AirStick

DATAMARS

Portable EID Tags Reader – User Manual

Contents

1. OVERVIEW

1.1 AirStick EID Tag Reader Description

With its ergonomic and well-balanced wand, the AirStick can read electronic and visual ID tags while you keep at a safe and comfortable distance.

Simply click a button and the animal's ID data will be displayed on the AirStick's clear screen where you can zoom text of interest (EID, VID or Alert).

An audible, visible and tactile feedback will indicate a successful read and save. AirStick easily connects to external devices wirelessly via Bluetooth or via USB in to exchange animal information.

1.2 Highlights

- Compatible with Standards ISO11784/5, ISO11784-AMD1 (FDX-B and HDX transponders)
- High reading distance (31 cm FDX-B, 37 cm HDX glass tag 32 mm)
- Flashing LED, vibration and audio to notify successful tag reading
- Robust and waterproof (IP67)
- Easy wireless connectivity via Bluetooth® and data transfer via USB
- Long life rechargeable and replaceable battery for extended use outdoors (two batteries included)
- 4 GB memory capacity (> 1 million codes stored)
- Search functions to recall animal data

1.3 Packaging Contents

Figure 1-1

- AirStick reader
- 2 Rechargeable and replaceable Li-Ion Batteries 7.4VDC/19.24Wh/2600mAh
- AC/DC battery charger 15V 1.6A 24W 100-240VAC
- Charger cable (provided with UK, US, AU, EU socket depending on the Country)
- Car charger
- USB cable (to connect AirStick reader to a device)
- USB memory stick (containing S-ID Software)
- Documentation and warranty card
- Shoulder belt
- Suitcase

1.4 Glossary

EID: Electronic IDentifier.

VID: Visual IDentifier. Alphanumeric code up to 16 digits that can be associated with an EID on AirStick reader (manually entering the code) or by S-ID software (you can propose a default value or set the VID equal to the last digits, up to 12, of the EID). *

Alert: Alphanumeric code up to 16 digits that can be associated with an EID to notify a specific condition met by an animal (grouping, pregnancy, vaccination...) *. An Alert can be selected from a pre-defined list or can be entered manually.

Note: A note is any data (alphanumeric codes up to 16 digits) that can be added to an EID: It is possible to customize Up to 5 “note” fields. You can decide to classify each note to have consistent information for all EIDs (eg. Note 1 = Date of Birth, Note 2: Place of birth....) or use it in different ways for different EIDs.
This data is read only on AirStick and can be added and edited in S-ID only.

Magnifier: Highlights the information you consider the most important (EID, VID or alert) with a bigger font size. For the EID and the VID you can customize the number of digits you want to highlight, from 3 to 12.

Reading session: Memory file that stores reading information every time an EID is read. Default session name: RS dd-mm-yy.csv. *

Counter: Number of EIDs stored in the current session.

** Customizable functionality on S-ID software*

1.5 S-ID Software

We recommend installing S-ID software on your PC (provided with the supplied USB memory stick), which allows you to manage your data, check for newer versions of the firmware or modify default settings.

**Refer to S-ID software manual for more information.*

Check for the latest version and the instructions manual on *www.datamars.com/id-readers* .

1.6 AirStick overview

1. LED: the light flashes red while the reader is in reading mode and turn into green when an EID is detected. The light is switched off if no reading operations are ongoing.
2. Antenna
3. Read button (on the back):
4. Rear screwing cap (on the bottom)
5. DC Plug (charger connection)
6. Battery removal button
7. Replaceable battery
8. Mini USB port (to connect the reader to a PC via USB cable)
9. Standard USB port (to connect a USB memory stick)

Figure 1-2

1.7 Keyboard and Read button

AirStick has 4 buttons on the keyboard and a read button placed on the back *(Figure 1-3, 1-4).*

1,2,3 - **Contextual buttons:** Press a contextual button to select the corresponding command displayed in the action toolbar on the screen.

4 - ON-OFF/Selection button. This button allows to:

Switch ON the reader: Press for about 3 seconds *(refer to "_Switch_ON/OFF_AirStick" section for more information)*

Switch OFF the reader: Press for 2 seconds and then press again to confirm *(refer to "Switch ON/OFF AirStick reader" section for more information)*

Select: When the reader is turned on, press to activate the select command displayed in the action toolbar

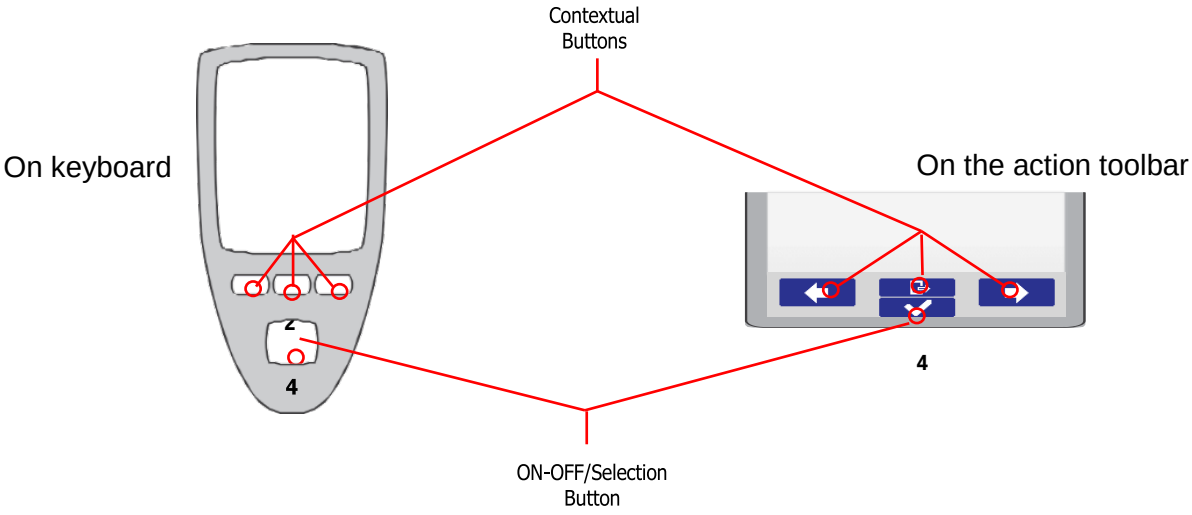


Figure 1-3

Read Button:

The read button is placed on the back of the reader and it is the only button dedicated to read an EID *(refer to "Reading an EID Ear Tag" section for more information).*

Figure 1-4

2. Getting Started

2.1 How to insert and remove the internal battery

AirStick is provided with two batteries supplied inside the suitcase *(refer to "Packaging Contents" section for more information).*

Important! AirStick reader must be fully charged before first time use.

To insert the battery into AirStick reader it is very important to follow the steps described in this section:

1) Open the rear screwing cap on the bottom of the reader.

2) Insert the battery into AirStick battery compartment. The powerpack cavity is designed to allow an easy and proper installation. The battery will "snap" into place when it is properly inserted.

Important! Do not force the battery into the reader. If the battery does not insert smoothly, verify it is properly orientated.

To remove the battery from AirStick reader:

1) Open the rear screwing cap on the bottom of the reader.

2) Push the battery removal button.

3) Pull out the battery.

3) Close the rear screwing cap.

Important! It is recommended to keep the rear screwing cap closed while using AirStick reader to ensure waterproof.

2.2 Charging the battery

The battery can be charged as stand-alone using the AC/DC battery charger or the car charger, or it can be charged while it is insert into the reader, connecting AirStick to the AC/DC charger or car charger.

Important! When the battery is put in charge while it is insert into the reader, the reader remains turned off for all the charging period and it cannot be used.

Important! If the reader is put in charge while it is on, it turns off immediately.

By AC/DC battery charger:

Connect the AC/DC charger adaptor to the charger cable. Connect the AC/DC charger plug to the DC jack on the battery, then plug the cable socket into a 220 VAC outlet.

By car charger:

Plug one end of the car charger into the plug jack on the battery, then plug the other end into the accessory socket of the car.

Battery level indicator:

The battery logo shows the battery level. Please note that when the bar become red, about 30 minutes of power charge are left.

While the battery is charging, the red and green LED indicator will light and will be steadily lit. When the battery is fully charged, the red LED indicator will turn off and the green LED indicator will be steadily lit.

Charging Problems:

If an error occurs during the charging, the Red LED starts blinking. Here below a list of possible causes and solutions:

Cause	Solution
The charging temperature is out of range (+5°C and +45°C)	Keep the reader in an indoor environment at temperature between +5 and +45°C during charging process
Battery is exhausted	The battery must be replaced
Battery fault	Please contact the assistance

Important! If an error occurred while the battery is charging into the reader, a red exclamation point appears on the screen and the following message is displayed: "Charger failure. Remove power and contact assistance." For support, please contact Livestock-id@datamars.com.

2.3 How to Switch ON/OFF AirStick reader

2.3.1 To switch on AirStick reader

Press the ON-OFF/Selection button on the reader for 3 seconds.

Important! At the first switch-on it may be necessary to set up the language and the date on the reader.

The Start screen *(Figure 2-1)* will appear on the display and shows:

1) AirStick reader name (customizable by S-ID Software)

2) Firmware version

3) Counter: how many EID read in the current Reading session

4) The current Reading session name

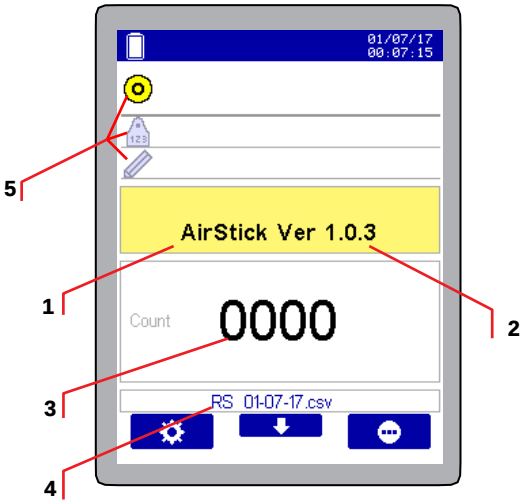


Figure 2-1

5) EID, VID, ALERT fields: the yellow icon indicate which field is highlighted in the magnifier when a tag is read. When the reader is turned on for the first time, the magnifier highlights the EID.

Scroll down with the down arrow to change the information you want to highlight in the magnifier. When a different field is selected (VID or Alert), the AirStick will keep this selection until a new one will be chosen.

2.3.2 To switch off AirStick reader

To switch off the reader press the ON-OFF/Selection button on the reader for 3 seconds *(Figure 2-2)*.

The following screen will appear on the display:

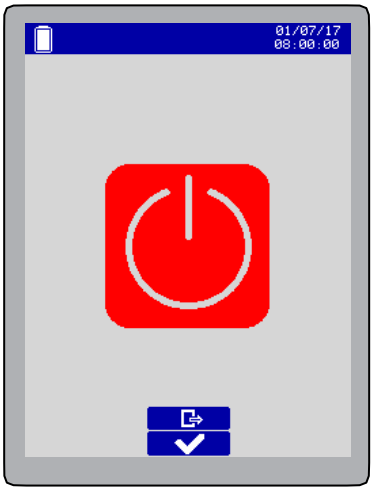


Figure 2-2

Press the Selection button to confirm.

The reader can be switched off in any moment except while reading. Stop reading by pressing the read button and then turn the reader off.

Important! When the battery is charged while it is insert into the reader, the reader remains turned off for all the charging period and it cannot be used.

2.4 Display

AirStick reader is has a 2.8" TFT, 65000 colours display. In the *Figure 2-3* is shown the display without notes (on the left) and with them (on the right).

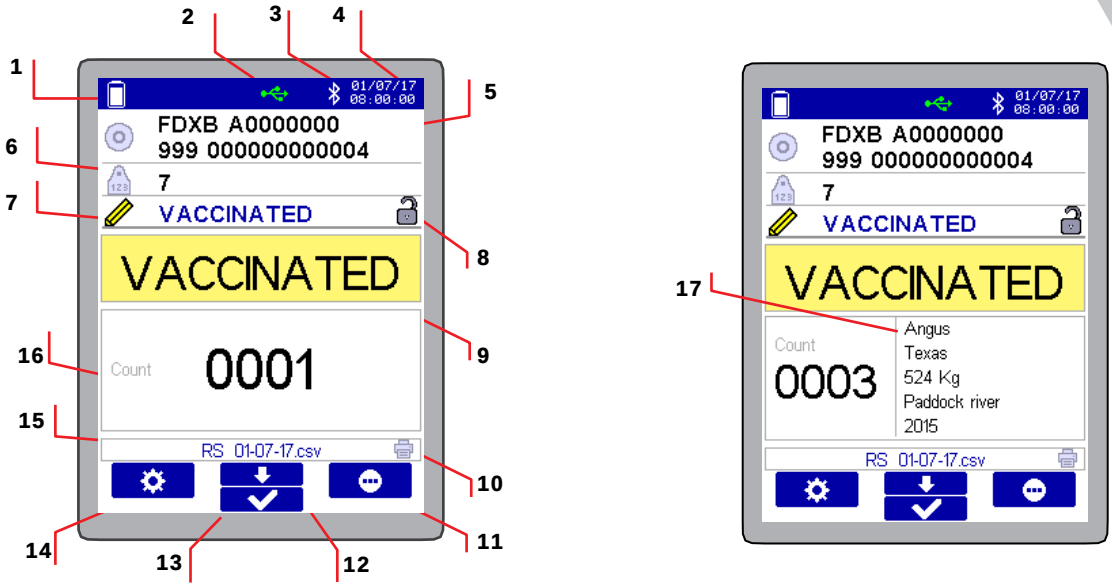


Figure 2-3

1	**Battery level**	
2	**Usb icon**	Green when connected to a device. *Refer to "Settings" or "AirStick connectivity" sections for more information*
3	**Bluetooth Icon**	White when Bluetooth is ON but no device connected. Green when connected to a Bluetooth device. *Refer to "Settings" or "AirStick connectivity" sections for more information*
4	**Date & Time**	
5	**Transponder type & EID**	*Refer to "Settings" section for more information*
6	**VID**	
7	**Alert**	
8	**Safety Lock**	An Open/Closed safety lock appears to indicate if the field selected is editable or not.
9	**Magnifier**	An Alert is shown in the example
10	**Shortcut to data transfer**	It appears while the reader is connected to a device. Green icon when ready to send Session Data
11	**Application menu**	
12	**Scroll down button**	
13	**Selection button**	It allows to select the information displayed in the magnifier and confirm
14	**Settings Menu**	
15	**Reading session**	*Refer to " Session functions" section for more information*
16	**Counter**	
17	**Notes**	*Refer to "Glossary" section for more information*

2.5 Settings

Select the Settings icon and Use the arrows to navigate the Settings menu *(Figure 2-4).* Select the desired setting and press the Selection button to enter the desired function.

Figure 2-4

Reading modes:

Two reading modes can be selected from the Settings Menu:

A. Single: pressing the read button only one EID will be read (to read another one you should press the read button again).

B. Continuous: pressing the read button the AirStick continues reading tags until the read button is pressed again (or time-out occurs). When active the icon appears on the status toolbar on the top of the screen.

While in Single mode, you can decide to read continuously when needed. *Refer to "Reading an EID Ear Tag" section for more information.*

Duplicates:

A. Not allowed

B. Allowed: when selected the icon appears on the status toolbar on the top of the screen.

Refer to "Duplicates" section for more information.

Bluetooth®:

Selecting this setting you can set Bluetooth functionalities navigating in the Bluetooth menu.

When the Bluetooth is active, the Bluetooth icon is displayed on the status toolbar on the top of the screen.

Refer to " Bluetooth® (wireless) *" section for more information.*

USB profiles:

A. Virtual COM Port (SPP, Serial Port Profile mode)

B. Keyboard wedge

When the reader is connected to a device via USB cable, the USB icon is displayed on the status toolbar on

the top of the screen. *Refer to "AirStick connectivity" section for more information.*

Audio:

 A. ON: When the audio is active, the reader sends an audible beep each time an EID tag is detected.

B. OFF

Vibration:

 A. ON: When the vibration is active, the reader vibrates each time an EID tag is detected.

 B. OFF

Language selection:

 Click on the icon to select the desired language.

Date & Time setting:

 Click on the icon to set Date & Time.

EID format:

 With the "EID format" function you can select the desired format to store and transfer EIDs selection.

Refer to " Transponder information & EID" Section for more information.

Magnifier digits:

It is possible to choose how many digits you want the EID and the VID highlighted on the magnifier (configurable from 3 digits (A) to 12 (B)).

A.

B.

This setting is not applicable to the Alert which is displayed in the magnifier entirely.

Example:

EID: 000000099900000000000034 – VID: ABC0000000000034 – ALERT: CULL.

Magnifier digits = 12: EID=0000000000034; VID=0000000000034; ALERT=CULL.

Magnifier digits = 5: EID=00034; VID=00034; ALERT=CULL.

Brightness:

The Display brightness feature defines the level of the brightness of the display

A. High

B. Middle

C. Low

2.6 Application Menu

The application menu *(figure 2-5)* allows to access the session functions (**A**) and the search functions (**B**).

Use the arrows to navigate the menu and press the ON-OFF/Selection button to select the desired function.

A) Session Functions:

1. “New Session”: to create a new session
2. “Continue Session”: to select an already existing session, where you can continue saving data
3. “Session Options”: to manage sessions (printing, editing EIDs, deleting data, managing duplicates)

Refer to “Session functions“ section for more information.

B) Search Functions:

4. “Search EID”: to search an existing EID in a specific session
5. “Search VID”: to search the EID marked with a specific VID
6. “Search Alert”: to search the EIDs marked with a specific Alert

Refer to “ Search Functions“ section for more information.

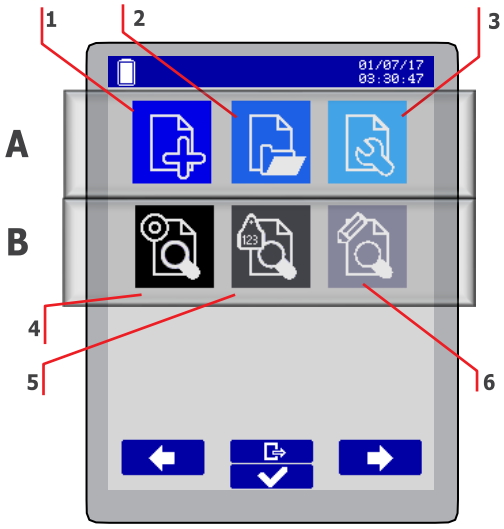


Figure 2-5

2.7 Transponder types & EID

From the Settings menu it is possible to reach the “EID format” function  in which you can select the desired format to store and transfer EIDs selection.

The screen displays a list of 7 formats allowed *(Figure 2 6).*

AirStick reader is able to detect both **FDX-B** and **HDX** transponders, which are the ISO standard 11784/5.

The **Alpha Country Code** is according to ISO 3166, ISO 11784/5.

The **Identity Code** is according to ISO 11784/5.

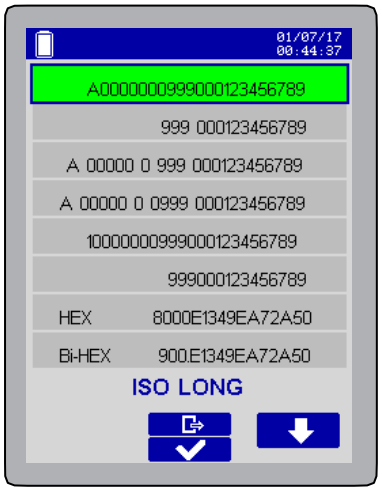


Figure 2-6

ISO Long	Animal: "A000000096400000012 3456" (23 char) Industrial: "R00060000000000123456" (21 char)
ISO Short	Animal: "964 000000123456" (16 char) Industrial: "0006 0000000000123456" (21 char)
ISO TIRIS™ (Texas Instruments Registration and Identification System)	Animal: "A 00000 0 964 000000123456" (26 char) Industrial: "R 0006 0000000000123456" (23 char)
F-210	Animal: "A 00000 0 0999 000000123456" (27 char) Industrial: "R 0006 0000000000123456" (23 char)
BDN-ITA	Animal: "1000000096400000012 3456" (23 char) Industrial: "R00060000000000123456" (21 char)
South America ISO Short (SA)	Animal: "964000000123456" (15 char) Industrial: "0006 0000000000123456" (21 char)
Hex	Animal: “8000E1349EA72A50” (16 char) Industrial: “0000000000528278” (16 char)
Bi-Hex	Animal: “900.E1349EA72A50” (16 char) Industrial: “000.0000528278” (14 char)

3. Operations

3.1 Reading an EID Ear Tag

AirStick can start to read in any moment pressing the read button on the back of the reader.

For an efficient reading, the typical reading distances are:

FDX-B (glass tag 32 mm)	up to 31 cm
HDX (glass tag 32 mm)	up to 38 cm

To read an EID ear tag, place the reader nearby the animal and press the read button.

The reader will display a count down the message “Reading” in the status toolbar on the bottom. The red led will start to blink (Figure 3-1).

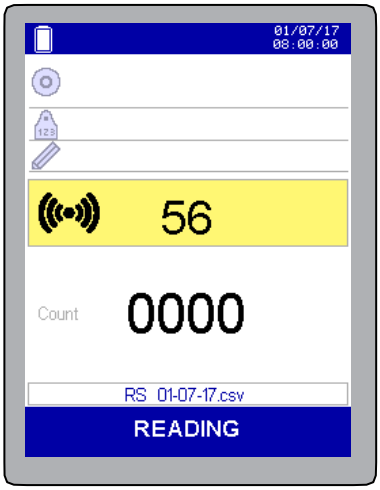


Figure 3-1

When AirStick detects an EID, the green led blinks and reading data is displayed on the screen *(Figure 3-2):*

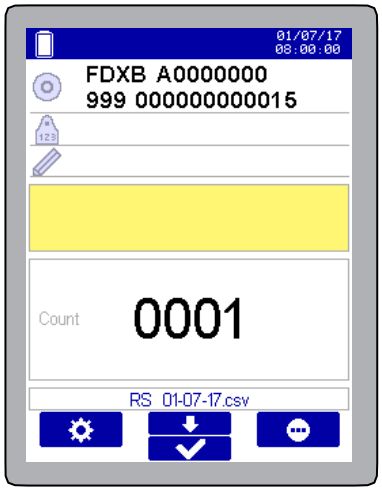


Figure 3-2

AirStick indicates that a successful reading has been made with a vibration and an audio notification (if these settings are turned ON) and a green light on the antenna.

The reading data are recorded in the current Reading session.
The Counter on the screen shows the number of EIDs stored in the current session.

While connected to an external device, each detected EID can be sent on the fly. Scroll down to select the shortcut to send all the session content.

It is possible to read a single EID or start a reading session in a continuous way.
Refer to "Settings" section for more information.

3.1.1 Single Mode

Once the reader is at a proper distance from the animal, press the read button on the back of the reader to start reading. The red blinks, and as soon as an EID tag is detected the green led blinks and AriStick stops the reading. If the Audio and Vibrations are active, AirStick sends an audible alert and it vibrates.

3.1.2 Continuous Mode

Pressing the read button, the AirStick continues reading tags until the read button is pressed again when no EID is found (time-out is reset after every reading).
In the Continuous mode, the continuous mode icon appears on the status toolbar on the top on the screen. Press the read button to start reading once the reader  is at a proper distance from the animal, and press the read button once again to stop the Reading session.

If continuous mode is required only in few occasions, it's also possible to read more than one EID continuously keeping the read button hold while the reader is in single mode.
Scanning will stop when the Read button is released.


This function is very useful for example if animals are moving quickly in the field or into a pen.

3.2 Managing Duplicates

From the Setting menu it is possible to allow or not the possibility to read duplicated EIDs. *Refer to "Settings" section for more information.*

- If duplicates are allowed, the duplicates icon  appears on the status toolbar on the top of the screen.
  If you want to delete duplicates contained in a session, please refer to "Delete duplicates" section.

- If duplicates are not allowed, each time an EID is read twice a duplicate message will be displayed on AirStick's screen *(Figure 3-3)* and the counter will not increase.

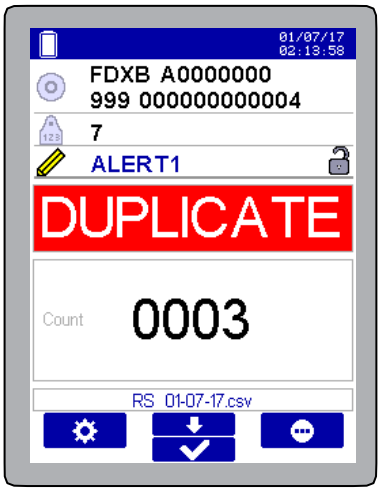


Figure 3-3

(In the current reading session the same EID will be recorded only one time).

The same EID can be recorded in a different reading session.

While using a Reading session with several data (about 4000 codes), AirStick performance may slightly slow down. We recommend downloading sessions not used and try to optimize data organization in AirStick.

3.3 Linking Data to an EID

Each time an EID is read, it is possible to link data, i.e. VID, ALERT and up to five notes (this last information with S-ID software only). These data are shown on the reader's screen each time the EID is read and are available to the user with S-ID software (*Refer to S-ID software manual for more information)*.

3.3.1 Insert and modify a VID

When an EID is detected, the related VID can be linked to it, directly by the screen of the reader or by S-ID software*.

** Refer to S-ID software manual for more information*

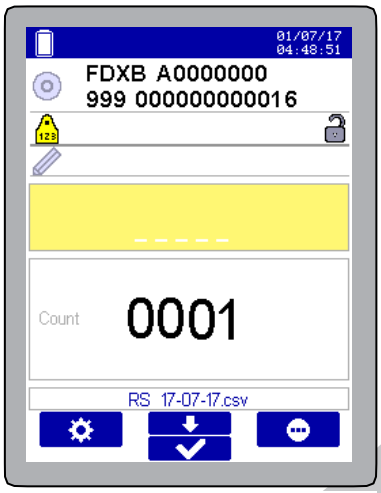


Figure 3-4

To insert the VID by the screen, scroll down with the arrow until the VID field is selected *(Figure 3-4)* and press the selection button.

It is now possible to enter an alphanumeric VID up to16 digits *(Figure 3-5).*

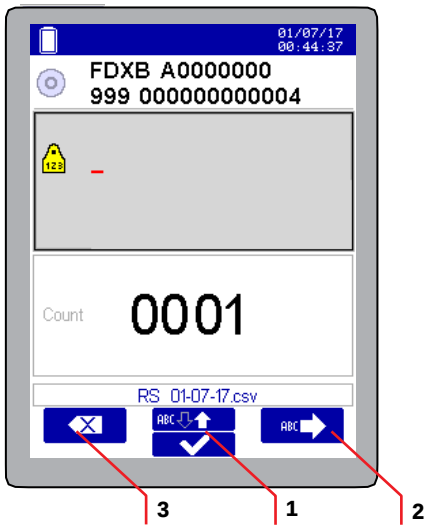


Figure 3-5

Use the "ABC" up and down arrow (**1**) to insert the desired character. The characters order is 0,1...9, A, ...,Z.

To change the orientation of the up and down arrow, keep the button pressed for 2 seconds.

To go to the next digit, use the "ABC" arrow (**2**).

To cancel press the cancel button (**3**).

Press the selection button to confirm the VID just entered. With S-ID you can select if the VID can be edited (open lock) or not (closed lock).

This functionality can be customized also on S-ID Software*.

** Refer to S-ID software manual for more information*

3.3.2 Insert and modify an Alert

An Alert is an alphanumeric code up to 16 digits that can be associated to the EID to notifying a specific status met by the animal (grouping, pregnancy, vaccination...).

When an EID is detected, an alert can be linked to it. The alert can be:

- selected on the reader from a pre-defined list
- typed on the reader (same approach as VID)

To select an Alert form a predefined list *(Figure 3-6)*, scroll down with the arrow until the Alert field is selected and press the selection button. This option allows a quick selection from a list of 5 items that you can customized by S-ID software* eg (ALERT1: Pregnant, ALERT2: Vaccinated...) . This list can be customized by S-ID software*.

** Refer to S-ID software manual for more information*

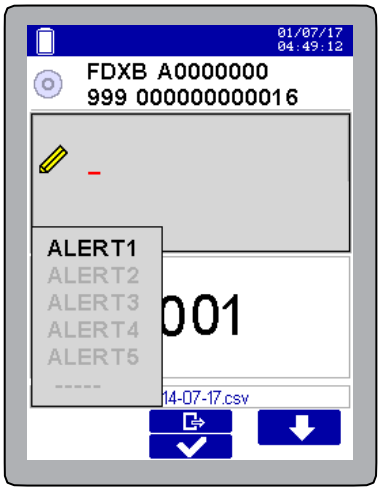


Figure 3-7

To type a new Alert, select the dots "- - - -" field at the end of the list of the 5 default alerts (*Figure 3-7*).

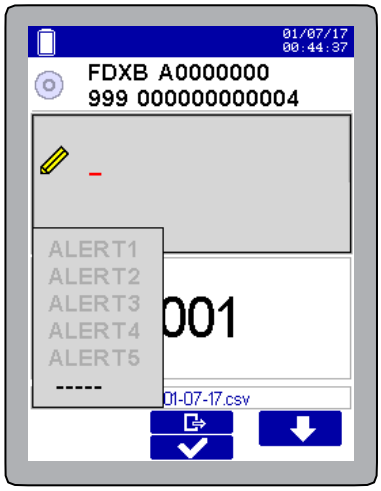


Figure 3-6

It is now possible to enter the customized Alert (*Figure 3-8*) following the same procedures of entering a VID.

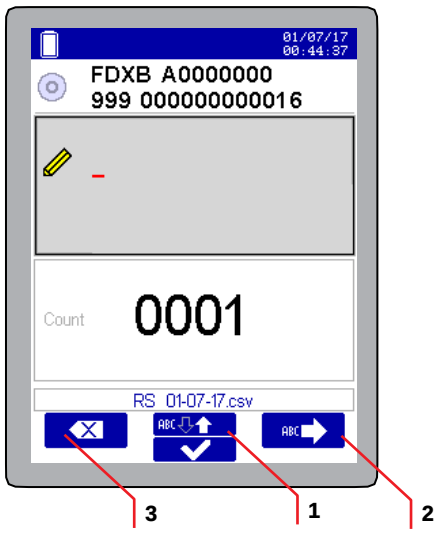


Figure 3-8

Use the “ABC” up and down arrow (**1**) to insert the desired character. The characters order is 0,1... 9, A,...Z.

To change the orientation of the up and down arrow, keep the button pressed for 2 seconds.

To go to the next digit use the “ABC” arrow (**2**) .

To cancel press the cancel button (**3**) .

Press the selection button to confirm the Alert just entered.

3.3.3 Notes

It is possible to link up to 5 read only data which can be added, edited or deleted using S-ID software only.

This information will be recalled near the counter each time an EID is read.

In the *Figure 3-9* is shown an example of customized notes.

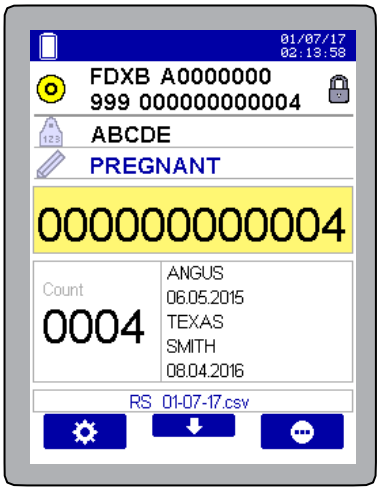


Figure 3-9

** Refer to S-ID software manual for more information*

4. Session functions

A **Reading session** is a .csv file where the reader records data (Date and Time, EID, VID, Alert and Custom Data) each time a tag is detected. By default, a Reading session it's named "RS_Date" where date and time are those at the session creation.

An indefinite number of sessions can be created. Each session can contain a maximum of 4000 EIDs filled in with all the related information.

4.1 Create a New Session

Select the function "New Session" (**1**) in the Application menu *(Figure 4-1)* and press the Selection button to enter the function.

To confirm press once again the Selection button and the new session will be created (*Figure 4-2*). The new session will be named with the current date.

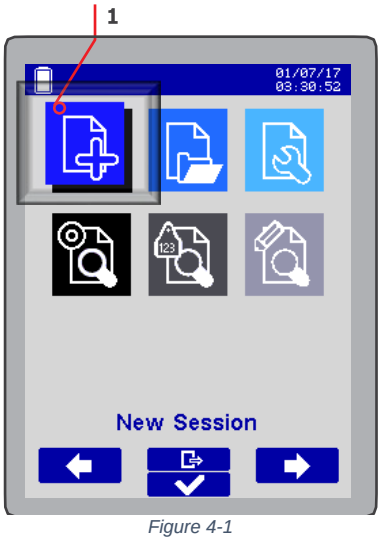


Figure 4-1

Figure 4-2

When a new Reading session is created, it becomes automatically the current Reading session file.

The name of the session can not be changed directly on the screen of the reader, but it is possible via a PC when the reader is connected to it, either using the S-ID software or

** Refer to S-ID software manual for more information*

If more than one session is created on the reader, this will be named as RS_Date (1), RS_Date (2) etc. You could anyway change this name as described above.

4.2 Continue Session

Select the "Continue session" function (**2**) from the Application Menu *(Figure 4-3)* to choose an already existing session, in which you can continue saving data.

Press the Selection button to enter the function.

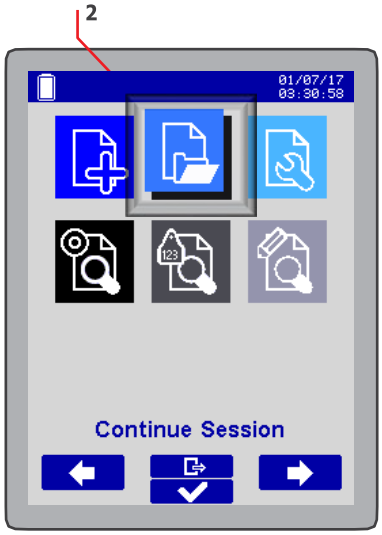


Figure 4-3

The screen shows the list of all the sessions available on the reader.

These sessions could be:

- reading sessions previously created

- search input files created on S-ID *(please refer to Search Functions section for more information)* (*Figure 4-4*).

The current Reading session is highlighted in red (**1**).

When a session is pointed (highlighted in a blue square) (**2**), the status toolbar on the top shows:

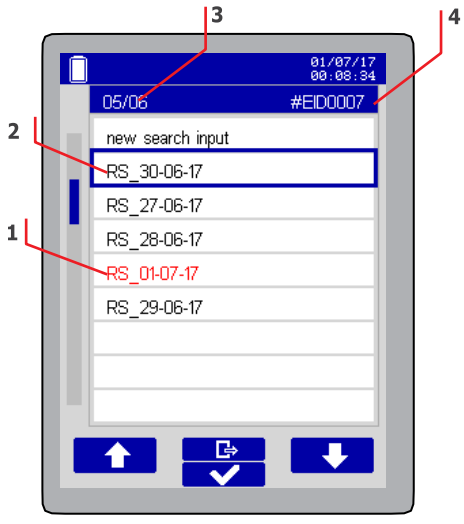


Figure 4-4

- the position of that session over that total number of sessions (**3**)

- how many EIDs are store into that session (**4**).

Use the arrows to scroll up or down list, and press the Selection button to choose the desired session and confirm.

The main screen *(Figure 4-5)* now shows the reading session that has just been selected which has become the current Reading Session (**1**) and the Count field shows how many EIDs are stored in this session (**2**).

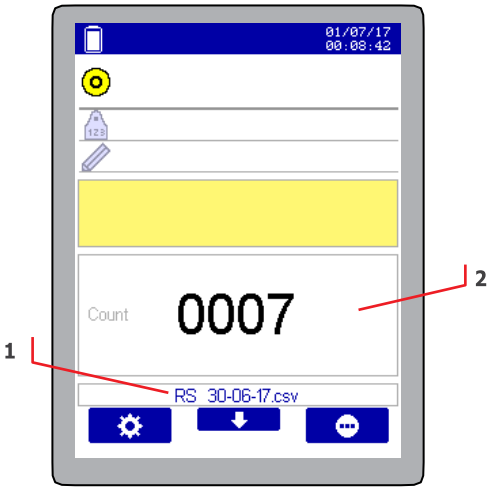


Figure 4-5

Important! The list of the sessions is in a chronological order, from the last session to the oldest.

4.3 Sessions Options

To manage a session, select the “Session Options” function (**3**) from the Application Menu *(Figure 4-6)* and press the Selection button to enter the functionalities.

Figure 4-6

The screen shows the list of all the sessions available on the reader.

These sessions could be:

- reading sessions previously created
- search input files created on S-ID (please refer to Search Functions for more information) *(Figure 4-7).*

The current Reading session is highlighted in red (**1**).

When a session is pointed (highlighted in a blue square) (**2**), the status toolbar on the top shows:

- the position of that session over that total number of sessions (**3**)
- how many EIDs are store into that session (**4**).

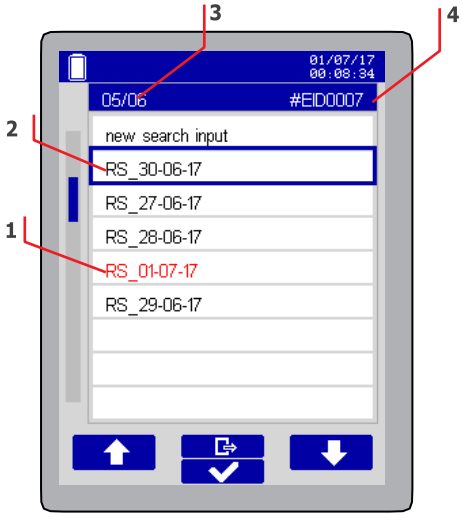


Figure 4-7

Use the arrows to scroll up or down list, and press the Selection button to enter the desired session and confirm.

The list of the possible options will appear on the screen.

Scroll up/down the action menu and select the desired functionality.

The following functionalities are available *(Figure 4-8):*

1. Delete Duplicates
2. Delete Session
3. Send Session Data
4. Show EID details

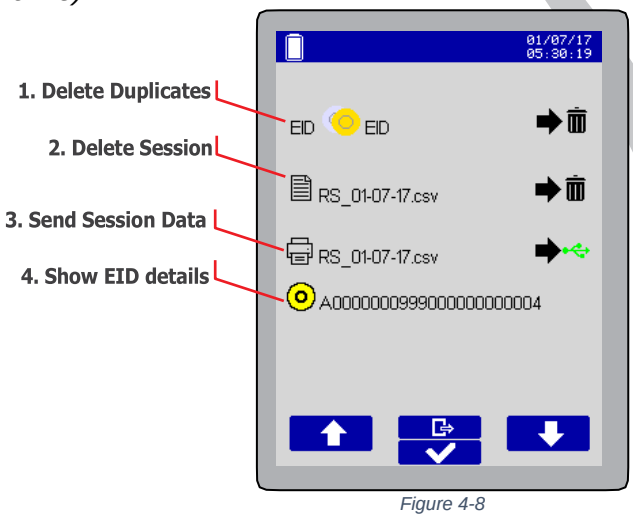


Figure 4-8

4.3.1 Delete duplicates

This function allows duplicates checking in recorded sessions and delete them where they are present.

Select the “Delete Duplicates” function from the Session options menu *(Figure 4-9),* and confirm using the selection button *(Figure 4-10).* The reader keeps the last EID read and it deletes the older ones.

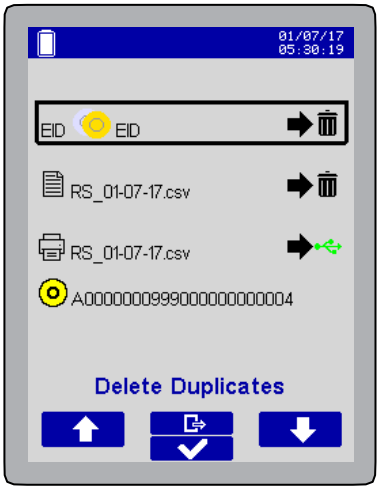


Figure 4-9

Figure 4-10

4.3.2 Delete a session

To delete a session, scroll down the list of the session options, select the “Delete Session” function *(Figure 4-11)*.

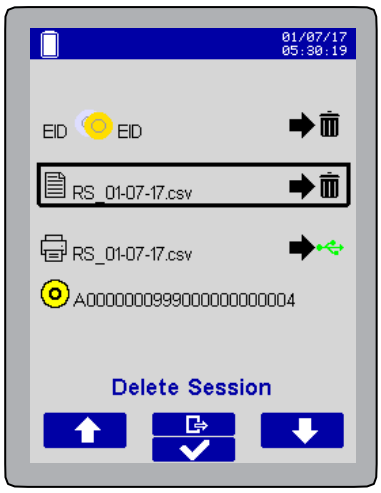


Figure 4-11

Confirm using the selection button (*Figure 4-12*).

Figure 4-12

Important! All the duplicates contained in the session will be deleted. After this action, all the EID listed in the session will be unique in the list.

Important! If you delete the current session, the reader creates a new empty session with the current date&time.

4.3.3 Send Session Data

To send session data over a device, the reader shall be connected to the external device it via USB cable or via Bluetooth®. *Refer to "AirStick connectivity" section for more information.*

Scroll down the list of the session options (*Figure 4-13*), select the "Send session data" function and confirm using the selection button.

When the reader is connected to a device, a green icon (USB or Bluetooth icon) appears near the print icon (as shown in the *Figure 4-13*).

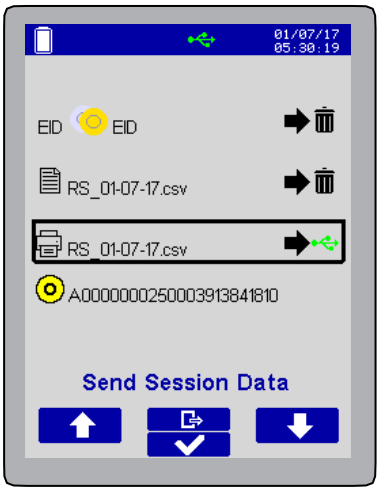


Figure 4-13

If the reader is not connected to a device, an "**X**" icon appears near of the functionality and it is not possible to send data (*Figure 4-14*).

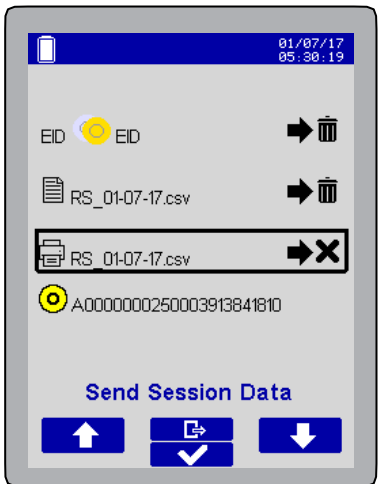


Figure 4-14

This functionality can re recalled with the shortcut that appear on the main screen *(Figure 4-15)* while the reader is connected to a device (**1**).

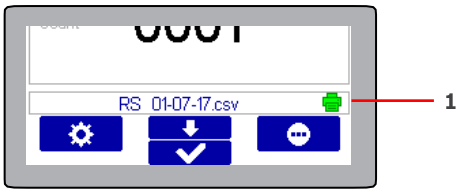


Figure 4-15

There are two possible ways to send Session Data:

- Connect the reader to a device as Virtual COM Port (via USB or Bluetooth®)
- Connect the reader to a device as Keyboard wedge (via USB or Bluetooth®)

4.3.4 Show EID details

It's possible to read the details of the EIDs listed on the selected session. Move the blue rectangle to select "Show EID details" function inside the Sessions Options menu *(Figure 4-16),* and press the Selection button to confirm.

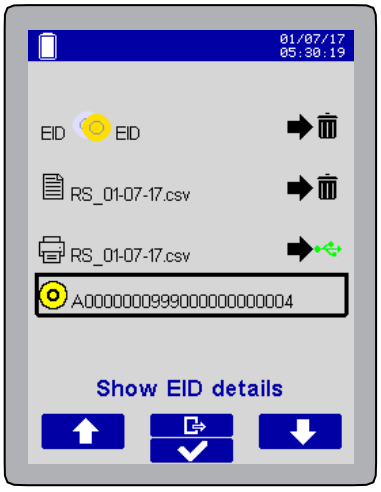


Figure 4-16

The list of all the EIDs read in that specific session will appear on the screen (*Figure 4-17*).
Select the desired EID and confirm.

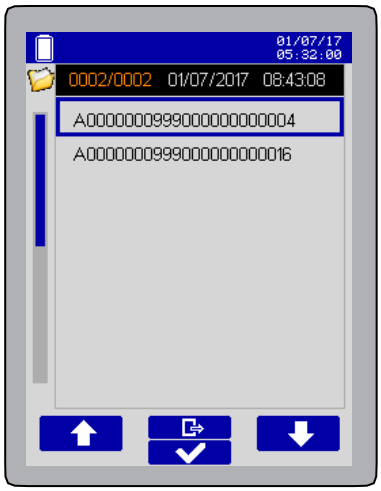


Figure 4-17

The screen will display all the EID's details already registered (*Figure 4-18*). From this screen is possible to delete the EID and the realted data pressing the delete button, or go back to the previous list.

If the session contains one or more EIDs, at the voice “Show EID details” the screen shows the first EID listed in the session.

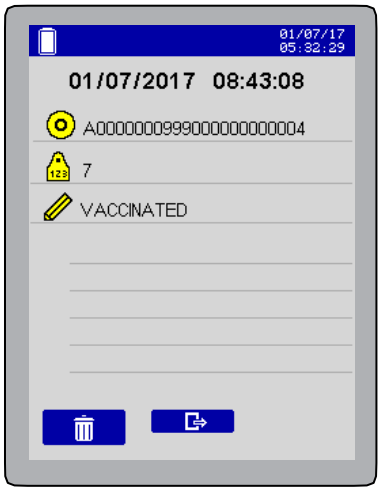


Figure 4-18

If the session is empty, the session options menu shows the message: “no EIDs” (*Figure 4-19)* at the voice “Show EID details”.

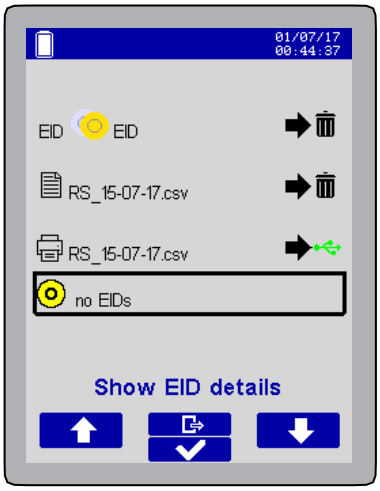


Figure 4-19

If you enter it, the screen shows that 0000 EIDs are contained in that session *(Figure 4-20):*

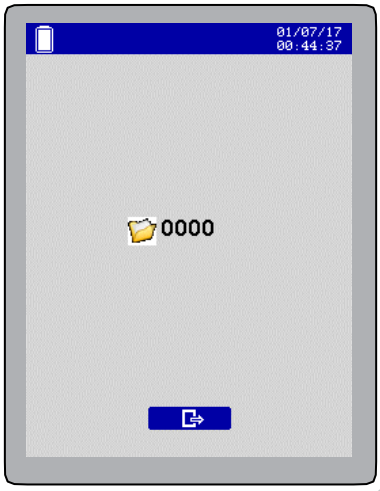


Figure 4-20

5. Search Functions

The Search functions allow to search EIDs contained in a searching list (i.e. a searching file created directly on S-ID Software*) or in a reading session, and to search a specific VID or search an animal by a specific alert linked to it.

While the reader is in the searching mode, the screen background switches from blue to black and a searching icon appears on the bar on the top of the screen.

The search result data are stored in specific output file available from S-ID software*.

**Refer to S-ID software manual for more information*.

5.1 Search EID

To search an animal by its own EID in a specific list enter the “Search EID” function from the Application menu *(Figure 5-1).*

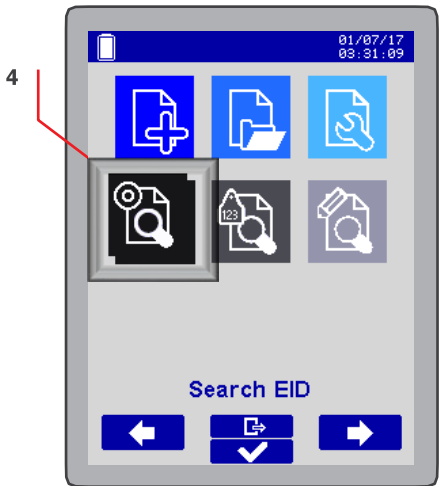


Figure 5-1

EIDs to be searched shall be provided in a list that could be:

- a Reading Session already recorded on the reader
- an input file manually created on S-ID

Selecting the function, All the available lists of EID will appear on the screen (*Figure 5-2*).

Scroll down/up the whole list using the arrow and select the list in which you desire to search the EID.

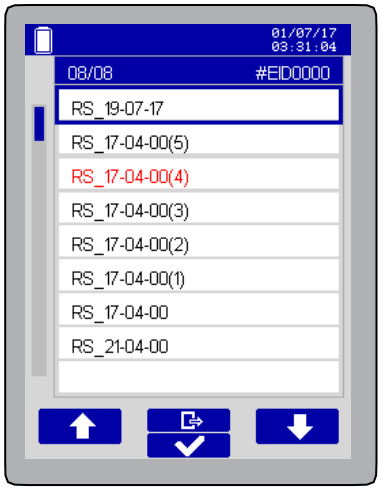


Figure 5-2

At this point the reader will provide a confirmation message notifying:

- the number of EIDs that will be searched

- The file name that contains the list of EIDs that will be searched

- The session file output (named “SearchEID_date_time”) that will allow you to do some statistics on the search using (*Figure 5-3*). S-ID software*

** Refer to S-ID software manual for more information*.

Press the selection button to confirm.

AirStick is now ready to start to search the EID and verify if it is listed in the selected list or not (*Figure 5-4*). To search an EID, press the read button and read the EID (*refer to Reading an EID Ear Tag for more information).* The red led will start to blink.

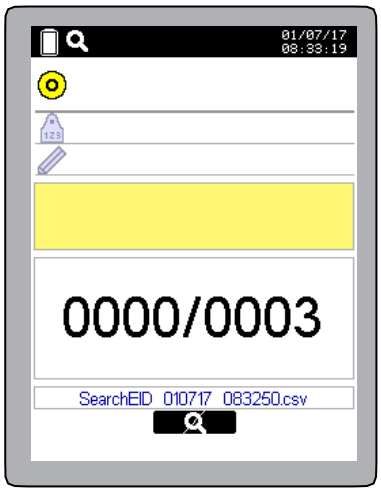


Figure 5-4

- If the EID just read is contained in the list, the message "**FOUND**" highlighted in green will appear on the screen (*Figure 5-5*).

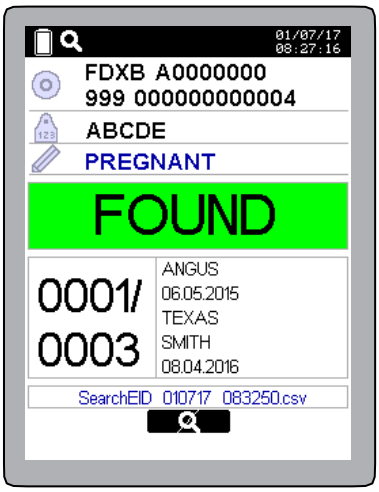


Figure 5-5

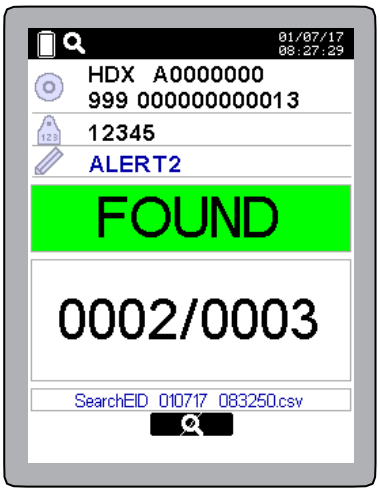


Figure 5-6

- If the EID just read is not contained in the list, the message "**NOT LISTED**" highlighted in grey will be shown on the screen (*Figure 5-7*).

Figure 5-7

- If the EID is already listed, the message "DUPLICATE" is displayed on the screen *(Figure 5-8):*

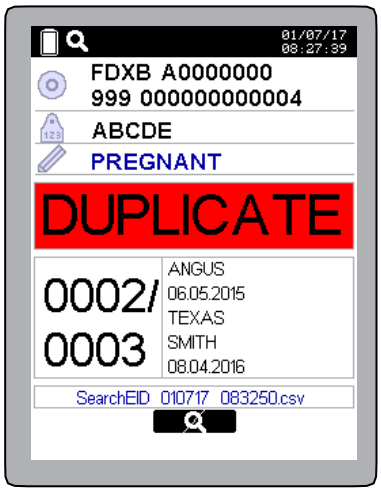


Figure 5-8

When all the EIDs contained in the selected list are found, the reader will notify the end of the search: the count field become green (*Figure 5-9*) and it is not possible to continue reading and searching other items (even pressing the read button AirStick won't read any more).

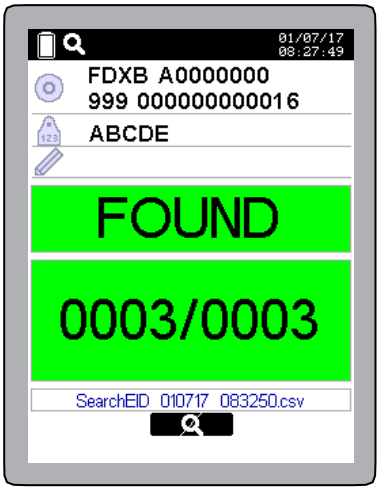


Figure 5-9

The searching session can be interrupted in any time pressing the "stop" button.

This function is very useful for example to double check the list of EIDs read in a specific session and verify if any EIDs are missing or if a specific EID belongs to that list or not.
It is possible to interrogate the entire list from the S-ID software and check how many EIDs of that session have been found during the search.

5.2 Search VID

To search animals (i.e. EIDs) having a specific VID, enter the “Search VID” function (5) from the Application menu (*Figure 5-10*).

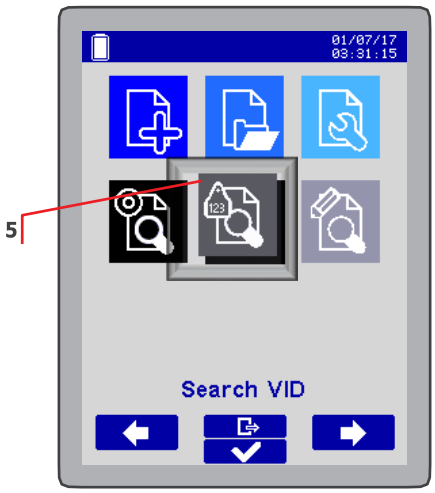


Figure 5-10

Differently from the Search EID functionality, this function allows you to search not for a list of items but for a specific VID that shall be typed.

Enter the VID you want to search *(Figure 5-11),* e.g. “ABCDE”*(Figure 5-12).*

Use the “ABC” up and down arrow to select the desired character. The characters order is 0,1... 9, A,...,Z. To change the orientation of the up and down arrow, keep the button pressed for 2 seconds.

To go to the next digit use the “ABC” arrow .

To cancel press the cancel button.

Press the selection button to confirm the VID just entered.

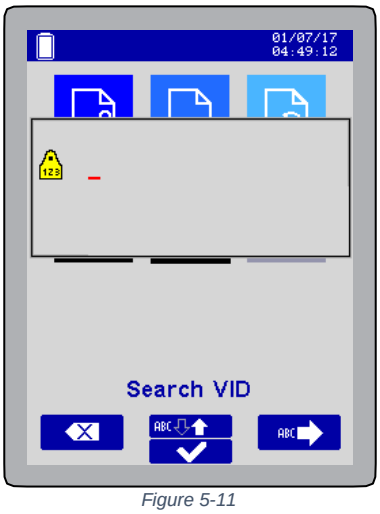


Figure 5-11

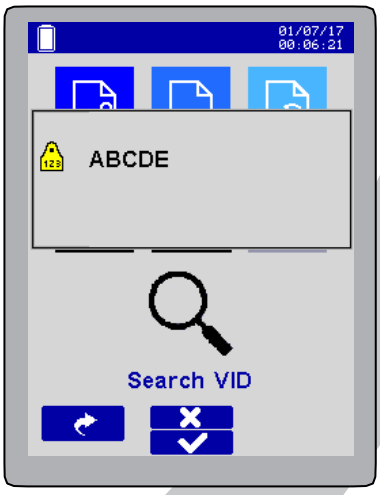


Figure 5-12

The reader creates a Search VID session named “SearchVID_date_time” that will store all the EIDs with that specific VID found during the search (such list is available via S-ID software* under the voice “Searches VID” and the name is displayed in the searching screen).

** Refer to S-ID software manual for more information*

AirStick is now ready to detect the EIDs having that VID (*Figure 5-13*).

Figure 5-13

To search the VID, press the read button and read the EID (*refer to Reading an EID Ear Tag for more information).* The red led will start to blink.

When the reader detects the VID, the message "**FOUND**" highlighted in green will appear on the screen (*Figure 5-14, Figure 5-15*). The counter shows how many EID are found with that specific VID.

Figure 5-14

Figure 5-15

- When the reader detects a different VID, the message "**NOT LISTED**" highlighted in grey will be shown on the screen *(Figure 5-16).*

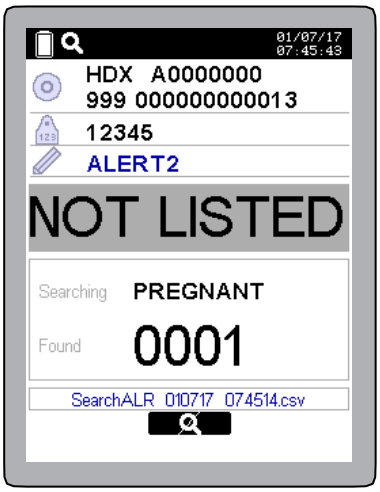


Figure 5-16

- If the EID is already listed, the message "DUPLICATE" is displayed on the screen *(Figure 5-17):*

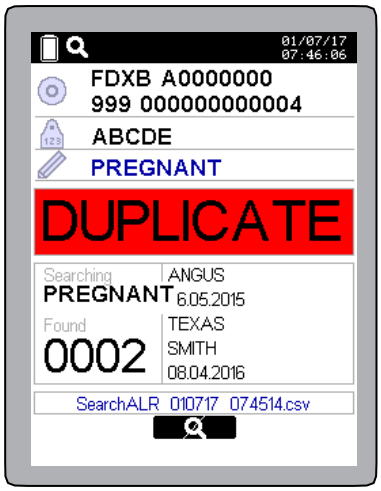


Figure 5-17

The searching session can be interrupted in any time pressing the "stop" button .

5.3 Search Alert

To search animals (i.e. EIDs) by specific Alert, enter the “Search Alert” function (6) from the Application menu (*Figure 5-18*).

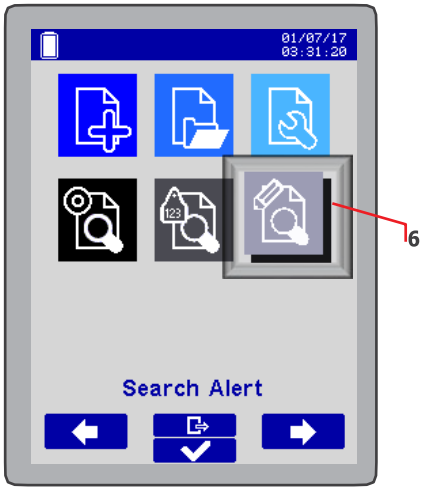


Figure 5-18

Select the Alert according to which you want to search the animals, and confirm *(Figure 5-19).*

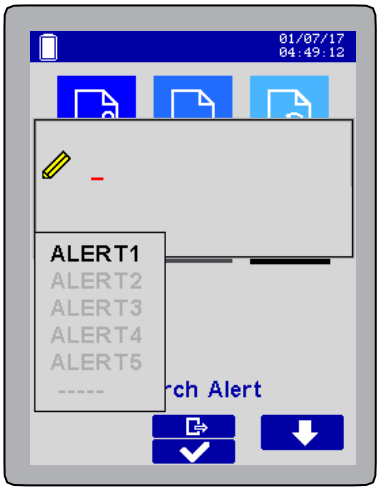


Figure 5-19

It is also possible to search an Alert not already listed.

Select the “- - - -” field at the end of the list of the 5 default alerts (Figure 5-20).

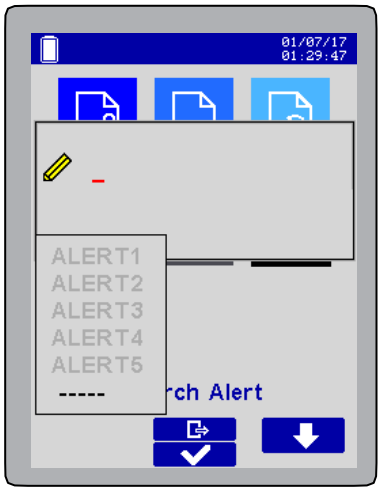


Figure 5-20

To write the Alert you want to search (e.g. “Pregnant”) (*Figure 5-21*), enter the customized Alert using the “ABC” up and down  arrow to select the desired character.

Figure 5-21

The characters order is 0,1... 9, A,...,Z.

To change the orientation of the up and down arrow, keep the button pressed for 2 seconds.

To go to the next digit use the “ABC”  arrow (2).

To cancel press the cancel button  .

The reader creates a Search Alert session named “SearchAlert_date_time” that will store all the EIDs with that specific Alert found during the search (such list is available via S-ID software* under the voice “Searches Alert” and the name is displayed in the searching screen).

** Refer to S-ID software manual for more information.*

The searching session can be interrupted in any time pressing the “stop” button  .

AirStick is now ready to detect the EIDs having that Alert *(Figure 5-22).*

Figure 5-22

To search the Alert, press the read button and read the EID (*refer to Reading an EID Ear Tag for more information).* The red led will start to blink.

- When the reader detects the EIDs with the Alert, the message "**FOUND**" highlighted in green will appear on the screen *(Figure 5-23, Figure 5-24).*

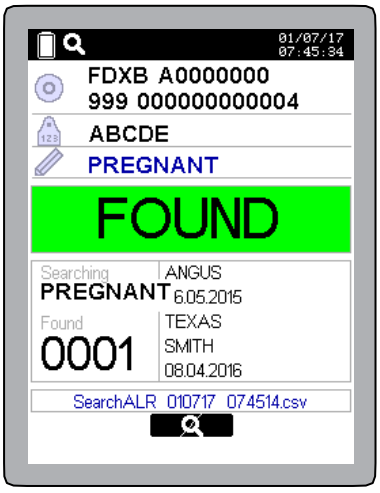


Figure 5-23

Figure 5-24

- When the reader detects a different Alert, the message "**NOT LISTED**" highlighted in grey will be shown on the screen *(Figure 5-25).*

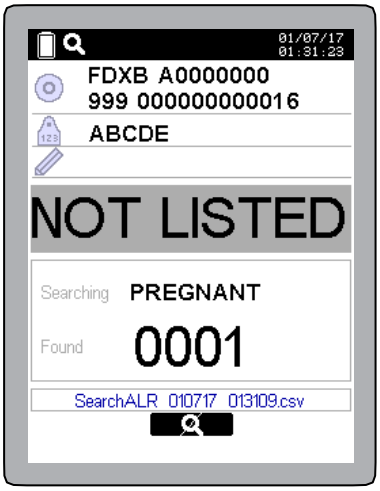


Figure 5-25

If the EID is already listed, the message "DUPLICATE" is displayed on the screen *(Figure 5-26):*

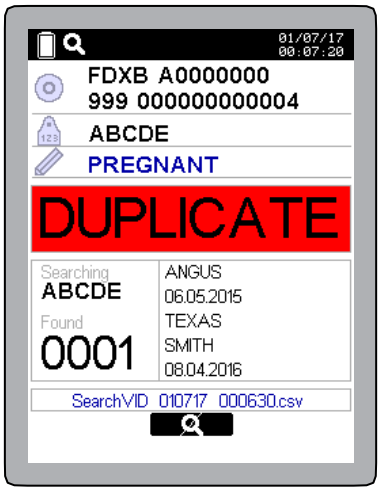


Figure 5-26

6. AirStick connectivity

6.1 Data transfer

It's possible to transfer a single EID or an entire session.

The session can be transferred either by shortcut on the main screen or from "Session options" in the Application menu.

Data can be transferred from AirStick to a device and vice versa using the USB memory stick provided inside the AirStick package or via Bluetooth®.

When connected to a device, AirStick can:

- Send data to this device every time an EID is read
- Send session data by selecting the transfer data function. The data transfer shortcut icon will appear on the main screen of the reader.

There are two possible ways to connect AirStick to a device (for example, a PC):

- via the USB cable provided
- via Bluetooth®

6.2 USB (wired)

To connect the reader to a device via the USB cable provided in the packaging follow the step here below *(Figure 6-1):*

1. Open the rear screwing cap (on the bottom of the reader)
2. Connect the Mini USB plug of the USB cable to the Mini USB port on the reader
3. Connect the second end of the cable to the USB port on the device.

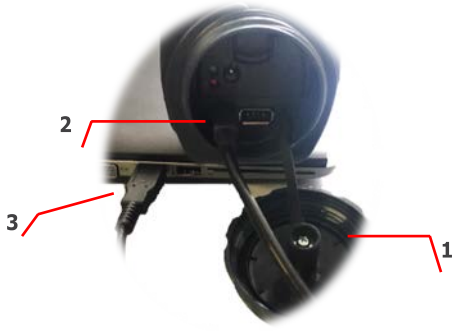


Figure 6-1

When the reader is connected to a device via USB cable, there are three possible communication ways:

- As mass storage
- as Virtual COM Port (SPP,Serial Port Profile)
- as Keyboard wedge

6.2.1 Mass storage mode

To connect the reader to a PC or a MAC as mass storage, the reader shall be turned off (no reading is allowed).

The reader will be seen by the device like an external disk storage (for example, like a standard USB stick).

In mass storage mode you can open the AirStick folder and browse all the recorded files. Especially you can:

- copy sessions from the reader to your PC or MAC and vice versa
- rename sessions
- edit your sessions

6.2.2 USB Virtual COM Port

With the COM profile, data is streamed to the receiving application in the selected EIC format as if it were being input via the serial port used by the application.

To use the Virtual COM Port profile the reader shall be kept switched on.

To connect the reader in Virtual COM Port profile, select the function  from the Settings menu.

The USB icon appears on the status toolbar on the top of the screen.

Connect the reader to one of the Virtual Com Ports of the device and AirStick sends the data using RS232 protocol. When connected the USB icon will be displayed in green.

Warning: Some devices may require specific operations (eg. Install drive, run a program) for a successful connection with AirStick

6.2.3 USB Keyboard wedge

With the KWG profile data is transmitted via USB to the receiving third-party application where a mouse cursor is active as if it were being input via a keyboard (refer to the examples at the end of this section for clarification).

No configuration on the device is needed.

To connect the reader in Keyboard wedge mode, select the function  from the Settings menu.

When connected, a green keyboard icon appears on the status toolbar on the top of the screen.

To use the Keyboard profile the reader shall be kept switched on.

6.3 Bluetooth® (wireless)

It is possible to connect AirStick to a Bluetooth-enabled devices and transfer data without cable connections.

To connect AirStick to a device via Bluetooth follow the steps here below:

- Enter the “Bluetooth” function (1) in the Settings menu *(Figure 6-2)*

Figure 6-2

- Switch on the Bluetooth® pressing the “ON/OFF” icon 

.

When Bluetooth® is **OFF**, only the “pin” function is allowed while the other functionalities are disabled *(Figure 6-3).*

The types of PIN available are: 0000 – 1234 – 9999 or None.

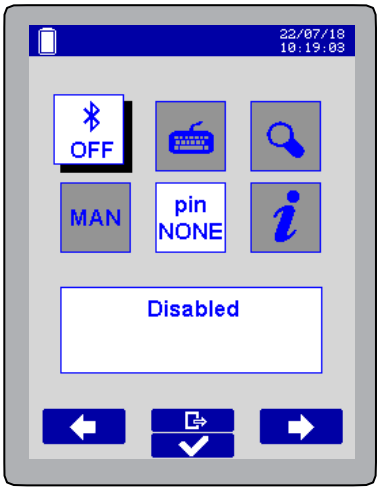


Figure 6-3

When the Bluetooth® is **ON**, a white Bluetooth® icon appears on the status toolbar on the top of the screen *(Figure 6-4).*

When the reader and a device are paired and connected, the Bluetooth® icon become green *(Figure 6-5).*

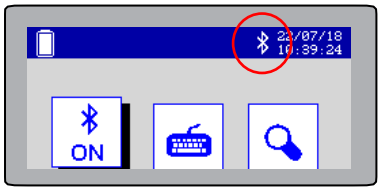


Figure 6-4

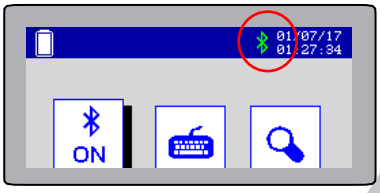


Figure 6-5

When Bluetooth® is switched on, the following operations are allowed (*Figure 6-6*):

1. Select Virtual COM port / keyboard profile

2. Find a device

3. Manual / Auto

4. Pin

5. Info about Airstick's Bluetooth and status

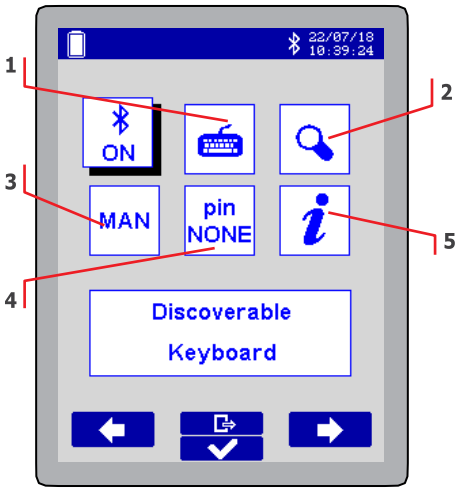


Figure 6-6

1. Select Virtual COM Port / Keyboard profile

When Bluetooth® is ON, AirStick can be connected to a device either as Virtual COM Port or as Keyboard wedge mode (Refer to Bluetooth® Virtual COM Port (SPP, Serial Port Profile) and Bluetooth® Keyboard wedge sections for more information).

2. Find a device

Search a device via Bluetooth®. The list of all the Bluetooth® devices currently available will progressively appear *(Figure 6-7)* and the name of the devices will be displayed in the list. When the entire list of the

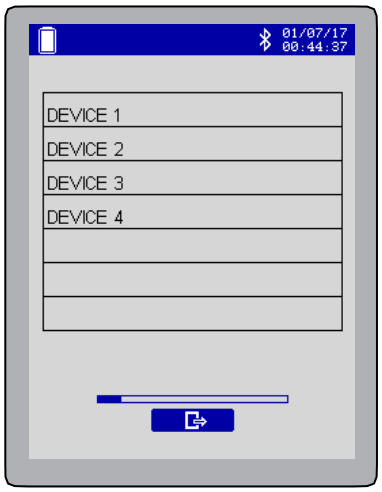


Figure 6-7

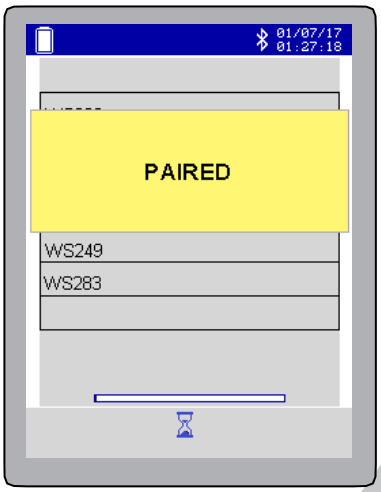


Figure 6-8

devices is uploaded, it is possible to select the desired device and wait until they will be paired *(Figure 6-8).*

3. Manual / Auto

Select the Manual option to search manually a device each time the Bluetooth® is switched on.

If the Auto mode is active, once the Bluetooth is switched on the reader will try to connect to the device it was connected the last time.

4. Pin: The types of PIN available are: 0000 – 1234 – 9999 or None.

5. Info about AirStick: to read info about the AirStick (for example to read the name of the reader in case you are searching AirStick from another device via Bluetooth)

6.3.1 Bluetooth® Virtual COM Port (SPP, Serial Port Profile)

With the COM profile, data is streamed to the receiving application in the selected EIC format as if it were being input via the serial port used by the application.

To use the Virtual COM Port profile the reader shall be kept switched on.

To connect the reader in Virtual COM Port profile, select the function  from the Bluetooth menu.

Connect the reader to one of the Virtual Com Ports of the device and AirStick sends the data using RS232 protocol. When connected the Bluetooth icon will be displayed in green.

6.3.2 Bluetooth® Keyboard wedge

With the KWG profile data is transmitted via Bluetooth to the receiving third-party application where a mouse cursor is active as if it were being input via a keyboard (refer to the examples at the end of this section for clarification).

No configuration on the device is needed.

To connect the reader in Keyboard wedge mode, select the function  from the Bluetooth menu.

When connected, a green keyboard icon appears on the status toolbar on the top of the screen.

To use the Keyboard profile the reader shall be kept switched on.

The examples below show how data can be easily transmitted in KWG mode and COM mode (both possible via USB or BT connection) in 2 simple applications.

Example 1 - EID transmitted to a third-party application in Virtual COM Port mode.

On the reader, select the Virtual COM Port mode in the desired connection (USB or Bluetooth®).

Connect the reader to the device with the terminal opening the COM Port connection.

Read the EID following instructions described in Reading an EID Ear Tag section.

The code will appear in the window in the selected EID format *(Figure 6-9).*

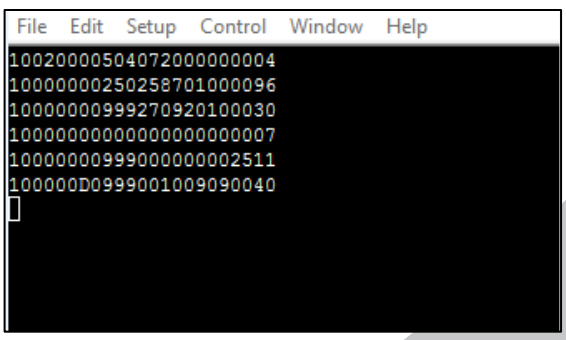


Figure 6-9

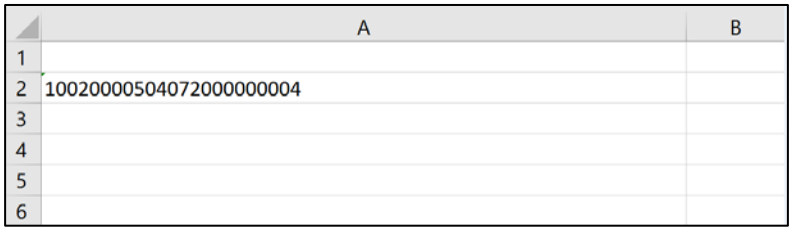
Example 2 - EID transmitted to a spreadsheet in Keyboard mode.

On the reader, select the Keyboard mode in the desired connection (USB or Bluetooth).

On the device, place the cursor in the field of the spreadsheet where the EID should be printed.

Read the EID following instructions described in Reading an EID Ear Tag section.

The code will be typed in the selected EID format in the field previously selected *(Figure 6-10).*



	A	B
1		
2	1002000050407200000004	
3		
4		
5		
6		

Figure 6-10

6.4 USB Memory Stick

It is possible to connect AirStick to a standard USB memory stick. This functionality allows you to back up the entire AirStick's contents on the USB memory stick or to download and upload single session or Search input file. Moreover, this functionality allows you to restore the reader.

Warning message: We recommend using a USB memory stick with AirStick only to avoid the accidental upload of data different from those managed by the reader.

To connect the USB memory stick to AirStick open the screwing cup on the bottom of the reader *(Figure 6-11).*

Figure 6-11

The reader displays a temporary screen which shows a memory stick and a white memory stick icon appears on the status toolbar on the top *(Figure 6-12).*

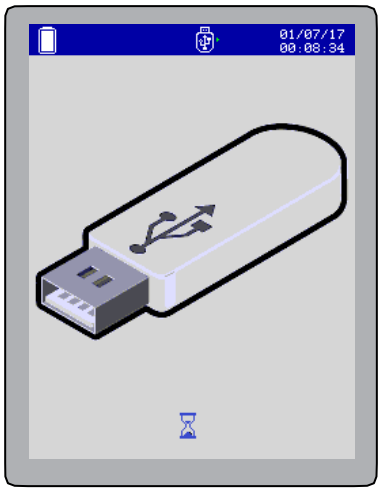


Figure 6-12

When the reader is effectively connected to the memory stick, the memory stick icon on the status toolbar becomes green and there are 2 communication modes available (*Figure 6-13*):

A) from the reader to the USB memory stick

B) from the USB memory stick to the reader

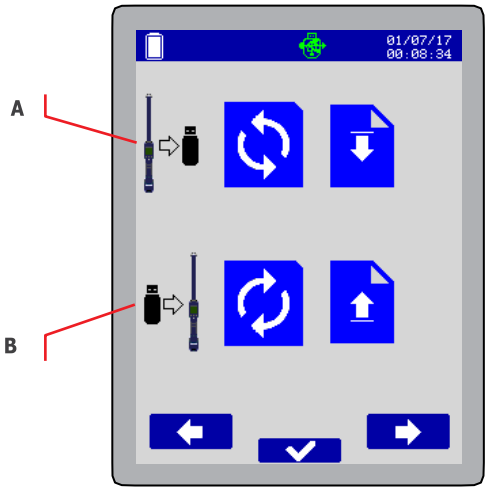


Figure 6-13

From the reader to USB the following functionalities are available:

1) Reader backup *(Figure 6-14)*

2) Session Download *(Figure 6-15)*

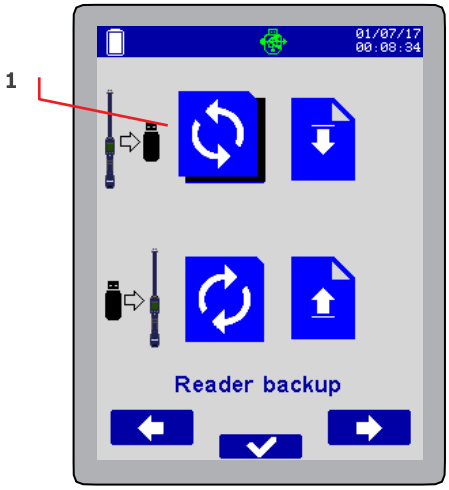


Figure 6-14

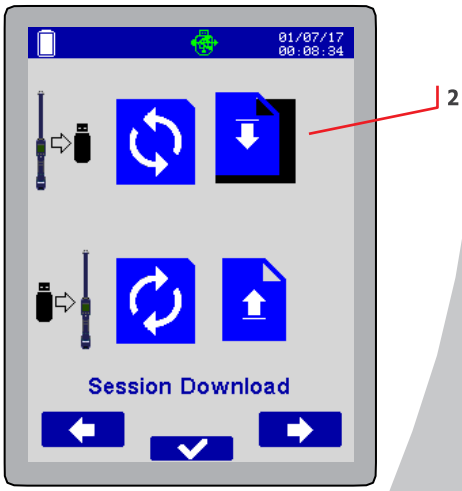


Figure 6-15

From the USB to the reader the following functionalities are available:

3) Reader Restore *(Figure 6-16)*

4) Session upload *(Figure 6-17)*

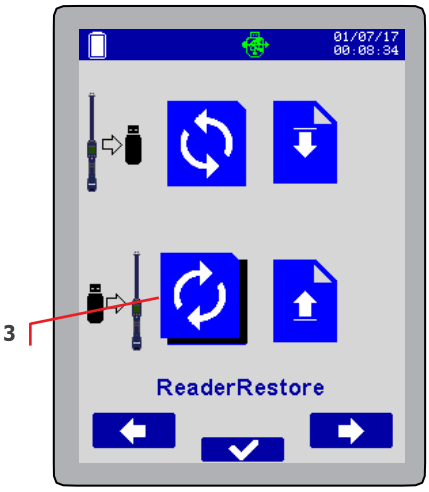


Figure 6-16

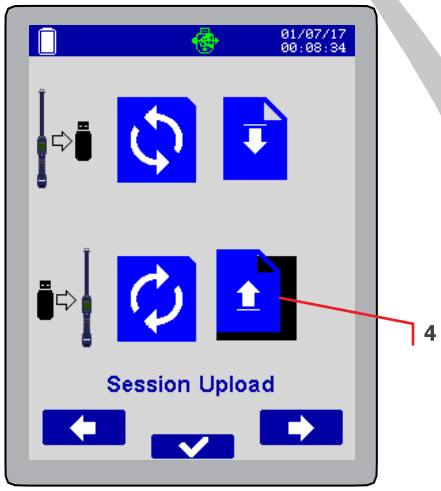


Figure 6-17

6.4.1 Reader backup

It is possible to make a backup of the entire data contained in the reader on the USB memory stick

Select the “Reader backup” function and press the confirmation button. The screen shows the backup process in progress (this could take some time).

When the backup is finished, the reader shows the previous screen with all the available functions.

On the USB stick you will find a folder named AirStick_Date and Time containing:

- Reading Sessions
- Search input files
- Masterfile folder
- Search Output folders

Connecting the memory stick to a PC or MAX you can enter all the data transferred from the reader to the memory stick.

6.4.2 Session download

It is possible to download a single session from the reader to the USB memory stick.

Select the “Session Download” function and confirm. The list of all the sessions contained in the reader appears on the screen. The current reading session is highlighted in red (*Figure 6-18*). Scroll down the list using the “up and down” arrows and select the session you want to download.

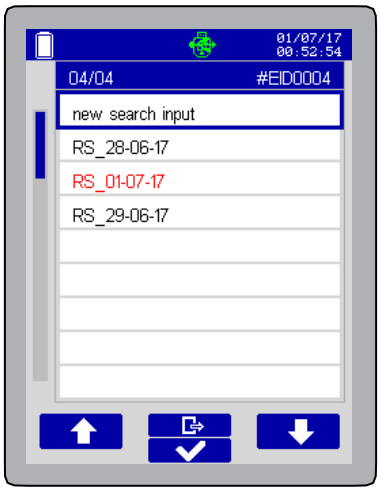


Figure 6-18

Downloaded sessions are now available on the USB memory stick as .csv files

6.4.3 Reader restore

This function allows you to update the entire content of the reader, in terms of:

- Reading Sessions
- Search input files
- Masterfile folder
- Search Output folders

For example you can use one of the reader backups previously downloaded and modified through S_ID or you can import the reader’s library created on S-ID.

Select the “Reader restore” function and confirm. The list of backups available for restoring contained on the USB memory stick appears on the screen. Scroll down the list using the “up and down” arrows and select the one you want to restore and confirm.

6.4.4 Session upload

It is possible to upload a specific session contained in the USB memory stick.

Select the “Session upload” function and confirm. The list of all the sessions contained in the memory stick appears on the screen. Scroll down the list using the “up and down” arrows and select the one you want to restore and confirm.

7. Firmware update

To update the firmware, use S-ID software* connecting AirStick to the device.

** Refer to S-ID software manual for more information*

8. Care and Maintenance

If the outer casing of the reader becomes soiled, it can be cleaned with a damp cloth. First ensure that it is not connected to the charger.

If for any reason the reader is not working, please do not attempt to repair it, but return it for repair to your local dealer. Any attempt to open the reader yourself will void the IP67 certification.

AirStick is equipped with Li-Ion type battery. This battery lasts longer and does not contain Cadmium or lead, which makes it much safer for the environment. If the reader has to be destroyed, please return it to a battery specialist for battery recycling.

The display of the reader may change colour if exposed to temperatures higher than 50°C. It will return to its original colour as soon as the temperature gets below 50°C.

At very low temperatures the display may lose its contrast, but at normal temperatures it will return to its normal contrast.

Important! If the reader is be transported by air, the rear screwing cap has to be **open** during the flight.

9. Specification

Display	2.8” TFT, 65000 colors
AC/DC Adapter	15V 1.6A 24W 100-240VAC
Battery	Rechargeable Li-Ion Battery / 7.4VDC/19.24Wh/2600mAh / Replaceable battery
Notifications	Tip LED (red/green) **/ /** Independent Vibro and Audio
Keypad	4 buttons + read button
Memory	4GB (> 1 Million of EIDs stored)
Transponder types	FDX-B and HDX
Typical Reading Distance	up to 31 cm for FDXB **/ /** up to 37 cm for HDX
Transmission Frequency	134.2 KHz
Size and Weight	Size: 750 mm (L) × 75 mm (W) × 70 mm (H) **/ /** Weight: 950 g
Environmental Protection	IP67
Operating Temperature	-10°C / +55°C, 95% RH, non condensing
Charging Temperature	+5°C / +45°C, 95% RH, non condensing
Long-term Storage Temperature	-20°C / +45°C, 85% RH, non-condensing
Wireless communication	Bluetooth® wireless technology to connect to most of weight scales and portable printers (profiles supported: SPP, Keyboard emulator, Apple-SPP ready)
Wired communication	USB Keyboard or Virtual COM Port profile
Data storage	USB host (can read external USB memory stick) **/ /** USB device (acts as USB memory stick)
Certifications	CE /RED (Europe); IC (Canada); C-TICK (Australia and New Zealand)
Standards	Standard ISO 11784/5, ISO 11784-AMD1 (Compatible with all FDX-B and HDX) Standard ISO 24631-2 (ISO reader conformance) Standard ISO 24631-6 (EID code representation)
Software	S-ID software available at **www.datamars.com/id-readers**

10. Troubleshooting

10.1 Bad reading performances

The reading distances are worse as expected?

The maximum reading distance is obtained when all transponder types are in the right position, please refer to the *Figure 10-1*. If the tag is implanted into an animal, its orientation may not be optimal and therefore the reading distance may be reduced. Change the angle of the reader and try again.

You might be close to a source of electromagnetic disturbances like video or TV. Move a few meters away and try again.

Do not use the reader on a steel table. The metal will reduce the performance of the antenna. The reading distance is reduced if the transponder is still in the needle.

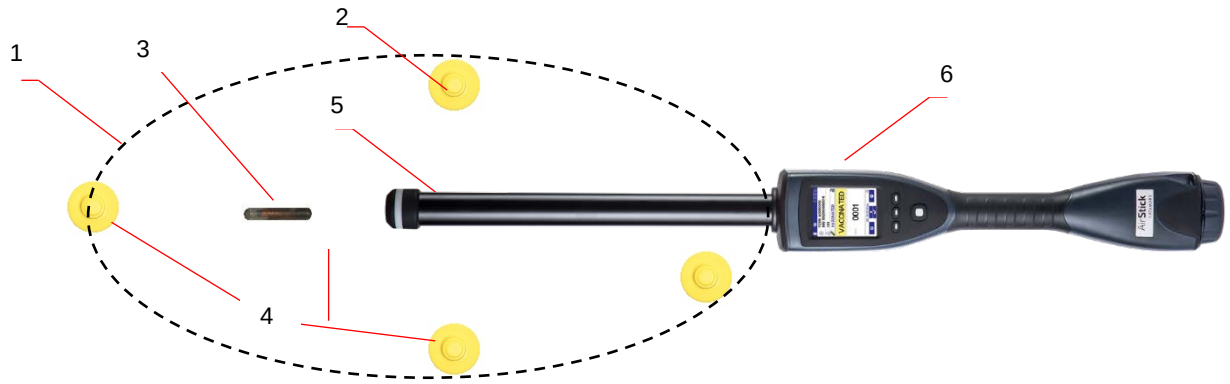


Figure 10-1

Item	Legend	Description
1	Reading area	Area in which the ear tags and the implants can be detected
2	EID (Ear Tag)	-
3	EID Implant/Bolus	-
4	Best position	Best position of the ear tags to be detected by the antenna
5	AirStick's Antenna	
6	AirStick	

The reader does not read the transponder?

Change the angle of the reader and try again.

Some types of transponders from other manufacturers are disturbed if placed in the centre of the reader-antenna. It is possible that some tags will not function if placed in parallel and at the centre of the antenna. Change the direction of the tag or of the antenna.

10.2 The reader does not work

Charge the reader for at least 30 minutes and try again (recommended time for full battery recharge = 2

hours).

Check the ambient temperature: it has to be between -5ºC and +45º C. If you're still having problems, please contact your dealer.

AirStick is a product developed and produced by DATAMARS, Switzerland.

Should you have any suggestions or require information regarding this or other DATAMARS products, please contact your dealer.

10.3 A triangle has appeared on the status toolbar

A yellow or red triangle could appear on the status toolbar on screen if the antenna is not properly tuned (*Figure 10-2*).

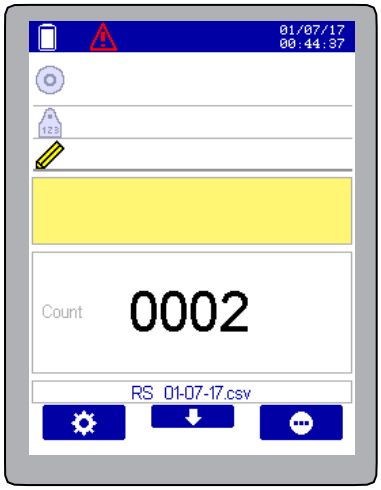


Figure 10-2

Move the reader in a new location. The icon will disappear in 10 minutes or restart the reader.

If the icon is still on the screen move the reader again in a new position and wait for 10 minutes. If changes do not occur, please contact Livestock-id@datamars.com for support.

11. Certification

Datamars, Via ai Prati, CH-6930 Bedano declares, under its own responsibility, that the product AirStick is in accordance with the following standards:

- CE /RED (Europe)
- FCC (USA)
- IC (Canada)
- C-TICK (Australia and New Zealand)

12. End of life

12.1 Disassembly Instructions for AirStick reader

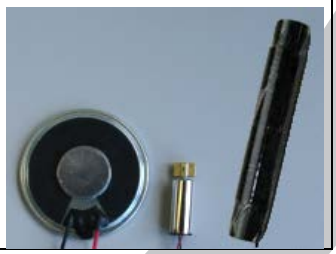
Product Name / Model	Description
AirStick / Any models	Universal portable reader

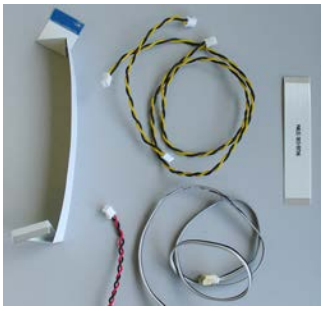
Only authorized recyclers are permitted to use these disassembly instructions. Any attempted disassembly by a user or unauthorized party will void the product warranty and may irreparably damage the product.

12.2 Tools Required

Tool Description	Tool Size (if applicable)
Nipper	Medium
Philips screwdriver (0)	Small
Cutter pliers	Medium
Hot Air Gun	Big

12.3 Product Disassembly Process

1	• Open the reader by using a screwdriver and remove all internal components	
2	• Dispose all the plastic and rubber parts of the reader according to the local recycling laws	
3	• Dispose the antenna ferrite, the speaker and the motor according to the local recycling laws	

4	• Dispose all the electronics parts of the reader according to the local recycling laws	
5	• Dispose the battery packs according to the local recycling laws	
6	• Dispose all the cables according to the local recycling laws	
7	• Dispose all metallic parts according to the local recycling laws