ASK LDB 307 “Safe ID” reader user manual

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1 SCOPE OF MANUAL

This manual describes ASK **LDB 307 «Safe ID»** reader main features and setup information. This manual is intended for use by end users. No specific tools are required for operation described in this document.

LDB 307 «Safe ID» is a contactless smart card reader compliant with the following standards :

- ISO 7816
- ISO 14443 type A&B
- ISO 15693

High speed protocols are supported:
Up to 424 Kb/s for Type A and Type B cards.
848 Kb/s is supported using ASK qualified cards.

LDB 307 «Safe ID» integrates also Philips component to read/write on Mifare® standard cards.
The LDB307 is compliant with USB1.1 or USB2.0 computer interface.

1.1 UNPACKING AND INSPECTION

Each **LDB 307 «Safe ID»** kit is shipped with :

- USB cable attached (length: 0,8 meters)
- This user manual
- One power supply: Universal 100 ~240V AC / 12V DC 500mA or
  appropriate plug and mains voltage→ 12V DC 500mA depending on purchase location.

- LDB 307 «Safe ID» reader packaged in plastic case

LDB 307 «Safe ID» reader is a contactless reader dedicated for operators as desktop reader for passport verification, due to its specific design, but also for card issuing center, point of sales, etc…
LDB 307 «Safe ID» provides the communication between a terminal and customer smart cards.

1.2 READER COMPONENTS

LDB 307 «Safe ID» consists of a control board called ”coupler board”, and antenna board, a DC supply converter board (with two extra SAM sockets).
A FTDI “USB to serial” interface is included

1.2.1 COUPLER BOARD

The coupler board contains a microprocessor, non-volatile memory and a radio frequency transmitting circuitry. This board communicates with smart cards via RF link (provided by an antenna board), and to the terminal via “USB to serial” interface. The coupler platform is GEN327 which can be purchased separately at ASK. This OEM coupler board is compliant with ISO/IEC14443-2 directives (Radio frequency power and signal interface). Communications can be executed according to the type A or type B of the directive.

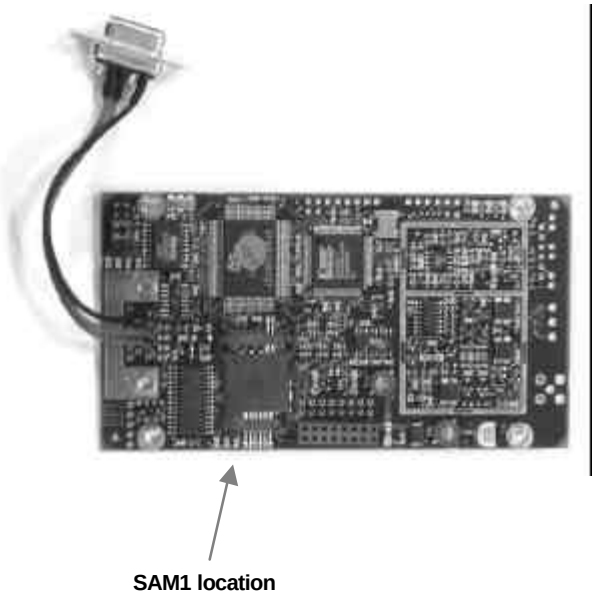


Figure121 : LDB 307 «Safe ID» coupler : GEN 327

1.2.2 ANTENNA BOARD

The antenna board consists of a printed circuit board with copper traces forming the transmit and the receive antenna. Antenna may be one of several types, varying in dimensions and connection. **LDB 307 «Safe ID»** receives GEN 535 antenna because its area (178x125mm) matches well with a passport verification application. This antenna has a tuning capacitor, but no setting is required because it has been optimized in factory.
Optimal tuning is obtained when LED indicator is at its maximum illumination.

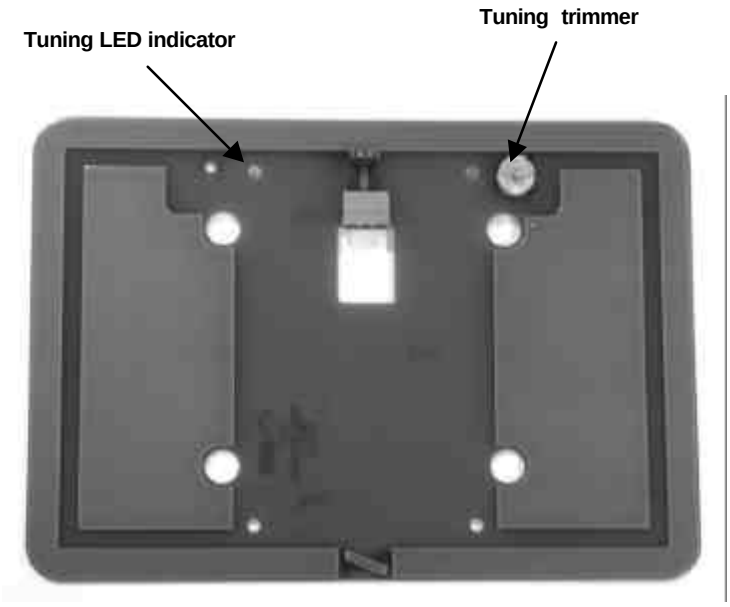


Figure 22 : LDB 307 «Safe ID» antenna : GEN 535

1.2.3 POWER SUPPLY BOARD

This board contains a DC-DC converter and two extra SAM locations. Input line should be from 9V to 36V DC. Typically an AC power bloc with output 12V 500mA (with or without regulation) should be used.

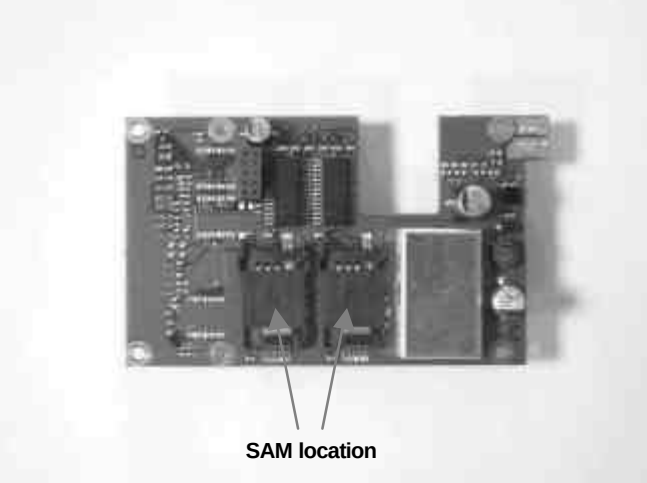


Figure 3 : LDB 307 «Safe ID» DC conversion / SAM extension board : GEN 351

1.3 ASSEMBLY

Inside the plastic case these boards are stacked together (

Figure 4).

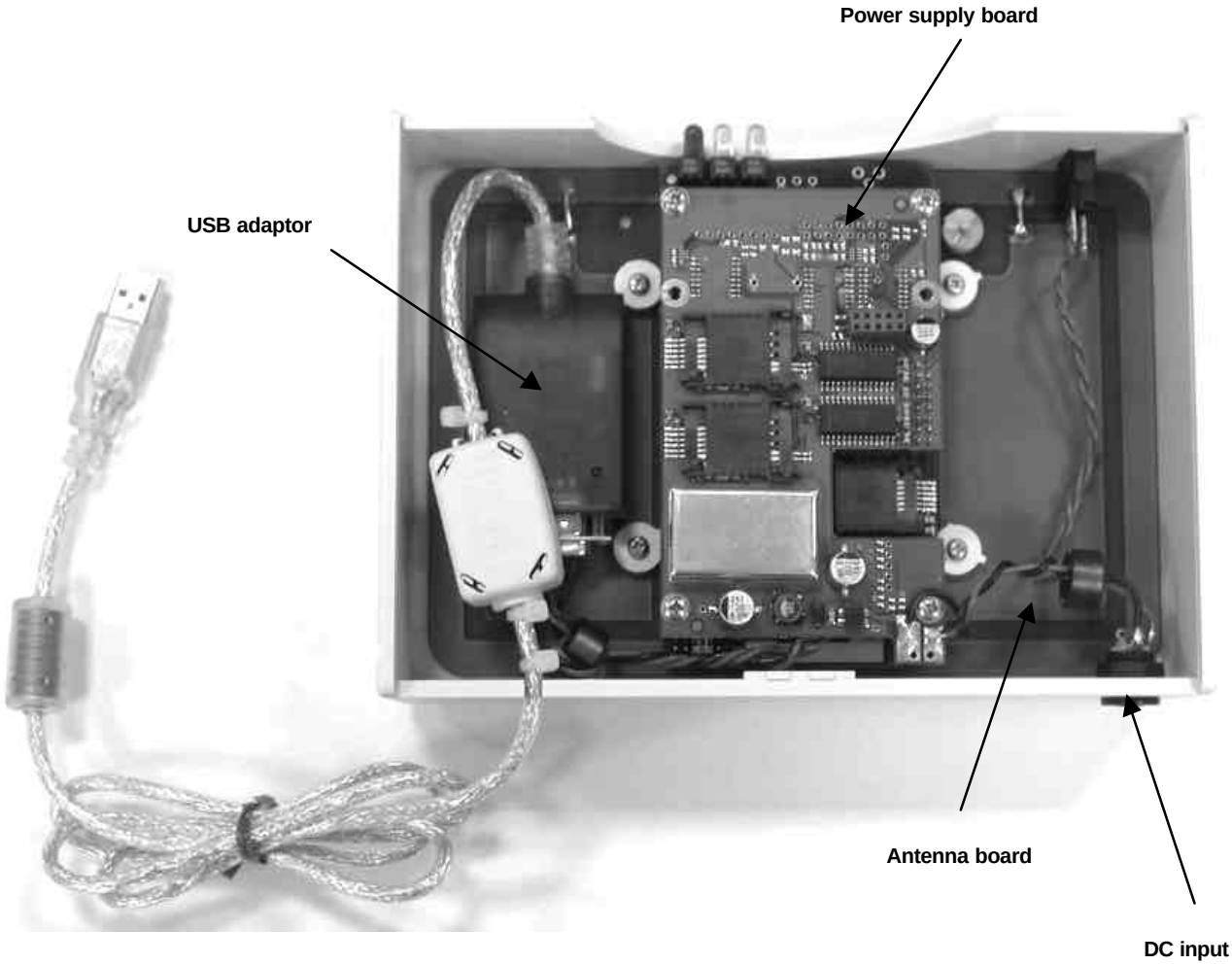
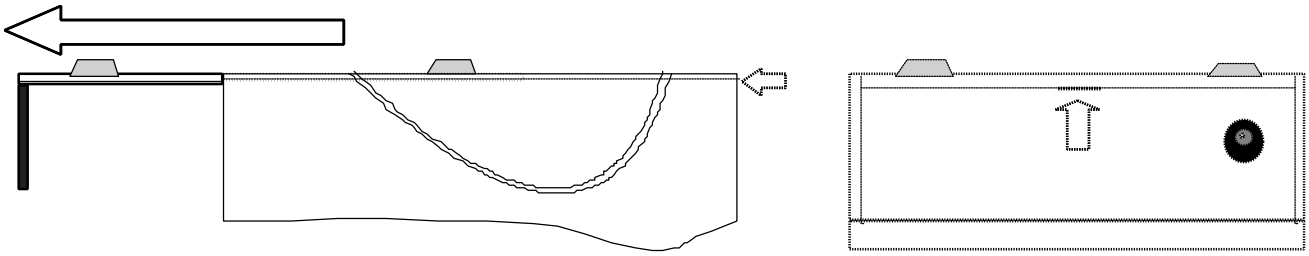


Figure 4 : stacked boards in reader

2 READER SETUP

2.1 INSTALLING A NEW SAM IN READER

In most applications, one SAM (Security Application Module) or more is required. These components are provided separately, so to set a SAM, the plastic case should be opened.
For opening, flip over the plastic case. You have to put a blade in the rear slot and lift the bottom of the case in order to set free a central ergot. Then the bottom of the box should be removed by sliding in the front side direction.



The stacked board will appear as in

Figure 4, the first SAM should be installed on coupler board GEN 32X (**Erreur ! Source du renvoi introuvable.**) and next SAMs should be installed on DC conversion board GEN 351 (Figure 3).

Caution: In a first time, µSIM SAMs must be gently inserted in the open door socket (Figure 5), then in a second time the door should be locked.

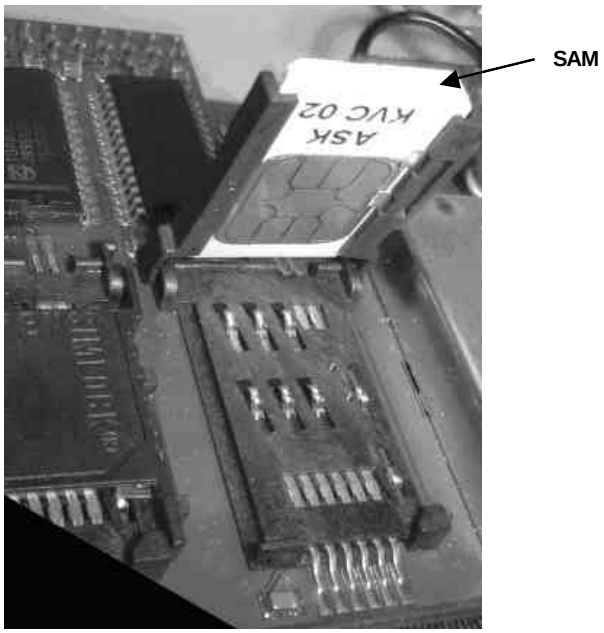


Figure 5 : SAM in open door

2.2 READER CONNEXION

The reader's USB cable should be connected to a USB computer port.

You will be asked to install "USB serial port" driver located in the furnished toolkit.

Suitable driver is also available on FTDI website http://www.ftdichip.com/
at the following link: http://www.ftdichip.com/Drivers/FT232-FT245/VCP/Win/R9052154.zip

Plug the main adapter included in the « Power-Jack » connector. The main adapter should provide 12V DC – 500mA.
Turn on the switch located at the front side, the red LED will light at power-on. The **LDB 307 «Safe ID»** is then in power and ready to work.

3 HOW TO USE THE READER

3.1 CONTACTLESS OPERATIONS

All the top surface of **LDB 307 «Safe ID»** reader is active.
Passport card must be laid opened on the reader.

3.2 SOFTWARE

The LDB is delivered by default with an application software called CSC which supports the ASK cards and C.ticket® families.
The external LEDs of the reader can be controlled by customer applicative software using CSC software commands.
In the same way, the extra SAM modules supported by the GEN351 board have to be managed by the host application via CSC protocol.

3.3 CLEANING

No adjustment on the reader is required. To clean, simply wipe with a wet cloth and plastic cleaner, abrasive products are prohibited.

4 STANDARD COMPLIANCE

4.1 FCC COMPLIANCE STATEMENTS

For the FCC compliance, the 110V power supply was considered.
This equipment has been tested and found to comply with the radiated limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide a reasonable protection against harmful interferences in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try the correct interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

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 interferences. And (2) this device must accept any interference received, including interference that may cause undesired operation.

The ASK **LDB 307 «Safe ID»** reader was submitted and a grand of authorization received from the FCC as device under the intentional radiator requirements of Part 15, Subpart C.

Compliance accessories : The accessories associated with this equipment are: shielded USB cable and Universal switching mains adaptor (12V DC 500mA). These accessories are required to be used in order to ensure compliance with the FFC rules.

Caution : Any changes or modification not approved by ASK could void user's authority to operate the equipment. Switching power mode adaptors are prohibited.
It is strictly prohibited to remove the ferrites from the device.

4.2 CE COMPLIANCE STATEMENT

The ASK **LDB 307 «Safe ID»** reader is in conformity with European requirements, this product has been assessed to the following standard:

EN 300330
EN 301 489-3
EN 50121-4
EN 60950-1