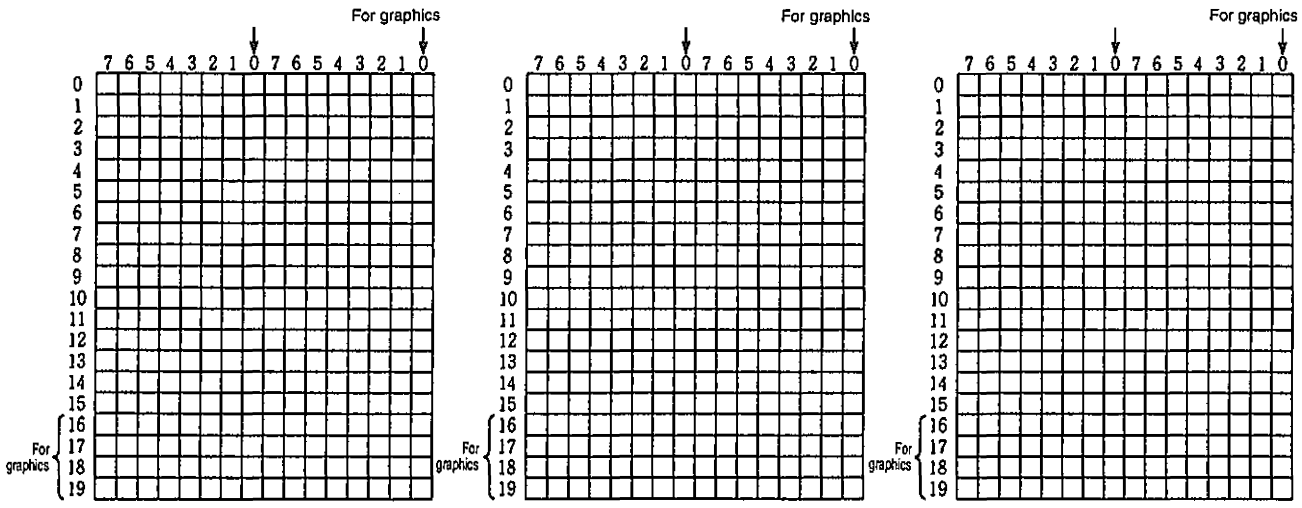
Copy the following sheets and utilize for creating a character and registering it to the character generator area in the character generator mode, or creating a message screen in the message edit mode.

(1) Character Pattern Design Sheet

1) For 1-byte characters



2) For 2-byte characters



(2) Character code registration sheet

Character code (upper level two digit) \ Character code (lower level one digit)	□□0	□□1	□□2	□□3	□□4	□□5	□□6	□□7	□□8	□□9	□□A	□□B	□□C	□□D	□□E	□□F
00□																
01□																
02□	(SP)	!	"	#	$	%	&	'	(	)	*	+	,	−	.	/
03□	0	1	2	3	4	5	6	7	8	9	:	;	<	=	>	?
04□	@	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
05□	P	Q	R	S	T	U	V	W	X	Y	Z	[	¥	]	^	_
06□	`	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o
07□	p	q	r	s	t	u	v	w	x	y	z	{	|	}	→	←
08□																
09□																
0A□	(SP)	。	「	」	、	・	ヲ	ァ	ィ	ゥ	ェ	ォ	ャ	ュ	ョ	ッ
0B□	-	ア	イ	ウ	エ	オ	カ	キ	ク	ケ	コ	サ	シ	ス	セ	ソ
0C□	タ	チ	ツ	テ	ト	ナ	ニ	ヌ	ネ	ノ	ハ	ヒ	フ	ヘ	ホ	マ
0D□	ミ	ム	メ	モ	ヤ	ユ	ヨ	ラ	リ	ル	レ	ロ	ワ	ン	゛	゜
0E□																
0F□																
10□																
11□																
12□																
13□																
14□																
15□																
16□																
17□																
18□																
19□																
1A□																
1B□																
1C□																
1D□																
1E□																
1F□																

Character code (upper level two digit)	Character code (lower level one digit)															
	□□0	□□1	□□2	□□3	□□4	□□5	□□6	□□7	□□8	□□9	□□A	□□B	□□C	□□D	□□E	□□F
20□																
21□																
22□																
23□																
24□																
25□																
26□																
27□																
28□																
29□																
2A□																
2B□																
2C□																
2D□																
2E□																
2F□																
30□																
31□																
32□																
33□																
34□																
35□																
36□																
37□																
38□																
39□																
3A□																
3B□																
3C□																
3D□																
3E□																
3F□																

(3) **Message pattern design sheet by character codes**

Message No.	Mode	Display	Display device column																													
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
		Message																														
		Character code																														
		Inverse																														
		Blink																														
		Underline																														
		Monitor																														
		Message																														
		Character code																														
		Inverse																														
		Blink																														
		Underline																														
		Monitor																														
		Message																														
		Character code																														
		Inverse																														
		Blink																														
		Underline																														
		Monitor																														
		Message																														
		Character code																														
		Inverse																														
		Blink																														
		Underline																														
		Monitor																														

Index

[A]
All data clear 6-22
Attribute and device name setting 4-9
Auto-write to the HD/FD 6-11, 6-15, 6-20

[B]
Blinking character setting 6-14

[C]
Character code 5-7
Character code setting 5-11, 5-15, 6-13
CHX 7-1
Comment display of the specified device 6-19
Comment setting 9-3
CONFIG. SYS 3-5
Confirming the printout 9-3, 9-9, 9-12
9-15, 9-18, 9-21
Copy data setting 8-14
Copy file name setting 8-14
Copying the message data 6-11
Creating/Modifying characters 5-12

[D]
Data display area 3-10
Display mode 6-1
Display mode setting 6-10
Dot matrix 5-13

[E]
English message 3-2
ESC/P 9-24

[F]
FROM/TO address setting 4-9

[H]
HD/FD file name display area 3-10

[I]
Inverted character display setting 6-14

[M]
Machine name(subsystem) setting 9-3
Message data 6-1
Message data clear 6-23
Message display area 3-10
Massage number setting 6-13
MHX 7-1
MINIP. BAT 3-5
Mode display area 3-10
Modifying patterns 5-16
Monitor display set 6-15

[N]
Number of divided refresh remote I/O setting 4-11
Number of input/output digits setting 4-11
Number of massages setting 6-10
Number of remote termonals setting 4-8

[P]
Paper length setting 9-2
Pattern 5-9
PHX 7-1
PR 201-H 9-24
Print page setting 9-6, 9-9, 9-12
9-15, 9-18, 9-21
Print range setting 9-9, 9-12, 9-15

[R]
Read data setting 7-3, 8-8, 8-17
Reading data 7-4, 8-9, 8-18
Reading the device comment 6-19
Register character 5-14
Registering comment
collective 6-20
individual 6-20
Registering the existing pattern 5-15
Registering the icon 3-6
Remote terminal module 4-8
Requirement EMS memory 2-2
Requirment main memory 2-2
ROM data verify 7-7, 8-12, 8-21
ROM writer 2-1

[S]
Searching existing character 5-16
Setting the print message number 9-21
Setting the print start position 9-2
Station number setting 4-9, 4-11
System name and machine name(subsystem) setting 7-3, 7-5, 8-8
8-10, 8-17, 8-19

[T]
Total number of remote stations 4-7

[U]
Underline for switching setting 6-14
User comment setting 6-11

[V]
Verify data setting 7-7, 8-12, 8-21
Verifying data 7-8, 8-13, 8-22

[W]
Write data setting 7-5, 8-10, 8-19
Writing data 7-6, 8-11, 8-20

MEMO

MODEL	SW0IVD-MINIP-O-E
MODEL CODE	13JF37

MITSUBISHI ELECTRIC CORPORATION

HEAD OFFICE: MITSUBISHI DENKI BLDG MARUNOUCHI TOKYO 100 TELEX: J24532 CABLE MELCO TOKYO
NAGOYA WORKS: 1-14, YADA-MINAMI 5, HIGASHI-KU, NAGOYA, JAPAN

IB (NA) 66708-A (9610) MEE Printed in Japan