Stratus QC Receiver Interface (v 3.0)

1. Introduction

1.1. Intended use

QCStratus is a QC receiver interface intended to

- Receive analytical data from a Siemens Stratus clinical chemistry analysers through a serial port.
- Extract control assays from received data.

Re-send QC data to MultiQC, the QC management software by the same author that can be downloaded at www.multiqc.com.

QCStratus is compatible with Windows 2000 to Windows 7.

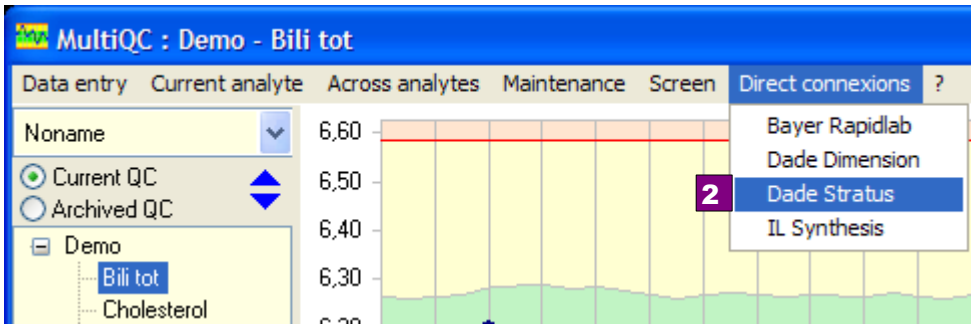
1.2. Starting and stopping QCStratus

QC receiver interfaces are not directly launched or closed in routine use. They are under control of MultiQC. Each interface is automatically launched or closed when MultiQC is launched or closed. Any action that would close a normal program (click in the Windows close box or key Alt+F4) only iconizes the QC receiver interface.

After launching MultiQC, you can check that the installed receiver interfaces are running:

1- They are present in the Windows taskbar as icons

2- New sub-menus are added to the main menu of MultiQC Direct connexions.



1.3. Data management

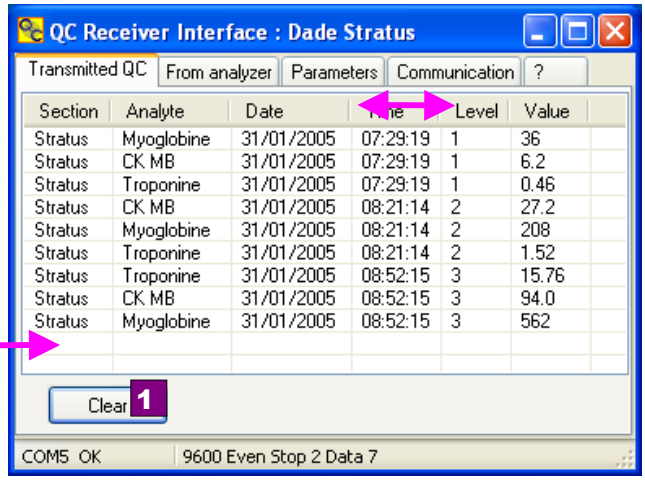
QC assays may be extracted from the stream of analytical results by two means :

- Keeping the built-in QC system of the Stratus, control materials are identified by the analyser when selecting the Mode menu : QC Lo, Misc and Hi are plotted in charts 1, 2 and 3 of MultiQC.
- Dropping out the built-in QC system of the Stratus, control materials can be also assayed as patient samples and retrieved by the QC interface as QC samples if they are identified by a reserved identifier.

2. Main Window

In routine work, the QC receiver interface stays iconized in the Windows taskbar. QCStratus has to be restored only on installation to enter communication and analytical parameters.

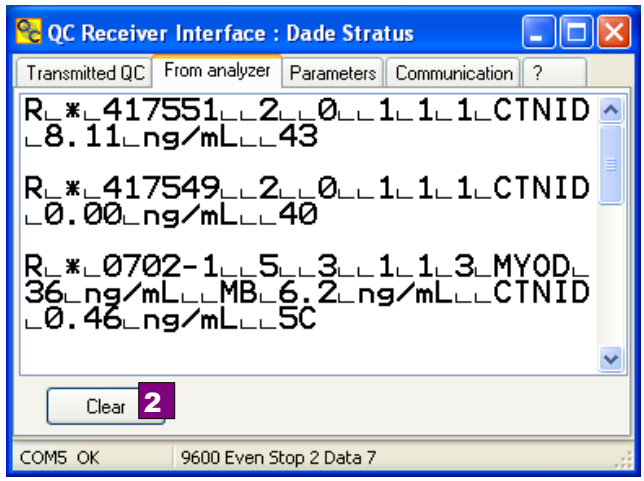
2.1. Tab: Transmitted QC



The width of the columns and the size of the window can be adjusted.

1- The button Clear erases all the lines in the list view. Only the 200 latest rows kept.

2.2. Tab: From analyser

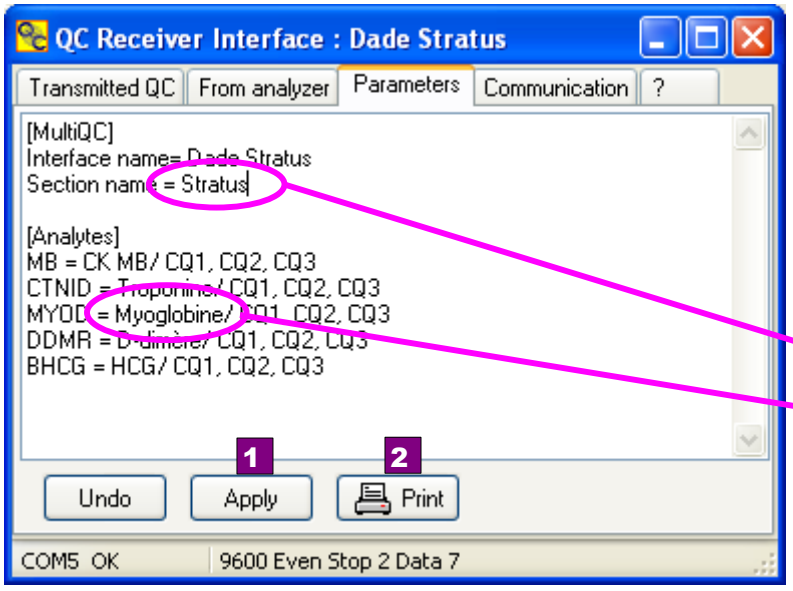


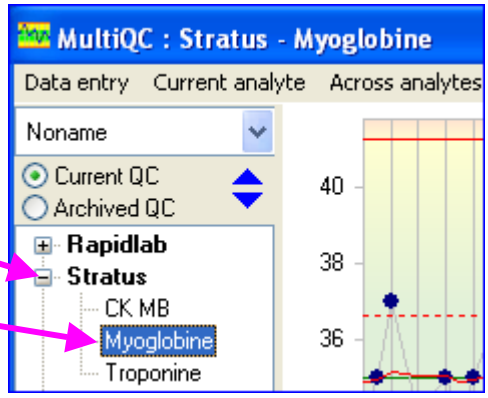
This panel shows the raw messages received from the analyser. Only the 200 latest lines are kept.

2- The button Clear erases all the lines.

2.3. Tab: Parameters

Here you can edit the “ini” file that saves the working parameters of the interface. This file is made of two sections (between brackets).





➢ [MultiQC]

You must only edit the right part of the =

- Interface name is the name that is shown in the Windows taskbar and in the additional sub-menu that is created in MultiQC.
- Section name is the name of the section of MultiQC where the Stratus analytes will be brought together.

➢ [Analytes]

Each line is made of three items of information

- Identifiers before '=' are the identifiers of tests from the Stratus analyser
- Names after '=' are the names of tests in MultiQC.
- Optional series of names after '/' are the identifiers which must be assigned to QC materials when they are assayed in patient mode (not case sensitive). The first one will become level 1 in MultiQC and so on. These QC identifiers are not necessary if control materials are always assayed in QC mode.

Example : CTNI = Troponin / QC1, QC2, QC3

- Test CTNI of the Stratus analyser will be named Troponin in MultiQC
- Troponin concentrations of patient samples named 'QC1', 'QC2' or 'QC3' will be respectively plotted in charts 1, 2 and 3 of MultiQC.

1- Do not forget to click on the button Apply after updating parameters.

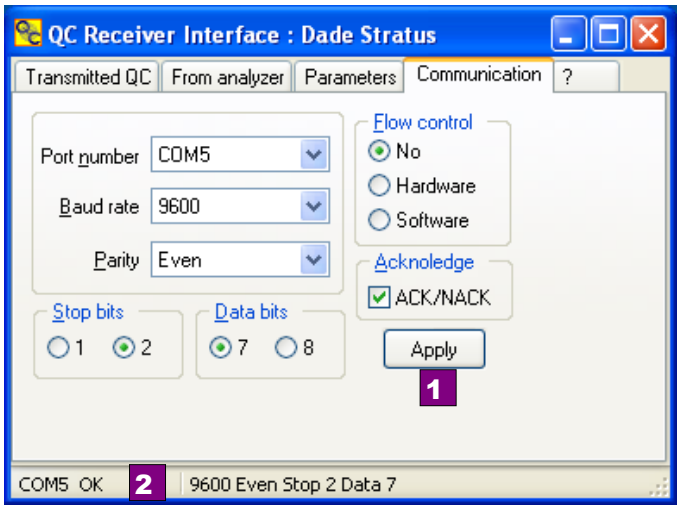
2- You can print parameters with the button Print.

2.4. Tab: Communication

Enter the communication parameters of the serial port connected to the analyser.

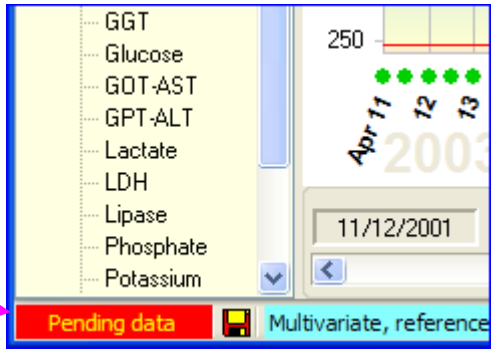
1- Do not forget to click on the button Apply after updating parameters.

2- Look at the status bar to check if the serial connection is OK.



3. Receiving QC data in MultiQC

3.1. Arrival of QC data



Received QC data are piled up in the pending queue of MultiQC waiting for validation. As soon as one result has been transmitted, two warnings are activated:

- The icon QCStratus blinks blue/orange in the Windows taskbar (only Windows XP).
- When MultiQC is active, the left panel of the status bar blinks red/yellow.

3.2. Assembling QC vectors

In multi-level QC, materials are sequentially assayed by the analyser. For each analyte it is necessary to lump together the different QC levels in a unique vector. This is made on a time interval basis. QC levels are associated in the same QC vector if the time interval between the assays is less that the limit entered in MultiQC :

- Menu : Maintenance→Configuration
- Tab : General
- Field : Max time interval between levels (default 5 minutes)

When rebuilding a QC vector with separate QC values, the final time is the time of the earliest QC value.

Do not start validation before all the QC levels have been received

3.3. Validating QC data

Click on the yellow/red blinking panel of MultiQC (shortcut F4) and proceed as indicated in the user manual section 5.4.

If the name of an analyte is unknown by MultiQC, a new analyte is automatically created with default parameters. Later, you will have to enter the appropriate parameters through the main menu Maintenance→Analytes.

4. Installation

4.1. Installation of interface

Download MultiQC at www.multiqc.com and install the package. The version of MultiQC must be 6.1.0.0 or later (the number of version is visible in the "About" box : main menu ? → About) .

Download QCStratus at www.multiqc.com and install the package. To comply with the User Access Control of Windows 7, the program files are installed in the folder :

C:\Program files\MultiQC6\Stratus

and the data files are installed in a different folder that depends on the version of Windows :

Win XP = *C:\Documents and Settings\All Users\Application Data\MultiQC6\Stratus*

Vista or Win 7 = *C:\ProgramData\MultiQC6\Stratus*

By default, Windows hides the folders C:\Documents and Settings\All Users\Application Data\ and C:\ProgramData. To display these folders in the Windows Explorer you must check the box <*Tool* menu -> *Folder options* -> *View* tab -> *Show hidden files and folders*> .

4.2. Connecting analyser and computer

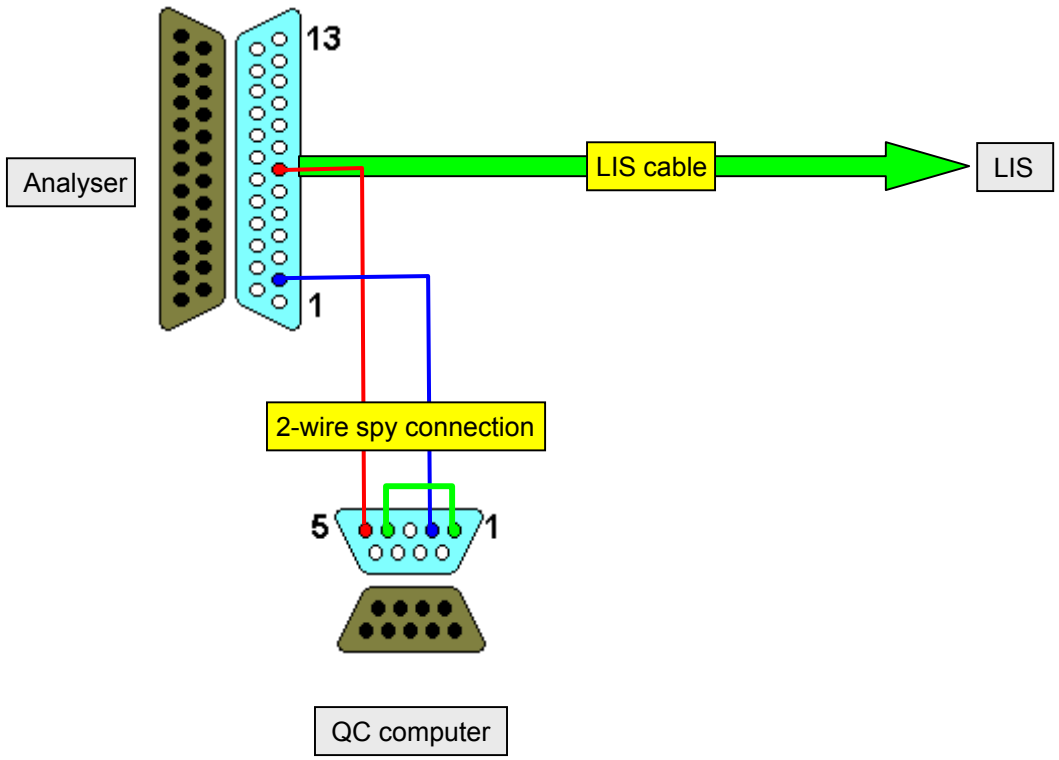
➢ Stratus analyser working stand-alone

- Set the LIS settings of the analyser to : Interface mode = Enhanced-ON.
- Edit the communication parameters in the Communication panel of the QC receiver interface so that they match the parameters of the analyser.
- Check the box ACK/NACK in the tab Communication.
- Connect the analyser and the QC computer with a DTE cable (pins 2 and 3 not crossed).

➢ Stratus analyser connected to a LIS

- Stratus analysers have only one output socket. If this unique serial port is taken by the LIS, it is necessary to make use of a unidirectional "spy" connection to retrieve QC data.
- Edit the communication parameters in the Communication panel of the QC receiver interface so that they match the parameters of the analyser.
- UNCHECK the box ACK/NACK in the tab Communication.

Two additional wires must be soldered on the DB25 female connector of the LIS cable, plugged into the DB25 male connector of the analyser.



It might be more practical for temporary tests to build a short extension cord (female DB25 / male DB25) with the 2-wire derivation soldered on the female DB25 connector. Thus the derivation can be easily inserted in or removed from the main LIS cable which does not need to be modified.