

# **V-Scan**

Quick User Guide



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# 1 Version control

| Edition | Date       | Description   | Author |
|---------|------------|---|--------|
| 0.1     | 28/02/2007 | This is the first DRAFT version of this documentation.              | AS     |
| 0.2     | 03/03/2007 | The online V-Scan recording is added, using the ASCII Dump Protocol | AS     |
| 0.3     | 11/04/2007 | Groups and modified to Batches, and new layout of V-Scan Data       | AS     |
|         |            | Manager program is used   |        |
| 0.4     | 10/05/2007 | Minor changes and Multi Scan mode description added.                | AS     |
| 0.5     | 26/06/2007 | Noiselevel and snapshot function added.                             | AS     |
|         |            | 16 hour charge time warning added.                                  |        |
|         |            |   |        |

Table 1: Modification overview

## 2 Getting started

This document describes the basic functions of the program. In summary:

- Storage of tag-readings in the V-Scan is done in *Records*. Each tag is stored as one Record.
- Storing records can be done batch-wise or non-Batch-wise.
- A *Record* consists of items of a certain *Type* (numeric, data, time, tag number etc.)
- The format of *Records* is defined in *Templates*, which can be defined on V-Scan or on the PC.
- All Template and Record data can be transferred from and to the V-Scan using the V-Scan Application.

# *V* First install the V-Scan Application Software, before connecting the V-Scan to the PC using the USB cable.

The setup will also install the newest USB drivers to create serial COM-ports necessary to communicate with V-Scan.

After the installation, connect the V-Scan to the PC with the USB cable and start the V-Scan Application from your start menu or desktop.

# The Bluetooth COM-Port driver software is not included in V-Scan Application installation software. This driver software is dependent on the manufacturer of your Bluetooth Device.

See Appendix B: Setup a Bluetooth connection, how to create a Bluetooth serial connection.

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When the charger is connected for the first time, it takes 16 hours to charge the batteries. This will reset the capacity of the batteries for better performance. Only when V-scan has finished this 16 hours charge cycle, it will start with fast-charge the next time it is connected to the charger.

# 3 V-Scan description

| 3.1 | Interface        |   |
|-----|------------------|---|
|     |                  |   |
|     |                  |   |
|     | Header           | V-SCAN  |
|     | Area for 4 lines | s text  |
|     | Footer           | MENU OK   |
|     |                  |   |
| •   | Display          | The top line is the <i>header</i> , displaying the name of the current screen and a battery icon (not displayed in the    |
|     |                  | picture). The bottom line is the footer, displaying the   |
|     |                  | status of the back key (on the left, disabled in the picture)<br>and the "OK" key (on the right, enabled in the picture). |
|     |                  | The center of the screen displays the menu or record  |
|     |                  | data.   |
| ٠   | Numeric (09):    | Editing of a numeric value.   |
|     |                  |   |
| •   | Up/Down key:     | With these keys the selection within a menu can be  |
| •   | Scan key:        | Switch on the V-Scan (long-press) and start scanning.   |
|     | Back key:        | Back\Decline. The left navigation icon indicates whether  |
| •   | Dack Ney.        | the back key is enabled or not. When the back key is long-pressed, the V-Scan will switch off.                            |
|     |                  |   |
| ٠   | Ok key:          | Select\Accept. The <i>footer</i> shows what the current action  |
|     |                  | whether the Ok key is enabled or not. In some menus,  |
|     |                  | the ok key can be long-pressed to activate a sub-   |
|     |                  | option-menu. This is indicated with an up-arrow symbol after the "OK".  |
|     |                  | OK Action in footer is activated by pressing OK button  |
|     |                  | OKI Option menu available by pressing OK button long  |

#### Figure 1: V-Scan interface

\*) The *Multi Scan* mode gives the user the possibility to scan more tags quickly in one read-session. The Multi Scan mode is only possible when Scan Time is not equal to zero (e.g. 10 seconds). Especially when a batch of tags must be scanned this option could be useful.

## 3.2 Display icons

In the header the battery status and the connection status is displayed. The table below shows the meaning of those icons.

| lcon         | Function                  | Description  |
|--------------|---------------------------|--|
|              | Battery capacity          | (100% 0%) , no charger connected   |
| N            | Fast charge               | Battery is fast charging.  |
| <b>16</b> 18 | Fast charge paused        | Currently not charging, waiting for correct temp for fast charge   |
| <b>6</b> 2   | Trickle charge            | Fast charge is finished, charger is continuing with normal charge.   |
| <b>E</b> N   | Charging finished         | Charging is finished but adapter is still connected.   |
|              | Battery level is critical | The V-Scan has detected a voltage-dip and battery needs to be charged as soon as possible to prevent data loss!. |

#### Table 2: Battery icons

When the adapter is not connected the V-Scan shows the capacity of the battery. When the adapter is connected the charger is started with fast-charge. If the temperature of the batteries is too low or too high the charger turns temporary in a paused status until the right temperature is reached. The charger remains in fast charge mode (paused or not) until it detects the full status. Then it ends with a period of normal charge to achieve the maximum capacity.

The table below shows the meaning of the communication icons:

| lcon                 | Function                                     | Description   |
|----------------------|--|---|
|                      | USB cable connected                          | USB cable connected.  |
| <b>.</b>             | USB cable connected and communication        | USB cable connected and communication is established with V-Scan application.                                       |
| ) «                  | Bluetooth paired with host                   | A host has paired the V-Scan device using Bluetooth   |
| <b>୬</b> ᢏ≯ <b>《</b> | Bluetooth paired with host and communication | A host has paired the V-Scan device using<br>Bluetooth and communication is established<br>with V-Scan application. |

#### Table 3: Communication icons

For a Bluetooth connection the V-Scan device must be paired. The appendix explains how to pair a Bluetooth device using the PC.



## 3.3 Display structure

### 3.3.1 Displaying Records

As soon as a template is selected the records are stored and displayed under the Record option. Between the brackets the number of records is displayed: (10).





### 3.3.2 Displaying Records Batchwise

As soon as a batch number is selected in the template the records are displayed under an extra batch menu that only displays the records with that specific batch number. Between the brackets the number of records is display that is stored with that batch number: (2) and (3).



| Corres | ponding | data tab | ole:  |                          |
|--------|---------|----------|-------|--------------------------|
| ltem1  | Item2   | Batch    | ltem4 | name of item             |
| vsid   | vsrn    | vsb      | vst   | item types (see table 5) |
| ХХ     | XX      | 1        | xx    |                          |
| XX     | XX      | 1        | хх 🔟  | Records with Batchnr 1   |
| XX     | XX      | 2        | xx 🗌  |                          |
| ХХ     | XX      | 2        | xx –  | Records with Batchnr 2   |
| XX     | XX      | 2        | хх 🔟  |                          |

To switch on the V-Scan, press the scan button. The last screen before switch-off is displayed again.

To start scanning, press the Scan key. Scanning will continue for:

- As long as the scan key is pressed until no tag has scanned.
- Some time after release of the scan key (can be adjusted, see settings below), until a tag has scanned or time has passed.

1=

When a tag is scanned, a record will be created (and displayed) based on the current active template (see templates below). In the active template is described which information is stored for each record.

#### 3.5 Main menu

When in the main screen the ok button is pressed, the database menu appears. In this menu, the following options can be chosen:

- Records: Viewing the records with data. Management of batch scanning (adding, deleting, renaming and viewing of batches)
- Templates: Management of templates (adding, deleting, viewing of templates). When no template is selected and the **None** option is selected, the tag-numbers are not stored, but just displayed in full 16 digits.

When in the main screen the ok button is **long-pressed**, the settings menu appears. In this menu, the following options can be chosen:

- Scan Change scan settings
- System Change system settings
- Reset
   Return whole V-Scan to factory settings
- Info Displays system information like versions, battery info, memory status etc.

#### 3.5.1 Batches

When the template contains the Batch Number item, the Batch option is added to the database menu. Every scanned tag is stored in a specific batch.

In the batch menu, all created batches are listed. When ok is pressed on a selected batch, the first record of that batch is displayed

When a numeric key is pressed, the batch number can be adjusted (which will also change all records within the batch). When in this menu the ok button is long-pressed, the batch options are displayed:

- Add batch Adds a new batch
- Delete batch
   Set active
   Deletes the current selected batch. This also deletes all the records in this batch
   Set active
   Set the current selected batch as active. All the new scanned tags will be assigned to this batch number
- Change batch nr Changes the batch nr and all of the records within this batch
- Delete all Deletes all batch and records currently in the V-Scan.
- -

#### 3.5.2 Templates

How to create templates is described in another chapter.

In the templates menu, all created templates are displayed. When the ok button is pressed, the columns that will be used when creating a record are displayed.

When in this menu the ok button is long-pressed, the template options are displayed:

- Add template: Enter the compose template menu (see below)
- Delete template: Delete template. Can only be done when this is not the active template. When this is the active template, delete can only be done when there are no records
   Set Active: Set the current selected template as active. Can only be done when there are no records in the database
- Delete all Deletes all of the templates in the V-Scan. Also records are deleted.

#### 3.5.2.1 Compose templates menu

When creating a template, the user can choose out of two types of data:

V-Scan types: All of the data types that are filled by the V-Scan at the moment a record is created (for example: record number, scan date, tag number) V-Scan types can only appear once in the list.



User types:

These are generic types which can be filled in and edited by the user (for example: numeric values, boolean values, text)

The order in which the types are added, is also the order in which the data will appear in the record. The first selected type will appear in the header of the screen. Some of the items are mandatory, but when these aren't added by the user, the V-Scan will add them (at the end).

The Type column shows the type name that must be used to create own templates on the PC. See also the examples that show how the files must be formatted.

#### 3.5.3 Settings

When in the main screen the ok button is pressed for a long time, the settings menu will display. In the settings menu, the scan settings and system settings can be adjusted. Also the status of the memory (how many records are currently stored and can still be stored) and the battery can be displayed here.

#### 3.5.3.1 <u>Scan settings</u>

| 0.0.1 | obalitobalitgo |   |
|-------|----------------|---|
| -     | Auto create:   | Auto create a new record or ask the user for confirmation   |
| -     | Scan time:     | The time the V-Scan keeps scanning for tags after the scan button is released   |
| -     | Multi scan:    | More than one tag can be scanned during one read-session. The Scan time must be set other than zero. The V-Scan keeps scanning until Scan Time is passed or Scan key is pressed again. This option can also be enabled once for |
|       |                | one read-session, by "double press" the Scan key.   |
| -     | Sound on:      | Select whether sound is enabled/disabled when scanning tags   |
|       |                |   |

#### 3.5.3.2 <u>System settings</u>

- Language: Select the language of the menus
- Bluetooth: Select if Bluetooth is switched on
- Date: Set the system date
- Time: Set the system time
- Contrast: Set the contrast level of the display.
- Date format: Select how to display the date (European or American date format)

#### 3.5.4 Record Display

The record data is displayed as one field (type) per line. On the left side of the line is the name of the field and on the right side the current value for this field. When the selected field is a user type, the user can edit the value (except when the user type is a textual type, because the V-Scan does not have a way to enter text). To enter a floating point number use the up-key for setting the <u>minus sign</u>, when no characters are entered yet, and the <u>decimal symbol</u>, when already some character are entered.

#### 3.5.4.1 Changing a tag number of a record

A tag number cannot be changed by entering a new value with the numeric keys (as this is a V-Scan type, see compose template). In order to change the tag number of a record, search or scroll to the record of which the tag number must be changed, and press the scan key. When the scanned tag is a new tag number, the V-Scan asks if the current tag number must be overwritten. This will only be the case if the "Auto Create" setting is switched off (otherwise a new record is created instead of overwriting the current).

#### 3.5.4.2 Searching a record

The first field of a record (the type added first when the template was composed) can be used to search a record. To search, select the header of the screen by long-pressing the up key when a record is displayed. Now the value to search on can be entered with the numeric keys. When a record is found with the entered value, this record will be displayed.

#### 3.5.4.3 <u>Scrolling through records</u>

To scroll through the records, select the header of the screen by long-pressing the up key when a record is displayed. The ok and back buttons can be used to scroll forward/backward through the records. The navigation icons in the footer of the screen will indicate this also.



# 4 Basic Steps to get scanned tags from V-Scan to PC.

This chapter shortly describes in three steps how to collect RF-ID tag numbers. The next paragraphs describes the next steps:

Step 1: Select a template on the V-Scan (define which data has to be stored in a record).

Step 2: Scan (read) and store the tag-numbers in V-Scan memory

Step 3: Get the data from V-Scan memory to PC.

Step 1 can be skipped when the default template is used.

#### 4.1 Step 1: Select a template on the V-Scan

A record is created and stored in the V-Scan memory each time a new tag is read. The V-Scan needs a template to know which data has to be stored in each record. Before the V-Scan can store any identified tag a template must be selected. Go to the templates menu, and select an existing template.



If the template list is empty, create a new template following the next steps:



Template list is empty, a new template must be created. In the template menu, Press <u>OK button long</u>, to enter the Templates **option** menu.



Select the Add Template option to compose a new template



Choose System types to enter the system types selection menu

| Compose  |    |
|--|----|
| Tagnr<br>Record nr<br>Recnr batch<br>Scan date |    |
| Select   | Ok |

Press OK button to select the type (toggled by '\*').





#### 4.2 Step 2: Scan tags with the V-scan.

Press the Scan button to start reading tags. The tag numbers are automatically stored as records. The last stored record is displayed on the screen.



After reading a tag the record is display on the screen. By pressing the  $\uparrow$  key long, the cursor jumps to the first line.

To scroll through the records:



By pressing the  $\uparrow$  key long, the cursor jumps to the first line. Now the  $\leftarrow$ key and the OK-key can be used to scroll through the records. To stop scrolling press the  $\checkmark$  key. and

# 4.3 Step 3: Get the data from V-Scan to PC

Before connecting the V-Scan to the PC, be sure that the drivers are installed.

Connect the V-Scan to the PC using the USB cable. A comport will be added by the installed drivers. Start PC Program and the USB comport will be selected automatically. Another comport can be selected by pressing connection icon in middle of the screen.

In case of a connection with Bluetooth, take care that the Bluetooth Serial Connection is active (see Appendix B: Setup a Bluetooth connection)

Below is a screen shot, after first start of program. Press on "Select file.." to enter a file name.





# 5 Basic Steps to pre-store data from PC to V-Scan

To get a table of records into the V-Scan, a table must be created on the PC. A table is stored in a file and consists of a template and some records. An empty table that has only a template is also possible. A template in a file is nothing more than a header that explains which type of data each column contains: date,

numeric value or string etc. See Appendix A: List of possible types.

Three file formats are supported: Text, Excel and Xml. The next example shows how to create a table using a simple text format.

In the next paragraph an example is used that is installed with the V-Scan Application program on your PC. The examples are located under the "...../My Documents/My V-Scan Files/Examples".

Important: In a text file the columns are separated with one tab character!!

## 5.1 Create new template on the PC using text-file

Below the contents of the example file "SimpleTemplateRecords.txt" is listed:



#### Explanation:

#### Comment

Lines that are started with "//" will be ignored, and can be used a comment lines. In this example the first three lines are ignored.

#### Template header

The upper two lines of the table contain the template data.

The first line contains the name of the column. This name will appear in the left part of the V-Scan screen.

The second line contains the type of the column. Possible types are shown in "Appendix A" of this document.

#### Records

Line 3 till line 13 contains the record data.

The screen of the V-Scan will be as follows:

| Tagnr 0000          | 1000          |
|---------------------|---------------|
| Recordnr<br>Batchnr | 1             |
| Animalnr            | 55            |
|                     |               |
| $\leftarrow$        | $\rightarrow$ |

By pressing the  $\uparrow$  key long, the cursor jumps to the first line. Now the  $\leftarrow$  key and the OK-key can be used to scroll through the records. To stop scrolling press the  $\downarrow$  key.



### 5.2 Create new template on the PC using Excel

Below the contents of the example file "SimpleTemplateRecords.xls" is listed:

The content is the same as the example in the previous paragraph but now in Excel format. The file will be look like:

| × N  | licrosoft E       | ixcel - e    | xamp   | ole             |             |            |              |                |                | ŀ    | Þe    |     | X       |
|------|-------------------|--------------|--------|-----------------|-------------|------------|--------------|----------------|----------------|------|-------|-----|---------|
| :1   | <u>File E</u> dit | <u>V</u> iew | Insert | t F <u>o</u> rm | at <u>T</u> | ools       | <u>D</u> ata | <u>W</u> indow | / <u>H</u> elp |      |       | - 1 | 5 ×     |
| :    | 🚆 Arial           |              |        | <b>v</b> 10     | -   I       | 8 <i>I</i> | <u>U</u>     | ≣≣             | <b>=</b>       |      | - 🔕 - | A - | ++<br>₹ |
|      | F15               | •            | fx     |                 |             |            |              |                |                |      |       |     |         |
|      |                   | A            |        |                 | В           |            |              |                | С              |      | D     |     | E_      |
| 1    |                   | Reco         | ordnr  |                 |             | Tag        |              |                | Anim           | alnr |       |     | _ =     |
| 2    |                   |              | vsrn   |                 |             |            | sid          |                |                | n    |       |     |         |
| 3    |                   |              | 1      |                 |             |            | 00           |                |                | 55   |       |     |         |
| 4    |                   |              | 2      |                 |             |            | 00           |                |                | 54   |       |     |         |
| 5    |                   |              | 3      |                 |             |            | 00           |                |                | 53   |       |     |         |
| 6    |                   |              | 4      |                 |             |            | 00           |                |                | 52   |       |     |         |
| 7    |                   |              | 5      |                 |             |            | 00           |                |                | 51   |       |     | =       |
| 8    |                   |              | 6      |                 |             |            | 00           |                |                | 50   |       |     |         |
| 9    |                   |              | 7      |                 |             |            | 00           |                |                | 49   |       |     | _       |
| 10   |                   |              | 8      |                 |             |            | 00           |                |                | 48   |       |     | _       |
| 11   |                   |              | 9      |                 |             |            | 00           |                |                | 47   |       |     | _       |
| 12   |                   |              | 10     |                 |             | 100        | 00           |                |                | 46   |       |     |         |
| 13   |                   |              |        |                 |             |            |              |                |                |      |       |     | _       |
| 14   |                   |              |        |                 |             |            |              |                |                |      |       |     | _       |
| 15   |                   |              |        |                 |             |            |              |                |                |      |       |     | _       |
| 16   |                   |              |        |                 |             |            |              |                |                |      |       |     | ~       |
| 14 4 | → → \ Sh          | neet1/       |        |                 |             |            |              | <              |                | 1    |       | 3   |         |
| Read |                   | Ĺ            |        |                 |             |            |              |                |                | NL   | IM    |     |         |

The first two lines contains template information, and the line below the record data.

#### 5.3 Use a V-Scan created template

Another (quicker) method to create a template is to create template as described in previous chapter on the V-Scan, and transfer it to the PC. Open the file and make modifications or add record data to the file. Send this modified file back to the V-Scan.



# 6 Online Scan recording

When the V-Scan is not interrogated by the standard Third Party Protocol (e.g. used by the V-Scan application), the V-Scan sends automatically an "*ASCII dump message*" as soon as the Scan button is pressed. Using the Bluetooth option, this makes it very easy to pass the ID data to a PC or PDA for recording.

See Appendix B: Setup a Bluetooth connection, to create on the PC a serial connection with the V-Scan.

#### 6.1 ASCII Dump message

This message is automatically send as soon as the Scan button is pressed. The ASCII Dump Protocol has the following properties:

- 11500 Baud
- EvenPar,
- 8 Databits,
- 1 Stop bit.

Note: When connected thru the Bluetooth connection, these protocol settings are irrelevant.

There is no communication to the V-Scan needed, in other words it is a one-way protocol. Therefore an extra check on the consistence of the data is achieved by starting the message with a length field and ending with a Carriage Return character. The "ASCII Dump message" has the following message format:

- [] = these brackets are not part of the message, but they contain fields that are optional depending on property type.
- L = Start of message, next 2 digits (II) represents the length of the message (counting starts after length field).
- O = Object field indicator, next 2 digits (oo) represents the object number (See object table).
- P = Property field indicator, next 2 digits (pp) represents the property number of the object (See object table).
- ii = 16 digits id-number (16 digits)
- t = type of tag (1 digits) (see tag type table)
- a = normal activity (5 digits)
- m = multiplier (3 digits)
- p = period pointer (2 digits)
- a = Act A value (3 digits)
- b = Act B value (3 digits)
- 1 = Act 1 value (3 digits)
- 4 = Act 14 value (3 digits)

| Туре | Name    |
|------|---------|
| 1    | Hdx     |
| 2    | Fdx     |
| 3    | Act     |
| 4    | 2HrsAct |
| 5    | Lay     |

To check if complete message is received the length field must correspond with the position of the <Cr> byte.

At this moment the V-Scan reports one object through the ASCII Dump protocol. See table below for the property overview.

| Object<br>Name | Object Nr | Property<br>Number | Property<br>Name   | Length (L field value) |
|----------------|-----------|--------------------|--------------------|------------------------|
| Antenna        | 4         |                    |                    |                        |
|                |           | 2                  | FDXTagData         | 23                     |
|                |           | 3                  | HDXTagData         | 23                     |
|                |           | 4                  | classicActivity    | 28                     |
|                |           | 5                  | periodActivityInfo | 81                     |
|                |           | 6                  | periodLayInfo      | 81                     |

Table 4: Object and Property table

#### 6.2 Examples

```
TwoHrsAct Example:
L81 004 P05 099900000087841 4 04000 002 03 001 002 000 000 ... 000 000 <Cr>
Length = 81 (total length of message is 84, including length field and Cr)
```

| Object     | = 4                                  |
|------------|--------------------------------------|
| Property   | = 5                                  |
| ld         | = 0999 0000 00087841                 |
| Туре       | = 4                                  |
| Activity   | = 04000                              |
| Multiplier | = 002                                |
| PeriodPntr | = 03                                 |
| A          | = 001                                |
| В          | = 002                                |
| A1A14      | = 000 000                            |
| <cr></cr>  | = Carriage Return (dec 13, hex 0x0D) |
|            |                                      |

For a demonstration of the ASCII dump protocol start the V-Scan Recorder tool to receive the identified data. This program also checks the length field and puts the data fields in a table. It shows also the complete ASCII message that is send by the V-Scan.

Also the Microsoft Windows HyperTerminal can be used. Here is a possible screen shot of some readings of different tag types.



| First line is an Hdx tag:      | 0000 000020985232            | type=1          |           |
|--------------------------------|------------------------------|-----------------|-----------|
| Second line is an Fdx tag:     | 0999 00000068361             | type=2          |           |
| Third line is an Activity tag: | 0999 000711058091            | type=3          | act=08714 |
| Fourth line is an Lactivator:  | 0999 00000001351             | type=4          | act=08465 |
|                                | Muliplier = 008 Periodpntr : | = 04            |           |
|                                | ActA = 1, ActBAct10=0        |                 |           |
|                                | Act11=003, Act12=003, Ac     | t13=002, Act14= | 079       |

## 6.3 V-Scan as service tool

V-Scan uses the sophisticated T/R-module which is used in several other Nedap products. Beside the normal high performance ID, it has some extra RF measurement functions. These functions can be activated by pressing a numeric key while the V-Scan is scanning (ID-Scan time must be greater than 0). The following 2 service functions can be used:

- **Noise reading:** Activated by pressing the "1"-key while scanning. The display shows the HDX and FDX noise level. To stop, press the scan key again.
- **Snapshot:** Activated by pressing the "2"-key while scanning. The V-Scan dumps the snapshot of the HDX signal to the communication port (USB or Bluetooth). To view this snapshot, start the V-Scan recorder tool and select the Snapshot tab. Especially with the Bluetooth connection this can be a very powerful service tool while servicing HDX systems. Below shows an example of a snapshot of an HDX tag signal. To stop, press the scan key again.



## nedap

# 7 Appendix A: List of possible types

There exist two different types:

- 1. A type that has attributes of the V-Scan or the read Tag: the **V-Scan types**. Those types are filled automatically by the V-Scan.
- 2. And types that must be entered manually. So called Custom types.

Type is the name that must be used in the table file on the PC for the Template definition.

**Default name** is the name of the type when the Template is created on the V-Scan. When a template is created on the PC any other name can be defined.

| Туре      | Default name       | Description             |  |
|-----------|--------------------|-------------------------|--|
| vsid      | Tag nr             | Tag number              | Scanned tag number   |
| vsrn      | Record nr          | Record number           | The unique number of the record within the entire database   |
| vsb       | Batch nr           | Batch number            | The number of the batch this record is in (enables<br>the batch option in the database menu on the V-<br>Scan) |
| vsrnb     | Recnr per<br>batch | Record number per batch | The unique number of the record within the batch   |
| vsd       | Scan date          | Scan date               | The last date on which the tag was scanned <sup>1</sup>  |
| vst       | Scan time          | Scan time               | The last time in which the tag was scanned <sup>1</sup>  |
| vsact     | Classic act.       | Classic activity info   | Classic activity information value (116368) <sup>1</sup>   |
| vsactinfo | 2h info            | 2 Hours information     | Period Indicator <sup>1</sup>  |
| vsact1v   | Act1               | 2 Hours activity value  | 2 Hours activity value (already multiplied with the  |
| sact14,   | Act14              | (A,B,114)               | multiplier value) <sup>1</sup>   |
| vsactA    | ActA,              |                         |  |
| vsactB    | ActB               |                         |  |

#### Table 5: V-Scan types

| Туре | Displayed as           | Description |                                     |
|------|------------------------|-------------|-------------------------------------|
| n    | Numericx <sup>2</sup>  | Numeric     | General numeric value (065535)      |
| b    | Booleanx               | Boolean     | General boolean value (true/false)  |
| d    | Datex <sup>2</sup>     | Date        | Date value (user editable)          |
| t    | Timex <sup>2</sup>     | Time        | Time value (user editable)          |
| f    | Floatx <sup>2</sup>    | Float       | General float value (10 characters) |
| s5   | String5x <sup>2</sup>  | String5     | General text value (5 characters)   |
| s10  | String10x <sup>2</sup> | String10    | General text value (10 characters)  |
| s20  | String20x <sup>2</sup> | String20    | General text value (20 characters)  |

Table 6: Custom types

<sup>&</sup>lt;sup>1</sup> When a tag is scanned which already exists in the database on the V-Scan, this field will be updated to the latest values

<sup>&</sup>lt;sup>2</sup> The x is replaced with a sequence number (for example: Numeric1, Numeric2, etc)

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# 8 Appendix B: Setup a Bluetooth connection

The V-Scan Application only can communicate with serial COM-Ports. The USB connection automatically generates a comport on the PC by the installed drivers. These drivers come along with the V-Scan Application.

The Bluetooth COM-Port driver software is not included in V-Scan Application installation software. This driver software is dependent on the manufacturer of your Bluetooth Device.

#### Make sure that the Bluetooth Setting is switch on in the Settings->System menu.

Before the V-Scan can be connected to the PC using Bluetooth, the "Bluetooth Serial Port" must be installed on the PC. See the screen shot below.

| Bluetooth Configuration   |  |  | ? 🛽    |   |
|---|--|--|--------|---|
| Select the services that this computer  |  | to other Bluetooth dev   | rices. |   |
| Double-click a service name to set its s<br>Service Name<br>Bluetooth Imaging   | -  |  |        |   |
| Audio Gateway<br>Headset<br>PIM Synchronization<br>Fax<br>File Transfer<br>PIM Item Transfer<br>Dial-up Networking<br>Network Access<br>Bluetooth Serial Port | Auto<br>Auto<br>Auto<br>Manu<br>Auto<br>Auto<br>Auto<br>Auto | Not Required<br>Not Required<br>Required<br>Required<br>Required<br>Not Bequired<br>Required<br>Required<br>Required | COM5   | <br>The Bluetooth service that<br>is needed to make serial<br>Bluetooth connection with<br>the V-Scan |
| Properties<br>OK  | Can  | Add Serial Service   | Delete |   |

To quickly start a Bluetooth serial port, right click on the Bluetooth icon in the system-tray in the bottom right corner, and select in the Bluetooth Serial Port option menu the "Other Devices"

| Business Card Exchange<br>Bluetooth Serial Port<br>Dial-up Networking<br>Fax       | V-scan Emul<br>Arjan W800i<br>Other Devices  |
|--|--|
| File Transfer<br>PIM Synchronization<br>Network Access<br>Headset<br>Audio Gateway | Explore My Bluetooth Places<br>Bluetooth Setup Wizard<br>Advanced Configuration<br>Quick Connect |



This will open the next screen, Switch on the V-Scan (make sure that Bluetooth option is switched on at the V-Scan) and press the Refresh button. A "V-Scan xx" will appear in the list.

| Service : Bluetooth Serial P        | ort ? 🔀                        |
|-------------------------------------|--------------------------------|
| Select a device from the list below |                                |
| Click the Refresh button to update  | the list.                      |
| Device Name                         | Device Type 🔼                  |
| 是 NVC0593                           | Laptop                         |
| 🔜 NVC0831                           | Desktop                        |
| 🖳 NVC0931                           | Desktop                        |
| 🗟 NVC1017                           | Laptop                         |
| 😽 😵 V-Scan 34                       | Unknown: Major(31), Minor(0) 📒 |
| 😵 V-scan Emul                       | Unknown: Major(31), Minor(0) 📃 |
|                                     | ×                              |
|                                     | >                              |
| Status : Ready                      |                                |
| -                                   |                                |
|                                     |                                |
| Refresh                             | Connect Cancel                 |

Select the V-Scan and press the Connect Button. The PC start to make a connection with the V-Scan ("pairing this V-Scan device"). A pop-up balloon may appear in the bottom right corner of the screen:

| ir | Bluetooth PIN Code Required     Sequence V-Scan 34" is attempting to connect to this computer. Click here to proceed with the connection. To deny access, ignore this prompt. | ected • |
|----|---|---------|
|    |   | 11:01   |

Click on this balloon and enter in the next screen the required pincode for pairing the V-Scan device.

| Bluetoot | h PIN Code Request  |
|----------|---|
| P        | Device Name: V-Scan 34  |
|          | Before a connection can be established, this computer and the device<br>above must be "paired."   |
|          | The Bluetooth pairing procedure creates a secret key that is used in all<br>future connections between these two devices to establish identity and<br>encrypt the data that these devices exchange. |
|          | To create the paired relationship, enter the PIN code and click OK.   |
|          | Bluetooth PIN Code:   |
|          | OK Cancel Help  |

The pincode: "0000" (four zeros), and press OK.



The next screen will pop-up and tells that the connection is made successfully



To check which COM port is the Bluetooth serial connection right-click the Bluetooth icon in the system tray again and select "My Bleutooth places"

| Explore My Bluetooth   | Places |
|------------------------|--------|
| Bluetooth Setup Wizard |        |
| Advanced Configuration |        |
| Quick Connect          | •      |

The following screen will show the Bleutooth connection. In this case the Comport number is COM7.



To select this comport in the V-Scan Application click on the communication button in the middle of the screen:



Select in the following screen the COM port number of the Bluetooth connection.

| Communicati | ionDialog        | X      |
|-------------|------------------|--------|
|             |                  |        |
| Comport:    | COM4             | Search |
|             | COM4             | j      |
|             | COM1             |        |
|             | COM5             | icel   |
|             | COM6             |        |
|             | COM7(Blue Tooth) |        |

The program will establish the Serial Bluetooth connection with the V-Scan



and

When the V-Scan switches off (automatically), then the communication will be lost. But it takes some time (> 5 seconds) before the V-Scan Application gets the "no connection signal" from the Bluetooth Virtual Comport. Also when the V-Scan is switched on again, it takes some time before the communication is established again. So please be patient!!



# 9 Appendix C: Known Bugs and issues

- A command line interface and a DLL or COM-interface will be supported in future release, to make interfacing with third party software possible.
- Reset of the V-scan is possible by pressing "1" and "3" simultaneously during power-up the V-scan.
- When the records option is selected in the dbase screen, a list of all animals will appear with the item of the first column, instead of directly turn to the animal details.