QuickVet® Auto-printer Manual

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Contents

1. Introduction

This manual describes how to install, setup and use Auto-printer with the QuickVet® instrument.

Please read this document carefully prior to attempting any utilization of Auto-printer.

2. Terms of use

Use of Auto-printer is governed by and the user agrees to the following terms:

1. Auto-printer may only be used with the QuickVet® instrument. It may be distributed freely to users of the QuickVet® instrument and associated tests without notifying Zoetis Denmark in any way.

2. Auto-printer is provided as-is for use on and with third party soft- and hardware and Zoetis Denmark does as such therefore not warrant the functionality of Auto-printer in any way.

3. Zoetis Denmark does not accept any liability for any loss or damage of any nature, however caused, which may result directly or indirectly from using Auto-printer.

4. New versions of Auto-printer may be released without notice and new versions may have no or little backwards compatibility.

5. Auto-printer is distributed electronically and Zoetis Denmark can therefore not guarantee for incidents occurring during the electronic transfer of Auto-printer. Users are therefore recommended to always scan any received version of Auto-printer and documentation for malicious content, prior to usage.

3. Quick guide

If you know what you are doing, these following steps will get you running in no time:

1. Un-zip the distributed file and start the Auto-printer executable.
2. Unblock Auto-printer in your firewall.
3. In Auto-printer, press “Settings” and select a printer.
4. Connect the QuickVet® instrument to the local network.
5. Type in the Auto-printer IP address and port number on the QuickVet®.
6. In Auto-printer, press “History” and use “Print selected” or “Export to DSV file”.

4. What is Auto-printer?

Auto-printer is a proxy programme — a place-holder in order for you to utilize any printer of your choice together with the QuickVet® instrument.

By connecting the QuickVet® to your local network, the instrument can print on any printer connected to any other computer on the network, running Auto-printer.

Auto-printer achieves this by utilizing the existing LIS data-export feature of the QuickVet® instrument.

The intention of Auto-printer is to grant the user identical printouts using any of the following two scenarios:

Figure 1: Printing directly on a printer
connected to the printer port of the QuickVet® instrument.

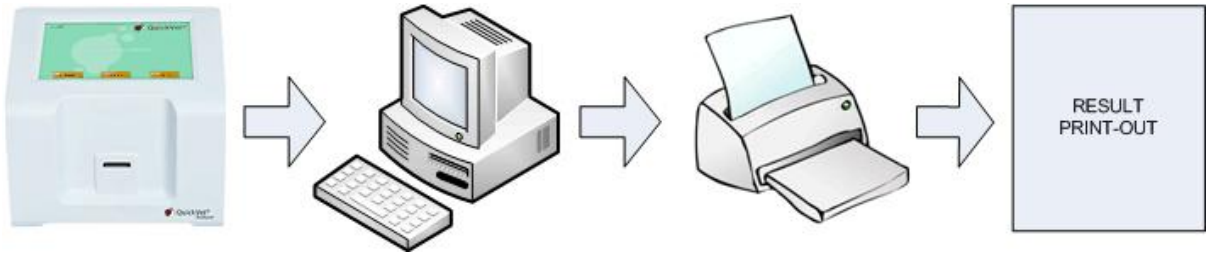

Figure 2: Connecting the QuickVet® instrument to the local network
and using Auto-printer to print on a printer connected to an office computer.

5. Why use Auto-printer?

There are only a fixed array of printers available on the QuickVet® instrument.

Zoetis Denmark guarantees that these printers will work with the instrument and a setup featuring their connectivity is re-tested with every software release, ensuring a continued compatibility.

As the instrument uses an embedded operating system, it has no physical means of adding new drivers. New printer drivers can only be embedded by factory. Therefore it is not possible to add custom printers on the user interface of the instrument.

If the available printers do not match your preference, Auto-printer will work around this.

6. Features

The following features are available:

6.1. Prints new results automatically

Auto-printer can be set up to print any new result automatically to any printer of your choice.

6.2. Identical print-outs

As the regional settings on the QuickVet® instrument are applied, the print-out is identical to that which is to be expected with a printer connected directly to the instrument.

6.3. Database observer

Besides printing results, Auto-printer doubles as an observer of the instruments measurement history. This means that the entire database of the instrument can be viewed on the user interface of Auto-printer. Individual results can be selected and re-printed, just as on the QuickVet® instrument user interface.

6.4. Multiple connectivity

Auto-printer can connect to any number of QuickVet® instruments. So, if you have more that one QuickVet® instrument, they can all be connected simultaneously to Auto-printer; only your network capacity will set the limit.

6.5. DSV file exports

In the database observer, the functionality to export all results to a file is available. The export format is a tab-separated DSV (delimiter separated values) file that can be imported into a any spread-sheet programme.

6.6. LIS connectivity demonstration programme

Just as on the QuickVet® instruments user interface, the complete LIS protocol transfer is logged and can be viewed on the user interface of Auto-printer. This makes Auto-printer ideal for LIS demonstration purposes.

7. A note on the LIS interface.

Despite Auto-printer using the LIS interface, it is not necessary to know anything about LIS as such in order to use Auto-printer. This chapter is therefore purely informatory, but could prove helpful to anyone intending to connect a third party LIS management system with the QuickVet® instrument.

LIS stands for Laboratory Information System and is a highly specialised protocol for transferring information between laboratory equipment and computers. Many vendors offer off-the-shelf products to connect, manage and control such equipment with the LIS standard protocol.

LIS is not explained in detail in this document, albeit it can be noted that we have implemented the following versions of the industry standard NCCLS LIS protocols:

NCCLS LIS01-A2, Vol. 28, No. 13 (formerly known as ASTM E1381-02)
NCCLS LIS02-A2, Vol. 24, No. 33 (formerly known as ASTM E1394-97)

Figure 3: Applied LIS protocols

These documents are available here: **http://webstore.ansi.org/**
Upon request, Zoetis Denmark can deliver a document denoting the complete LIS tag utilization for the QuickVet® instrument. This will be necessary for integrating a QuickVet® setup into a third party LIS management system.

8. Installation

This chapter describes how to install Auto-printer on an office computer. Make sure that the computer is connected to your local Ethernet.

8.1. Operating system

Auto-printer will run on Windows XP, Windows Vista and Windows 7. No other operating system is supported.

8.2. Install

Auto-printer consists of just one executable (".exe") file and therefore no install-shield is provided. Auto-printer is distributed in a zipped file. Right-click on the file and select un-zip.
Copy the executable file to a hard drive location of your desire. If you want, you can create a desktop icon by right-clicking on the executable file, selecting create short-cut, and hereafter copying the short-cut to your desktop folder.
To start Auto-printer, double-click on the executable file.

8.3. Unblock in firewall

Auto-printer starts a server on the computer it is running. This is necessary in order for the QuickVet® instruments to connect to it. If this computer has a firewall running, then Auto-printer will need to be unblocked or white-listed herein.
Usually, when starting Auto-printer for the first time, the fire-wall will display a pop-up dialogue window explaining that Auto-printer is attempting to initiate an external connection, and hereby asking the user whether to allow this. Press Yes (or Unblock) in any such appearing dialogue window.

Important note!
Please note that some firewalls require administrator privileges in order to allow the unblocking of server programmes.

If pressing No (or Block), the firewall will prevent Auto-printer from working. In order to revert this, then open the firewall management program and add the path of the Auto-printer executable file to the white list manually. Refer to your firewall manual for guidance hereto.

9. Usage

When Auto-printer starts, the main page will be shown. When properly setup, no further action need be taken from here.

9.1. The Idle page

The main page grants access to the programme setup and to the features available in Auto-printer, by means of mouse-click-able push-buttons residing in the bottom of the window.

Figure 4: The Idle page displays the applied IP information that all instruments should utilize.

9.1.1. IP information

In the centre of the Idle page, the applied server IP information is displayed. These are the fields to be typed into the network setup page on the user interface of the QuickVet® instrument (described later).

9.1.2. Important note on the denoted IP Address

It is important to understand that Auto-printer does not configure the IP address itself, but uses that of the computers primary gateway. The IP address displayed in Auto-printer is that of the first network adapter that has a working gateway. If no working gateway can be detected, the IP address is shown as “unknown”.
The reason for denoting this here, is that some computers can have multiple network adapters installed. In such a case it might not necessarily be the correct IP address that is shown here. In such a case the command prompt utility feature “ipconfig /all” should

be applied from a Windows command prompt, in order to retrieve the correct applied IP address.

Important note!
Please note that some computers, using a dynamic network configuration, can suddenly change their IP address.

When this occurs, it is necessary to re-type the new server IP address into the network setup of the QuickVet® instrument.

It is recommended that the office computer running Auto-printer is configured so that it uses a fixed network configuration.

9.2. Setup Auto-printer

When selecting the "Settings" button in the main page, the settings of Auto-printer are shown.

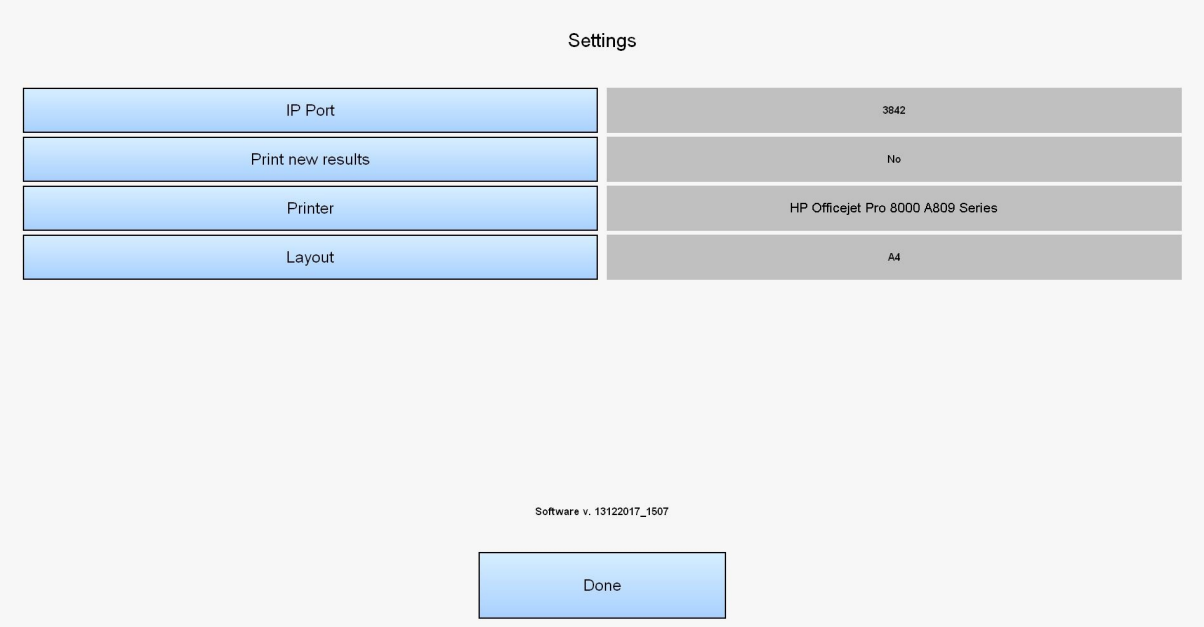

Figure 5: Alter the settings according to your personal preferences

The following settings can be altered:

9.2.1. Setup IP port number

By default, Auto-printer uses the IP port number 3842. If this number should conflict with any other server programme residing on the applied computer, the number can be altered by pressing the IP Port button. Change the value and press Done. The number must reside from 1 to 65535, but note that some firewalls automatically disallow certain values as they are prone to typical hacker abuse.

9.2.2. Setup automatic printing

If you want Auto-printer to automatically print new results, the instant that they have been measured, toggle the "Print new results" button until the corresponding field reads "Yes".
By default, Auto-printer is setup to automatically print new results, albeit this feature will only work when a printer has been selected as described in section 9.2.3.

9.2.3. Select printer

Press the "Printer" button and select the printer of your choice in the appearing dialogue window. You can select any printer installed on the computer including network printers or non-physical printers (file-writers for example).

9.2.4. Select print layout

By toggling the "Layout" button, the print-layout to be applied can be selected. There are two layouts available:

1. A4: Prints the result to a full A4 page corresponding to the layout for any of the available HP printers on the QuickVet® instrument.
2. Receipt: Prints the result to a small receipt layout corresponding to the layout of the Axiohm receipt printer on the QuickVet® instrument.

9.3. Result history

When selecting the History button in the main page, all connected QuickVet® instruments and all their measured results are shown.

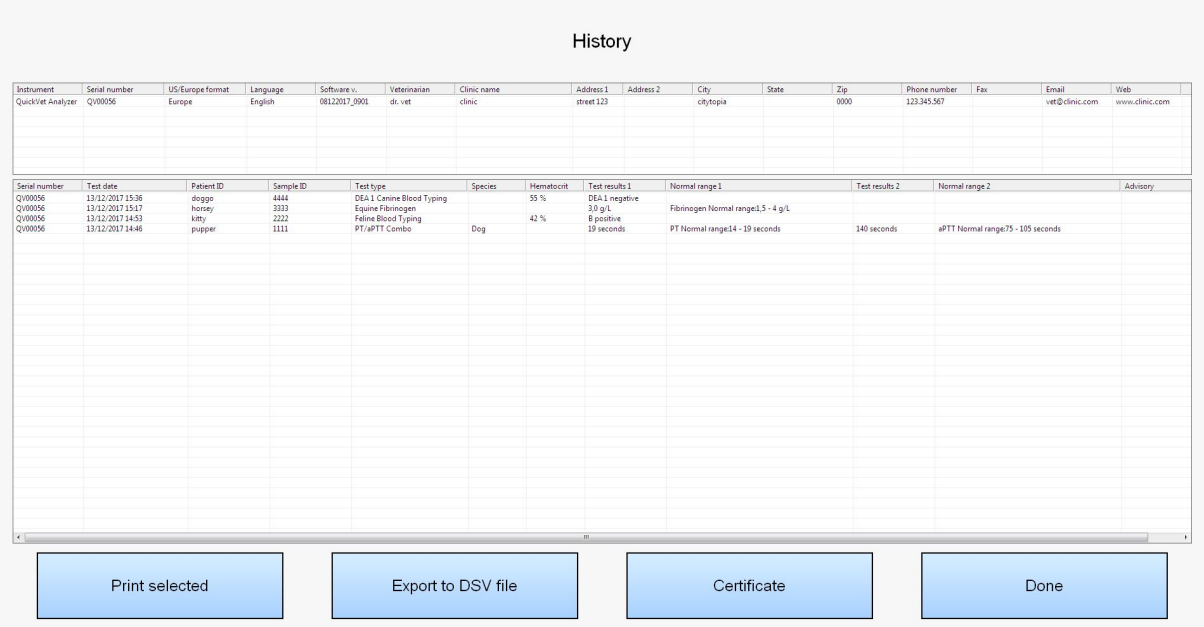

Figure 6: All on-line instruments and results can be viewed in history view

The shown information is a mirror of what resides on any on-line instrument at the given moment; the information is not saved nor synchronized with any local database.

Important note!
Please note that the connection phase and synchronization of results between instrument and Auto-printer can take a while.

9.3.1. Instrument list

The first list displays all on-line instruments, their serial number, current software version and some applied settings.

9.3.2. Result list

The second list displays all on-line results, including their measurement date and corresponding reference value(s). New results "arriving" from the instrument will be inserted in the top of the list.

9.3.3. Printing selected

By selecting entries in the result list, individual results can be re-printed by pressing the "Print selected" button.

9.3.4. The DSV file output

By pressing the "Export to DSV file" button, all shown information is written to a tab-separated DSV file of your choice. Just type in a file name of your choice in the appearing dialogue. The exported file can be imported into any spread-sheet programme.

9.3.5. Certificate

This feature is available for Blood typing test results only. By selecting a single Blood typing test result in the result list, and pressing the "Certificate" button, the Certificate user interface is presented for that result. This feature is identical to that available on the QuickVet® instrument. Please refer to the instrument manual for further guidance hereto.

9.4. LIS log

When selecting the "LIS log" button in the main page, a complete communication list at LIS protocol level is shown. This feature is identical to that of the "Data Export" log feature available on the user interface of the QuickVet® instrument.

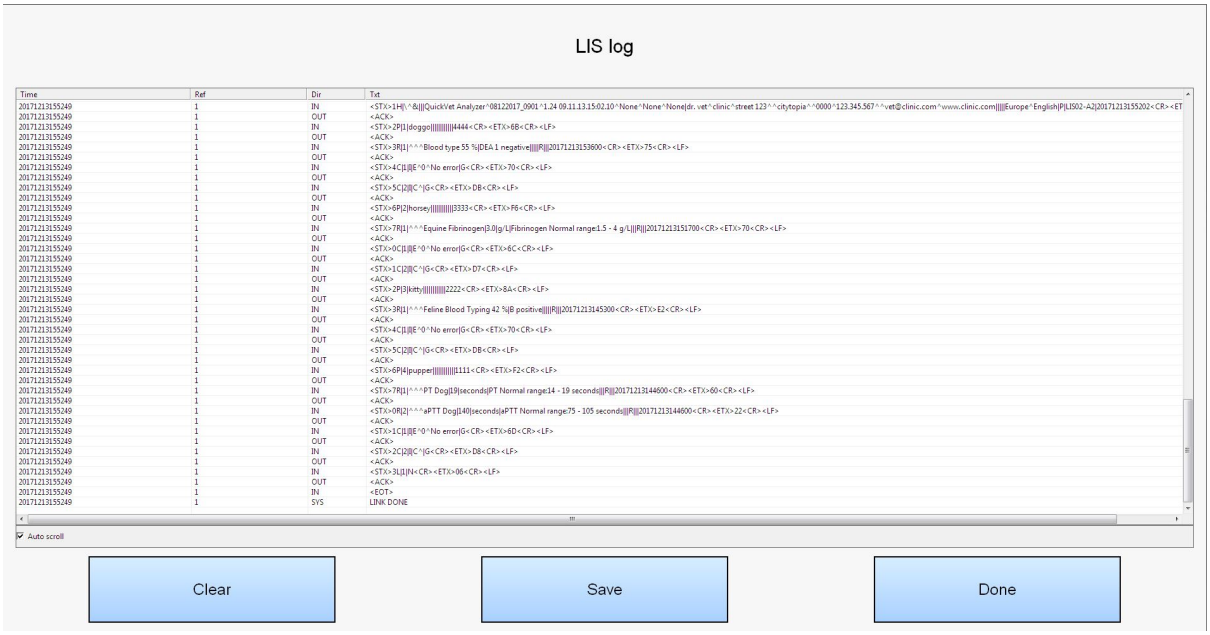

Figure 7: All LIS communication between instrument and Auto-printer is logged at protocol level.

This log is intended for LIS demonstration purposes or to assist a LIS operator connecting the QuickVet® instrument to a third party LIS management system.
Besides communication output the log also displays system messages indicating LIS status (connectivity & link) with individual instrument connections.

10. Setup your QuickVet® instrument

Having setup Auto-printer, any instrument intended to work with Auto-printer must now be setup correspondingly, in order for them to correctly connect and transfer results to Auto-printer.

10.1. The new printer interface

It is important to understand that LIS is not a generic printer interface as such. This means that in order to use Auto-printer, the user must utilize the LIS (Network) interface on the instrument instead of the otherwise applicable printer user interface. In praxis, the instrument does not know that the LIS is working as a printer and therefore the print functionality on the instrument will have no affect - while the LIS functionality will work like a printer.
This means that in order to print existing results, the user should use Auto-printer to do so and not the "print" touch-buttons on the QuickVet® instrument. The "print" touch-buttons on the QuickVet® instrument will still only print to any local printer connected directly to the instrument.
The "resend" touch-buttons in the history pages of the QuickVet® instrument will only resynchronise the information between the instrument and Auto-printer.

10.2. Hardware setup

Connect the QuickVet® instrument to your local network with an Ethernet cable, through the plug on the rear.

Figure 8: Plug the network cable into the Ethernet plug

10.3. Network setup

As described previously, Auto-printer does not work as a printer driver but uses the LIS interface over the network setup. Therefore the QuickVet® instrument needs to be configured hereto in order for the two systems to communicate properly. You will need the server information displayed on the Idle page of Auto-printer.
From the idle page, navigate to the network page by touching "Setup" then "Connections" and finally "Network".
In the Network page, type in the server information that was displayed on the idle page of Auto-printer. Please refer to the QuickVet® manual for guidance hereto.

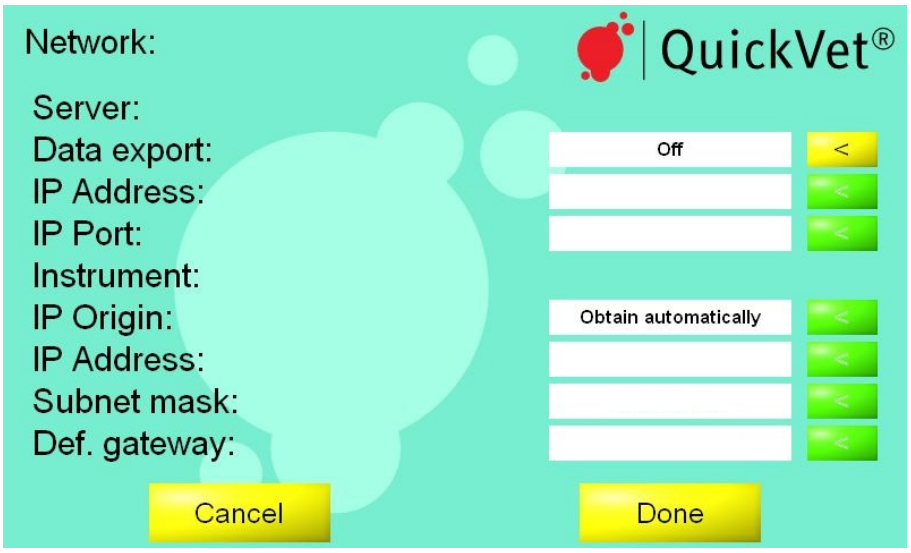

Figure 9: The server fields (in the shown circle) must contain the same values that reside on the idle page of Auto-printer.

Touch Done.

10.4. Connection indication

For connectivity to be successful, both the instrument and the applied office computer must be on-line. Also, Auto-printer must be running on the office computer.
Connectivity can be monitored on both the instrument and in the LIS log feature of the Auto-printer programme (described elsewhere).
Please refer to the QuickVet® manual, for information on how to verify that the QuickVet® instrument has indeed connected to LIS.

10.5. An important note on Laboratory information

As described in the QuickVet® manual, any applied laboratory information typed into the corresponding settings page, is applied to the printouts. Albeit a work around is necessary for this layout to be identical in Auto-printer.

This is because the LIS protocol does not support tagged information in the fields that denote the laboratory information. The LIS protocol expects laboratory information to be supplied in sequence as they appear. This means that Auto-printer only can distinguish the actual contents of the LIS fields, denoting laboratory information, from each other, when all fields are applied. Often, this is not the case. For example in many European countries the state name is not used. Also, fax systems are being superseded by email. The work-around for this problem is to always ensure that something is typed into every field - and by just typing in one space character, Auto-printer will know that this field is not applied.

11. Trouble-shooting

In the event of problems, try these steps before contacting your distributor. In the event of reporting any problems be sure to denote the software version number of Auto-printer and the QuickVet® instrument in your description.

11.1. The instrument won't connect to Auto-printer

Make sure that the IP address and port number that have been typed into the QuickVet® instrument match that displayed on the user interface of Auto-printer.
Make sure that Auto-printer is not being blocked in your firewall.
Make sure that the QuickVet® instrument is connected to the network.

11.2. The results won't print

Make sure that you have selected a valid printer in the settings menu of Auto-printer.
Make sure that the printer is connected and turned on.

11.3. The instrument reports LIS not responding

This message can occur if the QuickVet® instrument is experiencing problems when communicating with Auto-printer. It can occur on networks with a heavy load, if a network-cable is disconnected, or if Auto-printer was closed whilst communicating with the QuickVet® instrument.
As all messages are queued until transfer succeeds, this message is not critical. The QuickVet® instrument will continue to attempt a reconnection with Auto-printer. Touch OK.

11.4. My settings-change has no effect in Auto-printer

When changing any regional settings on the QuickVet® instrument, these changes are not automatically transferred to Auto-printer. This is in accordance with the concept of the LIS protocol. A manual resynchronization of the database must is performed by the user for the changes to have effect.
On the user interface of the QuickVet® instrument, navigate to the history page and touch the Resend button.