

BNA Training

March 2014



BNA55



BNA55 (Head)



BNA 545/546
(drawer-box)

BNA56



- **Stacker mechanism**
- Plastic/Metal cashbox
- Rear/Front insertion
- Capacity 1k/2k banknotes

BNA541

BNA57



- Escrow drum up to 15 banknotes
- Plastic/Metal cashbox
- Rear/Front insertion
- Capacity 1k/2k banknotes

BNA542

Overview of Sodeco BNA5 series

BNA57



BNA56



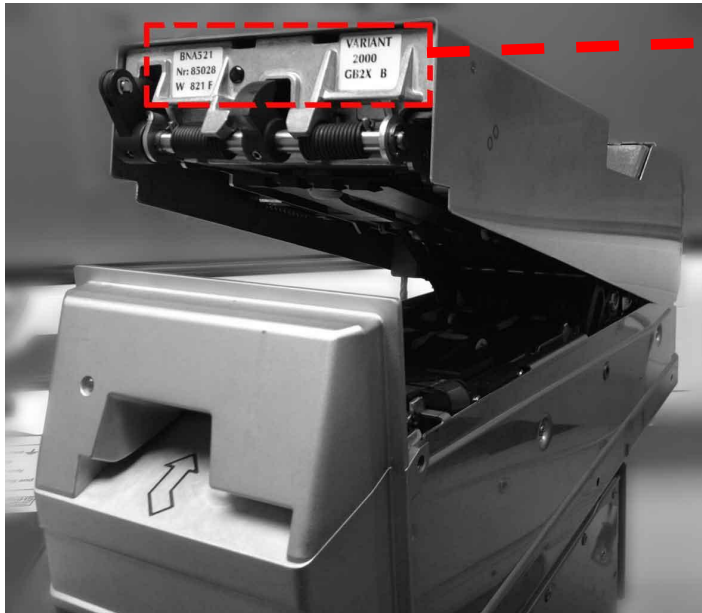
BNA55



BNA55



Codification of Sodeco BNA5 series



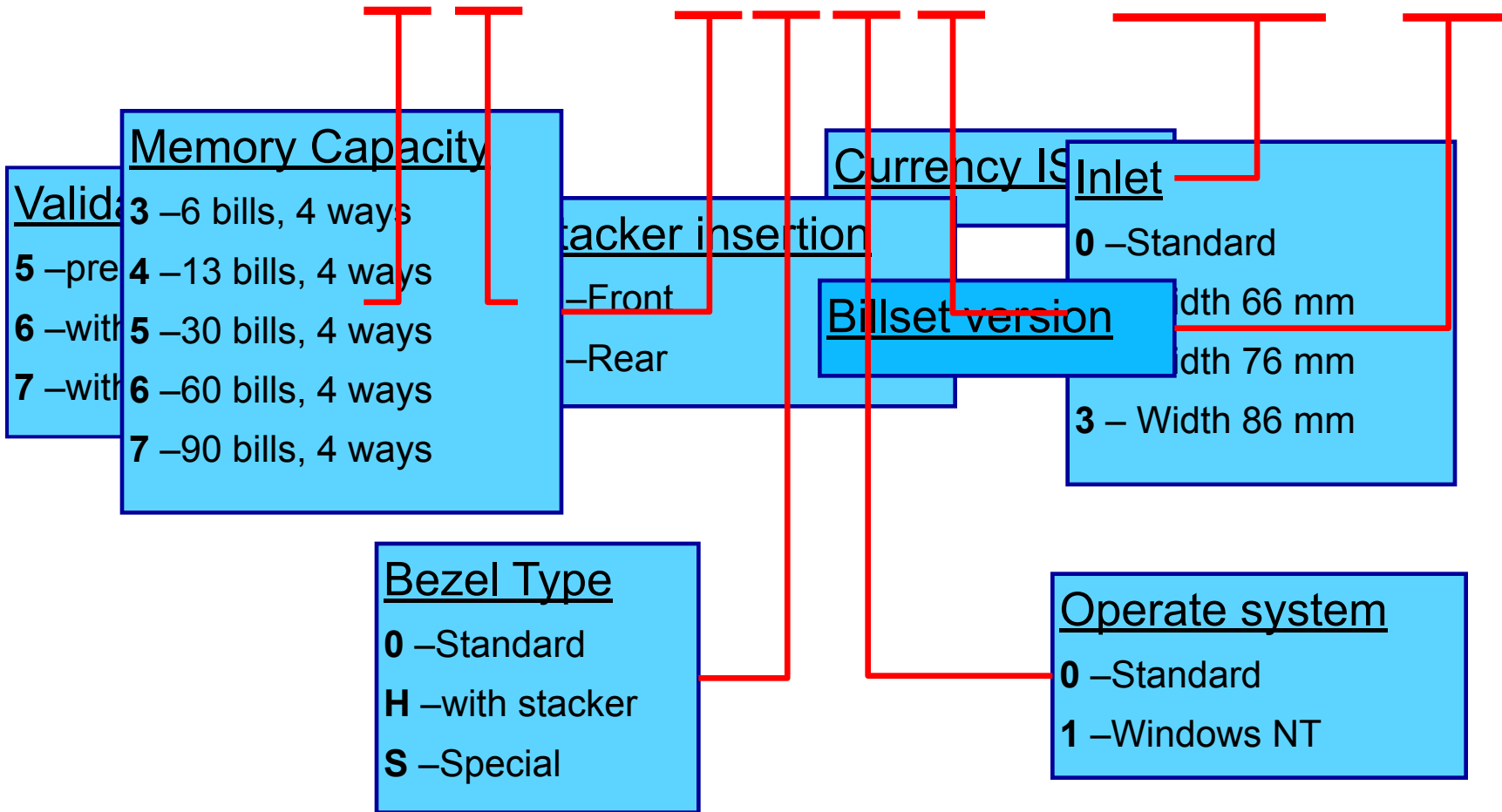
Validator type
 Serial number
 Year/week assembly

BNA542
Nr: 85028
W: 821 F

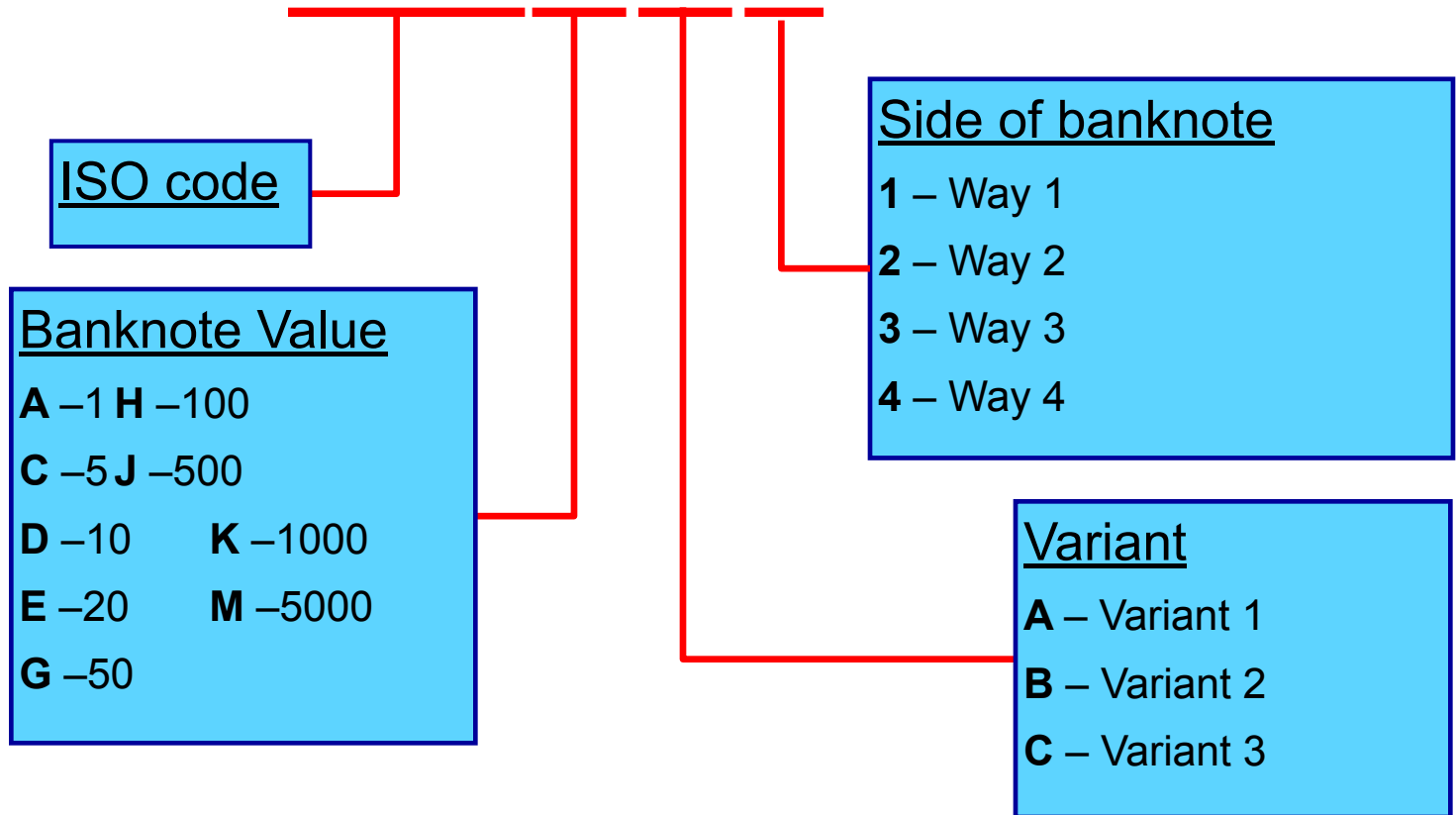
4010
CH 3X B

Hardware option
 Variant name

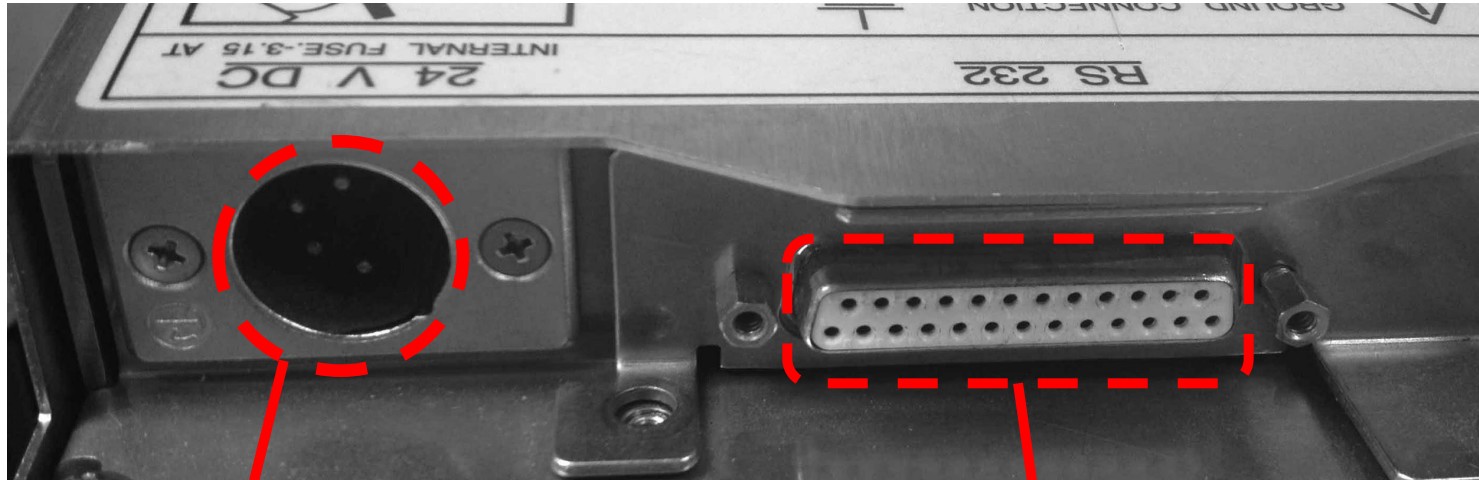
BNA572 - 4H10 - LTL 4X



LTLHA1



Connection of Sodeco BNA5



Power connector

Connector type:

NC4FX straight

NC4FRC right angel

1 pin-Ground, 2 pin-Power

Input: 24V, 70W

Data connector

Connector type: **DB25P**

2 pin-Tx, 3 pin-Rx, 7 pin-Ground

Input: RS232, 4.800 bauds

- Capacity of cashbox: 1000 (Plastic), 2000 (Metal)
- Weight: 11.3 kg
- Operation Temperature: 0 °C to +60 °C
- Power Supply Voltage: 24 VDC \pm 15% (Max current. 3 A)
- Memory Capacity: 6,13,30 or 90 banknotes (4 ways)
- Acceptance Rate: 99% for Mode 1, 97% for Mode 2
- Banknote Width : Min. 60 mm - Max. 86 mm
- Banknote Length: Min. 112 mm - Max 173 mm
- Validation Speed: 2.0 sec. (between banknotes on escrow)
- Number of notes processed: 1 Million
- Useful life: 7 years (assuming recommended preventive maintenance)

WORK (WOR)

Start the accepting process. (Solid green LED)

Samples:

WORK> command

N start of accepting

P processing

VGBCP2 recognized and escrowed (way 2)

.>

ENCASH (ENC)

Put banknotes from escrow to cashbox.

Samples:

ENC> command

E01 encashment of 1 banknote

.>

REFUND (REF)

Return banknotes from escrow to customer.

Samples:

REF> command

R01 Returned 1 banknote

.>

RECOVERY ENCASH (REC ENC)

An attempt to solve Out Of Service condition and trying put all banknotes in cashbox. (Accessible under Slave Mode).

Samples:

REC ENC> command

R01 Returned 1 banknote

.>

RECOVERY REFUND (REC REF)

An attempt to solve Out Of Service condition and trying refund all banknotes to customer. (Accessible under Slave Mode).

Samples:

REC REF> command

R01 Returned 1 banknote

.>

RECOVERY AUTO (REC AUT)

An attempt to solve Out Of Service condition and trying put all banknotes in cashbox or refund to customer. (Accessible under Slave Mode).

Samples:

REC REF> command

R01 Returned 1 banknote

.>

CALIBRATE (CAL)

Allows calibration for BNA5 (length and transparency).

Sample:

CAL> calibration command
>
WOR> command for accept
ICAL specific calibration of WOR
P processing of calibration paper

R01 calibration paper rejected
.> calibration successfully completed

TEST (TES)

General test of BNA5.

Sample:

TES> Sends command for self testing.

```
000000000000000000000000000000000000 Error messages
000000000000000000000000000000000000> Warning messages
BNA5 report NO ERRORS
```

```
-----
TES>
DD0000000000000000000000000000000000 Error DD - Problem with Drum sensor
(covered).
U300000000000000000000000000000000000> Warning U3 - Empty memory (no bill set).
```

DISPLAY IDENTIFICATION (DES IDE)

General test of BNA5.

Sample:

DIS IDE> Sends command for edintification of BNA5

BNA572-7010-00608980/309

57 R F 7.02.0 5.00 360 0184086105>

1 2 3 4 5 6 7

Comments

1. Banknote Acceptor code
2. Front or Rear model
3. Main board hardware version
4. Main software version
5. FPGA version
6. Memory capacity (banknote in bill set)
7. Random identification code

DISPLAY BANKNOTE STATE (DIS BAN)

Display of the current state of the BNA5.

Sample:

dis ban GBCP1>

```
00000009 00000000 00000004 00004 00000000 00000  
00000003 00000000 00000000 00000000 00000000 00000000  
00000064  
GBCP1 A 00000000 00000 000 000 5PGBCP16 - - 1>  
>
```

dis ban GBCP*>

```
00000009 00000000 00000004 00004 00000000 00000  
00000003 00000000 00000000 00000000 00000000 00000000  
00000064  
GBCP1 A 00000000 00000 000 000 5PGBCP16 - - 1  
GBCP2 A 00000000 00000 000 000 5PGBCP26 - - 1  
GBCP3 A 00000000 00000 000 000 5PGBCP36 - - 1  
GBCP4 A 00000000 00000 000 000 5PGBCP46 - - 1>  
>
```

DISPLAY ALL (DIS ALL)

Display of all information about BNA5.

Includes sequence of commands:

(1) DISPLAY IDENTIFICATION

(2) DISPLAY STATE

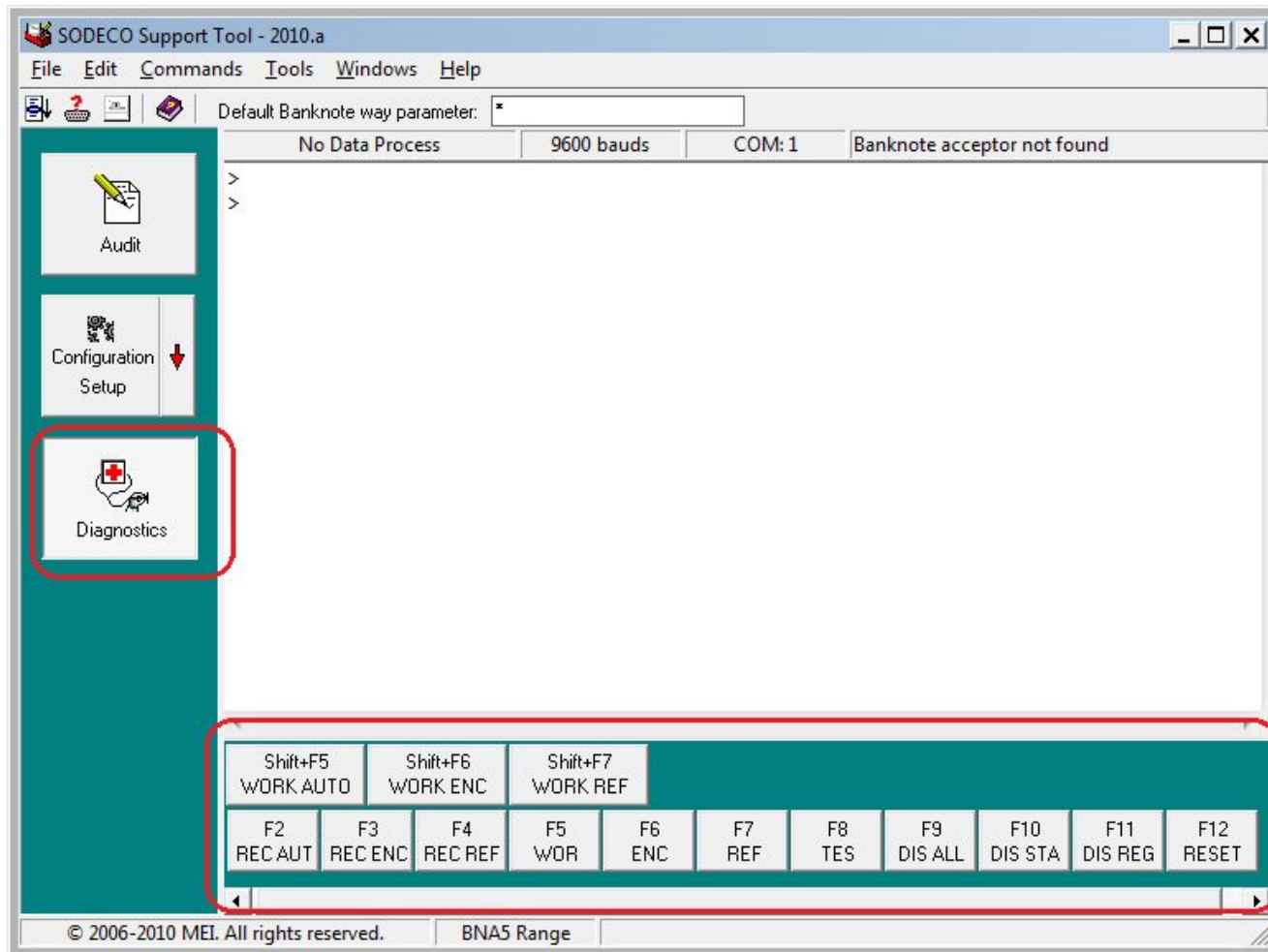
(3) TEST

(4) DISPLAY BANKNOTE STATE (for all banknotes in bill set)

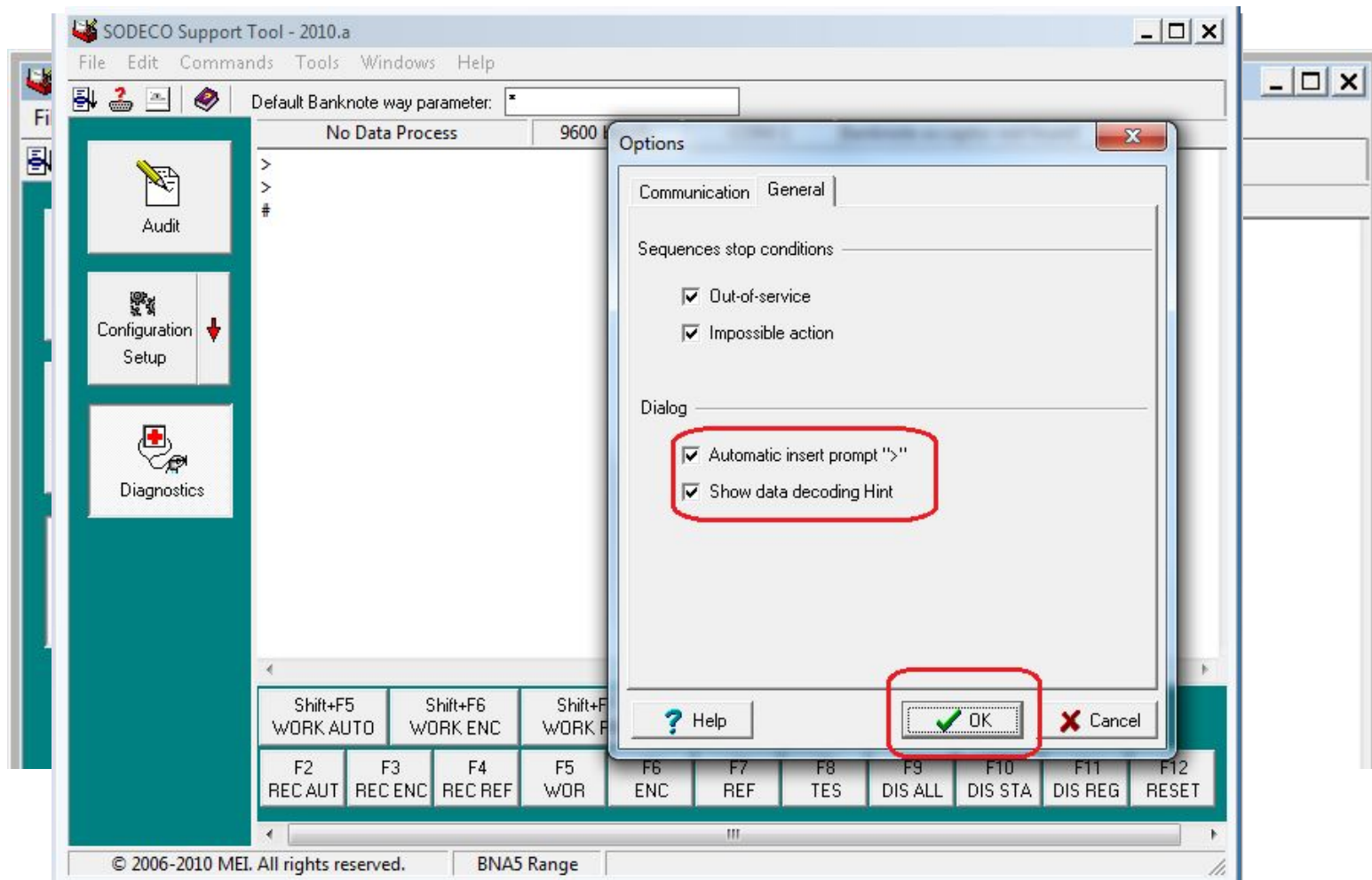
(5) DISPLAY FAILURE HISTORY

(6) DISPLAY COMMUNICATION COUNTERS

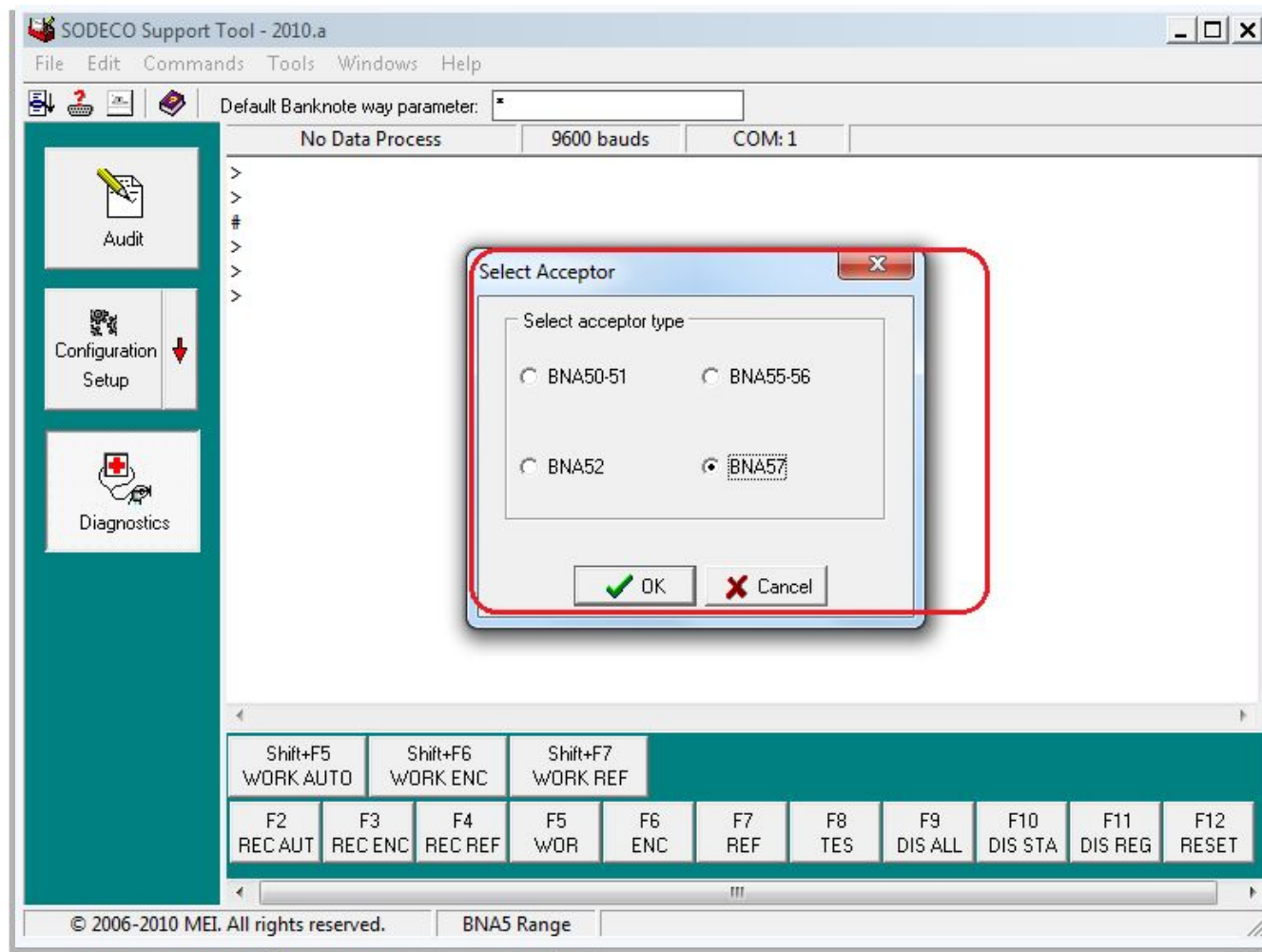
Diagnostic part



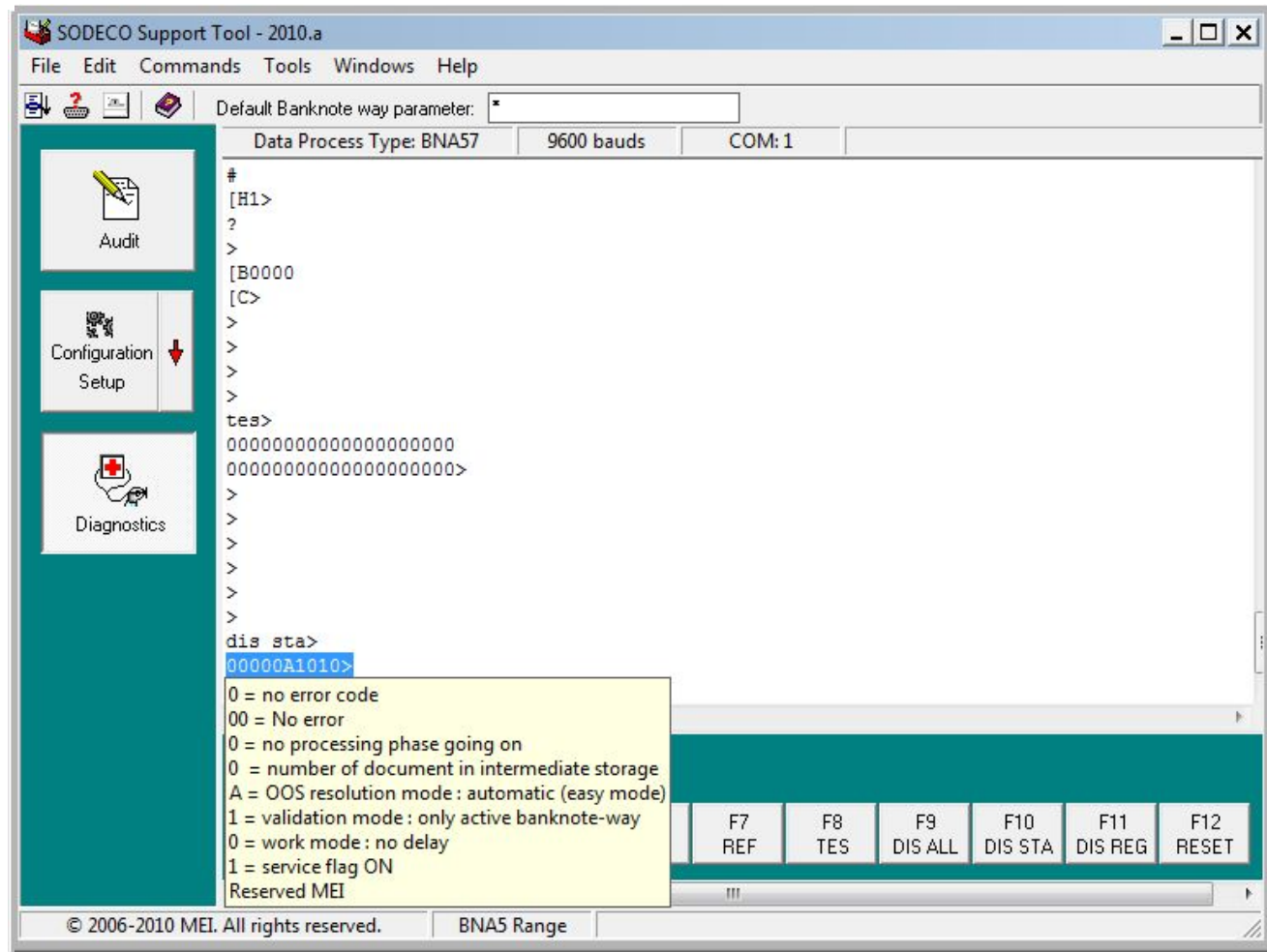
Set options



Set Acceptor type



Using prompt for messages decoding



The screenshot shows the SODECO Support Tool interface. The main window displays a terminal session with the following text:

```

#
[H1>
?
>
[B0000
[C>
>
>
>
>
tes>
000000000000000000000000
000000000000000000000000>
>
>
>
>
>
dis sta>
00000A1010>

```

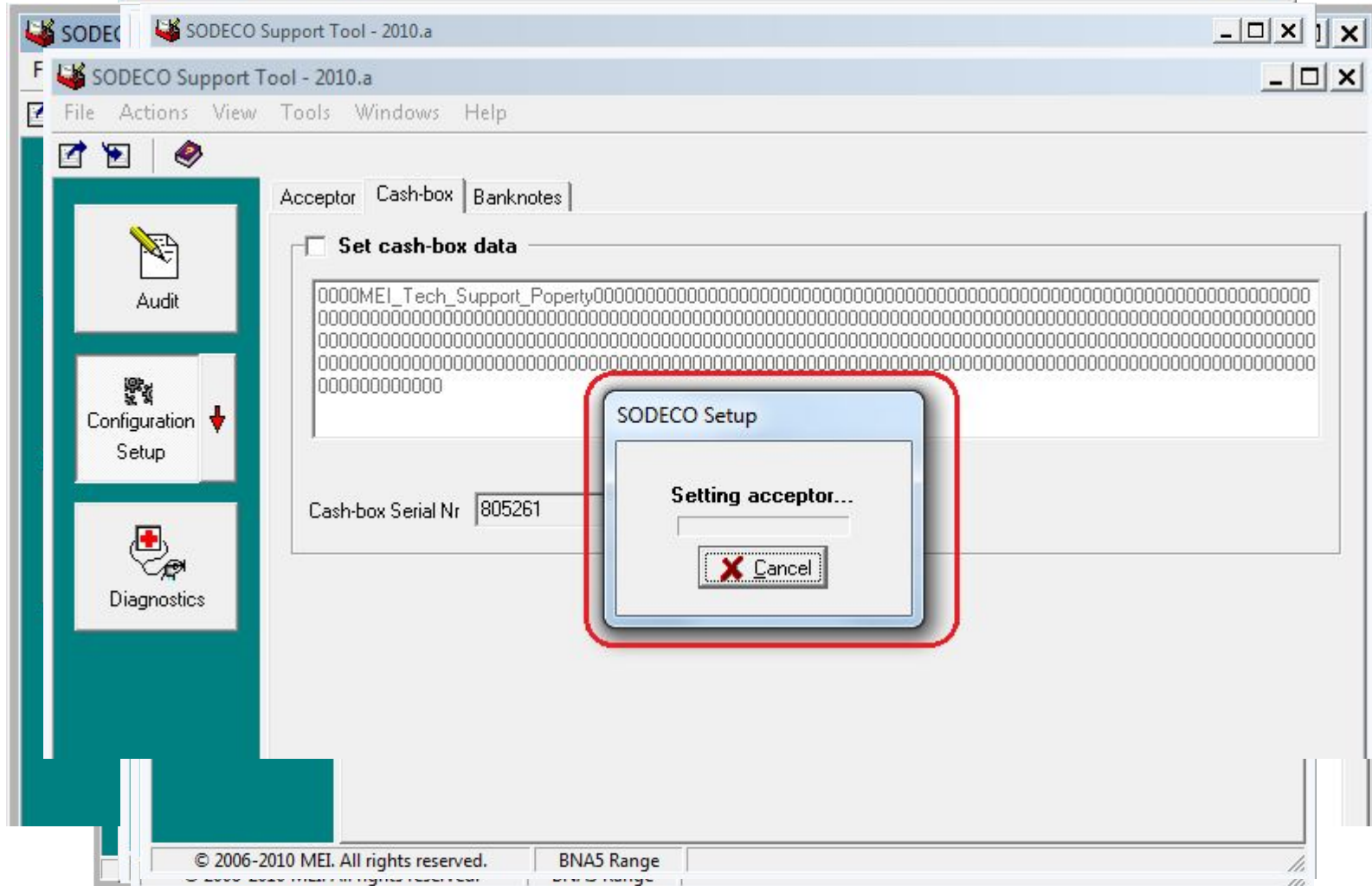
A yellow tooltip is displayed over the prompt `00000A1010>`, providing a legend for the error code:

- 0 = no error code
- 00 = No error
- 0 = no processing phase going on
- 0 = number of document in intermediate storage
- A = OOS resolution mode : automatic (easy mode)
- 1 = validation mode : only active banknote-way
- 0 = work mode : no delay
- 1 = service flag ON
- Reserved MEI

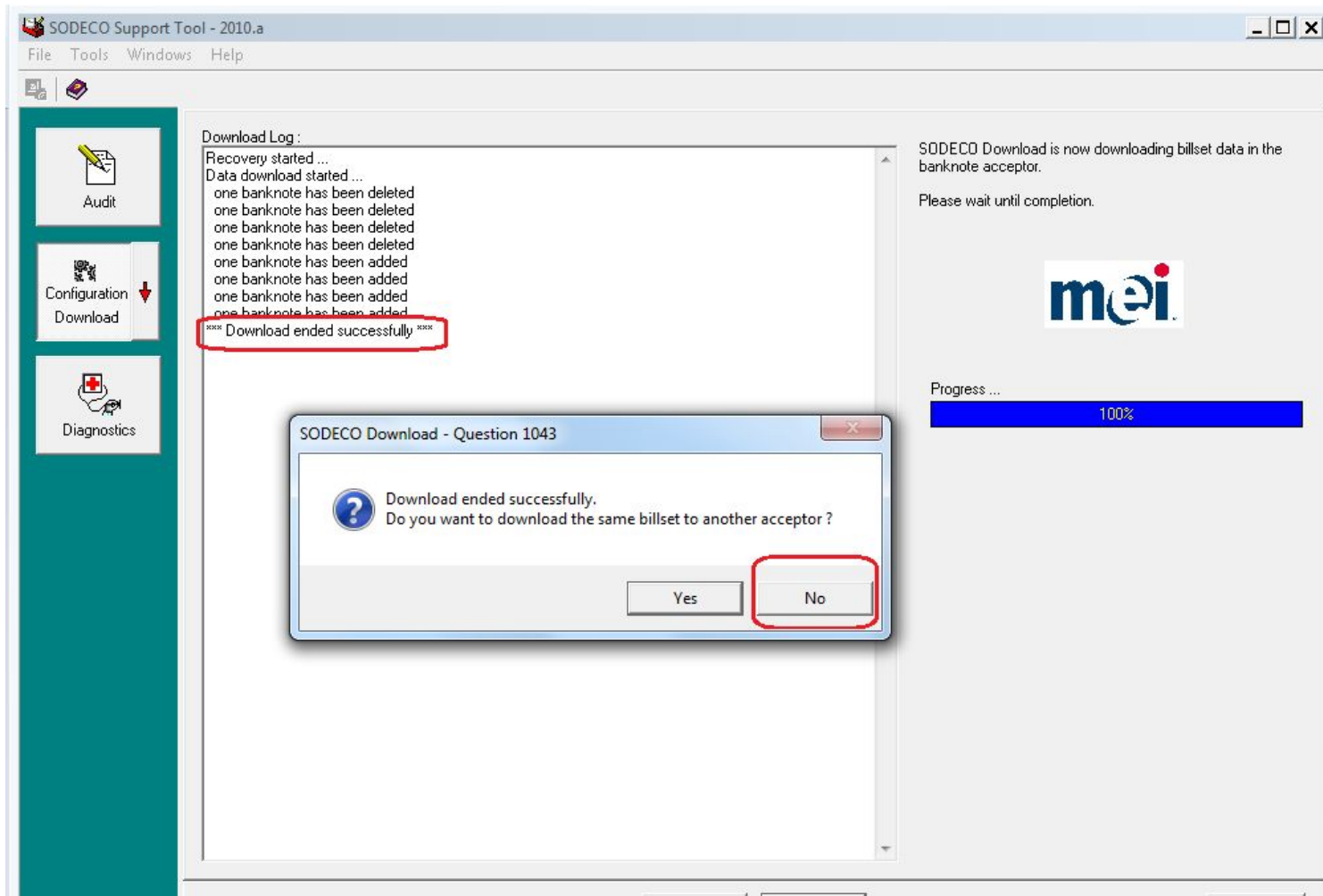
The interface also includes a menu bar (File, Edit, Commands, Tools, Windows, Help), a toolbar, and a status bar at the bottom with the text: © 2006-2010 MEI. All rights reserved. BNA5 Range.

Sodeco Support Tool (SST)

Update configuration for BNA5



Download banknotes images to BNA5



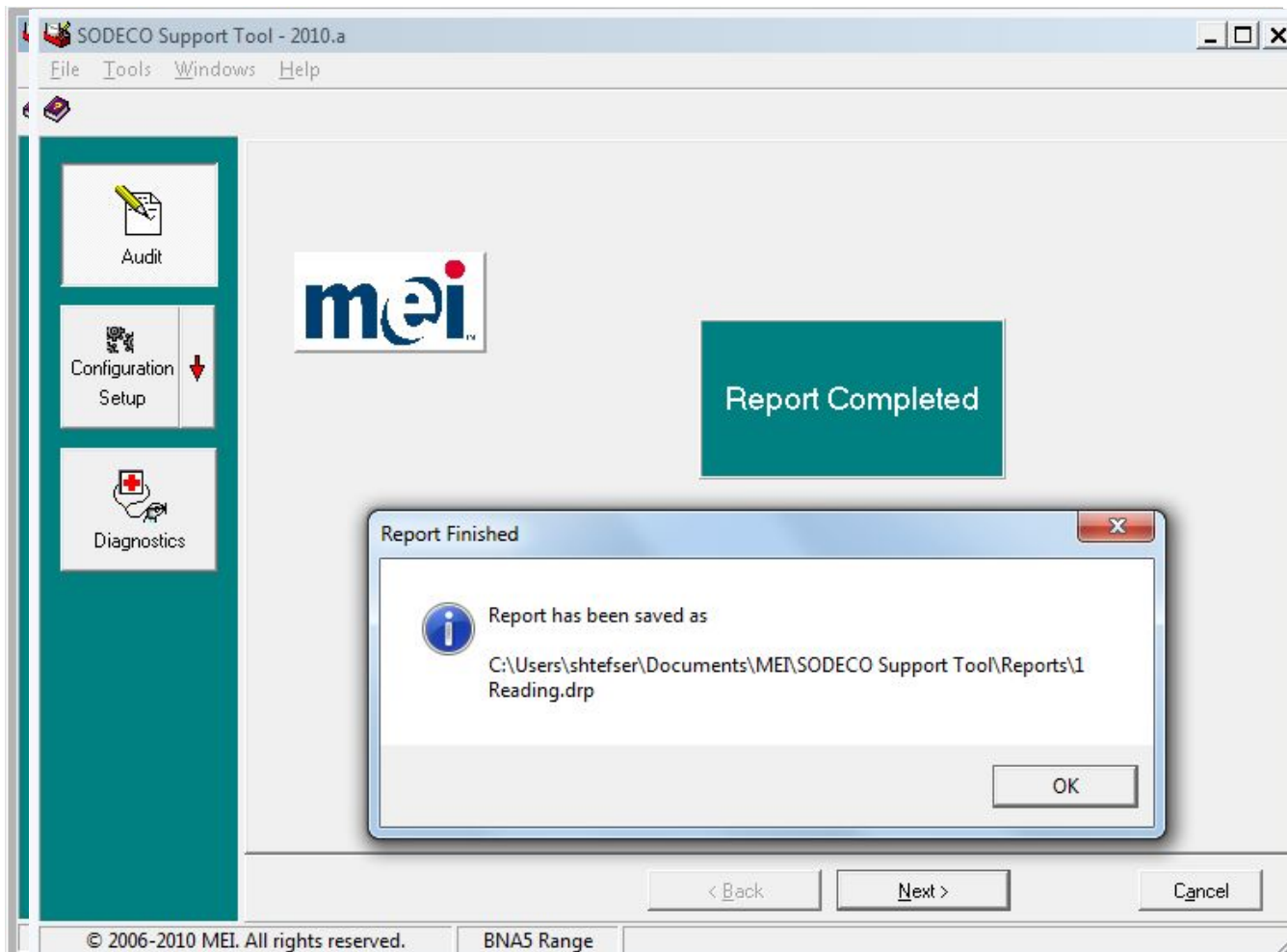
The screenshot shows the SODECO Support Tool - 2010.a application window. The interface includes a menu bar (File, Tools, Windows, Help) and a sidebar with icons for Audit, Configuration, Download, and Diagnostics. The main area is divided into three sections:

- Download Log:** A text area containing the following log entries:

```
Recovery started ...
Data download started ...
one banknote has been deleted
one banknote has been deleted
one banknote has been deleted
one banknote has been added
one banknote has been added
one banknote has been added
one banknote has been added
**** Download ended successfully ****
```

The last line is highlighted with a red box.
- Right Panel:** Contains the text "SODECO Download is now downloading billset data in the banknote acceptor. Please wait until completion." and the mei logo. Below this is a progress bar labeled "Progress ..." which is filled to 100%.
- Dialog Box:** A modal dialog titled "SODECO Download - Question 1043" with a question mark icon. The text inside reads: "Download ended successfully. Do you want to download the same billset to another acceptor?". There are two buttons: "Yes" and "No". The "No" button is highlighted with a red box.

Audit collection from BNA5



Cleaning of Sodeco BNA5

Cleaning 1.

Every 20'000 banknotes or 1 month.
Servicing on site. Operator.
Cleaning 1 cleans light dirt in channel.

Cleaning 2.

Every 60'000 banknotes or 3 months.
Servicing on site. Technician Level 2.
Cleaning 2 cleans dust, dirt in channel and on heads. Inspection of main mechanical and electronic parts.

Cleaning 3.

Every 150'000 banknotes or 1 year.
Servicing in workshop. Technician Level 3.
Cleaning 3 is Cleaning 1,2 plus deep cleaning of bezel, lubricating of rollers and axels.

Cleaning 4.

Every 300'000 banknotes.
Servicing in workshop. Technician Level 3.
Cleaning 4 is Cleaning 3 plus exchange of all transport belts and O-rings.