



LogiScan-600/800/1100

Standard Application 03000 v3.80

Operating Manual

Manual



LogiScan-800



LogiScan-600



LogiScan-1100

LogiScan-600/800/1100

Standard Application 03000 v3.80

Operating Manual

We don't deliver just our mobile Data Capturing Devices with Standard Software...

but also develop to customers specific

- Applications for this Devices
- PC Applications
- Hardware

and advise you on

- Creating concepts for mobile and stationary data collection
- Queries surrounding Bar Code and RFID
- Hardware problems

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Delivery and technical changes are subject to change.

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20.10.2011	Adaption for software version 3.30 (Bluetooth)
05.03.2014	Software update description of devices which are connected via USB
27.02.2015	Neues Option-Menü-Item „Feldtrennzeichen“

Other Documents asserting with this one

- Technical Manual LogiScan-600/800/1100

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1. Introduction

The MDE devices from company aitronic are multi purpose in capturing and recording bar codes, transponder tags and manual data.

The devices come in a range of designs and configurations (refer to **Technical Manual LogiScan-600/800/1100**).

Before using your MDE devices please read this handbook carefully.

All details in this handbook are without warranty and can be rewritten or altered without prior notification from us. We are constantly engaged in maintaining our products error-free and at highest technical standard. As far as possible our object in view is to design our products compatible with products already in use. Despite painstaking efforts, it is not always possible for us to create, develop or test software to 100 % efficiency or to fully guarantee for every possible situation within working conditions.

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2. Security Hints

Laser Scanner Module



The MDE devices are powered with a low power laser diode for visible laser light. The wavelength is 650 nm and the laser power is 1,2 mW nominal. The laser scanner complies with the regulations of CDRH/IEC Class II.

As with other strong light sources the user should not look directly or indirectly into the laser beam. It is not known that an occasional exposure to CDRH-Class-II-laser light can be damaging to eyesight.

The necessary safety labels can be found under the laser light window.

Never try to open any of the laser components or attempt to carry out maintenance on the device. The laser safety regulations could be violated. Repair of the laser module is done exclusively in our workshop.

Lithium-Polymer and Lithium-Ion Accumulators



These security hints should support you when handling with lithium-ion accumulators. The following list doesn't claim completeness. For damages which occur when using, storing and/or charging the accumulators we don't take over any liability. In the following list lithium-polymer and lithium-ion accumulators are called **accumulators**.

- ▶ Charge the accumulators exclusive with the delivered charging device. Pay attention to the security hints to this charging device.
- ▶ Don't leave the accumulators unattended when charging.
- ▶ Prevent overheating the accumulators. Cells which become warmer than about 60 °C may destroy themselves and/or may begin to burn or may explode.
- ▶ Don't short the accumulators.
- ▶ Don't put the accumulators into water or expose them to moisture.
- ▶ Don't store the accumulators near to fire, at warm locations, in the sun or near to burnable materials.
- ▶ Keep exchange accumulators at a secure location outside the reach of children.
- ▶ Don't remove fix installed accumulators. Don't open exchange accumulators and/or put them together with other packs or solder them together with other packs.
- ▶ If you don't need an exchange accumulator anymore you should keep it at a secure place (i.e. LiPo Security Case).
- ▶ Damaged, deformed or blown up accumulators or accumulators which were used in a damaged device shouldn't be used any further. Small damages which can't be seen at a first look at may lead to heavy damages and consequences.
- ▶ If an accumulator should begin to burn **don't never** extinguish with water. Pay attention to the following hints concerning the behaviour in case of fire.



Should the accumulators have caught fire **never** quench with water. The following steps are absolutely required:

- ▶ Keep cool and carefully take action. Lock the danger area.
- ▶ Immediately arrange that all persons leave the burning area against the wind
- ▶ If possible arrange the removal of all burnable objects out of the danger area.
- ▶ Don't inhale flue gases and fume – **Contamination Danger!**
- ▶ Don't never try to extinguish with water – **Explosion Danger!**
- ▶ Suitable extinguish substances are: dry sand, fire extinguisher, extinguish plaids, fitting fire resistant covers.
- ▶ Get near to the burning location with following wind and doughty and according to the prescription apply the extinguish substances. That means apply the extinguish sand completely and all at once across the burning location and cover the location airtight.
- ▶ Clear the burn location not before complete cool down and a waiting time of at least 2 hours and do the waste disposal according to the administrative prescription. Wear protection gloves.
- ▶ If you have some doubts concerning your extinguish tries call the fire brigade to help you.

By disposal of the used batteries or accumulators, adherence to the regulations concerning battery disposal (see section **Recycling Orders**) should be observed.

3. Care Instructions

Your data capturing device with integrated laser scanner module is a high grade and robust unit consisting of electronic and laser optic components. A faulty treatment of this device may considerably affect function and efficiency. To guarantee long and constant operation you should consider the following care instructions!

Care of the Scanner

The red scanner screen of your MDE devices and the inner resided scanner module form an optical unit. This screen is provided with a special coating. A damage of this coating i.e. by scratches may lead to problems when scanning barcodes. Because of this a clean and moist cloth should be used when cleaning this screen. Rough dirt may be removed with a soft brush. Cleaning agents may not be used for the screens care and cleaning.

Terminal of the LogiScan family have an aluminum case. All other terminals from ours have a plastic case. Although both are robust materials for cleaning only a soft cleaning agent should be used.

Dealing with the Devices Markings

The attached marking labels (warning and security labels) may not be removed by principle. It is the legitimization to operate with this terminal. Making the terminals data plate or the data plates information (i.e. the serial number) unrecognizable should be avoided. Missing information on the data plate may lead to a more difficult identification. This may lead further to problems which couldn't be solved by telephone. In this case the terminal must be sent in.

Further we recommend for the attachment of additional information (i.e. department or personal numbers) labels with plastic back. Simple paper back labels aren't durable enough. In that way sticking parts may smudge the scanner screen. In this case on one hand the scanner function will be affected, on the other hand cleaning without ignoring the above instructions isn't possible because a solvent would be required.

Repairing Screen Damages

In case of overstress the screen may be loosen. We explicitly attention to that self repairing with short time glue may affect the screen in such strong way that the casing must be changed.

At this point we want to explicitly attention to that we don't overtake guarantee for damages which are the consequence of wrong dealing with the MDE devices.

4. Communication with PC

General

The communication between MDE device and a PC can be performed **cable bound** (via communication cable or docking station) or, assumed the MDE device is equipped with a DECT module, **wireless** via a DECT Accesspoint.

Software updates in principal are possible only **cable bound**.

All MDE devices are available with DECT module. The kind of the cable bound connection may vary depending on the type of MDE device and will be described in the further course of this chapter.

Software Installation

For cable bound communication between MDE device and PC the program **MTWin** has to be installed.

In order to run MDE device software updates the installation of **M16Start** is required.

For wireless communication the program **WinDECT** is required.

For subscription of MDE devices with DECT modules at the DECT Accesspoint the program **DECTOR II** is required.

MTWin

For the installation of MTWin open SETUP.EXE in directory MTWin of the enclosed CD and follow the installation instructions.

M16Start

For the installation of M16Start please follow the following steps

- Open SETUP.EXE in index M16Start of the enclosed CD and follow the installation instructions.
- In EXPLORER under View/Order Options/File Type link file extension „MOT“ to MT16START.EXE.

M16Start may also be executed with the following command line parameters:

```
M16Start [-COM=comport] filepath
```

comport may be: 1 . . . n (COMn) or nn.nn.nn.nn:port (IP address)

WinDECT

Directory WinDECT from the CD has to be copied to any directory of your PC. There must be unrestricted access rights for this directory.

DECTOR II

Directory DECTOR from the CD has to be copied to any directory of your PC.

Cradle for LogiScan-600/800

The cradle deals for connection of a LogiScan-600/800 to a RS-232 interface of a PC and for charging of the integrated accumulator.

For debugging during application development a special UDS docking station with 6 PTR contacts is available (refer to next page).



Setup Operation

1. Switch off your computer
2. Connect the MDE device via the mains adapter cable to the mains supply with a voltage 100 – 220 V alternating current
1. Connect the other end of the 9 pin SUBD connector to your computers RS-232 interface.
2. Switch on your computer and start MTWin respectively your user software program.
3. Put the MDE device into the docking station.
4. The MDE device now is ready for data transfer and the integrated accumulator will be charged.

Docking Station for LogiScan-600/800

The docking station (with 4 PTR contacts) deals for connection of a LogiScan-600/800 to a RS-232 interface of a PC and for charging of the integrated accumulator.

For debugging during application development a special docking station with 6 PTR contacts is available.

Setup Operation

1. Switch off your computer
2. Connect the MDE device via the mains adapter cable to the mains supply with a voltage 100 - 220V alternating current
3. Connect the other end of the 9 pin SUBD connector to your computers RS-232 interface.
4. Switch on your computer and start MTWin respectively your user software program.
5. Put the MDE device into the docking station.
6. The MDE device now is ready for data transfer and the integrated accumulator will be charged.

Cradle for LogiScan-1100

The cradle deals for connection of a LogiScan-1100 to a RS-232 interface of a PC and for charging of the integrated accumulator. The cradle is equipped with a RS-232- and an USB interface. Optional the cradle may be equipped with a LAN- or LAN/ WLAN module.

Setup Operation

1. Switch off your computer
2. Connect the MDE device via the mains adapter cable to the mains supply with a voltage 100 – 220 V alternating current
3. Connect the other end of the 9 pin SUBD connector to your computers RS-232 interface.
4. Switch on your computer and start MTWin respectively your user software program.
5. Put the MDE device into the docking station.
6. The MDE device now is ready for data transfer and the integrated accumulator will be charged.

Wireless DECT Communication

For wireless DECT communication a DECT Accesspoint and the software package WinDECT is required. The DECT Accesspoint is available with RS-232 or optional with LAN connection.



Setup Operation

1. Switch off your computer
2. Connect the mains adapter cable to the mains supply with a voltage 100 - 220V alternating current
3. Connect the 9 pin SUBD connector to the RS-232 interface of your PC respectively connect a LAN cable.
4. Check the settings (COM interface or LAN) in file WINDECT.INI.
5. Switch on your PC and start WinDECT respectively your user application.
6. Switch on your MDE device. When after a few seconds the DECT lock symbol appears at the status lines right side at the bottom of the LCD the MDE device is ready to communicate with the PC.

If in face of active DECT Accesspoint there appears no DECT lock symbol in the MDE devices status line, the MDE device has to be subscribed at the DECT Accesspoint. For this need the following steps are required:

Subscription of a MDE device at the DECT Accesspoint

1. Terminate WinDECT.
2. Start the program DECTOR II and choose the concerning DECT Accesspoint.
3. Call the MDE device system level with function SHIFT ESC.
4. Perform DECTOR-II function `Subscription on Air`.
5. Call the MDE devices menu function `Admin/DECT/SubsOnAir`.
6. After a few seconds the MDE device should display the message „Subscription performed“.
7. This procedure has to be performed for each MDE device as the case may be.
8. Terminate DECTOR II, start the MDE devices application again with menu function and start WinDECT again.

5. Introduction to Operation

LogiScan Keyboard

Button	with \uparrow key released	with \uparrow key pressed
0...9	Digits 0 - 9	Functions F0...F9
ⓘ	Switching on/off	-
MENU	Calling up menus	Toggling Overwrite/Insert Mode
ESC	In input mask: Change from Edit ⇒ Focus ⇒ Non Focus ⇒ Edit Change from Scroll ⇒ New input	Terminating the application and changing to operating system level
◀	In menu list: previously chosen Menu- Item In input mask: previously chosen Input mask Scrolling through the memory: previously chosen record	In menu list: select first menu item In input mask: select first Input field Scrolling through the memory: select first record
▶	In menu list: select next menu item In input mask: select next input field Scrolling through the memory: select next record	In menu list: select last menu item In input mask: select last input field Scrolling through the memory: select last record
F1	free for application	free for application
F2	free for application	free for application
F3	free for application	free for application
F4	free for application (only LogiScan-1100)	free for application (only LogiScan-1100)
\uparrow	Changing to Alpha Mode	
DEL	New input: Delete digit/character	New input: Delete input field Scrolling: Delete/Recover Records <u>New entry</u> Input field will be deleted, if this isn't empty. If input field is empty and it isn't the first field, the whole input mask will be erased.
ENTER	Concludes input or activates chosen menu item	

Switching On/Off

The MDE device is switched on when button ① or button **SCAN** is pressed. Switching off is done by pressing button ① again. When no action (e.g. keyboard entry) takes place during a distinct period of time (adjustable by system menu **Admin/System/Power**) the MDE device switches off **automatically** itself in order to preserve the integrated accumulator and to ensure a longer life span.

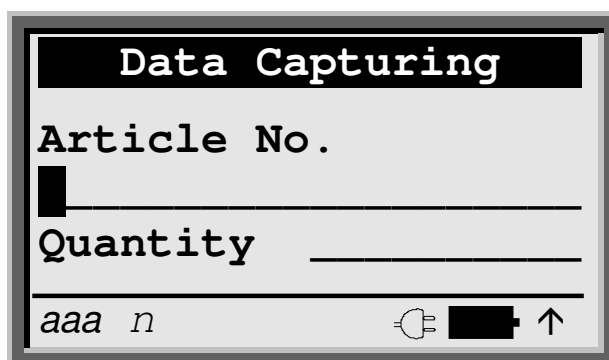
LED Display

The two coloured LEDs above the LCD display show the following states







	off	green	red
Left LED	Accumulator Charging State Look for details: System Functions/Accumulators		
Right LED	Scanner/Transponder switched off	Barcode/Transponder Tag scanned	Scanner/Transponder switched on

LCD Display

On the LCD display a maximum of 6 rows x 20 characters can be displayed. The uppermost row is used as a headline respectively a menu bar. The bottom row is used as a status bar (see picture below). 4 rows are available for application input masks. When using the MDE device as shown in the following display layout more than a total of 6 rows are shown to be available. It is possible to scroll this area in order to show the other available functions, e.g. menu lists with more than 5 items.



The following information/symbols appear in the status bar:

- n Nr. (1...m) the indicated record by scrolling through the data file. By new entries $n = \text{number of saved records} + 1$.
- aaa* By a new entry the word „**New**“ is shown, by scrolling through the data file the abbreviation „**Rec**“ is shown.
-  This symbol indicates that the communication adapter is connected to the MDE device.
-  MDE device with DECT RF module: DECT module initialization in progress.
-  MDE device with DECT RF module: DECT module initialization completed.
-  MDE device with DECT RF module: DECT RF connection to an Accesspoint is established.
- $*$ At devices with GPS this symbol shows that GPS coordinates are available.
-  Integrated accumulators charge state.
- This symbol appears when the MDE device is in Alpha Mode.
-  This symbol appears when the MDE device is in Overwrite Mode.

Navigation in Menus and Masks

Menus

By operating the following buttons the following functions are activated:

ESC	Leaves the actual menu and returns to the next higher level in the menu hierarchy.
◀ ▶	Moves backwards or forwards to the next Menu-Item
ENTER	Concludes input or activates chosen menu-item, respectively the next sub menu.

Input Masks

With the operation of input masks during the collection of data the following modes are possible:

Non Focus	No Cursor and no focus mark is displayed. The buttons activate the following function: ENTER Change to Focus Mode. ESC Change to Focus Mode. ◀ ▶ Scroll through the data memory.
Focus	No cursor is displayed, but a dotted line is displayed as a focus mark below the focused input field. The buttons activate the following functions: ENTER Change to Edit Mode. ESC Change to Non Focus Mode ◀ ▶ Moves backwards or forwards to the next input field.
Edit	The Cursor is displayed in the chosen input field. The buttons activate the following function: ENTER Completes the input and changes to the next input mask. Completing the entry in the last input field, data will be stored. ESC Change to Focus Mode SHIFT MENU Change from Insert to Overwrite Mode and vice versa. ◀ ▶ Move backward or forward along the line of characters within the input field.

Alpha Entry

In input fields accepting alpha input switching to alpha mode can be done by pressing key \uparrow . At the right bottom of the display the character \uparrow will be shown. After that input must be performed as with a handy: With keys **0...9** (the keys are labeled with 3 alpha characters) the desired alpha character can be entered. Pressing a key the first time the first character appears. If the key is pressed again within 1 second the entered character will be overwritten by the second character and so on. If another key is pressed within 1 second the entered character will be overtaken.

Handling the Scanner

Hold the scanner in direction of a light surface and press the button **SCAN**. Now you should see the red laser beam reflected on the surface and the LED top right above the display should light up.

Hold the scanner in the direction of a bar code and press the button **SCAN**. Consider the following advices:

- Vary the scanner position so that the laser beam crosses the middle of the bar code and overlaps both sides. The larger the bar code is the further away from the bar code the scanner must be held. Position the scanner as near as possible to bar codes which are printed high density.
- Do not hold the scanner at a right angle above the bar code. In this position the laser beam (especially on smooth and strong reflective surfaces) can be directly reflected back into the scanner optic which could lead to difficulty in decoding the bar code or make it impossible to read it.

When the scanner has read the bar code

- a *decoding beep* can be heard (default setting: short double beep),
- the MDE devices LED positioned right above the display switches to green for a short time (default setting: 3 seconds)
- and the laser beam switches off.

If scanning of bar codes should be unsuccessful please read chapter

Unsuccessful scanning.

What do the sounds mean

Observe the decoding beep (default setting: short double beep). This means that the bar code has been successfully read.

A longer sound (error sound) means that the chosen function respectively the chosen bar code is not permitted.

If nothing functions

In the case that all the previous instructions have been followed and still scanning of bar codes has been unsuccessful:

- Make sure that the accumulators are fully charged.
- Ensure that the MDE device is set up for the type of bar code you are trying to read.
- Ensure that the bar code you are trying to read is not damaged or not dirty.
Examine the print quality of the bar codes.

Should all these tests have been performed and the bar codes can't still be read, please contact your dealer for further information.

Activating Barcode Scanner or Transponder Reader

By means of options menu item **Transponder** switching from barcode to transponder capturing can be performed.

Client specific applications generally activate barcode scanner respectively transponder reader depending on the actual input fields properties, so that switching isn't required by the user.

Scanning Barcodes

If there were transponder tags captured before with the Standard Program switching to barcode capturing by means of options menu item **Transponder** is required.

Hold down key **SCAN** and direct the scanner beam to the barcode to be read. Choose the destination between MDE device and barcode in that way that the scanner beam totally covers the barcode.

The MDE device responds to a successful scanning with the decoding beep and shows the scanned article number.

Reading Transponder Tags

If there were barcodes captured before with the Standard Program switching to transponder capturing by means of options menu item **Transponder** is required.

Hold the device so that the red bar code scanner window near to the transponder tag and press the button **SCAN**.

The MDE device responds to a successful reading with the decoding beep and shows the read transponder id.

Manual Entries

Enter article number and quantity by using the buttons **1...9**. The cursor marks the position of the next digit to be entered.

Input of alpha characters can be done by switching to alpha mode by means of key **↑**. Then alpha input can be done by means of keys **0...9**. The concerning key must be pressed such often until the desired alpha character is shown. Alpha mode can be left by pressing key **↑** again.

Use button **DEL** to delete the digit left to the cursor.

By pressing button **ENTER** the article number entry is closed and the cursor jumps to the quantity field.

Pressing button **ENTER** during quantity input entry is closed and the record is stored. The input mask will be cleared for the entry of the next article number.

Deleting Characters

By pressing button **DEL** the character left to the cursor will be deleted.

Deleting the Input Field

By holding down the button **↑** and pressing button **DEL** at the same time the actual input field will be deleted.

Choosing an Input Field

To navigate around in the input mask button **ESC** must be pressed first in order to change into Focus Mode. The focused input field is marked by a dotted underline. Now it is possible to move around the input mask backward or forward by pressing the buttons ◀ or ▶ in order to go to the desired field. By pressing button **ENTER** changing to edit mode will be performed.

Closing Entry and storing the Record

If the minimum required characters (with Standard Program 1 character, with a client specific application according to the input field specification) were entered and key **ENTER** is pressed in the last input field, data entry will be closed and the record will be stored into data memory.

Afterwards the next empty input mask will be shown.

6. System Functions

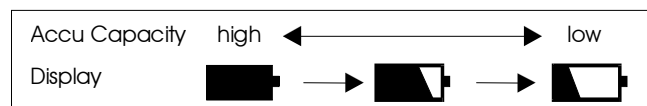
Charging the integrated Accumulator

With the mains adapters DC-plug connected to the socket of the 9 pin SUBD connector and connecting the communications cable to the MDE device the accumulator will be charged and the MDE devices left upper LED lights up green. A full discharged accumulator requires a charging time of about 2 hours.

LED	Status	Description
green	Communication cable connected to MDE device and mains adapter	Accumulator being charged
red	Error, accumulator is not being charged	Voltage on Mains adapter too high, examine mains adapter
Aus	Communication cable connected to MDE device and mains adapter	Charging of accumulator has been completed

The MDE device has a built-in intelligent charging component which constantly monitors the integrated Li-Ion accumulator capacity.

The accumulators charge level is shown on the display by the battery symbol. The battery symbol changes as the level of current changes.



The accumulator life time depends upon the number of charging cycles carried out during accumulator life. Therefore the accumulator should only be charged when the capacity has fallen below a certain level. Charging the accumulator should only be carried out when the symbol shows less than half-full.

The menu function `Admin/Accu Capacity` allows a more specific method of showing the accumulator charge level. Here the accumulator capacity is displayed in percent. Below a capacity of 30% the user is called upon to recharge the accumulator. At the latest, when the MDE devices signals "Battery Low! Press Enter Key" the accumulator must be recharged.

Hardware Reset

A hardware reset with the various device types will be performed as follows:

- **LogiScan-800**: pressing keys **2**, **5** and **7** at the same time.
- **LogiScan-600**: pressing keys **F1**, **F3** and **9** at the same time.
- **LogiScan-1100**: pressing keys **F1**, **F4** and **9** (older types: pressing keys **2**, **5** and **7**) at the same time.

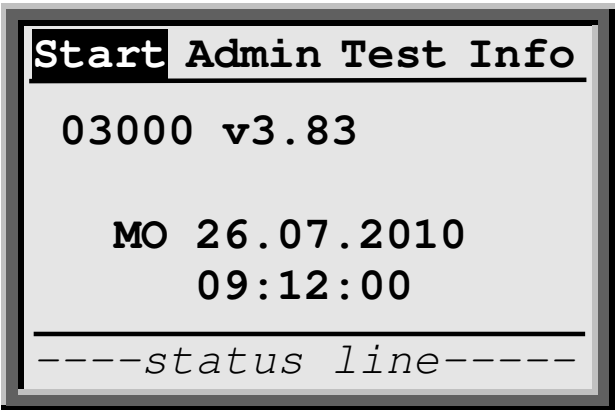
After hardware reset the software will be restarted. One after another data memory, laser scanner, RFID module and DECT module will be tested. Data memory contents are not altered due to hardware reset.

System Menu

System level call from application level may be performed by holding down button **↑** and pressing button **ESC** at the same time. Normally this function is locked and has to be unlocked by menu function `Admin/Settings/Lock Shift ESC`. Another quick and easy method to call system level is to scan the following function code.



System Level Call



Start	Start of the application.
Admin	
System	
Power	Setting power off and power save times
Contrast	Setting display contrast
Volume	Setting loudspeaker volume
Keypad	
Click	Switching on/off button click
Lock	Switching on/off keyboard lock
Time	
Password	Setting password
Disk	
Directory	Display the data which is stored into Flash ROM. After a data file was selected one of the following operations can be performed with this date file:
Info	Shows the data file information
Copy	Copy the data file
Rename	Change name of data file
Del	Delete data file

Format	Format the Flash ROM. Attention: All data files will be deleted.
DECT	
PP-ID	Call up the DECT Module IPUI
FP-ID	Call up/Setting the assigned DECT module RFIDs
Subscript	Performing the Subscription On Air procedure
Signal	Displaying the signal strength (RSS - Radio Signal Strength) and link quality (RLQ - Radio Link Quality) of the actual DECT connection.
Test	
CODE/RF-ID	Calling the barcode test/transponder program. Switching from bar code to transponder is made with key SCAN .
Info	
	Display the operating system information.

System Error Message „Battery low!“

- At the first notification the accumulator has left about 20% capacity.
- At the second notification the accumulator has left about 10% capacity.
- At the third notification the accumulator has left 0% capacity.

The device switches off and cannot be switched back on again.

The present operation should be closed and the MDE device accumulator should be charged.

7. Battery and SIM Card Changing

LogiScan-1100

The LogiScan-1100 is equipped with a changeable accumulator. The SIM card (only devices with GPRS option) resides beneath the accumulator. To change the accumulator respectively to insert the SIM card the cover of the accumulator case respectively the hand grip has to be removed. Proceed as follows:



Loosen the battery cover screw with coin or screwdriver.



Push the battery cover until it stops in the direction of arrow and lift off.



Lift and remove the battery on the transparent flap.



Slide the SIM card lock down and open it.



Inserting the SIM card, open the SIM card lock and push upwards.



When inserting the battery its contact surfaces must point to the contact pins in the battery compartment.



Attach as shown battery cover and slide in direction of the arrow until it stops.



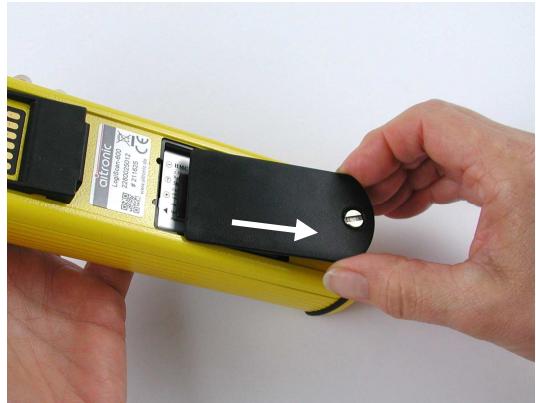
Tighten battery cover screw with a coin or screwdriver. Make sure that the screw is not twisted.

HINT: After removing and inserting the accumulator the LCD's charging control symbol shows about half the accumulator capacity independently from the charging state of the inserted accumulator. Only after completing the next charging cycle or when reaching the „Battery Low Level“ the charging control symbol shows the correct charging state of the inserted accumulator.

LogiScan-600/12



Loosen the battery cover screw with coin or screwdriver.



Push the battery cover until it stops in the direction of arrow and lift off.



Lift and remove the battery on the transparent plate.



Rotate the SIM card lock to the left and open the SIM card slot.



Insert SIM card, close the SIM card slot and close SIM card lock.



When inserting the battery its contact surfaces must point to the contact pins in the battery compartment.



Attach as shown battery cover and slide in direction of the arrow until it stops.



Tighten battery cover screw with a coin or screwdriver. Make sure that the screw is not twisted.

HINT: After removing and inserting the accumulator the LCD's charging control symbol shows about half the accumulator capacity independently from the charging state of the inserted accumulator. Only after completing the next charging cycle or when reaching the „Battery Low Level“ the charging control symbol shows the correct charging state of the inserted accumulator.

8. Software Update

Devices, which are connected via RS-232 resp. RS-232/USB-Adapter

- ▶ For a software update it is necessary that the program M16START.EXE is installed and the file extension „MOT“ is linked to this program.
- ▶ The **black** 9-pin Sub-D plug on the communication cable must be connected to COM1 of the PC.
- ▶ The flat connector of the communication cable has to be connected to the MDE device, respectively the MDE device has to be put into the docking station.
- ▶ After double clicking the system software data file 01005vvv.MOT (contains system and application software) **or** the application data file 03000vvv.MOT (contains only application software) the program M16START.EXE will be started.
- ▶ If the download don't start automatically: Release a software reset by pressing button **SHIFT ESC** 2 times or release a hardware reset (refer to chapter **System Functions/Hardware Reset**). After that M16Start will start the software update.
- ▶ If M16Start shows the error message „Bad Security Key!“ menu function `Security/Key Input` must be selected and the key 8602 must be entered to force M16Start to start the software update. After that a hardware reset must be released.
- ▶ Confirm the data transfer notified end from M16START by pressing **ENTER**. M16START is then closed automatically.

Devices, which are connected directly via USB (i.e. LogiScan-1100)

- ▶ For a software update it is required that the programs MTWIN4.EXE and M16Start.EXE are installed and MTWIN-4 was startet.
- ▶ The device has to be connected to the PC with the appropriate USB cable.
- ▶ After execution of MTWIN-4 menu function „Software Update“ and selection of the desired MOT file M16Start will be called and the download starts usually automatically.
- ▶ If the download don't start automatically: Release a software reset by pressing button **SHIFT ESC** 2 times or release a hardware reset (refer to chapter **System Functions/Hardware Reset**). After that M16Start will start the software update.
- ▶ If M16Start shows the error message „Bad Security Key!“ menu function `Security/Key Input` must be selected and the key 8602 must be entered to force M16Start to start the software update. After that a hardware reset must be released.
- ▶ After the download is terminated M16START closes automatically.

9. Error Correction – What to do if ...

... an application can't be loaded

- ▶ Note the original content of SKY file.
- ▶ Store 8602 in SKY file and repeat software update.
- ▶ After software update a hardware reset has to be performed.
- ▶ Store original content into SKY file.

... the scanner doesn't function or negative record numbers are shown in the status line

- ▶ Perform hardware reset
- ▶ When „Database: init.“ is shown, press key **SHIFT**
- ▶ After „Protected Mode!“ is shown format data flash by means of menu function Admin/Disk/Format.

... Bar codes were read badly

- ▶ The screen in front of the MDE device is dirty or scratched,
- ▶ Bar code has been printed badly, is damaged or dirty.
- ▶ Too many bar codes have been activated. Activate only the Bar codes which are required.

... Serial Communication is erroneous

- ▶ The serial Interface parameters (baud rate, parity bit) are set up incorrectly either on the MDE device, on the PC or on both. The standard settings are: 19.200 Bd, 8 Bit, no Parity, 1 Stop Bit.

... Serial Communication does not function

- Mains plug of the communication adaptor isn't plugged to 220V mains
- ▶ Mains plug of the communication adaptor isn't plugged to the device
- ▶ Communication adaptor not correctly connected to PC
- ▶ Serial Interface of the MDE device or the PC defect.

... a DECT Scanner doesn't show a lock symbol in the status line

- ▶ WinDECT has to be started. The parameters in file WinDECT.ini have to be set correctly for the concerning Accesspoint (serial port or IP address).
- ▶ The LED „DTR“ of the concerning Accesspoint must flash.
- ▶ If these demands are met the concerning MDE device has to be registered to the Accesspoint by means of utility DECTOR II.

10. Accessories

Cradle for LogiScan-600/800



Deals for data communication and charging device at the same time.

Interfaces: RS-232, USB or LAN

Charging time: about 2 hours

Cradle for LogiScan-1100



Deals for data communication and charging device at the same time.

Interfaces: RS-232, USB or LAN/WLAN

Ladezeit: about 3 hours

Truck Charging Station for LogiScan-600/800



The MDE device will be locked to the charging station.

Charging Time: about 2 hours

Charging Station for LogiScan-600/800



Wall or table assembly

Charging Time: about 2 hours

Belt Holder for LogiScan-600/800



Adjoining the belt holder for the LogiScan-600 is shown,

Accesspoint for DECT RF Network



RF Module: MD-32 Module
Interfaces: RS-232, LAN

Connection of up to 16 MDE devices per Accesspoint possible

11. Recycling Orders

Disposal of Batteries

Duty to inform in accordance with battery legislation (BattG)



Batteries and rechargeable batteries do not belong in household waste. The consumer is obliged to dispose of no longer used batteries properly. Let please dispose of them only through retailers or battery collection points. Hereby you make an actual contribution to environmental protection. Since 2009, the German battery legislation obligates all citizens to dispose of used batteries exclusively via the trade or specially equipped collection points (statutory obligation to return). Retailers and manufacturers are obliged to take back these batteries free of charge and properly and batteries to be recycled or disposed of as hazardous waste (legal obligation). Batteries may only be disposed in the discharged state at the return points, and / or (e.g. by isolating the poles with adhesive strips), precaution against short-circuits has to be taken.

The built-in Li-Polymer battery of this device is marked with the adjacent Disposal characters (consisting of a crossed out dustbin and the type of batteries used).

The symbols shown on the batteries have the following meaning:



= Battery must not be placed in household waste

Pb = Battery contains more than 0.004 percent lead

Cd = Battery contains more than 0.002 percent cadmium

Hg = Battery contains more than 0.0005 per cent of mercury

Legal notice for waste disposal



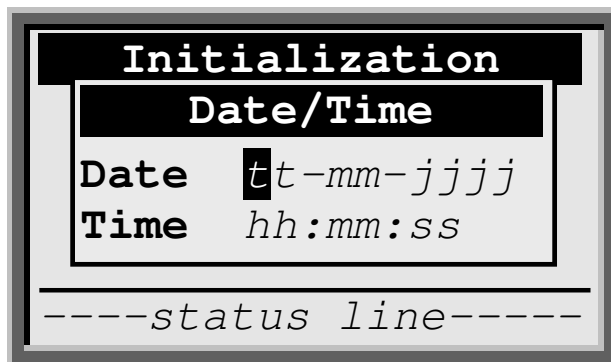
In accordance with the European legislation, it is forbidden to dispose of electrical and electronic equipment in the domestic waste. The aitronic GmbH takes back all of it placed on the market or sold electronic devices and accessories. So environmentally sound disposal is ensured.

12. Standard Application 03000

If there was no client order for a specific application the MDE device will contain this standard application.

Initializations following Cold Start

After a device cold start date and time must be checked and altered if necessary:



Initialization

Date/Time

Date *t-mm-jjjj*

Time *hh:mm:ss*

-----*status line*-----

After entering date and time mask 10 for barcode capturing or mask 20 for transponder reading will be shown on the display.

Calling System Level

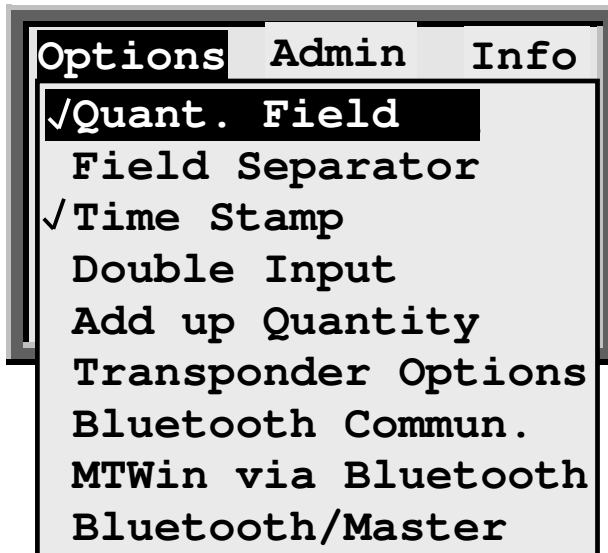
With function **Shift ESC** the application will be terminated and system level will be called.

This function can be locked with menu function `Admin/Settings/Lock Shift ESC`.

In case of a password was set this must be entered when releasing function **Shift ESC**. At this the setting `Admin/Settings/Lock Shift ESC` wouldn't be regarded.

Menu: Options

By pressing button **MENU** the menu bar appears. Now the menu item `Options` can be chosen by pressing button ◀ or ▶. By pressing button **ENTER** the options list can now be opened.



Quantity Field

The quantity field in the input mask can be selected and deselected.

When this option is selected, records which have been collected without entering the quantity, "1" will be added to the record when transmitting the data memory.

When this option is deselected, records containing a quantity will be cut off when data transfer is performed.

Field Separator

The field separator has to be entered in hex code and deals as separator between the data fields when transmitting the data. Default setting is the semicolon (hex 3B).

Time Stamp

By selected this option a time stamp (record store time) will be added to each record when transferring the data file.

Double Input

When this option deselected, it isn't possible to scan or to enter manually two identical article numbers directly one after another.

Add up Quantity

When this option selected the quantity (only in case of selected quantity field) will be incremented if the same barcode is scanned one after another without entering with key **ENTER**.

Transponder Options

Calling sub menu **Transponder Options**

Bluetooth Commun.

If this option is selected all captured data are sent immediately to an Bluetooth device to which a connection exists. How the Bluetooth connection can be setup or changed is described in chapter **Bluetooth Communication** on page 12-30.

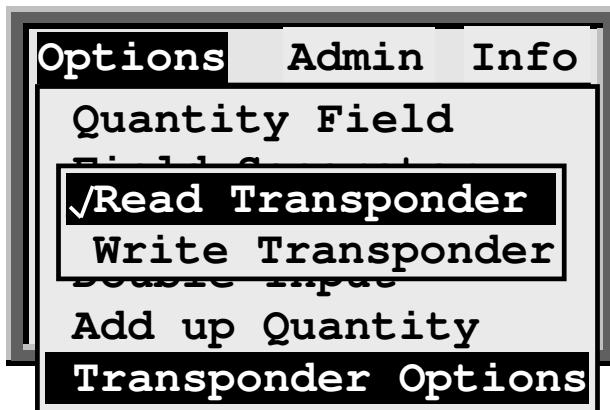
MTWin via Bluetooth

If this option is selected Bluetooth deals as cable replacement and the communication with the MDE device will be done by means of MTWin.

Bluetooth/Master

If this option is selected the MDE device operates as a Bluetooth master, otherwise as a slave.

Sub Menu: Transponder Options



Read Transponder lesen

If this option isn't selected mask 10 will be shown for scanning barcodes after leaving the options menu.

If this option is selected mask 20 will be shown for reading transponders after leaving the options menu.

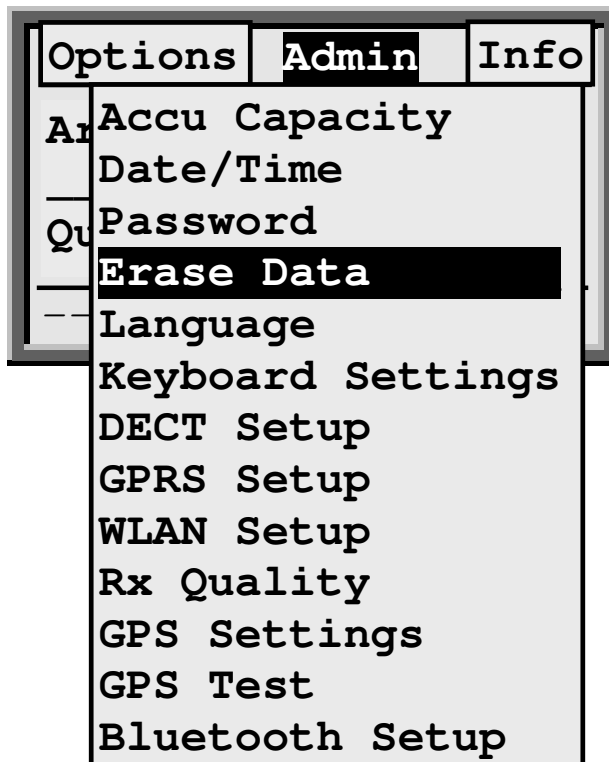
Write Transponder

If this option isn't selected all transponder tags were treated as read only transponder, that means that only the transponder id. will be read and stored.

If this option is selected with writeable transponders the data will be read and shown in Mask 21.

Menu: Admin

After pressing key **MENU** the menu bar is shown. Now menu item **Admin** may be selected by means of keys ◀ and ▶. When there was a password set with menu function **Admin/Password**, this must be entered after pressing key **ENTER**. If no password was set menu **Admin** will be opened directly.



Please consider: In case of selecting a non implemented function (i.e. because the appropriate hardware is not available)



will be shown.

Accu Capacity

Checking the integrated accumulator capacity.

Date/Time

Checking and correcting date and time.

Password

Entering a password. This deals for protection against unauthorized access to the **Options** and **Admin** menu.

Erase Data

Manually erasing of the captured data.

Language

Selecting the language for the displayed texts.

Keyboard Settings

Calling sub menu **Keyboard Settings**

DECT Setup

Calling sub menu **DECT Setup**

GPRS Setup

Calling the GPRS Setup.

WLAN Setup

Calling the WLAN Setup.

Rx Quality

Showing the GPRS resp. WLAN signal level and link quality in percent.
Function can be terminated by pressing key **ESC**.

GPS Settings

Calling sub menu **GPS Settings**.

GPS Test

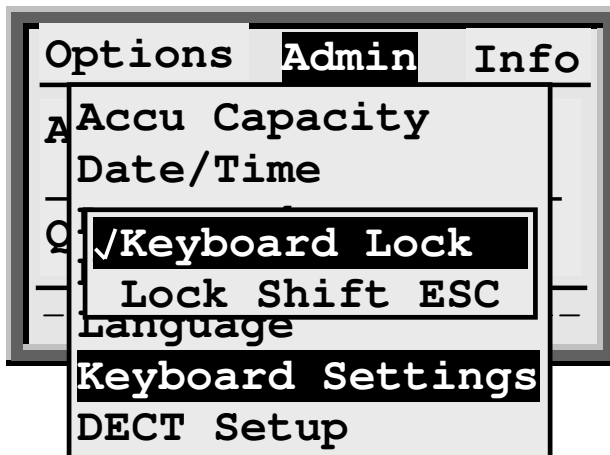
Calling the GPS Test (Mask 5).

Bluetooth Setup

Displays the available Bluetooth devices (see chapter **Bluetooth Communication** on page 12-30).

If the Bluetooth communication with menu Options is disabled, wird „Bluetooth not active!“ will be displayed and the function can't be executed.

Sub Menu: Keyboard Settings



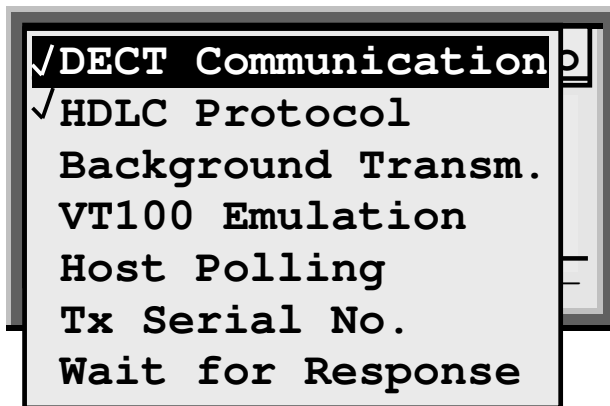
Keyboard Lock

Locking the keyboard. Only key **ON/OFF**, **MENU**, **SCAN** and **ENTER** are left unlocked.

Lock Shift ESC

Locking function **Shift ESC** (returning to system level).

Sub Menu: DECT Setup



DECT Communication

When this option is selected the captured data will be sent via DECT RF. Received answers will be either displayed as info (window will close automatically itself after 2 seconds) or as message (must be confirmed manually). In case of no RF connection the captured data will be stored in data memory. When RF connection is established again data memory will be sent in background via RF.

HDLC Protocol

When this option is selected DECT communication is performed with HDLC Protocol.

VT100 Emulation

The MDE device will operate in VT100 Mode. When activating VT100 Mode both options **Host Polling** and **Tx Serial No.** will be activated too because this is required for VT100 emulation.

Host Polling

This option is required for VT100 emulation. By sending „empty records“ the PC application will be able to send data without having received a record before.

Tx Serial No.

This option is required for VT100 Mode and for communication with 16 virtual COMs and WinDECT.

Wait for Response

When this option is selected the MDE device will wait for a response after having sent a record. During this waiting time „Waiting for Response...“ will be displayed and further article numbers may be not entered.

GPRS Setup

The image shows a screen titled "GPRS Setup". It contains the following fields and text:

- PIN/SIM Card**: A field with a cursor, indicating a 4-digit PIN entry.
- APN**: A text input field.
- User**: A text input field.
- Password**: A text input field.
- statuszeile-----**: A status line at the bottom of the screen.

Mask 1

PIN/SIM Card

4 digit PIN for SIM card installed in the MDE device.

APN 1...40 digit GPRS Accesspoint Name.

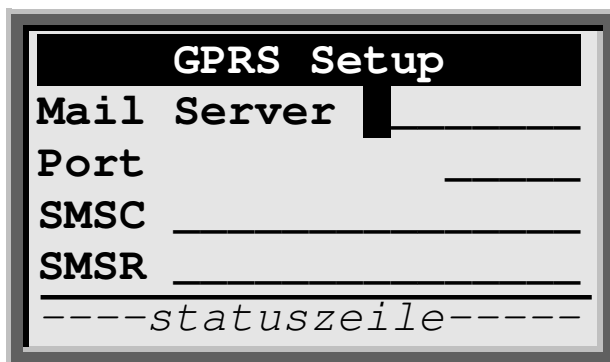
User 1...40 digit user name, entry is optional.

Password

1...11 digit password. Entry is optional. After having confirmed the entry with **ENTER** mask 2 will be displayed.

The fields **APN**, **User** and **Password** for the specified providers can be taken from the following list by pressing **F1** (possibly some times):

Netz-betreiber	APN	User	Pass-word	SMS-Service-Center
E-Plus	internet.eplus.de	eplus		+491770610000
T-Mobile	internet.t-d1.de	t-mobile	tm	+491710760000
Vodafone	event.vodafone.de			+491722270000

A screenshot of a GPRS Setup screen. The title 'GPRS Setup' is at the top. Below it are four input fields labeled 'Mail Server', 'Port', 'SMSC', and 'SMSR'. Each field has a cursor at the start. At the bottom, there is a status line that reads '----statuszeile----'.

Mask 2

Mail Server

1...40 digit Mail Server Name.

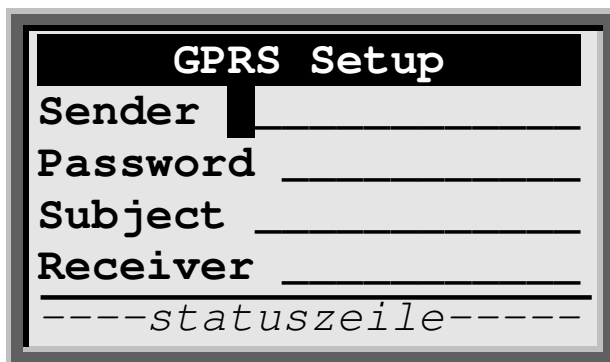
Port 1...5 digit Port No. After having confirmed the entry with **ENTER** mask 3 will be displayed.

SMSC (Short Message Service Center)

1...20 digit telephone no. of the Short Message Service Center.

SMSR (SMS Receiver)

1...20 digit telephone no. of SMS receiver.

A screenshot of a GPRS Setup screen. The title 'GPRS Setup' is at the top. Below it are four input fields labeled 'Sender', 'Password', 'Subject', and 'Receiver'. Each field has a cursor at the start. At the bottom, there is a status line that reads '----statuszeile----'.

Mask 3

Sender

1...40 digit mail address of sender

Password

1...11 digit password fir Sender Mail Account.

Subject

1...40 digit Subject of mail to send.

Receiver

1...40 digit mail address of receiver. After having confirmed the entry with **ENTER** mask 1 will be displayed again.

GPRS Setup

FTP Server _____

User _____

Password _____

Transm. per *mode* _____

----statuszeile-----

Mask 4

FTP Server

1...40 digit FTP Server Address

User 1...20 digit user name**Password**

1...11 digit password

Transm. per

Selecting the file transmission mode. „FTP“ (default), „Mail“ and „SMS“ can be selected.

The GPRS setup masks 1 to 4 can be left at each time by pressing **ESC**. After pressing **ESC** the following mask is shown

GPRS Setup

FTP Server _____

User **Bitte bestätigen**

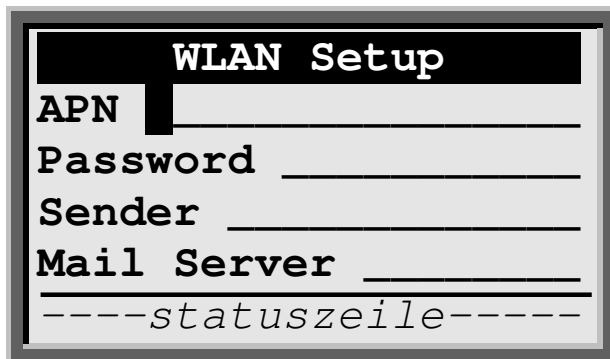
Password **Save Settings?**

Transm. per *modus* _____

----statuszeile-----

Key	Function
ENTER	The settings are stored permanently in the User Parameter Area and are preserved also in the case of cold start or formatting the Flash ROM. A return to the previous mask is performed.
ESC	The settings are not stored and a return to the previous mask is performed.

WLAN Setup

A screenshot of a terminal window titled "WLAN Setup". It contains four input fields: "APN", "Password", "Sender", and "Mail Server", each followed by a horizontal line for text entry. At the bottom, there is a status line that reads "----statuszeile-----".

```
WLAN Setup
APN _____
Password _____
Sender _____
Mail Server _____
----statuszeile-----
```

Mask 1

APN 1...40 digit WLAN Accesspoint Name.

Password

1...11 digit password, entry is optional. After having confirmed the entry with **ENTER** mask 2 will be displayed.

Mail Server

1...40 digit Mail Server Name.

A screenshot of a terminal window titled "WLAN Setup". It contains four input fields: "Sender", "Password", "Subject", and "Receiver", each followed by a horizontal line for text entry. At the bottom, there is a status line that reads "----statuszeile-----".

```
WLAN Setup
Sender _____
Password _____
Subject _____
Receiver _____
----statuszeile-----
```

Mask 2

Sender

1...40 digit mail address of sender

Password

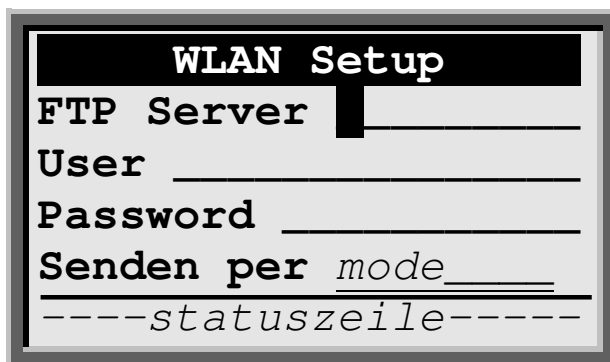
1...11 digit password for sender mail account.

Subject

1...40 digit subject of mail to be sent.

Receiver

1...40 digit mail address of receiver. After having confirmed the entry with **ENTER** mask 4 will be displayed.



The image shows a terminal window titled "WLAN Setup". It contains the following fields: "FTP Server" followed by a cursor, "User" followed by a line, "Password" followed by a line, and "Senden per" followed by "mode" and a line. At the bottom, there is a line of dashes followed by "statuszeile" and more dashes.

Mask 4

FTP-Server

1...40 digit FTP server address

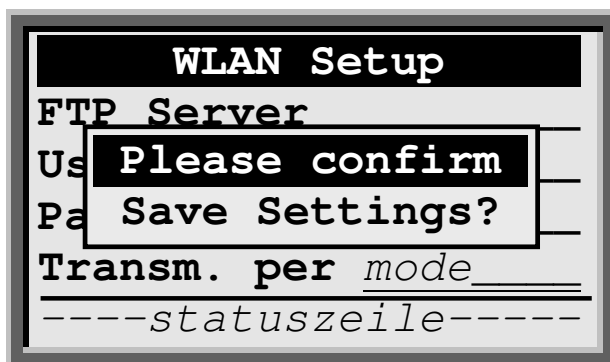
User 1...20 digit user name**Password**

1...11 digit password

Senden per

Selecting the file transmission mode. „FTP“ (default) and „Mail“ can be selected.

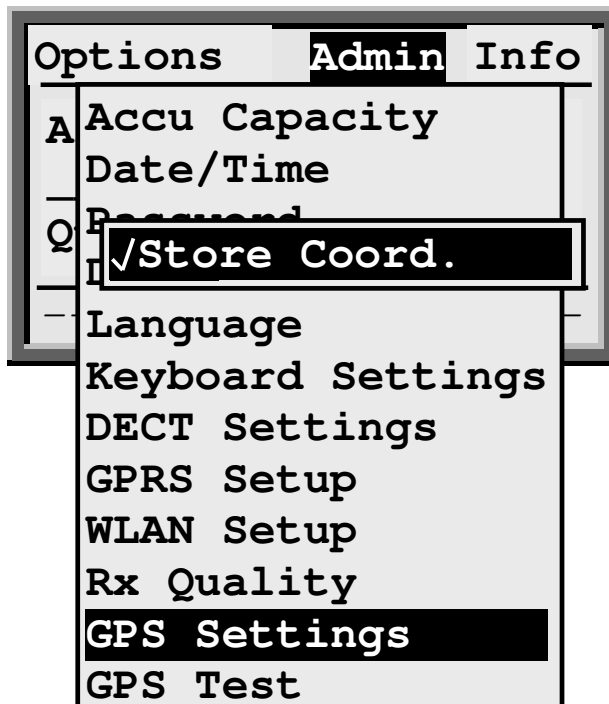
The WLAN setup masks 1 to 4 can be left at each time by pressing **ESC**. After pressing **ESC** the following mask is shown



The image shows a terminal window titled "WLAN Setup". It contains the following fields: "FTP Server" followed by a line, "Us" followed by a line, "Pa" followed by a line, and "Transm. per" followed by "mode" and a line. At the bottom, there is a line of dashes followed by "statuszeile" and more dashes. A dialog box is overlaid on the screen with the text "Please confirm Save Settings?".

Key	Function
ENTER	The settings are stored permanently in the User Parameter Area and are preserved also in the case of cold start or formatting the Flash ROM. A return to the previous mask is performed.
ESC	The settings are not stored and a return to the previous mask is performed.

Submenü: GPS Settings



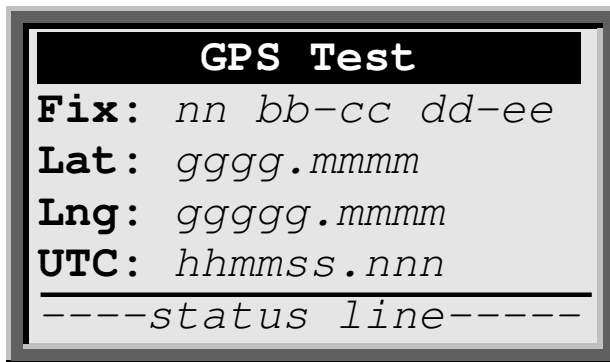
Store Coord.

If this option is selected each record which is stored together with the actual GPS coordinates as described in the following manner.

If the actual GPS coordinates are available when the record is stored they are stored directly together with the record. If the actual GPS coordinates are **not** available but are received from the GPS module within the next 2 seconds they are stored together with the record. Otherwise the record will be stored without GPS coordinates and data capturing may be continued.

The application communicates permanently with the integrated GPS module. This communication will only be interrupted by scanning a barcode or a transponder tag. If the GPS module returns actual coordinates, the records in data memory beginning with the last record are checked for GPS coordinates. Records which were stored without GPS coordinates are added with the actual GPS coordinates and the time stamp. This procedure will be continued until a time difference of greater than 3 minutes or a record which was stored with GPS coordinates will be found.

GPS Test



Maske 5

Fix: *nn* Number of identified GPS satellites
bb No. of first identified satellite
cc Signal strength of first identified satellite in db
dd No. of second identified satellite
ee Signal strength of second identified satellite in db

Lat: Latitude with dimension *gggmm.mmmm*
ggg Degree
mm.mmmm arc minutes with decimals

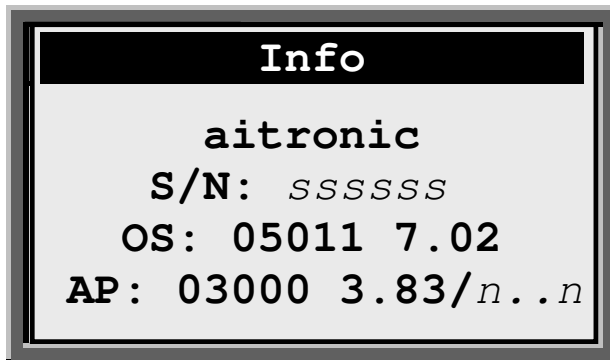
Lng: Longitude with dimension *ggmm.mmmm*
gg Degree
mm.mmmm arc minutes with decimals

UTC: Universal Time Coordinated with dimension *hhmmss.nnn*

Key	Function
F1	Activating the GPS module
F2	Deactivating the GPS module
F3	Resetting the GPS module
ESC	Leaving the GPS Test and showing the mask of the standard program which actually is parameterized.

Menü: Info

By pressing key **MENU** the menu bar will be displayed. Now menu item **Info** may be selected by means of keys **◀** and. After pressing the key **ENTER** the Info window will be shown.



S/N 6-digit device number

OS Name and version of system software

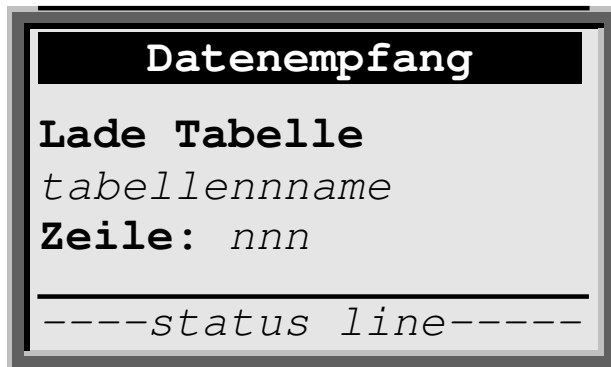
AP Name and version of application

n..n Options marking. This can be put together with following alpha characters:

- d** The application contains the required software module for **DECT** radio communication
- f** The application contains the required software module for **WLAN** data transmission (WiFi)
- g** The application contains the required software module for **GPRS** data transmission
- l** The application contains the required software module for the **Logging** function
- m** The application contains the required software module for **MTWIN** data transmission
- p** The application contains the required software module for **GPS**
- s** The application contains the required software module for the **GPRS** resp. **WLAN Setup**
- w** The application contains the required software module for **Transponder R/W** functionality. Without this module (in case of an integrated transponder module) only the reading of the transponder id. is supported.

Loading the GPRS/WLAN Parameter Table

After starting MTWin on the connected PC and executing function `Load table`



Mask 9

will be shown. After having loaded the table, mask 8 is shown again. After pressing the key **ENTER** mask 10 resp. mask 20 (depending on the selected option) will be shown.

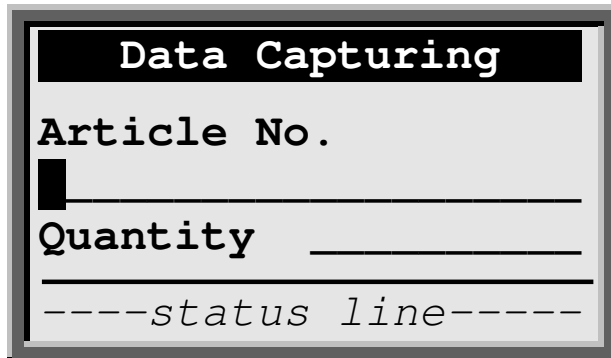
The following page shows an example for the GPRS/WLAN parameter table. Please notice:

- All unknown parameter names resp. all lines beginning with „/“ are interpreted as comment
- Spaces are only permitted within parameter strings (on the right side of character „=“)
- Parameter names are not case sensitive
- Parameters which are not referred by provided parameter names are not changed.

```
03000 Parameter<CR>
GPRS_PIN_SIM=pin<CR>
GPRS_APN=Accesspoint-name<CR>
GPRS_APN_User=Accesspoint-user<CR>
GPRS_APN_PW=<CR>
GPRS_MailServerAdr=mail-server-adresse<CR>
GPRS_MailServerPort=mail-server-port<CR>
GPRS_SMSC=sms-service-center<CR>
GPRS_SMSR=sms-receiver<CR>
GPRS_MailSender=mail-sender<CR>
GPRS_MailSenderPW=password<CR>
GPRS_MailSubject=mail-subject<CR>
GPRS_MailReceiver=mail-receiver<CR>
GPRS_FTPServerName=ftp-server-name<CR>
GPRS_FTPUserName=ftp-user-password<CR>
GPRS_FTPPassword=ftp-password<CR>
// GPRS_DUE_Mode: 0 - FTP, 1 - Mail, 2 - SMS
GPRS_DUE_Mode=n<CR>
WLAN_APN=aoa2wlan<CR>
WLAN_APN_PW=wlan-password<CR>
WLAN_MailServerAdr=mail-server-adresse<CR>
WLAN_MailSender=mail-sender<CR>
WLAN_MailSenderPW=mail-sender-password<CR>
WLAN_MailSubject=mail-subject<CR>
WLAN_MailReceiver=mail-receiver<CR>
WLAN_FTPServerName=ftp-server-adresse<CR>
WLAN_FTPUserName=ftp-user-name<CR>
WLAN_FTPPassword=ftp-password<CR>
// WLAN_DUE_Mode: 0 - FTP, 1 - Mail, 2 - SMS<CR>
WLAN_DUE_Mode=n<CR>
```

Barcode Capturing

Following cold start and initialization the standard program mask will be shown:



Mask 10

In field **Article No.** a 1...40 digit article number can be scanned or entered manually. In the input field **Quantity** a 1...10 digit input can be entered manually.

Article No.

The **Article No.** can be scanned as a 1...40 digit barcode or manually be entered. In case of option **Options/Double Input** selected, several identical article numbers can be captured. Otherwise the error message „Already captured!“ will be shown.

When more than 20 characters are entered scrolling will be made, the last entered 20 characters are displayed. When leaving the article number field the left part of the article number will be shown.

Quantity

The quantity field will only be shown when option **Options/Quantity Field** is selected.

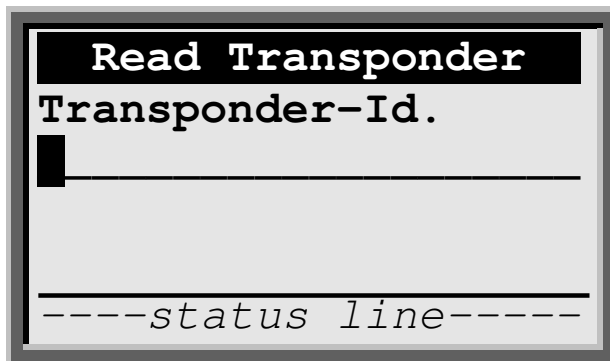
After entering the article number the quantity field is preset with „1“. When the next article number is scanned the record will be stored with quantity „1“. If the same article number was scanned again and option **Options/Add up Quantity** is selected the quantity will be incremented by 1.

Otherwise the preset quantity can be overwritten by making a 1...10 digit manually entry.

After leaving the quantity field with key **ENTER** or scanning the next barcode the record is stored with a time stamp. The time stamp will only be transmitted if option **Time Stamp** is selected.

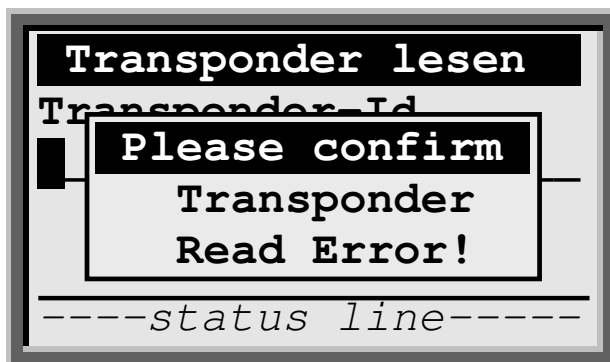
Reading/Writing Transponder

When selecting option **Transponder**



Mask 20

will be shown. By positioning the scanner screen (behind it there is the transponder modules antenna) near to a transponder tag and pressing key **SCAN** the transponder id. and the first 24 data bytes will be read. In case of an error



will be shown. This message must be confirmed with key **ENTER** and reading must be repeated. The data bytes are interpreted as follows:

Byte	Field Name	Format
0...9	Date	tt.mm.jjjj
10...11	Programming Counter	zz
12...23	Text	tt...tt

The transponder id. and transponder data will be shown:

Transponder Data

Transponder-Id.
iiiiiiiiiiiiiiiiiiii

Date *tt.mm.jjjj* *zz*

Text *tttt*

----status line-----

Mask 21

If the field **Date** doesn't contain a valid date „--.--.----“ will be shown, the programming counter is set to „0“ and an empty text field is displayed. Otherwise the transponder data are displayed. Now the field **Text** can be altered as desired. After pressing **ENTER**

Prog. Transponder

Transponder-Id.
iiiiiiiiiiiiiiiiiiii

Date *tt.mm.jjjj* *zz*

Text *tttttttttttttttt*

----status line-----

Mask 22

will be shown. By positioning the scanner near to a transponder tag read before and pressing key **SCAN** the transponder tag will be programmed with the displayed data. If an error occurs

Prog. Transponder

Transponder-Id.
ii

Please confirm

Transponder

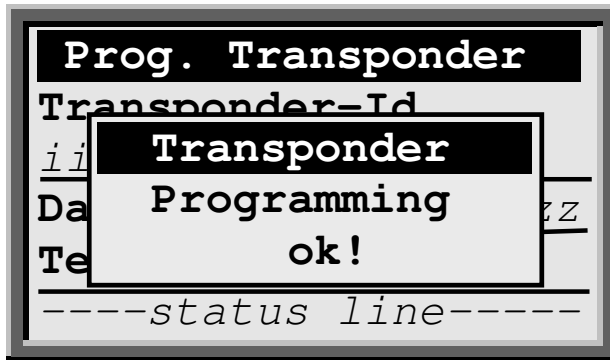
Read Error!

Date *Da* *zz*

Te *Te*

----status line-----

will be shown. After confirming with key **ENTER** programming must be repeated. The programmed data will also be stored into the scanners data memory. Successful programming of the transponder will be shown for about 2 seconds with



After that the empty mask 20 will be shown.

Displaying Records

When an input mask is clear, it is possible to scroll through the memory bank backwards and forwards by pressing the button ◀ or ▶ .

By pressing the button ⬆ and ◀ or ▶ at the same time, it is possible to jump to the first or last record.

Should the input mask already contain data, the **ESC** button must first be pressed twice in the Non-Focus-Mode

Modifying a Record

In order to alter a record it first must be displayed on the screen.

After pressing key **ENTER** the first edit field is focused. Now select which field is to be edited by pressing the buttons ◀ or ▶ . By pressing the button **ENTER**, the cursor appears and the data can now be altered.

Deleting Records

In order to delete a record it first must be brought forward to the display screen. Once the record is displayed it can be deleted by pressing the button **DEL**.

If the displayed record wasn't deleted the function "Delete Record? **ENTER=yes**" is displayed. By pressing button **ENTER** the record is deleted. Each other key cancels the function.

Message „Data Memory full!“

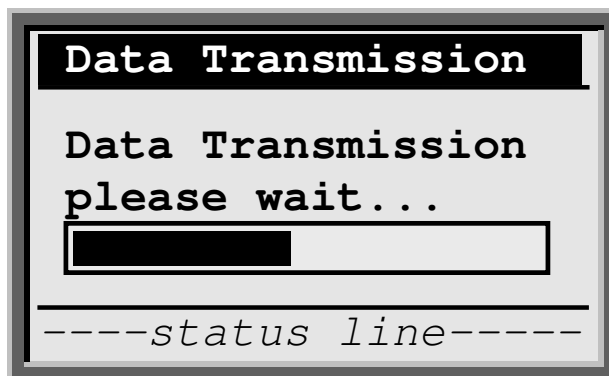
The data flash is full. The data has to be transmitted and the data memory has to be erased.

Cable bound Data Transmission

The **black** 9-pole Sub-D-connector of the communication cable has to be connected to the appropriate interface of the PC (default MTWin setting: COM1). The mains adapter has to be connected to the **black** 9 pin Sub-D-connector and to 220 V mains.

The data transfer is carried out by MTWin. For data transfer to be carried out the mask of the standard program must be displayed.

After connecting the communication cable (if the communication cable is already connected, it first must be disconnected) the data transfer follows either automatically called up by means of MTWin or the data will be marked as “transmitted” (depending on appropriate MTWIN setting). During the data transfer a progress bar shows the data transfer progression.



After a successful data transfer the data memory is deleted by MTWin and the input mask from the standard program will be displayed.

The transferred records have the following data format:


```

%%STX-sssss/rrrrr/tt.mm.jjjj/hh:mm:ss<CR><LF>
<timestamp>;aa..aa;mm..mm<;x..x;y..y><CR><LF>
<timestamp>;aa..aa;mm..mm<;x..x;y..y><CR><LF>
      :           :           :           :           :           :
<timestamp>;aa..aa;mm..mm<;x..x;y..y><CR><LF>
<timestamp>;aa..aa;mm..mm<;x..x;y..y><CR><LF>
<timestamp>;ii..ii;tt.mm.jjjj;zz;tt..tt<;x..x;y..y><CR><LF>
<timestamp>;ii..ii;tt.mm.jjjj;zz;tt..tt<;x..x;y..y><CR><LF>
      :           :           :           :           :           :
<timestamp>;ii..ii;tt.mm.jjjj;zz;tt..tt<;x..x;y..y><CR><LF>
<timestamp>;ii..ii;tt.mm.jjjj;zz;tt..tt<;x..x;y..y><CR><LF>
%%ETX-cccc<CR><LF>

```

rrrrr Number of following records,
sssss Serial number of device (see type label),
tt.mm.jjjj Date of data transfer,
hh:mm:ss Time of data transfer,
cccc 16-Bit-Checksum in hex format. The checksum is calculated
in the following way: All printable ASCII characters (from hex
code \$20 to \$7E inclusive) from "%STX" to "%ETX-"
inclusively are added up.

timestamp Time stamp of data collected in format
tt.mm.jjj hh:mm:ss, can be selected/deselected via
option parameter **Options/Timestamp**.

aa..aa 1...20 digit article number
mm..mm 1...7 digit quantity, can be selected/deselected via option
parameter **Options/Quant. Field**.

ii..ii Transponder IdentifiCation
tt.mm.jjjj Date stored within the transponder
zz Programming counter stored within the transponder,
1...2 digit

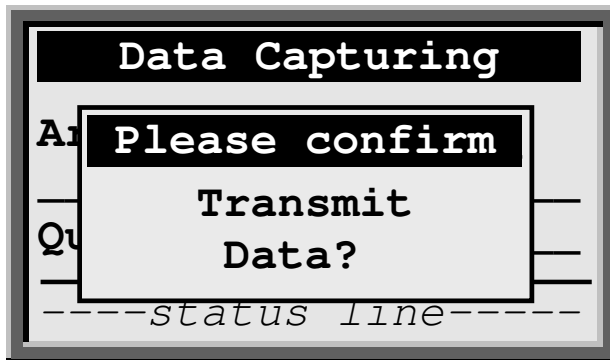
tt..tt Text stored within the transponder, 1...12 digit
x..x GPS x coordinate (Longitude)
with format *gggmm.mmmm*
ggg Degrees
mm.mmmm Minutes with decimal digits

y..y GPS y coordinate (Latitude)
in Format *ggmm.mmmm*
gg Degrees
mm.mmmm Minutes with decimal digits
Storing of GPS coordinates may be switched on/of by means
of menu function **Admin/GPS Settings/Store Coord**.

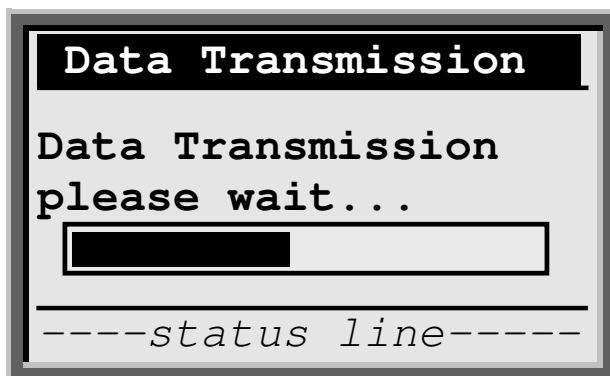
DECT Data Transmission

If the option „Background Transm.“ (menu: DECT Settings) is not selected, the captured data are collected in data memory and may be sent as complete file via DECT radio.

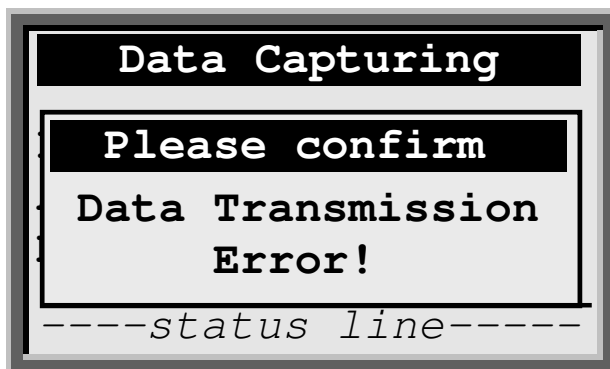
After starting the DECT data transmission with key **F1** the query



is shown. After confirming with **ENTER** the connection will be established. During the data transmission a progress bar will be shown.

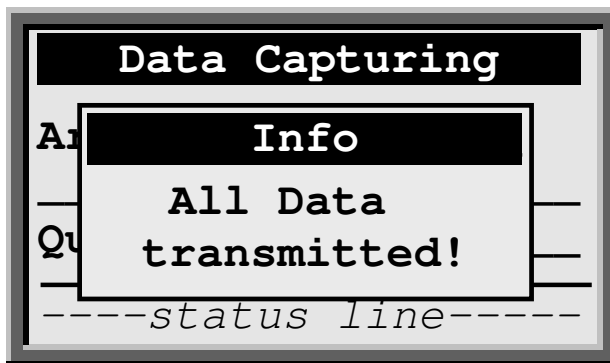


If there is break of the data transmission



will be shown. After confirming the error message with key **ENTER** the data transmission has to be repeated.

After a successful data transmission the data memory will be erased and for about 2 seconds



will be shown. After that the entry mask of the selected standard program will be shown.

GPRS or WLAN Data Transmission

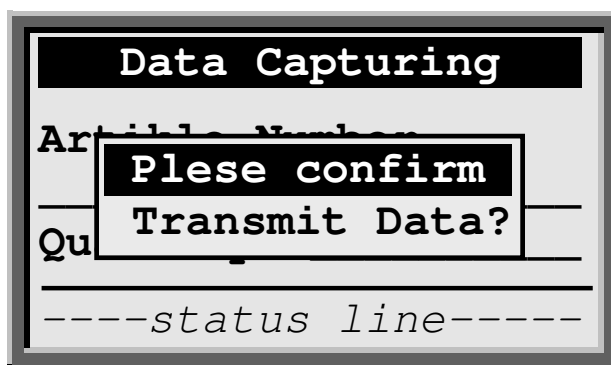
Depending on the setting „Transmit per“ in the „GPRS Setup“ resp. „WLAN Setup“ the data transmission is done either per FTP or per Mail with the captured data appended or in case of a single record per SMS (only with GPRS).

The name of the transmitted file with the data captured by the MDE device is built of the MDE devices serial number and the data transmission time in following format:

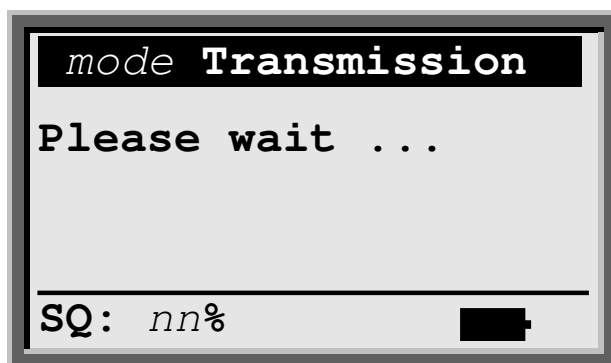
```
sssss_jjjjmmmtt_hhmmss.TXT
```

<i>sssss</i>	MDE devices serial number
<i>jjjjmmmtt</i>	Year/Month/Day
<i>hhmmss</i>	Hour/Minute/Second

After pressing function key **F1**



will be shown. After confirming with key **ENTER** mask 20 will be shown. The function may be cancelled by pressing **ESC**.

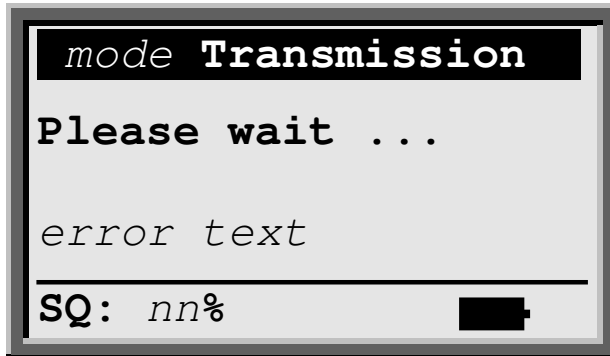


Mask 20

The transmission mode will be displayed in the title line (*mode*= “FTP“, “Mail“ or “SMS“). The status line shows the signal quality *SQ* in percent.

The data transmission may be cancelled at each time by holding down key **↑** and pressing key **DEL**.

If there is an error during data transmission the connection



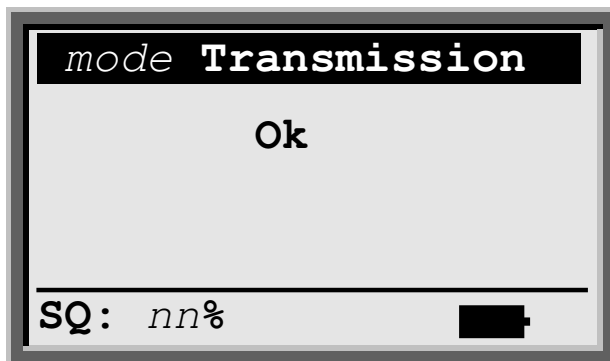
Mask 20

will be shown. The description of the displayed errors can be found in

- for GPRS in document „AT Command Set for SAGEM HiLo Module.PDF“
- for WLAN in document „ATi_Programmers_Manual.pdf“

After confirming the error message with key **ENTER** the entry mask of the selected standard program will be shown.

If the data transmission was performed successfully



Mask 20

will be shown and the data memory will be erased. After pressing **ESC** or **ENTER** the entry mask of the selected standard program will be shown.

Activating the SIM Card after PIN Error

If a PIN error occurs during data transmission mask 30 will be shown.

The screen displays a black header bar with the text "SIM Card" in white. Below the header, the text "PIN" is followed by a black rectangular input field. At the bottom of the screen, there is a status bar containing the text "SQ: nn%" on the left and a black rectangular icon on the right.

Mask 30

Entering of a valid PIN is required. An invalid entry will be replied with the error message „Please confirm – Invalid PIN!“.

If an invalid PIN was used 3 times overall (either for data transmission or when entering it in mask 30), mask 31 will be shown.

The screen displays a black header bar with the text "SIM Card" in white. Below the header, the text "PUK_n" is followed by a black rectangular input field. Below that, the text "PIN" is followed by a black rectangular input field. At the bottom of the screen, there is a status bar containing the text "SQ: nn%" on the left and a black rectangular icon on the right.

Mask 31

Entering PUK1 resp. PUK2 is required. An invalid entry will be replied with error message „Please confirm – Invalid PIN_n!“. After entering the PUK the entering of an new PIN is required. After that mask 12 will be shown and the data transmission has to be started again.

Bluetooth Communication

If option „Bluetooth Comm.“ (menu Options) is selected, „Bluetooth – Connecting ...“ will be shown, when the device is powered on.

If a Bluetooth device was already assigned to the MDE device before this device will be connected to and the data capturing mask (according to settings in menu Options) will be shown.

If no Bluetooth device was already assigned to the MDE device before, the available Bluetooth devices will be displayed.



Mask 40

Key	Function
ESC	Leaves the function. This is only possible if a Bluetooth device was already assigned to before and the MDE device is connected to that.
DEL	Deletes list of Bluetooth devices, searches Bluetooth devices again and displays them.
◀	Displays previous Bluetooth devices
▶	Displays next Bluetooth devices
ENTER	Makes a connection to displayed Bluetooth device.

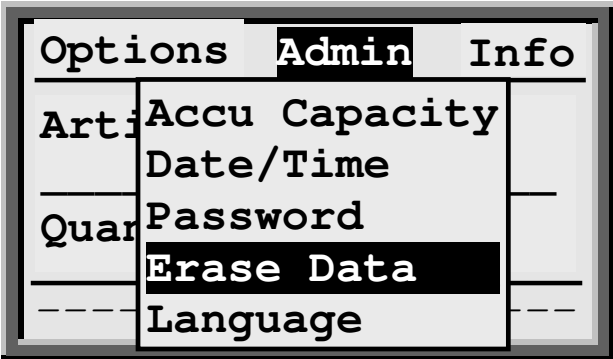
Deleting the Data Memory manually

When MTWin parameter **Options/Transmission/After Data/Receiption/Delete Data Memory** is chosen data memory will be deleted after data transfer by the aid of MTWin.

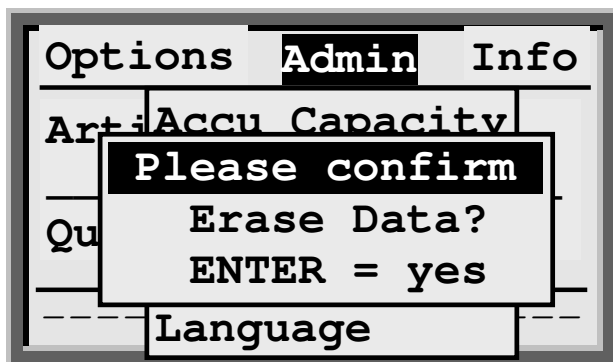
If MTWin parameter **Option/Transmission/After Data Receiption/Set Data Transmission Lock**) is chosen deletion of data memory must be carried out by the use of the `Admin` menu. If a password was set it must be entered when selecting the `Admin` menu.



By entering the correct password the `Admin` menu is shown:



After performing function **Erase Data** with button **ENTER** the following request is asked



By confirming with button **ENTER** the data memory is deleted. Each other button cancels this function.

Logging

Assumed the application contains the concerning software module (refer to menu: Info), following events are logged with time stamp in the data file and may be inspected together with the captured data:

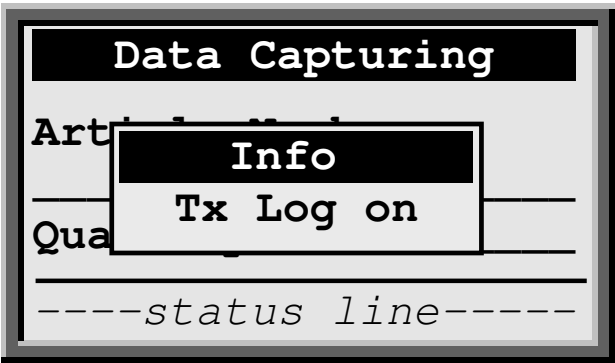
Log Text	Explication
Power on	Device switched off
Power off	Device switched on
GPS Fix	GPS coordinates are available
GPS Fix lost	GPS coordinates no longer available
Store GPS Coordinates	Record which were stored without GPS coordinates were added afterwards with GPS coordinates and time stamp

By means of the following function code



Tx Log on/off

it can be switched between „Tx Log on“ and „Tx Log off“. The new state will be shown at the display, i.e.:

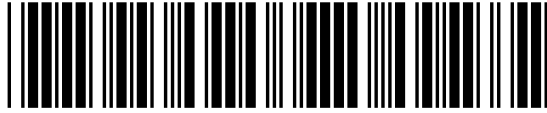


- Tx Log on
- Output of log information together with the data
- Tx Log off
- No output of log information (default).

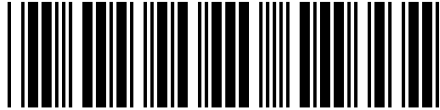
After data transmission it will be switched to „Tx Log off“.

Test Barcodes

Code 39



CODE-39



01234

UPC



1 2345678901 2



5 6789012345 0

EAN



23456785



2 345678901234

Code 2/5 int.

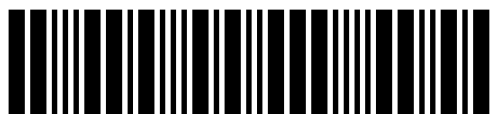


4567890



01223344556677

Code 2/5 std.



0123

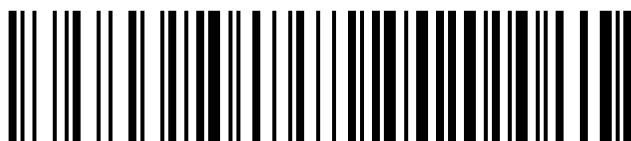


123456

Code 128



Code-128



abc-ABC-123