deister electronic

BiTech®

HANDHELD
BHT, BHT lite,
BHI, BHI Pro

Manual
- Draft -
V07/06/05

© Copyright 2005 by deister electronic GmbH

June 2005 SE/BB

deister electronic GmbH
Hermann-Bahlsen-Str. 11
30890 Barsinghausen
Germany
Telefon: +49 (0) 51 05 - 51 61 11
Telefax: +49 (0) 51 05 - 51 62 17
E-Mail: info@deister-gmbh.de
Web: www.deister.com

Contents

1 Introduction

The portable full-ISO BiTech readers are so small - they fit even into a shirt pocket - they have a very handy design and are easy to operate even under worse conditions.

The readers are compatible to the ISO standard 11785 and read FDX-B and HDX. Tags with the widely used chip type H4102 can be read as well.

The two HOTKEYES can be programmed individually and combined with a special action. Furthermore any read ID could be combined with an ACTION CODE to combine useful information with the transponder ID.

A look-up table can be downloaded to the reader to show additional information to the transponder ID.

The BiTech readers have an integrated real-time clock; every ID will be stored with a time stamp.

The large memory is sufficient for 2000 IDs, including time stamp and ACTION CODE.

The large backlit display has 2 x 16 characters and is very readable.

An ergonomic keyboard with 8 keys ensure easy and comfortable operation.

The robust case is IP 54 protected and withstands even harsh environments.

The BiTech reader is prepared for wireless data communication, loading and power supply together with the BiTech Cradle.

Some of the outstanding features of the BiTech readers are

ACTION CODES

To combine useful information with a transponder ID the BiTech reader offers the ACTION CODES. They can be a numeric value from 1 to 99 or more comfortable an alphanumeric string of up to 10 digits. The alphanumeric strings have to be loaded into the BiTech reader. The ACTION CODE can be combined with the ID after reading automatically or can be chosen out of the list with the SCROLL keys.

ACTION CODE PLUS

As a further enhancement this function allows to add an additional numeric value from 0 to 99 to the ACTION CODE.

HOTKEYS

A HOTKEY is more than a simple READ button. It could be programmed to do a lot more than a simple read.

With the HOTKEY you can start a complete sequence of functions by just pressing one button.

As the BiTech readers have two HOTKEYS, you can program them individually for different tasks.

Basic operation of BiTech readers

1.1 The 8 keys for the operation

- **ON/OFF** - Switch power on/off
- **HOTKEY A** Starts a READ and or additional functions
- **HOTKEY B** Starts a READ and or additional functions
- **F** – Switch into MENU modus
- **C** – In MENU modus one level up
- **RETURN** Conformation of changes in the MENU modus and one level down
- © - SCROLL up Move or Value higher
- ™ - SCROLL down Move or Value lower

1.2 The status messages in the second line of the DISPLAY

- **Battery empty**, if capacity is as low as 5 to 10%
- **Memory full!**, appears if memory is full
- **Online modus**, if the reader is connected with a PC via cable
- **Cradle,** if the reader is connected with a PC via docking station
- **RAM ERROR**, at failures in memory

1.3 The acoustic signals

- One BEEP = keyboard BEEP
- 4 times BEEP = OK (ID read)
- Long BEEP = NOK (no ID read)
- High/low BEEP = double read (into one minute)
- Keyboard BEEP but longer = ACTION BEEP

2 Operating the BiTech reader

Before starting operation of the BiTech reader, the batteries being supplied separately have to be put in the battery case. In case that you would like to use other types of batteries, resp. rechargeable batteries, please read chapter 4.3.7 POWER MANAGER to set the battery type.

Caution! An other battery type than it is chosen in the selection list of the power manager, might cause harm to the reader.

2.1 Power on

After the reader is switched on with the ON/OFF key, the DISPLAY can be switched between four different formats by pressing the © ™ keys:

```
BiTech    V. 1.71
<-- 1       2 -->
```

Software version and ACTION CODE numbers

```
BiTech    V. 1.71
31.01.05  10:14
```

Date and time

```
BiTech    V. 1.71
Battery   OK
```

Battery condition

```
BiTech    V. 1.71
Data      0/2100
```

Memory use

2.2 Start READ

After switch on the reader with the ON/OFF key a READ is started with one of the **HOTKEYS**, any other action that is connected with the HOTKEY (A or B) will run automatically after reading.

```
READ HOTKEY A
..........
```

2.3 Quick start

With the **HOTKEY A or B** the reader starts directly into the READ modus. After reading, any other action that is connected with the HOTKEY (A or B) will run automatically.

```
READ HOTKEY A
..........
```

2.4 No ID found

If there is no transponder in the field of the antenna or no valid ID is received (e.g. a faulty transponder or too much noise). Display:

NO TRANSPONDER Action stopped

A new read could be started by pressing HOTKEY A or B.

3 DISPLAY and SAVE of an ID
3.1 Standard mode without ACTION CODE

The ID will be displayed in the upper line.

In **SAVE MODE = ASK,** in the second line SAVE? YES/NO will be displayed.

```
980 123456789012
SAVE?  YES
```

Save with RETURN, reject with "C" or a new reading.

In the **AUTO MEMORY MODE** the ID will be saved automatically,

```
980 123456789012
SAVED
```

The complete content of the data file regarding that transponder could be checked by using the SCROLL up/down buttons.

3.2 Modus with ACTION CODE ASK

Displays at the second line ACTION CODE = XX.

```
980 123456789012
AC = XX
```

The value of AC could be adjusted with the SCROLL KEYS and confirmed with RETURN. The AC starts with the value chosen under HOTKEY- AC CODE. There set for the preferred AC, a use of the SCROLL is only needed when another AC is wished.

3.3 Modus with ACTION CODE AUTO

Displays while reading the chosen ACTION CODE (see HOT KEY MENU) and shows after read the ID:

```
980 123456789012
Saved
```

3.4 Modus with an alphanumeric FORMAT of the ACTION CODE

Displays a text of up to 10 digits for the ACTION CODE. The value of AC could be adjusted with the SRCOLL KEYS and confirmed by RETURN.

```
980 123456789012
AC = weighing
```

3.5 Modus with ACTION CODE PLUS function

This function allows combining an ID with a fixed or variable ACTION CODE and an additional numeric value. ACTION CODE in the HOTKEY MENU can determine the fixed ACTION CODE. The variable ACTION CODE can be chosen with the SCROLL keys and confirmed by RETURN. The additional value can also be chosen with the SCROLL buttons from 0 to 99 and then confirmed by RETURN.

```
980 123456789012
AC = weighing
```

```
980 123456789012
0 Add Value
```

3.6 Modus DISPLAY

Shows an alphanumeric ALIAS that is connected with the transponder ID in the link list.

```
XXXXXXXXXX
Saved
```

4 The SETUP of the BiTech reader

By pressing **Key F** the handheld changes to the **MAIN MENU**. The Options of the main menu are:

```
→ SETUP
  OPERATION
    DATA
```

SETUP contains all settings for the READER that are valid for both HOTKEYS.

OPERATION has all the functions that could be programmed individually for each HOTKEY.

DATA has all the functions for the handling of data in the memory.

4.1 Operation within the menu

The SCROLL keys are used to move within the MENU structure. The confirmation of the indicated MENU value with **RETURN** changes into that SUBMENU. **C** jumps back to the higher level of the MENU. **F** jumps always back to the MAIN MENU.

A changeable value or data is displayed at the second line and can be selected by the SCROLL keys and confirmed by **RETURN**. Return to the higher level without change by **C**.

In case of a **YES/NO** decision in the second line the value will be confirmed with **RETURN** and rejected by **C.** After the confirmation the APR jumps back to the next higher level of the MENU.

4.2 The OPERATION menu

It has the following submenus

```
-> LAST ID
   HOTKEY A
     HOTKEY B
```

4.2.1 LAST ID

Shows the last 10 IDs. The IDs could be saved if they are not in the memory yet.

```
Last ID        X/10 S
XXX  XXXXXXXXXX
```

Shows number X out of the last ten. With SCROLL keys move to the searched ID and select the ID with the ENTER key. The complete data of this ID will be displayed by using the SCROLL keys. S shows that the ID is saved already. If the ID is not saved yet, pressing ENTER again could save it.

```
Last ID SAVE
NO
```
YES

Selection YES/NO with SCROLL buttons and confirmation with ENTER.

4.2.2 HOTKEY A and HOTKEY B

Determine which HOTKEY (A or B) will be programmed. The Submenus are only valid for the chosen HOTKEY.

- **HOTKEY has** the following options
    - **MODE**
    - **AC CODE**
    - **SAVE MODE**

- **MODE appoints how the ACTION CODE is combined with the ID number**
    - **No ACTION CODE,** no ACTION CODE will be shown or requested.
    - **AC ASK,** after reading an ID, the reader asks for an ACTION CODE that can be selected by the SCROLL keys and confirmed with ENTER.
    - **ASSIGN ASK,** ALIAS IDs in the link list that are not already linked with an ID, will be shown. By scrolling up and down one alias can be chosen and confirmed with ENTER. Then alias and ID are linked until the link list is deleted.
    - **ASSING ASK SAVE,** the assigned link will be saved automatically.
    - **AC AUTO PLUS,** a certain ACTION CODE that is defined at AC CODE (see below) will be automatically saved with a read ID. After reading the ID with the SCROLL keys an additional numeric value can be chosen.
    - **AC ASK PLUS,** an ACTION CODE and a numeric value can be linked to the ID being read.
    - **AC AUTO,** a certain ACTION CODE that is defined at AC CODE (see below) will be automatically saved with a read ID.

- **AC CODE,** determines an ACTION CODE by SCROLL keys for **that** HOTKEY. It will be automatically saved when read an ID.

- **SAVE MODE** determines how a read ID will be saved.
    - **AUTO** saves the ID automatically.
    - **ASK** requires the confirmation of SAVE with YES/NO after read.

4.3 The SETUP menu

Comes with the submenus

```
-> RF/ID
   BAUDRATE

   DISPLAY
   DISPLAY FORMAT
   TIME/DATE
   VOLUME
   POWER MANAGER
   SOFTWARE VERS.
   DEFAULT
```

4.3.1 RF/ID menu

Consist of all functions for reading a transponder.

```
READ LENGTH
DOUBLE READ
```

READ LENGHT

Determines how many (xx) seconds the reader tries to read a transponder.

```
Read Length
= XX Seconds
```

Choose by SCROLL keys and confirm by RETURN.

DOUBLE READ defines if the same transponder will <u>not</u> be read into a certain time period. The value for the period can be OFF, 15, 30,45 and 60 seconds.

Choose by SCROLL keys and confirm by RETURN.

4.3.2 BAUDRATE

Consist of the settings of the interface valid values from 9600 to 57600, choose by SCROLL keys and confirm by RETURN.

4.3.3 DISPLAY

All commands concerning the display are found here.

```
-> LANGUAGE
   POWER OFF

   CONTRAST
   BRIGHTNESS
   LIGHT OPTION
```

- **LANGUAGE** (English/Deutsch)

```
-> ENGLISH
   DEUTSCH
```

Choose by SCROLL keys and confirm by RETURN.

- **LIGHT OPTION**

```
-> ON AT EXT POWER
   OFF AT EXT POWER
```

If LIGHT is switched ON/OFF when the reader is powered externally.

- **CONTRAST**

```
-> Contrast = X
```

Choose from 1 to 5 with SCROLL keys and confirm by RETURN.

- **BRIGHTNESS as** CONTRAST

- **POWER OFF**

```
-> POWER OFF
   XX SECONDS
```

Choose XX from 3 to 20 by SCROLL keys and confirm by RETURN.

4.3.4 DISPLAY FORMAT

Consist of all commands that determine how a transponder ID is displayed and saved. It has the following options:

```
-> VISION FORMAT
   AC FORMAT HOT K
```
```
     ALIAS IF AVAIL
```

VISION FORMAT determines how the transponder ID is displayed.
- ISO Mode STD   animal ISO mode
- BDE/HEX Format   hexadecimal transponder ID
- HEX Inv. Format   hexadecimal transponder ID, displayed in opposit direction
- BiTech Format   transponder ID in Bitech mode
- Telindus   transponder ID in Bitech mode (customers application)

Change value by SCROLL confirm by RETURN.

AC FORMAT HOT K determines if the ACTION CODE is displayed as alpha or numeric value. Alpha works only, if a list of alphanumeric ACTION CODES is loaded into the BiTech reader.

ALIAS IF AVAIL, if set to ON, the alias of the transponder will be displayed instead of the transponder ID. This works only, if a TAG LIST is loaded into the BiTech reader and an alias for the read transponder is available.

If set to OFF the transponder ID will always be displayed.

4.3.5 TIME and DATE

Offer different options to set time and date.

```
-> SET TIME
   TIME FORMAT
     SET DATE
     DATE FORMAT
```

SET TIME, change value by SCROLL, confirm by RETURN.

TIME FORMAT, could be chosen between 12 or 24 h.

SET DATE, change value by SCROLL, confirm by RETURN.

DATE FORMAT, could be chosen between dd.mm.yy and mm.dd.yy.

4.3.6 VOLUME of Acoustic Signals

Change value 0 to 15 by SCROLL confirm by RETURN.

4.3.7 POWER MANAGER

For the selection of the battery type. AKKU means rechargeable batteries, the capacity determine the needed power for recharging.

- BATTERY
- AKKU > 2000 mA
- AKKU 1500-2000 mA
- AKKU 1000-1500 mA

Change value by SCROLL confirm by RETURN.

4.3.8 SOFTWARE VERSION

Displays the version and date of release of the current software, loader version and the serial number.

4.3.9 DEFAULT

Sets all values back to factory settings (see 5. default settings)

4.4 The DATA MENU

With the submenus

```
-> MEMORY SPACE
   SHOW DATA
     SHOW TAG LIST
     USR TAG LIST
     DATA SEND
     LINKLIST SEND
```

4.4.1 MEMORY SPACE

Displays the current use of the memory, with the SCROLL keys also the amount of data in the link and ACTION CODES list could be displayed.

4.4.2 SHOW DATA

Display the data in the memory. Move with the SCROLL keys through the data. When you choose a particular data with RETURN it switches into DATA VIEW MODUS.

```
SHOW DATA     ZX
980 123456789012
```

The complete data can be displayed by scrolling with the SCROLL keys through the lines.

ZX is the number of the data line.

AC is the number of the ACTION CODE.

HDX, FDXB or 4002 are the transponder types HDX, FDX-B or H4002.

4.4.3 SHOW TAG LIST

Displays the transponder ID and the alias, if a link list is loaded into the BiTech reader.

```
SHOW TAG L     X U
ALIAS 1
```

```
SHOW TAG L     X P
ALIAS 1
```

X is the number of the alias, U means it is already assigned, P means it is not assigned yet (Free).

4.4.4 USR TAG LIST

Displays the ALIAS already assigned to a transponder ID since the last download of the TAG LIST.

```
USR TAG LI     X U
ALIAS 1
```

With RETURN chose and open the displayed file. Back with "C"

4.4.5 DATA SEND

Sends the complete content of the data memory to a PC and can be saved with a software like hyperterminal.

4.4.6 LINK LIST SEND

Sends the content of the link list to a PC, if you already have downloaded one into the BiTech reader.

5 The DEFAULT setting

The BiTech readers come with the following default setting:

- ISO MODE STD
- Both HOTKEYS with the same function
    - READ = YES
    - Confirm SAVE = YES
    - AC mode = OFF (Value 0)
    - DISPLAY FORMAT = BiTech Format
    - Show DISPLAY = 5 seconds
- RF/ID - READ LENGTH = 7 seconds
- TRANSPONDER = HDX, FDX-B, 4002
- DISPLAY = BiTech Format
- COUNTRY CODE = Decimal
- VOLUME = 5
- Language = English

Changes in the setting will be saved automatically. With the DEFAULT function in the SETUP menu the default settings will be restored.

6 Technical Data

Frequency 134,2 kHz

Transponder types

HDX compatible (ISO 11784/5)

FDX-B compatible (ISO 11784/5)

H4002 compatible (optional)

Reading range:

Approx. 15 cm with HDX transponder 30 mm

Approx. 10 cm with FDX-B transponder 30 mm

Interfaces

Cradle

Power supply

2 x 1,5V AA mignon batteries

External power supply via cradle

Recharge via cradle

Protection

IP 54

Temperature range

0 to 60°C

Measurements and weight

LxWxH 175x90x36 mm, approx. 350 g

Regulatory notices

Regulatory notices for Europe:

Hereby, deister electronic GmbH declares that this equipment - if used according to the instructions - is in compliance with the essential requirements and other relevant provisions of the RTTE Directive 1999/5/ EC.

Zulassungen für Europa:

Hiermit erklärt die deister electronic GmbH, dass sich diese Funkanlage bei bestimmungsgemäßer Verwendung in Übereinstimmung mit den grundlegenden Anforderungen und den anderen relevanten Vorschriften der RTTE Richtlinie 1999/5/EG befindet.

✆ A complete declaration of conformity can be requested at:

✆ Eine vollständige Konformitätserklärung kann angefordert werden unter:

info@deister-gmbh.de

CE

Regulatory notices for USA:

FCC digital device limitations
Radio and television interference

This equipment has been tested and found to comply with the limits for a digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at his own expense.

This device complies with Part 15 of the FCC rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

CAUTION: Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

Germany:

deister electronic GmbH
Hermann-Bahlsen-Str. 11
30890 Barsinghausen
Tel.: +49 (0) 51 05 - 51 61 11
Fax: +49 (0) 51 05 - 51 62 17
info@deister-gmbh.de

www.deister.com

Great Britain:

deister electronic (UK) Ltd.
Camelgate,
Spalding
Lincolnshire PE12 6ET
Tel.:+44 (0) 1775 - 717100
Fax:+44 (0) 1775 - 717101
info@deister.co.uk

USA:

deister electronic USA Inc.
9303 Grant Avenue
Manassas, VA 22110
Tel.:+1 703 - 368 2739
Fax:+1 703 - 368 9791
info@deister.com

Canada:

deister electronic Inc.
1099 Kingston Road, Suite 212
Pickering ON. L1V 1B5
Tel.:+1 905 - 837 5666
Fax:+1 905 - 837 0777
info@deister-electronic.com

Belgium & Luxemburg:

deister electronic office
Business Park E 19
Battelsesteenweg 455/A
2800 Mechelen
Tel.:+32 (0) 15 - 28 09 68
Fax:+32 (0) 15 - 28 09 71
info@benelux.deister.com

The Netherlands:

deister electronic office
Tolnasingel 3
2411 PV Bodegraven
Tel.:+31 (0) 1726 - 32970
Fax:+31 (0) 1726 - 32971
info@nl.deister.com

France:

deister electronic france
101 rue Pierre Semard
92320 Chatillon
Tel.:+33 (0) 1 47 - 35 78 78
Fax:+33 (0) 1 47 - 35 92 59
info@deister.fr