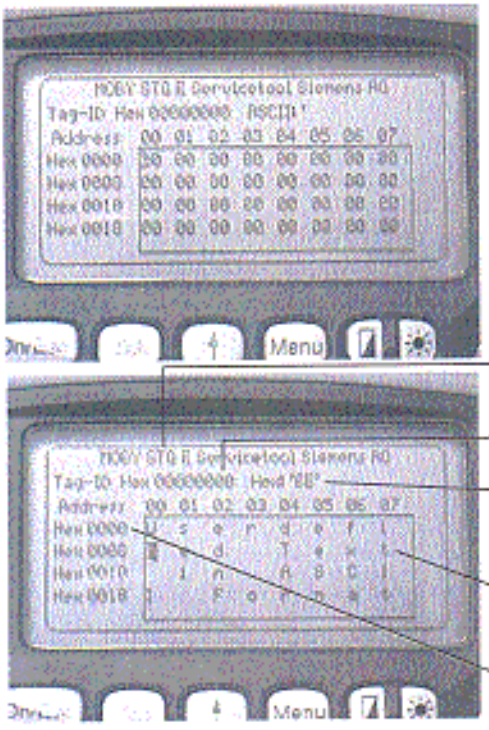
# 4 Using the "MOBY" Program

After you turn on the STG, the editor appears on the display. You can view the data, enter new data or call a function with the "Menu" key. Functions can also be called directly with the ⊻ key. To do this, press the ⊻ key and the appropriate alphanumeric key at the same time. The table below lists all functions together with their direct calls.

| Command | Abbrev. Call | Description |
|---|---|---|
| File/Load File | L | Load file from PSION RAM drive to working storage |
| File/Save | S | Store read MDS data on the RAM drive |
| File/Exit | X | Exit STG application |
| Tag/Read | R | Read data from MDS |
| Tag/Write | W | Write data to MDS |
| Tag/Erase | E | Write MDS with a certain value |
| Tag/Read TagID | T | Read ID number of MDS |
| Tag/Read raw data | M | Read physical memory of MDS |
| Extras/Jump to address | J | Jump to a certain address in editor |
| Extras/Display | D | Change display options |
| Extras/Communication | I | Change communication options |
| Extras/Password for STG | P | Change password for STG application |
| Extras/Clear | C | Clear data in editor to a certain value |
| Extras/Antenna | A | Not used |
| ?/Language | N | Set menu language |
| ?/About | B | Manufacturer's data |
| ?/Version | V | Version of operating system and STG application |

## 4.1 Data Editor

The MDS data can be edited in hexadecimal or ASCII. This can be set in the EXTRAS/DISPLAY menu.




The editor always shows the total size of an MDS memory. Use the cursor functions to access the individual addresses. Use the "Tab" key to jump to any address. See chapter 4.4.1.

Indication of the currently set read head. Cf. chapter 4.4.3.

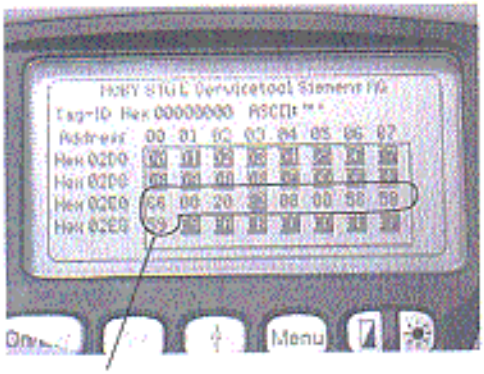
The tag ID of the MDS is valid after the "Tag/Read TagID" function is executed.

The position at which the cursor is located. Can also be shown in hexadecimal format.

Window with the MDS data. Standard setting is 32 bytes.

MDS addresses are shown in hexadecimal format.

### The "current area"

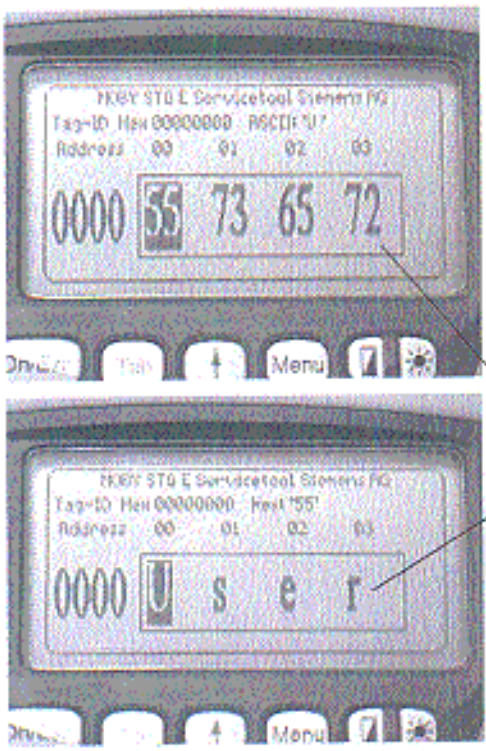



Current area

The editor uses normal representation for the "current area." All other data areas of the MDS are shown inverted. The current area shows the data block which was read last. During read/write-accesses, the current area is entered as the value for the write command. This value can be adjusted in the TAG/WRITE or TAG/READ menu.

The current area is changed automatically when you edit data and overwrite.

**The size of the memory area shown on the display can be switched with the EXTRAS/DISPLAY function. See chapter 4.4.2.**



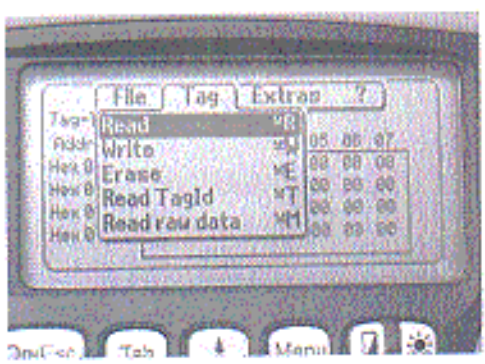

In the normal representation, 32 bytes are displayed in lower case letters. This gives you an overview of the MDS data.

In zoom representation, only 4 consecutive bytes are shown. Representation is in upper case letters. This display is easy to read.

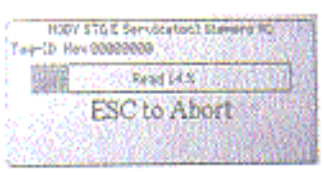
Zoom representation (hexadezimal)

Zoom representation (ASCII)

## 4.2 MDS Functions




The MDS functions handle communication with the MDS.
The MDS function is not interrupted if you briefly move the MDS out of the read field. The MDS function is terminated if MDS processing does not take place for more than 30 seconds. See chapter 4.4.

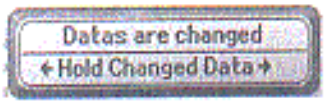



After a command is started, a window with a bar appears on the display. This bar shows how much of the command has already been processed.

## 4.2.1 General Information on Read and Write-Accessing an MDS

The MOBY E and MOBY F MDSs use block-oriented data accessing. A read or write-access to an MDS is only possible at the beginning of a block. One block contains 16 bytes (or 10 hex). Thus, the start addresses for MDS processing to be entered on the STG are: 00, 10, 20, 30 hex and so on.


However, you can also specify any start address. This will be accepted by the STG and corrected to the next lower block beginning. The corrected address is indicated for the operator in a window and must be acknowledged.




An additional window appears if you change data in the editor and then attempt to read an MDS. The window tells you that the data which you have just modified may be overwritten again with the "read MDS" command. You can retain or reject the modified data in the editor, or you can terminate the command completely.

**Note**

ECC mode cannot be set on the hand-held terminal. Although MOBY E data memories which use ECC mode can be read with the hand-held terminal, **write-accessing the MDS with the hand-held terminal will destroy all data for the actual application.**

## 4.2.2 Reading the MDS

A data block with a start and end address, which can be defined as desired, can be read from the MDS. If the same value is entered for the start and end address, one byte will be read.

**Note**

If "All" is selected as the mode in the read/write field of the "Extras/ Display/..." menu, the entire MDS always appears as the default of the start and end address of the data to be read during the "Tag/ Read" function.

### 4.2.3 Writing the MDS

A data block can be written to the MDS. The data block which is valid in the editor is indicated as the default for each write access. The default length can still be changed to another value during the write-access.

### 4.2.4 Erasing the MDS

Complete erasure of an MDS is performed internally with the "write" function. This is used to write the entire MDS with a certain value in a very short time. The erasure value can be entered in a subsequent menu. After the deletion function has been performed, the memory in the editor is also erased with the value which was entered.

### 4.2.5 Reading the ID Number

The function reads and indicates the serial number of the MDS. The ID number is set at the factory and cannot be changed.
The "TagID" is displayed in hexadecimal format by the editor in the second line. If "TagID" is 00000000, no tag ID was read.

**Note**

The MDS (i.e., tag) ID remains indicated in the display throughout additional MDS commands until the display indication is overwritten with a new read-access to an ID number.

### 4.2.6 Reading Raw Data

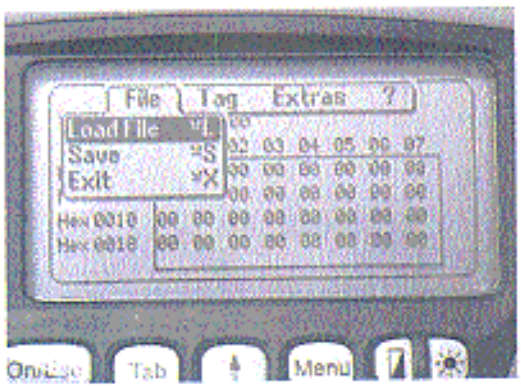
This function is used to physically read the entire memory of the MDS. This includes tag ID, key information (if public), manufacturer's information and MDS access rights. A knowledge of the physical layout of the MDS memory is required to interpret the data. See description of MFWAPI or CCTWAPI.

The "read raw data" function can be used to detect errors made when the MDS was configured.

**Note**

**for MOBY F**
MDS addresses 8 to 3F hex (i.e., pages 2 to 15) cannot be read. They are always shown by the editor as 00.

## 4.3 File Functions




### 4.3.1 Loading a File

A file can be loaded to the STG editor which was

- saved before with the "file/save" command or
- transferred from the PC to the "RAMDRIVE (M:)" drive of the PSION. See chapter 5.2.

### 4.3.2 Saving

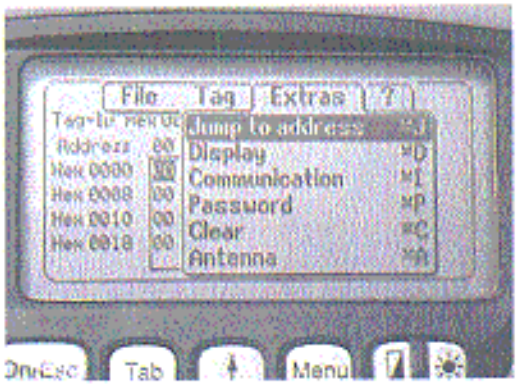
Data currently being displayed by the editor can be saved in a file on the PSION. The file name may consist of 1 to 8 letters or numbers. During the storage procedure, the extension ".HEX" is automatically added to the file name. See also chapter 5.2.

A memory area of approximately 1.8 Mbytes is available on the hand-held terminal for storage of MDS data (i.e., with MOBY E, up to 2000 MDSs can be read and stored).

### 4.3.3 Exiting

The "exit" function can be used to conclude the STG program of MOBY. This gives you access to the operating system levels of the PSION hand-held terminal. See chapter 5.3.

## 4.4 The "EXTRAS" 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., fine-print display) and 4-byte representation (i.e., large, easy-to-read characters).
- Switch the editor between hexadecimal and ASCII representation. The addresses are always shown in hexadecimal format.

### 4.4.3 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."**
- Protocol — Switching between MOBY E, MOBY E/SIM and MOBY F takes place here. When the MOBY protocol is set, the memory size is automatically specified in the editor. The size of the memory is always the memory size of an MDS memory.

- Mode — Switching from "block mode" to "all" 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.
  All: When an MDS is read/written, the entire MDS is always indicated as the memory area to be processed.

### 4.4.4 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.

#### 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?".

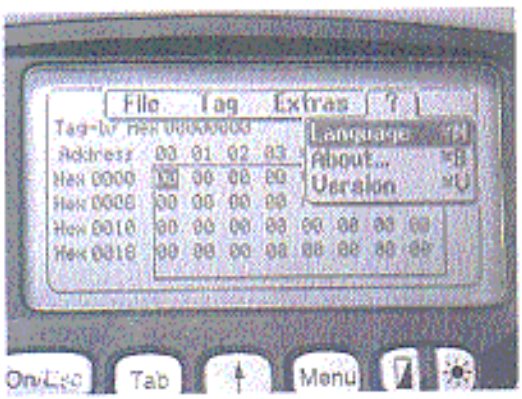
### 4.4.5 Clear display

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.

### 4.4.6 Antenna

This function is currently not supported.

## 4.5 The "?" Functions




### 4.5.1 Language

German or English can be selected as the menu language with version 1 of the STG. During commissioning of the STG, the default language is English.

### 4.5.2 About

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

### 4.5.3 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 Expanded Functions

## 5.1 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" or "READ_F.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 or WRITE_F.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.

## 5.2 Copying MOBY Data from and to the Hand-Held Terminal

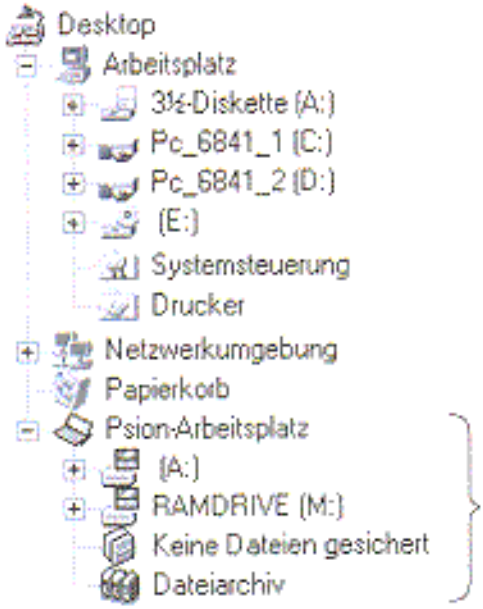
### 5.2.1 What Is Needed in Addition?

- 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.

## 5.2.2 Using the PSION File Manager

The PSION file manager is installed in the Windows Explorer of your PC. This provides your Explorer with additional drives. The following figure shows a sample configuration. You will find it very easy to copy data and programs the way you always have with Explorer.

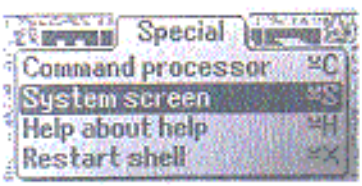



The PSION desktop is set up in Explorer when PsiWin is installed.

You will not be able to open the PSION desktop in Explorer until you connect the PSION with the 3link cable and the wall holder, and enable the interface for communication (i.e., port C).

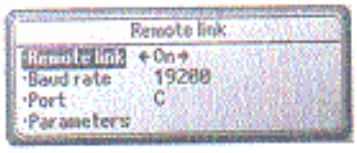
**How to enable port C:**


- Exit the STG program with EXIT. The basic PSION menu appears.




- Menu key: Position the cursor on "System screen," and acknowledge with "Enter." A user interface similar to Windows appears.


- Menu key: Call SPEC/REMOTE LINK. The "Remote link" window appears.




- Make the following settings in this window. Remote link = ON, baud rate = 19200, port = C, parameters = (don't specify anything).
- Before you acknowledge with "Enter," establish a connection to the PC with the 3link cable described in chapter 5.2.1. Otherwise you will receive the message "Device does not exist."

If you made wrong entries during this procedure and are unable to continue, perform a system RESET as described in chapter 5.7.

If the message "keine Verbindung" (i.e., no connection) continues to appear in the PSION desktop directory of Explorer, check the 3link cable between the hand-held terminal and the PC, and the REMOTE setting on the hand-held terminal.

Open the file tree of the hand-held terminal by double-clicking the "RAMDRIVE" drive. There you will find, among others, the "READ_E.HEX" file and the files which you stored with the extension ".HEX." Now drag and drop or copy these files from the PSION drive to the PC drive.

The length of the READ or WRITE file is the same as that of the MDS which was read.

| | | |
|---|---|---|
| READ_F.HEX: | 192 bytes for MOBY F | (after reading an F4xx MDS) |
| | 256 bytes for MOBY F | (after reading the raw data of an F4xx MDS) |
| READ_E.HEX: | 768 bytes for MOBY E | (in normal mode) |
| | 1024 bytes for MOBY E | (after reading the raw data) |
| | 1024 bytes for MOBY E | (in SIM mode) |

The contents of the file can now be indicated and changed with an appropriate editor on your PC.

**When ASCII data were read from the MDS:**
Any editor can be used (e.g., NOTEPAD, WRITE, WORD and so on).

**When binary data were exchanged with the MDS:**
Use a HEX editor. HEX editors are available on the shareware market (e.g., Hedit and so on) or on the professional market (e.g., Codewright).