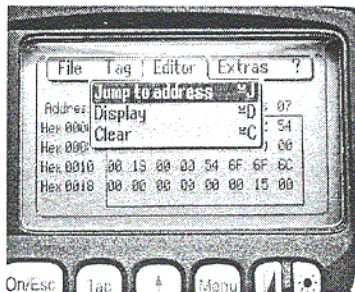


4.4 The "EDITOR" Functions



4.4.1 Jump to Address

You can enter a memory address in hexadecimal format. This address will then be represented by the editor as the start address.

This function can also be triggered directly in the editor with the "Tab" key.

4.4.2 Display

The following settings are available in this menu.

- Switch the editor between 32-byte representation (i.e., 4x8= fine-print display) and 4-byte representation (i.e., 1x4= large, easy-to-read characters).
- No address is displayed for editor representation 1x5. This display is very good when reading fixed-code MDSs with the MOBY F. With other MDS types, the first 5 bytes of the read data are displayed. You cannot change to other addresses with the cursor.
- Switch the editor between hexadecimal and ASCII representation. The addresses are always shown in hexadecimal format.

4.4.3 Clear Display

The "clear display" function is used to overwrite the memory in the STG editor with a value which you can specify. You can then change the desired data to the appropriate values in the editor. No function is performed on the MDS.

4.5 The "EXTRAS" Functions



4.5.1 Communication

- Interface Switching between the TTL interface (read head) and the RS 232 interface takes place here.
If the RS 232 setting is used, the protocol must be set to "MOBY E/SIM" or "ASM 420/I/V."
- Protocol Switching between MOBY E, MOBY E/SIM, MOBY F, MOBY I and ASM 420/I/V takes place here.
When the MOBY protocol is set, the memory size of the editor is also automatically specified for MOBY E/F.
With MOBY I, the memory size of the editor is set with the "EXTRAS/MOBY I Setup" function.

4.5.2 Password

A password can be programmed as an option. The password must be entered prior to a write-access function. Once entered, a password remains valid until the STG is turned off (i.e., the password only has to be entered once during several consecutive write commands). The "MOBY" program can also only be exited with the password.

Default password

On delivery, the password is "123." This password is also set after you remove the batteries of the STG.

SIEMENS AG
FCC ID : KR5MIS-I
JOB # : 183U0
EXHIBIT # : 5B

Forgot the password?

If a password is forgotten, there is no way to obtain it again. The only solution is to remove the main battery and the button cell from the PSION for a few minutes. After the batteries have been re-installed and the device has been turned on, the STG assumes its status on delivery (i.e., the password is "123").

Password 99999999

Changing the password to 99999999 (i.e., eight 9s) has a special purpose. The write-access function to the MDS and the "file/exit" function can no longer be executed. The password can also no longer be changed. The only way to access the write-access function again is to remove all batteries. See also "forgot the password?".

4.5.3 Antenna

Only for MOBY E: The antenna field on the read head is switched between "card" (large antenna) and "button" (small antenna). See also chapter 3.2. **The antenna must be set once when the read head is commissioned. The set antenna is retained on the read head when the hand-held terminal is turned off.**

4.5.4 Address Setup

This function defines the call of the "read/write MDS" commands.

- Start address +Length: Entry of the MDS address for the read/write command uses a start address and the length of the data to be processed.
- End address: Entry of the MDS address for the read/write command uses a start address and an end address.

- Read/Write Switching from "block" to "complete MDS" takes place here. This setting affects the default setting for execution of an MDS command.
 - Block: When an MDS is read/written, the currently active area is always indicated as the area to be read/written.
 - Complete MDS: When an MDS is read/written, the entire MDS is always processed. The read/write function is started immediately. Partial MDS areas cannot be entered.

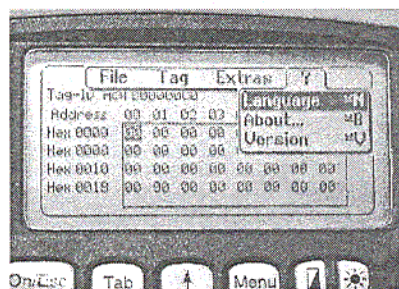
4.5.5 MOBY I Setup

- Mem size: Specifies the memory size of the MDS to be processed. This setting also defines the memory area in the editor. MDS memory addresses which exceed the memory size cannot be addressed.
- Tag type: Distinguishes between RAM/FRAM and EEPROM. The RAM/FRAM setting shows an empty MDS support battery on the STG.
- ECC: Turns the ECC driver on and off. The purpose of the ECC driver is described in the documentation of the MOBY interface.
- MDS507: This parameter must only be set to "yes" when the MDS 507 is used. With the MDS 507, the dialog battery is scanned and indicated as "Status" when it is empty.
- Sample rate: The scan time is only relevant when the MDS 507 is used with an ASM 420. The setting range is 0.1 sec to 6.3 sec. The default value (0.5 sec) usually does not have to be changed.

4.5.6 MOBY E Setup

- Key A/B: You can switch between the "MOBY key" and the "B transport key for MIFARE data memory." The MOBY key is always standard. The "B" setting permits the MIFARE MDS to be processed in its status on delivery. (The B key must be in its original state.)
- Mode: Only for MOBY-E SIM (cf. chapter 6.6): Switches the SIM from cyclic mode to continuous mode. Command processing is much faster in continuous mode.

4.6 The “?” Functions



4.6.1 Language

German or English can be selected as the menu language with the STG. During commissioning of the STG, the default language is English.

4.6.2 About

Information on the manufacturer of the STG program: Siemens AG A&D

4.6.3 Version

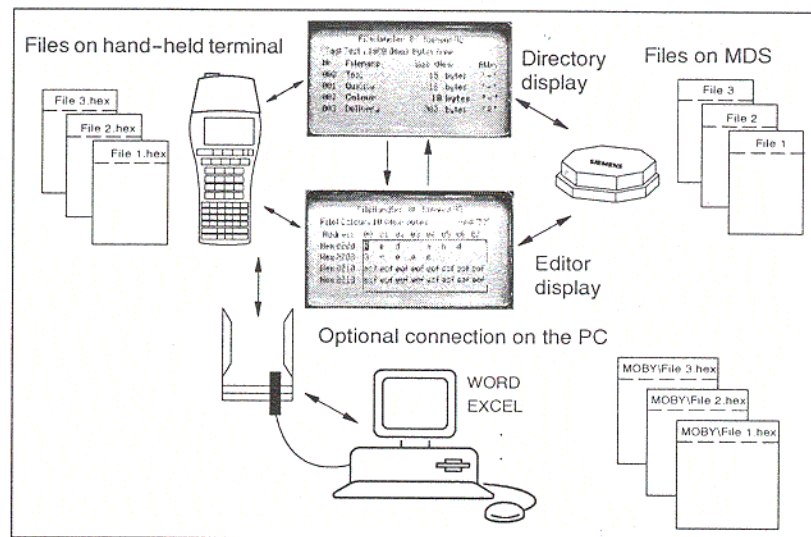
Specifies the version of the STG program, the EPOC operating system and the release status of the ROM version. These parameters must be specified when reporting errors to Siemens.

5 The “FILEHANDLER” Program

5.1 General Information on the Filehandler

As with any PC-based system, the filehandler accesses the data with logical file names and not with physical memory addresses.

The following figure shows the layout of the "FILEHANDLER" program and how it works.



The "FILEHANDLER" program is designed so that you can use the same functions to access the files on the hand-held terminal and the files on the MDS. The directory display is available for both the hand-held terminal and the MDS. MDS files can be copied from the MDS to the hand-held terminal (and vice versa) with just a few keys.

An optional connection to the PC (3link cable, see appendix A.1) permits you to exchange files stored on the hand-held terminal with the PC.

You can then process the data with your familiar PC programs (e.g., WORD, EXCEL, and so on). Prerequisite: The PC application must support the contents and data structure of the MDS file. See also chapter 6.

Note

Remember that the filehandler is only available for the MOBY I

5.2 The Filehandler Commands

STG Command	Shortcut ¹	Filehandler Command	Description
File/Read File from Tag	R or F1 ² , or Enter	READ	Read a file from the MDS
File/Read File from STG RAM	S or F3 ²	-	Read a file from the RAM of the hand-held terminal
File/Write File to Tag	W or F2 ²	WRITE	Write a file to the MDS
File/Write File to STG RAM	T or F4 ²	-	Write the data from the editor to the hand-held terminal
File/Read Dir from Tag	G	DIR	Read directory from the MDS and indicate
File/rRad Dir from STG RAM	P	-	Indicate directory of the STG (RAM memory)
File/exit	X	-	Exit filehandler application
Commands/Create File	B	CREATE	Create new file with length of 0 on the MDS
Commands/Delete File	D or Del ³	DELETE	Delete file from the MDS
Commands/Tag Format	I	FORMAT	Format the MDS
Commands/File Attribute	Y	ATTRIB	Assign access rights to file on the MDS
Commands/Tag Status	F	MDS-STATUS	Read MDS status
Commands/Cover Tag	C	COVER	Protect data structure of the MDS
Editor/Display Directory	Q	-	Display last read directory
Editor/Display Editor	U	-	Display file data
Editor/File Size	N	-	Change file size in editor

STG Command	Shortcut ¹	Filehandler Command	Description
Editor/Clear Display	J	-	Write display with certain value
Editor/Jump to address	O or Tab	-	Move cursor to address position
Editor/Display Setup	H	-	Switch display between ASCII and HEX representation
Extras/Parameter	Z	-	Set filehandler parameters
Extras/Password for FH	A	-	Password setting for the "FILEHANDLER" program
Extras/Communication	E	-	Setting: Read head or ASM
?/Language	L	-	Set menu language
?/About...	K	-	Manufacturer's data
?/Version	V	-	Version of operating system and filehandler

- 1 The key combination $\underline{\vee}$ + key is used for the shortcuts of the commands. Both keys must be pressed at the same time. The keys for the shortcuts of the MDS commands are the same as the letters used to address them in the SIMATIC with FC.
- 2 Keys F1 to F4 are only available on a hand-held terminal with a numeric keyboard.
- 3 The "Del" key can be used to delete the file currently selected in the directory view. This can also be used to delete files from the RAM of the hand-held terminal.

5.3 View of the Editor and Directory

The filehandler's monitor screen display is either "Directory - View" or "Editor - View." You can use the menu "Editor/Display Editor" and "Editor/Display Directory" menu to switch between the two displays.

5.3.1 The Data Editor of the Filehandler

The design of the data editor of the filehandler is similar to the standard STG program. See chapter 4.1.

Filehandler 8K Siemens AG

File: colour 18 Hex bytes ASCII: R

Address 00 01 02 03 04 05 06 07

Hex 0000 32 65 64 20 61 65 64 20

Hex 0008 47 72 65 65 65 20 20 20

Hex 0010 30 30 30 30 30 30 30 30

Hex 0018 30 30 eof eof eof eof eof eof

On/ESC Tab ↑ Menu

Name of the file in the editor. The file can have been read by both the MDS and the hand-held terminal memory.

Set MDS memory size. It can be set with the command Extras/Parameter.

The piece of data on which the cursor is located. Is also shown in ASCII format.

The file length is shown here.

If the file size is too long (see chap. 5.6.3), the extra data are shown inverted.

The data area which is longer than the file length is marked with the data string "eof" (end-of-file).

5.3.2 View of the Directory

The directory view shows either all files of the MDS or all files of the STG RAM. The directory view makes it very easy to read files from the MDS or copy files between hand-held terminal and MDS. See chapter 5.4.

Layout of the directory

Filehandler 8K Siemens AG

TagTest 1900 Hex Bytes free

Nr	Filename	Size (Hex)	Attr.
000	Tool	15 bytes	*
001	Quality	18 bytes	*
002	Colour	18 bytes	*
003	Delivery	300 bytes	R

On/ESC Tab ↑ Menu

Indication of whether the displayed directory is from an "MDS" or from the "hand-held terminal"

Name with which the MDS was formatted. No name is indicated for the hand-held terminal's directory.

Free memory on the MDS. With the hand-held terminal, this is approx. 1.8 MB (after the terminal has been commissioned).

A file can be selected with the cursor keys. After selection, a function can then be directly executed with this file. See chapter 5.4.

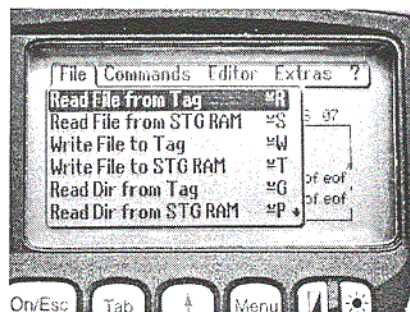
An attribute can be entered here for the MDS files (see chap. 5.5.4). No attributes can be set for hand-held terminal files.

5.4 The File Functions

The file menu primarily contains three functions which can be called.

- Read file
- Write file
- Read and display directory

These functions can be executed on both the MDS and the internal memory of the hand-held terminal.



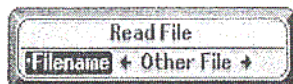
5.4.1 Read File from MDS (Read File from Tag)

After this function has been called, a menu appears in which you can select a file with the cursor keys. All file names can be scrolled through, including the ones in the directory view (see chap. 5.3.2).



After you have scrolled through all the files, the file name "New Tag DIR" appears. If you press the Enter key, the filehandler reads a directory from an MDS.

You can then select one of the new files



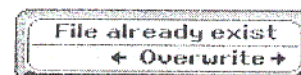
If you continue paging through the file selection menu until the file name "Other File" appears, you can enter a file name (with the ASCII keyboard of the hand-held terminal) in the menu which appears.

5.4.2 Read File from STG RAM

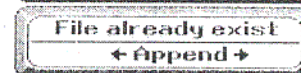
After this function is called, a menu appears in which you can select a file with the cursor keys. All file names in the RAM of the hand-held terminal with the file extension .HEX are displayed. If the STG RAM does not contain any files with the extension .HEX, the message "No file available" appears.

5.4.3 Write File to MDS (Write File to Tag)

The file name is entered as described in chapter 5.4.1. After a file name contained in the directory is entered, you are given the following choices.



You can overwrite the file or append the new data to the existing file.



In the next screen, you can still change the length of the data to be written.

The default length is always given as the value of the length of the data in the editor. If you change the default length, the data length on the MDS will also be adjusted.

If you selected the "Append" data option, the file is automatically read again after execution of the write function. This gives you the complete updated file on the editor.

If you selected the file name "Other File" when you called the write function and entered a new file name with the keyboard, the "Create" screen appears.



If you confirm this screen with "Yes," a new file is created on the MDS before the data are written to the MDS.

5.4.4 Write File to STG RAM

When a file is saved, the file name indicated in the editor is also indicated as the default name. You can still change the file name before saving the file. The file name may contain up to 8 characters. When the file is saved, the file extension .HEX is automatically added to the file name.

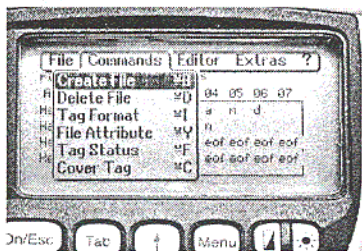
5.4.5 Read Directory from MDS (Read Dir from Tag)

The file directory of an MDS is read and indicated on the display in the directory view (see chap. 5.3.2). With some MDS types, this may take several seconds.

5.4.6 Read Directory from STG RAM (Read Dir from STG RAM)

The file directory of the hand-held terminal's RAM (drive M:) is read and indicated on the display in the directory view (see chap. 5.3.2). Only type *.HEX files are shown on the display. Also, only files located in the root directory of the hand-held terminal's RAM are indicated on the display.

5.5 The Commands Menu



The "Commands" menu contains only commands related to the MDS memory.

5.5.1 New File (Create File)

"Create File" is used to set up a new file on the MDS. The file name may not yet exist on the MDS. The new file is always given a length of 0.

5.5.2 Delete File

This function deletes a file from the MDS memory.

If you are in the directory view, it is very easy to start the delete function by pressing the "Del" key. You can use the "Del" key to delete files from the MDS or the hand-held terminal. The files are deleted from the hand-held terminal if the STG files are being shown in the directory view.

5.5.3 Format MDS (Tag Format)

Before it can be used with the filehandler, the MDS must be formatted. Before formatting, it is important to set the memory size of the MDS correctly. Use the Extras/Parameter function for this. Formatting deletes all data from the MDS, and a new file structure is set up.

5.5.4 Attribute File (File Attribute)

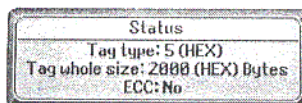
This command can be used to assign access rights to the individual files. This protects the files from unauthorized and unintentional overwriting. The directory view shows the file attribute in the right-hand column (see chap. 5.3.2). The following file attributes are available.

Attribute	Description
-	No attribute or an existing attribute is deleted.
R	Read only. The file can only be read. It cannot be written, overwritten or deleted.
W	Write once. The file can be written once. The file cannot be written again. It also cannot be deleted.
F	Fixed length. The file can be read as often as desired. It can only be written when this does not change the length of the file. Data cannot be appended, and the file cannot be deleted.
F/R	"Fixed length" and "read only" are set. This attribute has the same effect as the "R" attribute.

File attributes can only be assigned to MDS files. Files on the RAM of the hand-held terminal always have the type "-" (i.e., they can always be changed or deleted).

5.5.5 MDS Status (Tag Status)

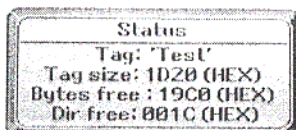
This command shows the status of the MDS in several consecutive screens.



MDS type (Tag type)
This value is identical to the specification of the MDS type with the Format command on a SIMATIC.

Gross MDS size (Tag whole size)
The size of the MDS which was set with the Format command is indicated.

ECC
Indicates whether the MDS is used with or without ECC



MDS (Tag)
Indicates the name of the MDS which was written to the MDS with the Format command

MDS size (Tag size)
Indicates the maximum memory area which can be used by the user

Bytes free
Indicates the number of data bytes on the MDS which the user can still use for his/her data

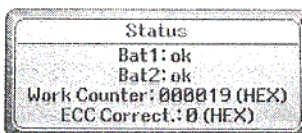
Directory free (Dir free)
Indicates the number of files which can still be set up on the MDS

Battery 1 (Bat1)
Status of the RAM battery. This value does not apply to the EEPROM MDS.

Battery 2 (Bat2)
Status of the dialog battery with MDS 507

Amount of processing (Work Counter)
Number of processing procedures which were performed with the MDS since it was initially formatted. This value is particularly important for the EEPROM MDS since the number of write-accesses is limited for these types of memory.

ECC Correct
Counter for the number of ECC offsets performed. If this counter has a value other than zero, the MDS must be replaced in the near future. An EEPROM memory was write-accessed too often.

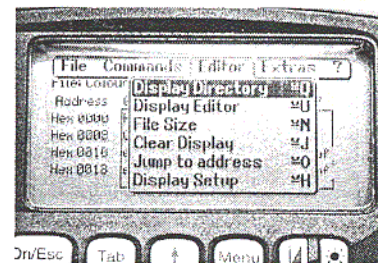


5.5.6 MDS Protection (Cover Tag)

The Cover command protects the entire file structure on the MDS. If an MDS is "covered":

- Every file can be read.
- Every file can be written as long as the file length is not changed.
- No files can be deleted.
- No new files can be created.
- The format of the MDS can be initialized again. This "uncovers" the MDS.
- The "covered" state can be canceled with a Cover command and the setting "not covered."

5.6 The Editor Functions



5.6.1 Display Directory

This function switches the display to the directory view (see chap. 5.3.2). The directory which was read last is displayed. The directory can be from the MDS or the hand-held terminal.

5.6.2 Display Editor

This function switches the display to the editor view (see chap. 5.3.1). The display shows the file which was read last. This file can be from the MDS or the hand-held terminal.

5.6.3 Change File Size (File Size)

The editor shows the current size of a file in the second line. This length can be modified with the "File Size" command. When the file is made longer, an appropriate number of zeros (00 Hex) is appended to the end of the file. The editor shows the appended portion with inverted digits.

5.6.4 Delete Display (Clear Display)

This function clears the memory of the editor display. The hexadecimal value of the filler character can be specified. The standard filler character is 00hex. After deletion, all data in the display are shown inverted to indicate that no data have been entered yet by the user.

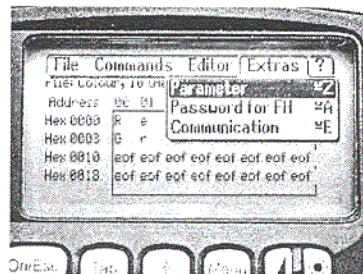
5.6.5 Jump to Address

Normally the cursor is positioned within a file with the four arrow keys (←, →, ↑, ↓). With large files, it is much quicker to use the "jump to address" function to position the cursor anywhere within the file. You can also call the "jump to address" function very easily with the Tab key.

5.6.6 Display Setup

The display is set here. You can choose either hexadecimal or ASCII format. In ASCII format, the characters which cannot be shown appear as white fields. For more information, see the ASCII table in appendix A.3.

5.7 The "Extras" Functions



5.7.1 Parameter

The "parameter" function is used to make the basic settings for the filehandler.

Parameter	Description
MDS size	The gross memory size of the MDS is set here. This memory size is shown in the first line of the display. The Format command uses the memory size to specify the file system. If the "MDS size" parameter does not correspond to the MDS being used, the MDS can still be used. Only the Format command would produce the wrong result.
MDS type	Here you can switch between RAM, EEPROM and MDS 507. FRAM memory is treated as RAM memory. If EEPROM is selected, the battery error message is suppressed on the display since these MDSs do not have batteries. If MDS 507 is selected, the dialog battery is also evaluated. When empty, this is shown on the display.
ECC	Activate/deactivate ECC driver
SLG no. (hex)	When an MDS is processed, the SLG no. selected here is written to the system area of the MDS. It has no effect on the function of the Filehandler program on the STG.
EAKO	The entry/exit check cannot be set on the STG with the filehandler. The STG does not use entry/exit control (AEKO = 4).

5.7.2 Password for Filehandler (Password for FH)

The filehandler password protects the STG data on the MDS from being manipulated by unauthorized parties. The passwords for the "Filehandler" and "MOBY STG" programs are identical. See chapter 4.5.2 for a description of how to handle the password.

5.7.3 Communication

In principle, communication of the filehandler is always set to "read head." However, the filehandler can be changed to "ASM on RS 232" as an option. A type "ASM420-RS232" module can then be connected to the hand-held terminal. For more information, see chapter 6.6.

Remember that a type "ASM 421" module cannot be used with the STG.

5.8 The "?" Functions

These functions are the same as those of the "MOBY STG" program. See chapter 4.6.

6 Expanded Functions

6.1 Storing the MDS Data on the Hand-Held Terminal

The data read from the MDS are automatically stored on the hand-held terminal in a file named "READ_E.HEX", "READ_F.HEX" or "READ_I.HEX" on the "RAMDRIVE" drive of the PSION. Every additional read command overwrites this file.

When the MDS is write-accessed, the write data are written from the editor to the MDS and also to the "RAMDRIVE (M:)" drive of the PSION under the name WRITE_E.HEX, WRITE_F.HEX or WRITE_I.HEX. Every additional write command overwrites this file.

The "file/load file" function shows all files with the file extension ".HEX." You can select one of them. This file is then loaded to the editor. There is no storage under the name READ_x.HEX or WRITE_x.HEX.

The "file/save" function stores the data of the editor in a file with the file extension ".HEX" on the RAMDRIVE drive of the PSION (i.e., drive M:). You can specify any name of 1 to 8 alphanumeric characters.

Note

When you read data from the MDS, modify data in the editor and then save the data, the modified data will be stored in the .HEX file.

6.2 Copying MOBY Data from and to the Hand-Held Terminal

6.2.1 What Is Needed in Addition?

- The PsiWin program. This is a file manager available from PSION for the PSION Workabout hand-held terminal.
- A 3link interface with the applicable cable for connecting the PC to the PSION Workabout

These components can be ordered directly from PSION. See appendix A.1.