RADIANCE
User's Manual

RADIOMETER COPENHAGEN

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Contents

Introduction This manual gives details of and describes how to use RADIANCE.

Contents This manual contains the following topics.

1. Introduction

Overview

Introduction This chapter gives the intended use, limitations of and some technical specifications for the user of the RADIANCE applications. This chapter also gives the writing conventions the user should be aware of and information concerning any warning/caution notices that appear in this manual.

Contents This chapter contains the following topics.

Intended Use and Specifications

Intended Use

RADIANCE is a data processing application for clinical use intended to monitor, collect, store, retrieve and process laboratory data. RADIANCE is also intended to control clinical analyzers providing laboratory data.

Specifications

The following consists of:

- RADIANCE Components
- analyzer support
- Windows conventions
- results and HIS/LIS
- PMI Lookup
- network failure

RADIANCE Components

RADIANCE consists of the following:

- a server controlling all data transactions
- user interfaces for: Analyzer Control, Data Management Setup, Data Management and Administrator
- a database, a Print database and a data cache
- one or more interfaces to Hospital and Laboratory Information Systems

Analyzer Support

RADIANCE supports the following analyzers:

RADIOMETER:

- ABL800 FLEX
- ABL700 Series
- ABL70
- ABL77
- NPT 7 (available only in some markets)
- ABL5
- ABL600 and 500 Series
- ABL50
- EML100 Series
- ABL3XX Series

NON-RADIOMETER:

- a range of STAT analyzers can be connected. Please refer to your RADIOMETER representative for further details.

Continued on next page

Intended Use and Specifications, *Continued*

Windows Conventions

The RADIANCE software applications run similarly to Windows applications and, therefore, follow normal Windows procedures. It is assumed that the RADIANCE user is familiar with Microsoft Windows. Therefore this manual uses names and procedures common to the Windows environment.

If you are not familiar with Windows you may have trouble understanding this manual. Therefore, for your convenience a section has been included at the beginning of the manual called *Getting Started.* This will help you not only with the RADIANCE program and using the PC, but also with the computer terminology used. It is not intended to be a full Windows tutorial so, therefore, please familiarize yourself with other Windows conventions if necessary. This can easily be achieved by consulting the Windows manual given with the installation of the Windows program.

Results and HIS/LIS

Results stored in the RADIANCE database can be transmitted to the hospital HIS/LIS system.

Master Patient Index Lookup

The RADIANCE MPI operates as long as there is a connection to an active LIS when a request for patient information is made. An analyzer requests RADIANCE for patient information. RADIANCE requests the LIS for the information. When LIS answers, the response will pass through RADIANCE again and back to the correct inquiring analyzer. If hospitals do not have a Patient Master Index Look-Up interface, RADIANCE can serve as one.

Network Failure

In the event of power or a network failure RADIANCE is capable of recovering automatically

NOTE: *Even if you are familiar with working in Windows it is highly recommended that the chapter Getting Started is studied as it also introduces you to using RADIANCE and not just using Windows.*

NOTE: *If RADIANCE is connected to a HIS/LIS that is temporarily not working then RADIANCE will not respond to a request.*

Writing Conventions

Introduction

The RADIANCE manual has some specific typographical conventions.

Writing Conventions

The following table gives items and typographical examples used in this manual.

Item	Typographical Example
Warning/Caution or Note	***NOTE***: *The computer must be....*
References	See *ABL700 Series Operator's Manual, Chapter 3, Installing the Electrodes* for more details.
Key combinations	CTRL-L to select Parameters
Applications	Analyzer Control
Plot Range	Patient Range
Window title	Edit Parameter window; Lists window;
Tooltips	Access Online Manuals
Title bar	Toolbar; Menu bar;
	Control Analyzer icon

Keyboard Conventions

The table below gives the keyboard conventions used in this manual.

Keys	Example
Key names are shown in small capital letters.	the Enter key : ENTER the Control key: CTRL the Escape key: ESC the Alternate key : ALT
Shortcut keys	SHIFT+F1
RETURN and ENTER	(↵) These keys usually perform the same action. Press ENTER means you can either press ENTER or the ↵ key (otherwise known as the RETURN key), unless directed to do otherwise.
Arrow Keys	↑,↓,→, ←. You can use UP ARROW, DOWN ARROW, LEFT ARROW and RIGHT ARROW keys to move around in a document.

Continued on next page

Writing Conventions, *Continued*

Mouse Conventions

The following terms apply:

Term	Meaning
Choose	Choose and select have distinctive meanings throughout the manual. To choose means to click on the selected item. See Select below.
Click	To quickly press and release the mouse button. Unless otherwise stated you should always use the left button.
Double-click	To click the mouse button twice in rapid succession.
Drag	To point to an object and then press and hold down the mouse button while you move the mouse.
Right click	Click the button on the right of the mouse. This often opens menu options or short cuts.
Select	Move the mouse until the mouse pointer (referred to from now on as cursor) on the screen rests on the item of choice. The cursor can have three shapes. See *Chapter Two, Getting Started, Mouse Techniques*. See also *Choose* above.

NOTE: *When considered necessary, and to emphasize a particular point **bold italics** may be used in the text.*

NOTE: *Shortcut keys are not normally referred to in this manual. It is assumed that if the user wishes to use shortcut keys he/she will make their own note as to the ones required.*

Warning/Cautions and Notes

Introduction For the safe and efficient operation of RADIANCE, this manual contains various ***WARNINGS OR CAUTIONS*** which are important and should be read carefully before performing the related procedures.

Definitions The following table indicates the type of information given in warnings, cautions and notes:

Type	Definition
WARNING	Alerts users to potentially serious outcomes to themselves or the patient such as • death • injury • serious adverse events
PRECAUTION	Alerts users to exercise the special care necessary for safe and effective use of the device: • Precaution may include actions to avoid situations that may not be potentially life threatening or result in serious injury to patients or users, but of which the user should be aware. • Precautions may also alert the user to adverse effects on the device by use or misuse, and the care required to avoid such effects.
NOTE	Gives practical information.

WARNING/ CAUTION: In this manual a distinction between a warning and a caution is not made. Any notice that alerts the user to possible dangers of any kind is given the title ***WARNING/CAUTION***.

2. Getting Started

Overview

Introduction This chapter gives a short introduction to RADIANCE. The RADIANCE user interface comprises of two applications, a Windows based application termed “Executable” and a web-based application termed “Portal”. Each of these two applications contains functionality and menus, which allow the user to manage data received from POC devices.

Contents This chapter contains the following topics.

The RADIANCE program

Introduction

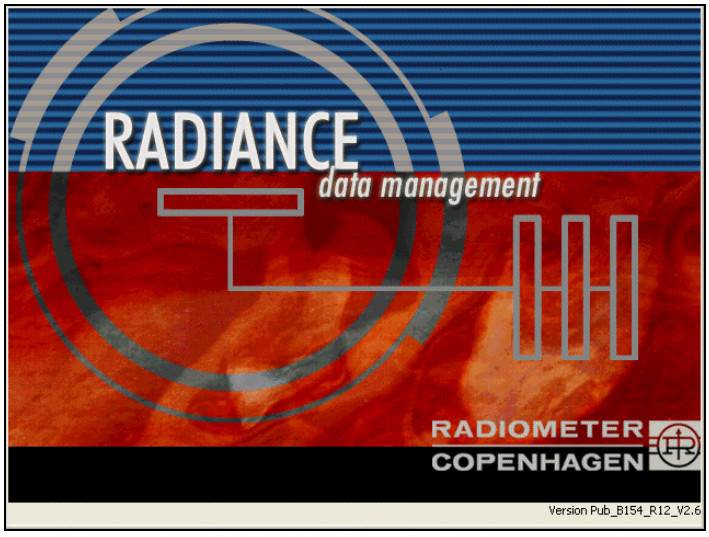
RADIANCE is a program allowing the user to manage POC devices and their data. RADIANCE consists of a range of modules and menus, which are found in two applications; an Executable application and a Portal application.

Common for the functionality in the Portal application is that it can be accessed via a web-browser, so the user does not need to install RADIANCE on the PC to get access to the various menus (see the Portal application section on the manual for introduction to the Portal menus).

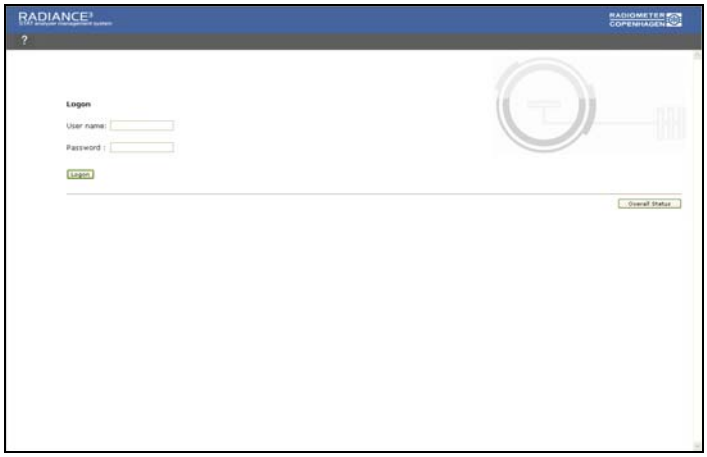
The Executable application needs to be installed on each PC where the user needs to access the functionality (see Executable application section in manual for introduction to Executable menus and functionality).

Application

Part of RADIANCE operates as a Windows based program. The following shows the start up screen for the executable application.



Below the start up screen for the Portal application is depicted.



How to Launch and Log on to Applications

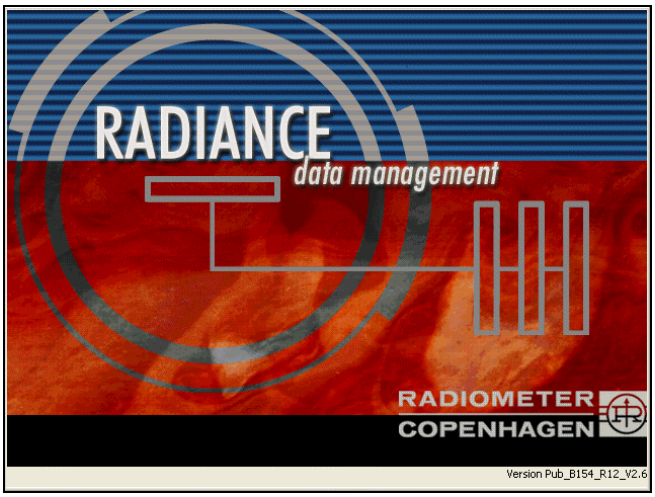
Introduction

To work in the Executable or the Portal application it is necessary to open, or launch it, and log on using username and password.

To Open and Log On to Executable

The following describes how to launch and log on to the RADIANCE executable applications.

Step	Action
1.	Click Start on the Taskbar.
2.	Point to Programs.
3.	Point to RADIANCE
4.	Click required application. The opening window appears. Example:



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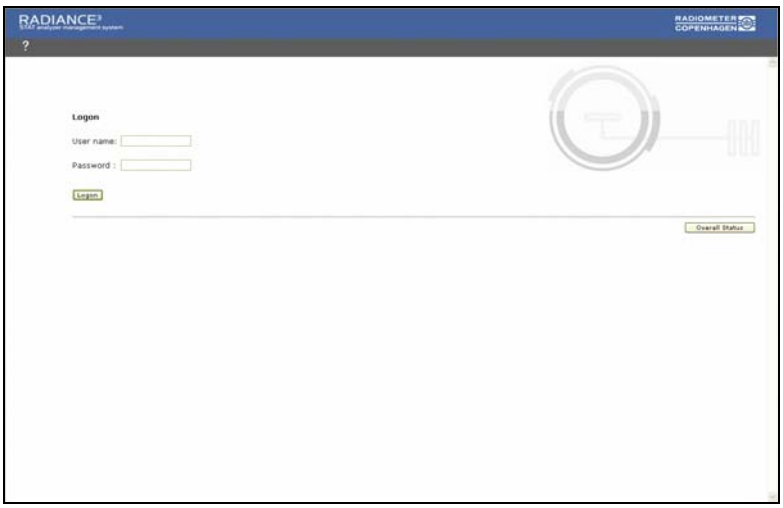
How to Launch and Log on to Applications, *Continued*

To Open and Log On to Executable *(continued)*

Step	Action
5.	After a few seconds a logon dialogue box appears.
6.	Enter user name and password assigned to you. Log on by entering the user name and password you have been assigned in the User and Password textbox. ***NOTE:*** *the user and password must be entered exactly as it has been assigned because the logon text field is case sensitive. For example if the password is "station" written in lowercase lettering, then entering "STATION" written in capitals will not be accepted. This case-sensitivity is the most likely reason for access being denied.* If unfamiliar with using boxes, see *Initiating Actions in Boxes* in this chapter.
7.	Click OK. This will give you entry into the application.

To Open and Log On to Portal

A short cut icon is usually available on the desktop for the Portal application.

Step	Action
1.	Double-click the desktop icon to start your web-browser and gain access to the Logon screen
2.	Enter user name and password assigned to you. Log on by entering the user name and password you have been assigned in the User and Password textbox. ***NOTE:*** *the user and password must be entered exactly as it has been assigned because the logon text field is case sensitive. For example if the password is "station" written in lowercase lettering then entering "STATION" written in capitals will not be accepted. This case sensitivity is the most likely reason for access being denied.* 

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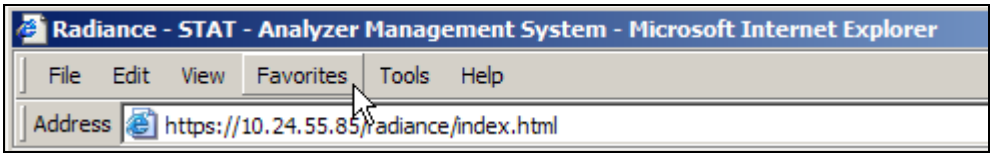
How to Launch and Log on to Applications, *Continued*

NOTE: *There is a five-minute log off period default setting on modules. Should the Workstation or Server not be used for five minutes the current user will be logged off and the logon prompt will appear again and you must re-enter your password. This is for security reasons only.*

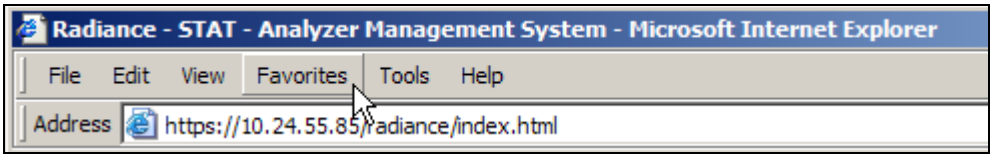
If there is no desktop short-cut icon and if it is required to be set up, please contact your hospital IT administrator or follow the procedure below.

Click Start >Programs >RADIANCE and *right* click required application. From the pop-up menu select Create Shortcut. When the short cut icon appears on the pop-up menu, drag and drop it onto the desktop.

For the **RADIANCE Portal** you need to enter your URL into your web-browser. Your hospital administrator will have this address. You may wish to add the URL to "Favorites" in your web-browser.



To add a short-cut for the Portal, click Favorites. An "Add Favorite" prompt box will appear with a Name. You may change this name if you wish. The name that is written in the box will be the "short-cut" to the URL address for the RADIANCE Portal and will appear under Favorites when Favorites is opened. Click OK on the Add Favorite box to add the name to your Favorite list.



For a FLEXLINK short-cut on the PDA, ask your hospital IT specialist.

Where to Find Help

On the RADIANCE installation CD-Rom there are PDF documents with manuals for printing.

The Portal includes context sensitive Online help, which can be accessed via the help icon  in the top left-hand corner.

4. Data Management

Overview

Introduction

Data Management contains a Patient Data Management module and an Analyzer Data Management module. Depending on what options have been bought, not all the options below may be available to you.

The Data Management application can provide the following options:

viewing of the last transmitted-to-RADIANCE analyzer status for Maintenance, QC, Calibrations, Activity Log.

the means to process single, multiple and re-run samples

viewing and reporting of analyzer maintenance

viewing and reporting of all QC runs including unacceptable QCs

Levey-Jennings graphs

searching for patients by sample, name and number

delta check of patients results

patient details

reporting facilities as required by local authorities

printing facilities

WARNING/ CAUTION:

The default reference ranges or critical limits in the RADIANCE program should be set by the user. Any reference ranges or critical limits referred to, or shown, in this manual are for the convenience of the user. RADIOMETER cannot be held responsible for these reference ranges and critical limits. Reference ranges must be used with caution and only as guidelines for the clinician as they depend on factors such as, sex, age, and normal physiological conditions. Reference ranges should not be regarded as absolute indicators of health and disease.

Troubleshooting

If one of the following happens, it is an indication that the patient files need repair:

Patient Files are not available in RDM patient Review

Chronological reports are out of order in RDM

RDM cannot find a patient that is known to the system.

Change in the systems primary storage method

Duplication of patient files

To carry out repairs on the patient files see *Chapter 5, Utilities*

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Menu, *Continued*

Contents

Menu

Introduction The Menu bar at the top of the application window gives access to available commands.

Menu The following table lists menu items and their availability in Patient Data Management or in Analyzer Data Management.

Menu	Commands	PDM	ADM
File	Close	✔	✔
	Print Preview	✔	✔
	Print	✔	✔
	Print Setup	✔	✔
	System Data Overview	✔	✔
	Import Analyzer Disk	✔	✔
	Analyzer Control	✔	✔
	Gateway Launcher	✔	✔
	Logoff	✔	✔
	Exit	✔	✔
Edit	Undo	✔	✔
	cut	✔	✔
	copy	✔	✔
	paste	✔	✔
	clear all	✔	✔
	delete	✔	✔
Samples	Samples to process	✔	✘
	Patient Results	✔	✘
	Patient Trend Plot	✔	✘
	Delta Check	✔	✘
	Toggle View Archive Data	✔	✘
	Interpretation* *This option will not appear unless the Key has been activated	✔	✘

Continued on next page

Menu, *Continued*

Menu *(continued)*

Menu	Pull-down Options	PDM	ADM
QC	QC Data Manager	✕	✔
	Analyzer Maintenance	✕	✔
	Levey Jennings Graphs	✕	✔
	Calibration Graphs	✕	✔
Reports	Gives access to all reports. For details please see *Description of Reports*.	✔	✔
Reviewer	Reviewer's Comments	✔	✔
	Report Manager	✔	✔
Window	Cascade	✔	✔
	Tile	✔	✔
	Arrange Icons	✔	✔
	Close All	✔	✔
	Main Window (Default)	✔	✔
Help	Manuals	✔	✔
	Tutorials	✔	✔
	About RADIANCE	✔	✔

Toolbar

Introduction

The toolbar at the top of an application window contains buttons with distinctive icons. To initiate an action from the toolbar, point to the button and click it. This will initiate the function of the button. Hovering over the button for several seconds will activate a tool tip description of the button. The following icons are to be found on the toolbar. Not all icons are lit up on opening the module. Some are grayed to reflect an inactive state. These grayed icons will become active when certain actions are taken when working in the module's windows.

Toolbar Overview

Toolbar and Icon Details

The following gives details of all the buttons and icons that can be found on the toolbar and if they are available in Patient Data Management or Analyzer Data Management.

System Overview Icons

The following icons indicate an overview of the system. The status of the system is reflected by the symbol attached.

Icon	Tool tip Name	Function
	System Data Overview	Gives the status overview of all the data in the system. When showing a green tick all QC and Calibration data are within ranges and patient samples are processed, no maintenance is outstanding etc.
	System Data Overview	Gives the status overview of all the data in the system. When showing a yellow alert status, some data may indicate out of reference ranges, maintenance may be due etc.
	System Data Overview	Gives the status overview of all the data in the system. When showing a red warning status, some data may be outside critical range, QC may have broken multiple Westguard rules, etc.

Continued on next page

Toolbar, *Continued*

QC Icons

The following icons indicate the status of the QC run. The status is reflected by a color change in the vial. When clicked the button opens the Run Control window.

Icon	Tooltip Name	Function	PDM	ADM
	QC Data Manager	The green icon indicates that the QC run was acceptable.	6	4
	QC Data Manager	The yellow icon indicates indicates a 1-2s Westgard rule violation.	6	4
	QC Data Manager	The red icon indicates multiple Westgard rule violations.	6	4
	Levey Jennings graphs	When clicked this button opens a Levey Jennings Graph. This icon is active at all times for a user with access to Levey Jennings.	6	4

Maintenance Icons

The following icons indicate the state of maintenance.

Icon	Tooltip Name	Function	PDM	ADM
	Analyzer Maintenance	This icon indicates that maintenance is complete. When clicked this button opens the Maintenance window.	6	4
	Analyzer Maintenance	This icon indicates that maintenance items are overdue. When clicked this button opens the Maintenance window.	6	4

Continued on next page

Toolbar, *Continued*

Patient Icons

The following icons are used in conjunction with patient data management

Icon	Tooltip Name	Function	PDM	ADM
	Patient Results	When clicked this button opens the Patient Results window. See *Patient Results Window* in this chapter.	4	6
	Patient Trend Plot (Patient Graphs)	When clicked this button opens a patient trend plot. The icon is only active in conjunction with the Patient Results window.	4	6
	Delta Check	When clicked this button opens a Delta check window for comparison of results from a patient. This icon is only active in conjunction with the New Sample window.	4	6
	Toggle View Archived Data	When clicked, this button opens archived patient details and shows them in the Properties window.	4	6
	Interpretation	When clicked this button opens the Interpretation window which allows the reading of and the addition of comments to computer interpretation that has been made. The icon is only active in conjunction with the Patient Results window. See *Interpretation* in this chapter.	4	6

Continued on next page

Toolbar, *Continued*

Report Icons The following icons are used in conjunction with the reporting functions.

Icon	Tooltip Name	Function	PDM	ADM
	Report Manager	When clicked this button opens the Report Manager window. This icon is always active if the user has the Reports Menu option enabled.	4	4
	Reviewer's Comments	The Reviewer's Comments function maybe used in conjunction with any item you are viewing on screen. This includes graphs, maintenance logs, calibration, patient records and reports that are printed to screen. When clicked this button opens the Reviewer's Comments window. This window is the means of noting the review of data currently displayed on the screen and allowing the user to comment on the review. This icon is active when any report is printed to screen and when reviewing patient files in the Patient Results area. There is also a Reviewer comment icon on the Levey Jennings graphs.	4	4
	Print	When clicked this button will print the page open on the screen.	4	4

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Toolbar, *Continued*

Others

The following miscellaneous icons are also available.

Icon	Tooltip Name	Function	PDM	ADM
	Manuals	Click this button to access Online Manuals.	4	4
	Analyzer Tutorials			
	Import Data	Click this button to access Import Data disk.	6	4
	Gateway Launcher	Click this button to access the Gateway Launcher which will give access to internet.	4	4
	Analyzer Control	Click this button to go directly to Analyzer Control application.	4	4
	Log Off	Click this button to log off from the module.	4	4

Data Management Screen

Introduction

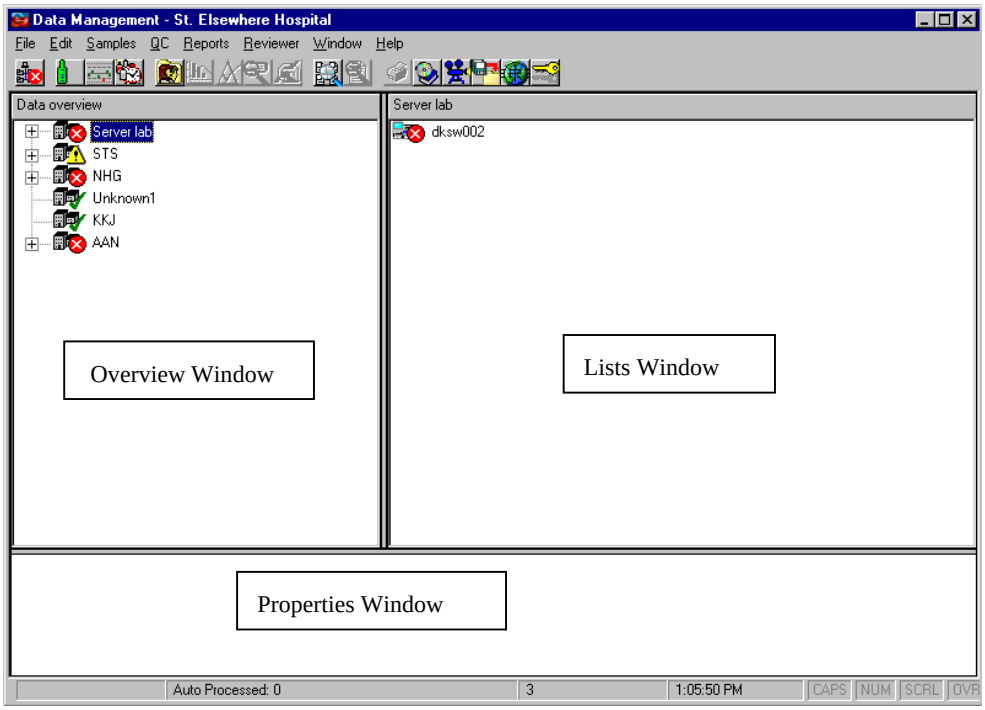
There are three windows contained in the Data Management screen - the Overview, Lists and Properties window. Each window provides access to different levels of information for the functions the user is working with. In the following pages each of these windows is covered as a separate topic. The Overview window, which has two functions, is dealt with twice; first as the Data overview window and then as the Patient Review window.

How to Open Screen

Open application and logon. If your password and ID have been accepted the Data Overview window will appear.

Screen with Windows Example

The following is an example of the Data Management screen. Names and the details of three windows contained within it are given below.



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Data Management Screen, *Continued*

Screen with Windows Example cont.

The following gives details of the window example above. The Overview window has two differing names depending upon which of the two buttons below has been activated: Data Overview and Patient Results. The main window (default) is the System Data Overview window.

Window type	Details
Overview Window	This will open by default and is shown in the example above.  When the System Data Overview icon is clicked, the servers, workstations and server/workstations in the RADIANCE system can be seen. The Analyzers are displayed in the window using the tree structure. This tree format shows the logical (see *Glossary*) structure of analyzers in the system which, when opened by using the ⊞, have subcategories, details of which can be viewed in the Lists window. Categories include; Maintenance, QC, Calibration, Activity Log and Samples to Process. See *Data Overview Window* overleaf for more details.  When the Patient Results icon is chosen the Overview window becomes the Patient Results window showing a list of Patients from the Database. *See Patient Results Window* in this chapter for more details.
Lists Window	This window gives an expanded view of the selected item from the System Data Overview or Patient Results window. When the Activity Log is clicked the Lists window has the User, Manager or Service level messages icon in the top right hand corner.
Properties Window	This window shows further details of a result selected from the Lists window. Tabs found at the bottom of the Properties window (when used in conjunction with the Patient Results icon) give a means of finding a patient by name. See *Properties Window, How to Use the Tabs* in this chapter for more details.

Systems Overview Window

Introduction

The Systems Data Overview window allows the user to review the status of all data on the system's analyzers including samples to process* and activity logs. The window uses the tree structure which shows Servers and Workstations which, when opened by using the ⊞, have analyzers associated with them. By using the same principle the user can view and open (to work with) the maintenance, QC, Calibrations, Activity Log and Samples to Process data status for analyzers. The status indicators on some icons show the status of the data transmitted to RADIANCE. Samples to Process will only show if an analyzer is logically (see *Glossary*) connected to a workstation or Server. See *Samples to Process* overleaf.

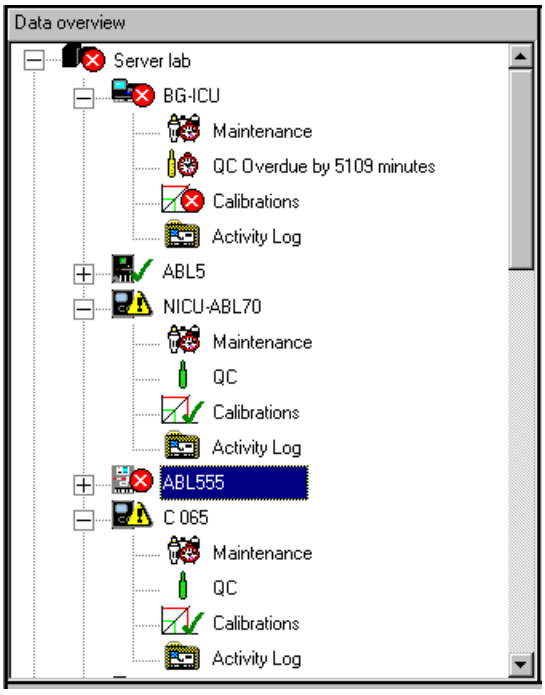
* If the workstation has an analyzer logically connected to it. (see *Glossary*).

To Open Systems Overview Window

Open application and logon. If your password and ID have been accepted the Data Overview window will appear.

Systems Overview Window Example

The following is an example of the Data Overview window. This is the window in which you will work. Details of this window are given below.



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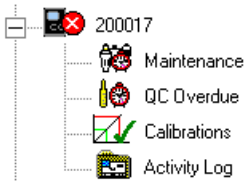
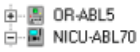
Systems Overview Window, *Continued*

Data Overview Window Details

The following gives the details associated with the window example above.

Part	Function
	Indicates a server/workstation. For more details of this symbol see *System and Analyzer Icons* and *Status Markings* in this chapter.
⊞	Indicates that an analyzer is attached. Opening the tree will make its details visible.
⊟	Indicates that a tree structure has been opened. When opened the tree structure shows:  For details of the symbols and icons see *System and Analyzer Icons* and *Status Markings* in this chapter.
	This indicates an ASTM analyzer whose "live" status is not reflected. Only the last transmitted-to-RADIANCE status can be viewed. These analyzers do not have traffic lights next to their results or statuses so their need for attention cannot be directly seen.
	The names given at Setup to the analyzers appear to the right of the traffic light or analyzer icon.

Patient Results Window

Introduction

The Patient Results Window appears in place of the Data Overview window when the Patient Results icon is clicked. The Patient Review window allows the user to:

review patient samples

print patient samples

edit patient samples

graph patient results

view archived samples

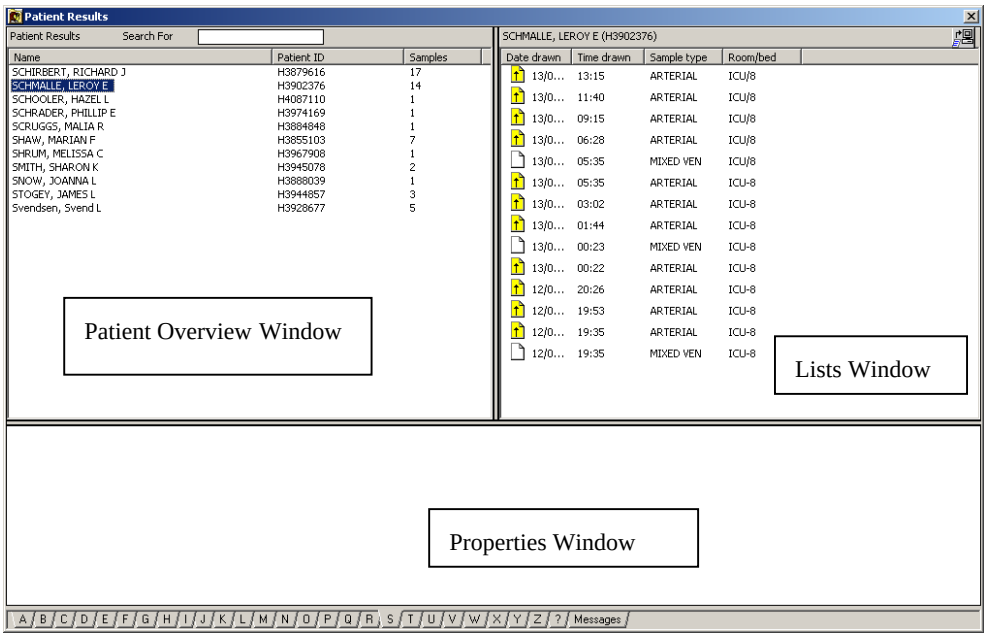
send results to the HIS/LIS

To Open Patient Results Window

Open application and logon. If your password and ID have been accepted the Data Overview window will appear by default. Click Patient Results icon. If you are already working in the Data Overview window clicking the Patient Results icon will refresh the screen to show the Patient results window.

Patients Results Window Example

The following is an example of the Patients Results window. This is the window in which you will work. Details of this window are given below.



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Patient Results Window, *Continued*

Patients Results Window Example (*continued)*

Use the vertical scroll bar to scroll down through all the patients and the horizontal scroll bar to view other patient identification fields that may be outside the current window size.

Part	Function
Cancel order	For Radiance 2.3 a new button, Cancel Orders, will be shown in the title bar of the patient list. The button only shows when the user that is logged on has Edit capability. For more details see below.
Search For field box	This textbox at the top right of the window is used to enter the patient ID or name. By entering the first letters of the patient's surname or the first digits of the patient ID the search box "jumps" to the correct pages needed as you type. Text entered is case sensitive.
Name	Shows the list of patients in the database
Patient ID 	This field can be expanded to give full details of patient ID. Place cursor as shown, hold down the left mouse button and drag the line left or right.
Samples	This field can be expanded in a similar way to Patient ID. Once expanded it gives details of the samples for the patient.
Date drawn Time drawn sample type Room/bed	These are all fields which can be expanded as above. The fields will then reveal date, time, sample and room/bed details respectively
Alphabetical tabs	Found at the bottom of the Properties window these are for accessing the surnames of patients. For example clicking the tab S with result in the screen refreshing to show all patients in the database whose surnames begin with S.
? tab	Shows samples which have no patient name.
Messages tab	Shows any system messages that have come from the analyzer for the sample selected.
Filter tab	This opens the prompt which allows you to filter patients according to the data entered. Note: *this is the only way to open the Filter prompt.*
	This button is for manually transmitting selected results to HIS/LIS. See *Manually Sending Results to HIS/LIS* in this chapter.

Continued on next page

Patient Results Window, *Continued*

To Search for a Patient

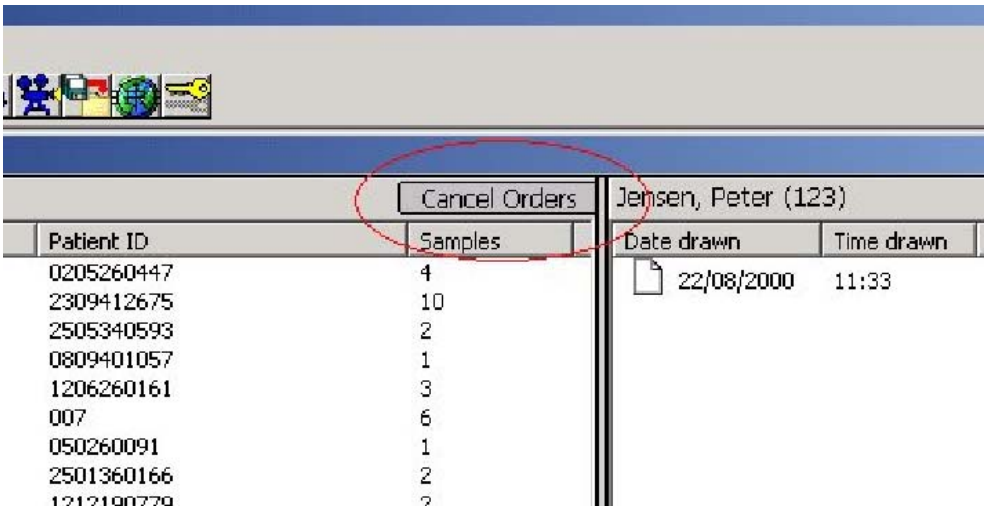
You can search for a Patient by using the Search For field. (See above) Here you enter a patient ID or the patient name. You can also search by using the tabs found in the Properties window. See *Properties Window, How To Use the Tabs.*

To Review A Patient Sample

To review a patient sample see *Lists window, Review Patient Sample* overleaf.

To Cancel an Order

From Radiance 2.3, a Cancel order button has been added to this screen.



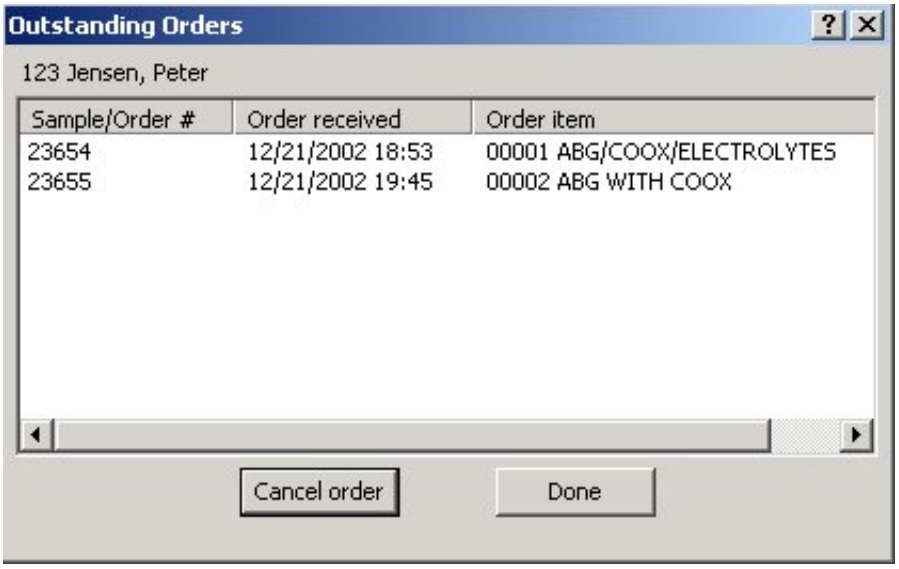
When the user that is logged on has Edit capability, a new button Cancel Orders will be shown in the title bar of the patient list.

When a patient is selected and there are outstanding orders on file, this button will be legal. To cancel an order on a patient, the user needs to select the patient and click on Cancel Orders. A window will be displayed with a list of the outstanding orders for that patient.

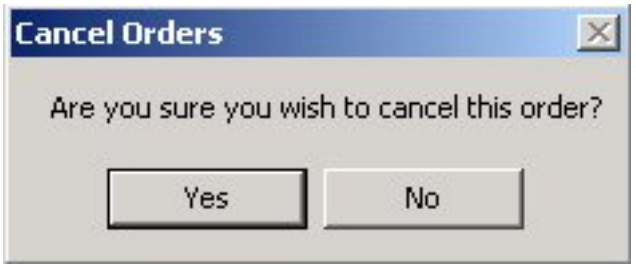
Continued on next page

Patient Results Window, *Continued*

To Cancel an Order ***(continued)***



When the user has located the order(s) they wish to cancel, they can select them and click the Cancel Order button. The user will be prompted to verify that they wish to cancel the selected order.



Once confirmed, the selected orders will be cancelled and the user will be returned to Patient Results.

Lists Window

Introduction

This window is to be found on the right of the screen and gives an expanded view of the chosen item from either the Data Overview window or the Patient Results window. For example, from the Data Overview window a single click on Maintenance, QC, Calibrations, Activity Log or Samples to Process will refresh the Lists window to show details of what has been chosen from the Data Overview window.

To Open Lists Window

Do as follows.

Step	Action
1.	Select and click either analyzer details (from the Data Overview window) or patient name (from the Patient Review window).
2.	Details of chosen item will appear in the Lists window.

Properties Window

Introduction

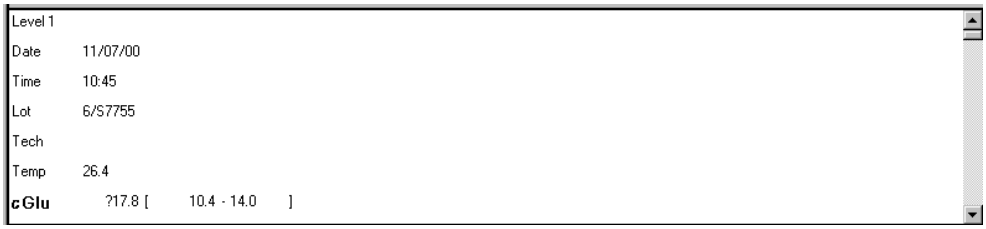
The Properties window appears along the bottom of Data Overview window and the Lists window. See *Main Data Management Window Example* above. Details chosen from the Lists window will appear in this window. When used in conjunction with Patient Review icon Tabs will appear along the bottom of the window.

To Open Properties Window

Single click item from the Lists window.

Properties Window, QC Example

The following is an example of the Properties window for QC. Details of this example are given in the table following the picture below. Use scroll bar to scroll through all the details.



Part	Function
level	Gives the level number of chosen item from Lists window.
date	Gives date at which the QC was measured.
time	Gives time at which the QC was measured.
lot	Gives lot number of the QC measured.
tech	Gives the initials of the person who performed the QC measurement.
temp	Indicates the temperature of the QC.
*c*Glu, etc	Gives the results of each parameter of the QC measured.

Continued on next page

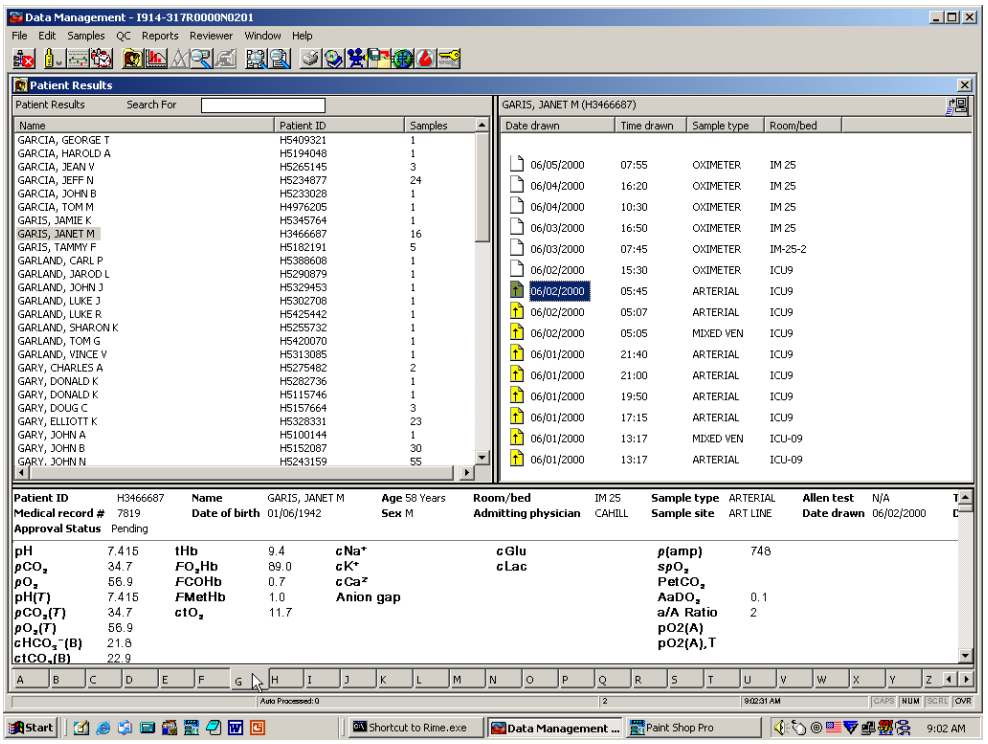
Properties Window, *Continued*

How to Use the Tabs

The Tabs are alphabetically labeled and run across the bottom of the Properties window. Point to the required Tab and click. The Patient Overview window will refresh to show patients in the database whose last name begin with the letter chosen, from there it is possible to select the patient.

Properties Window Letter Tabs Example

The following is an example of what will show in the Properties window when a letter tab has been clicked, a patient has been selected from the Patient Results window and a sample from that patient is selected from the Lists window.



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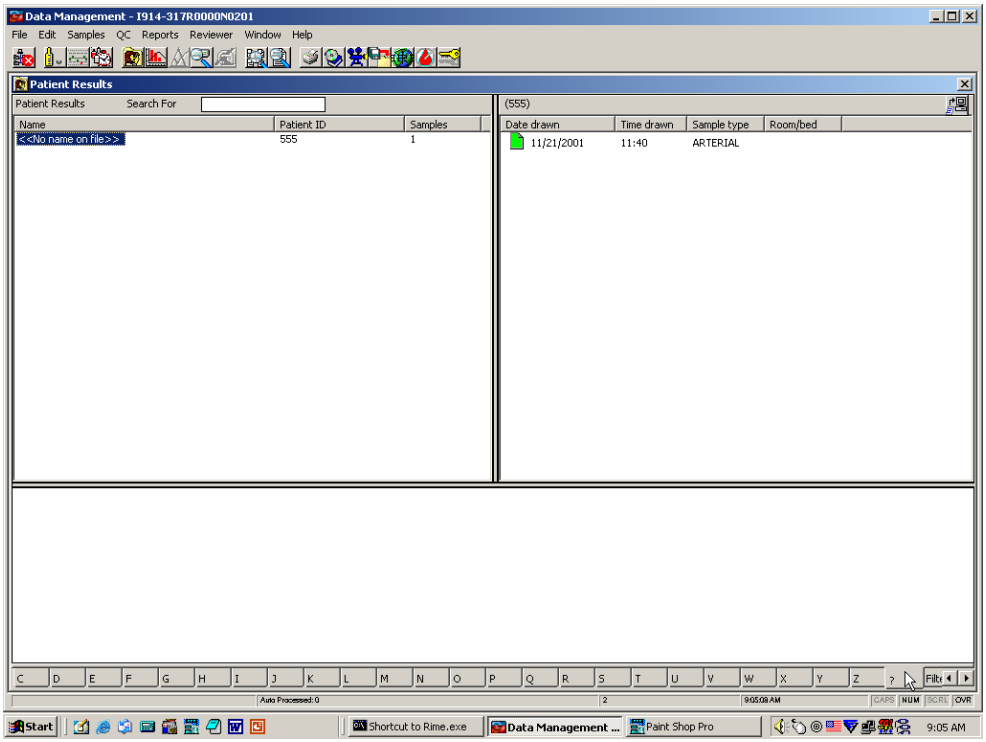
Properties Window, *Continued*

Properties Window ? Tab Example

When the ? tab has been clicked any samples that do not have any patient name will appear in the Patient Results window. The following is an example.



Properties Window "Messages" Tab

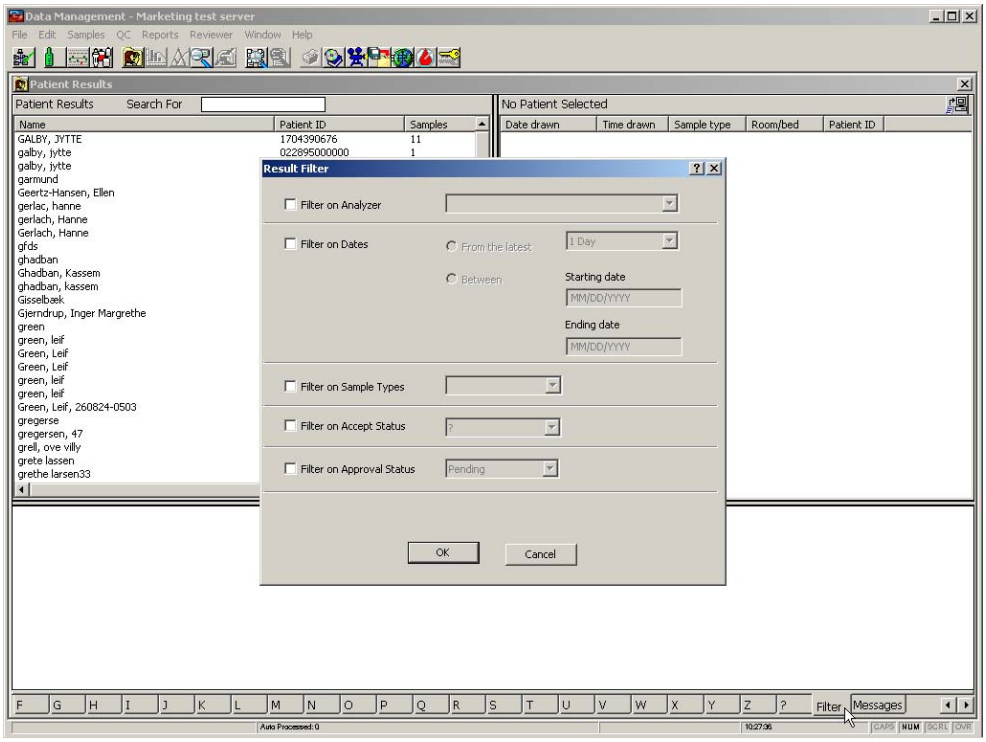
When the Messages tab has been clicked any messages associated with the selected patient result will show in the Properties window.

Continued on next page

Properties Window, *Continued*

Properties Window "Filter"Tabs

When the Filter tab has been clicked a Result Filter prompt will appear. For more details on using the Filter prompt see *Filtering Patient Data* in this chapter.



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System and Analyzer Icons

Introduction

System, server/ workstation, analyzer icons and their data status symbols appear in the Data Overview window. **System icons** indicate a server, workstation or a server/workstation, with or without one or more analyzers logically associated (as defined in *Glossary*). Symbols indicate the status of the latest data transmitted to RADIANCE. **Analyzer icons** represent the model of analyzer on the system. Their attached status symbols also indicate the latest data transmitted status.

NOTE:

A workstation attached to the RADIANCE server but with no analyzers logically (see Glossary) attached to it, will still show a  *icon and symbol but will have no* ⊞ *attached.*

System Icons and Symbols

One or more of the following icons and its attached symbol appear in the Data Overview window.

System Icons and status symbols	Explanation
	At this workstation/server PC a green tick mark symbol indicates that the latest data transmitted from the analyzers connected to it show no outstanding patient samples to manually process all maintenance due is complete all QC are acceptable and all calibrations are acceptable
	At this workstation/server PC a yellow alert triangle symbol indicates that one or more of the analyzer(s) associated with it is indicating an alert state e.g. a QC has broken 1-2s Westguaard rule, maintenance is overdue or a patient sample is awaiting manual processing.
	At this workstation/server PC a red warning circle with a white cross symbol indicates that the analyzer(s) connected to it has (have) a red warning status attention may be needed. e.g. the latest Calibration has an error or a QC breaks 2 or more Westguard rules

Continued on next page

System and Analyzer Icons, *Continued*

Analyzer Icons and Symbols

Analyzer icons with a status symbol appear in the Data Overview window next to each analyzer on the system. Analyzer icons represent the model of analyzer. The status symbol indicates the status of the latest data transmitted to RADIANCE.

	When showing a green tick the analyzer is functioning OK.
	When showing a yellow alert triangle the analyzer has a minor problem.
	When showing a red warning circle with a white cross the analyzer has a red warning status and needs attention.

Status Markings

Introduction

Status markings found in the Data Management windows indicate the status of the latest data transmitted to RADIANCE by analyzers on the system.

Samples to Process

One or more of the following may appear in the Data Overview and Lists window after the System button has been activated on the toolbar.

Icon	Represents
	No samples to process for all connected analyzers
	One or more samples to process for all connected analyzers

Analyzer Maintenance

One or more of the following may appear in the Data Overview and Lists window after the Analyzer Maintenance button has been activated on the toolbar.

Icon	Represents
	All maintenance is complete
	One or more maintenance items are overdue

Continued on next page

Status Markings, *Continued*

QC Indicator

One or more of the following may appear in the Overview and Lists window after the QC Manager button has been activated on the toolbar.

Icon	Represents
	A green vial with a green tick indicates that all the latest QC data are within acceptable limits
	The yellow vial with the clock indicates that a QC is overdue
	A plain yellow vial indicates a violation of the 1-2s Westgard
	A red vial with a red warning symbol indicates that a QC has multiple Westgard rule violations

Calibrations

One or more of the following may appear in the Overview and Lists window after the System Overview button has been activated on the toolbar.

Icon	Represents
	All calibrations are OK. When accessed these will be displayed in the Lists window
	An error occurred in the last calibration. When accessed these will be displayed in the Lists window

Activity Log

The following appears in the Data overview window.

Icon	Represents
	Entry to activity log records. These will be displayed in the Lists window

Continued on next page

Status Markings, *Continued*

Patient Sample Transmission

One or more of the following may appear in the Lists window after the Samples to Process blood drop in the Data Overview window has been clicked or a patient has been clicked in the Patient Review window.

Icon	Represents
 Green	A green page indicates sample is within the user-defined reference ranges.
 White	A white page indicates sample result has no user-defined reference ranges included.
 Yellow	A yellow page indicates patient parameter results in sample are outside the user-defined reference ranges.
 Red	A red page indicates that one or more patient parameter results in sample are outside user-defined critical limits.

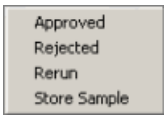
Manual Processing of Samples – Overview

Introduction

The user can see that a sample or samples need to be processed by a red blood drop displayed in the Data Overview window. See *Status Markings, Samples to Process* above. Several more symbols are associated with the Samples to Process symbol and appear in the Lists window when the blood drop has been clicked. See *Folders and Pages Details* below.

Relevant Icons, Status Markings Menu Item when Processing Samples

The following Icons and/or Status Markings are directly relevant to the processing of samples:

Icon, Status Markings, Menu Item	Function
	No samples to process for all connected analyzers
	One or more samples to process for all connected analyzers
 Green	A green page indicates sample is within the user-defined reference ranges. See *Folders and Pages Example* below.
 White	A white page indicates sample result has no user-defined reference ranges included. See *Folders and Pages Example* below.
 Yellow	A yellow page indicates patient parameter results in sample are outside the user-defined reference ranges. See *Folders and Pages Example* below.
 Red	A red page indicates that one or more patient parameter results in sample are outside user-defined critical limits. See *Folders and Pages Example* below.
	This context sensitive menu appears when a sample in the Lists window is *right* clicked. See *To Manually Approve and Send a Sample* in this chapter.
	Delta Check on Toolbar is available only if these rights have been enabled for the user.
	This button is for manually transmitting selected results to HIS/LIS. See *To Manually Approve and Send a Result* in this chapter for more details..

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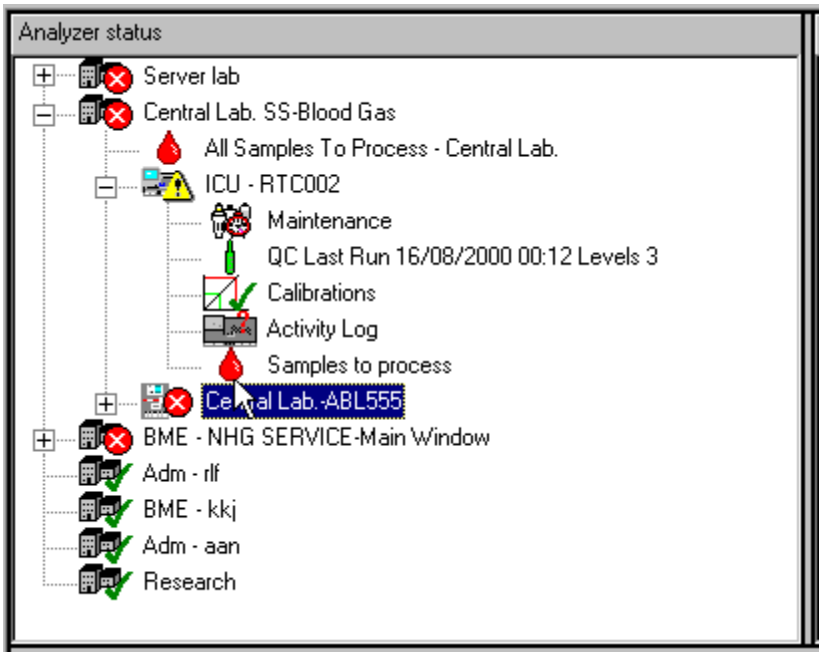
Manual Processing of Samples – Overview, *Continued*

Samples to Process Example

The following shows the blood drop icon to be clicked from the Data Overview window.



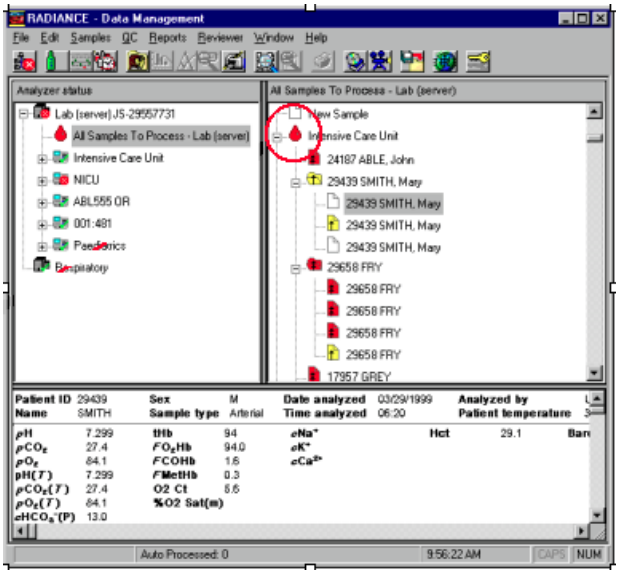
NOTE *A blood drop icon will only show next to a workstation if an analyser is logically connected. See Glossary for definition of logically connected.*

Continued on next page

Manual Processing of Samples – Overview, *Continued*

Folders and Pages Example

The following example shows folders and pages which appear in the List Window when the blood drop icon has been clicked. A folder icon indicates multiple samples on the same patient. The folder will then contain page icons for each individual sample. Each folder and page in the folder will be color-coded. The folder icon will be color-coded to reflect the highest alert status of the samples in the folder.



Page/Folder icon	Explanation
White	A white folder or page indicates that a patient sample has a range data missing, e.g. age or sex
Green	A green folder or page indicates that a patient sample has all parameter results within the normal range.
Yellow	A yellow folder or page indicates that a patient sample has one or more parameter results outside the reference range.
Red	A red folder or page indicates that a patient sample has one or more parameter results outside the critical limit.

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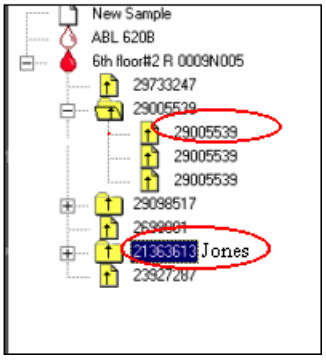
Manual Processing of Samples – Overview, *Continued*

To Identify Samples by ID or Patient's Name Example

The following example shows samples identified by ID or patient's name.



To Delete a Sample

The following deals with how to delete a sample.

Step	Action
1.	Highlight by clicking once, the sample or samples to be deleted from Lists window.
2.	Open Edit from menu and click Cut.
3.	Answer Yes to prompt. The sample is deleted.

To Open Samples for Processing

Double-click on the sample. A New Sample window will appear. See overleaf for details of how to manually process a sample.

Manual Processing of Samples - Procedure

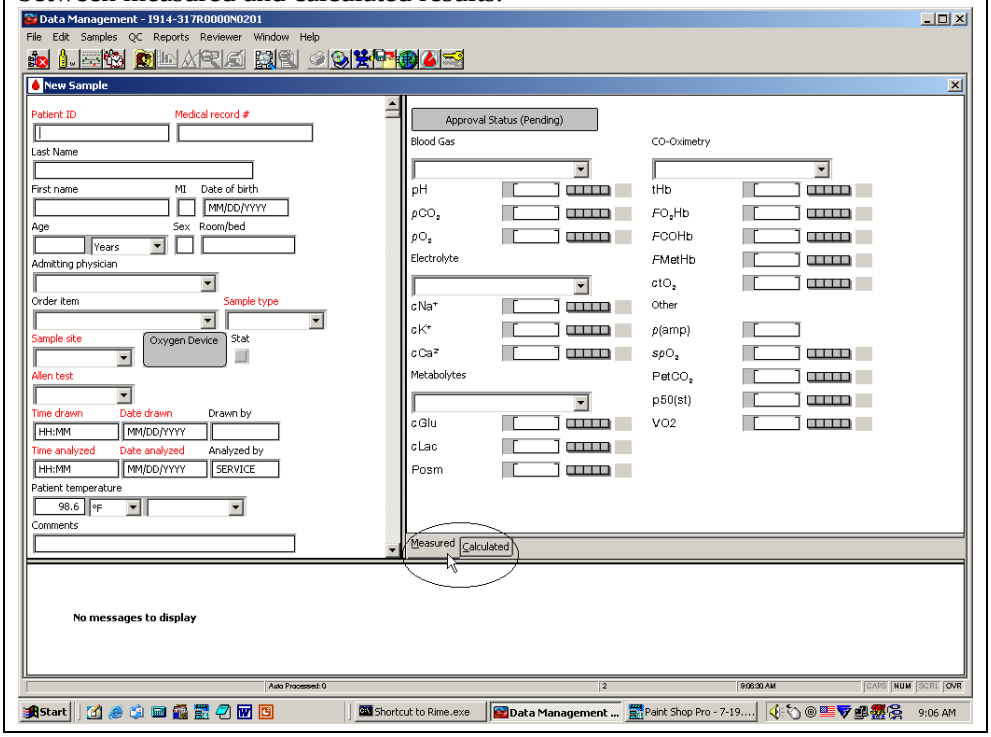
New Sample Window Example

This window shows a sample from an analyzer which has not been automatically processed. The actual fields displayed may differ according to how Patient and Sample demographics have been setup (See RADIANCE Installation and Setup Manual, Data Management Setup) but the same screen layout is always used (see below). To process the sample it is necessary to enter the New Sample window. See *New Sample Window* overleaf.

Window Fields

Fields	**are found in the window as follows**:
Patient Data	at the top
Sample demographic	on the left
Measure Results	on the right *
Calculated Results	on the right.*

*These results have tabs along the bottom of the window allowing toggling between measured and calculated results.



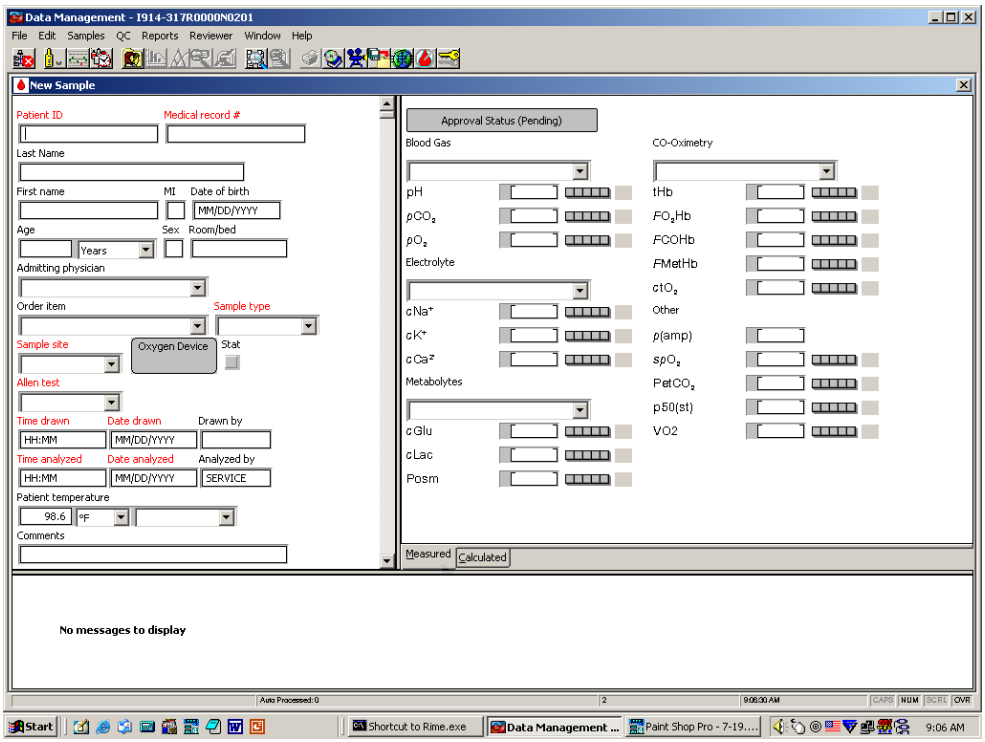
NOTE *The window may contain some mandatory fields, which will show in red and must have details entered into them before the user exits the window.*

Manual Processing of Samples - New Sample Window

Introduction

The New Sample window is for manually processing results which have not been automatically transmitted to the HIS/LIS system and for adding additional information to the sample analysis if required.

The following is an example of New Sample Window. Details of this example are given below. Only the patient demographic fields (some of which may have selection menus which are indicated with the drop-down box) that the end user has selected for entry are displayed, so your screen may be different from the example given. However the three distinct divisions of the screen (Patient demographics, Sample demographics and Results field) which are explained below, will remain the same. Fields to appear in this window are setup via *Data Management Setup, Patient Demographics* and *Data Management Setup, Sample Demographics.*



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Manual Processing of Samples - New Sample Window, *Continued*

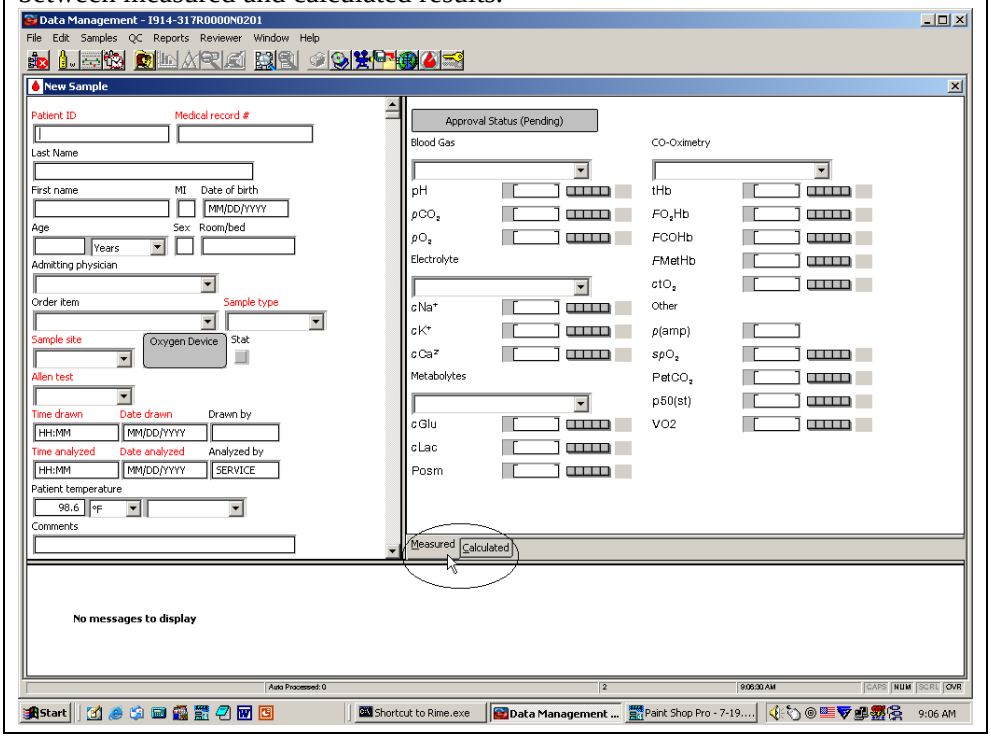
New Sample Window Example

This window shows a sample from an analyzer which has not been automatically processed. The actual fields displayed may differ according to how Patient and Sample demographics have been setup (See RADIANCE Installation and Setup Manual, Data Management Setup) but the same screen layout is always used. To process the sample it is necessary to enter the New Sample window. See *New Sample Window* overleaf.

Window Fields

Fields	**are found in the window as follows**:
Patient Data	at the top
Sample demographic	on the left
Measure Results	on the right *
Calculated Results	on the right.*

*These results have tabs along the bottom of the window allowing toggling between measured and calculated results.



NOTE: *If RADIANCE has a HIS/LIS connection you will be able to cancel patient sample orders. The feature will appear as a button in the Patient Data section of the New Sample window.*

NOTE *The window may contain some mandatory fields which will show in red and must have details entered into them before the user exits the window.*

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Manual Processing of Samples - New Sample Window, *Continued*

New Sample Window Patient Demographic Field Details

Patient Demographic fields occupy the Overview section of the window. The patient demographic fields that are visible are defined by the end user and have been enabled in the *Data Management Setup.* Patient Demographics are entered into the system one time and then recalled by the system when the ID is received with the sample. For a complete list of available fields that can be set up for this section of the window see your RADIANCE Administrator.

Patient Sample Demographics

Part	Function
Sample/Order	This is for entering the Sample number or order number. If this field is compulsory it will appear in red and must be completed before you can exit the window. ***NOTE:*** *If RADIANCE has a HIS/LIS connection it is possible to lookup patient sample order numbers. A Drop-down selection will appear on the sample order number field.*
Medical Record #	This field is for entering the patients' medical record number. This field is one of five possible selections for the primary storage method of patient sample data.
First Name	This is for entering the first name of the patient
MI	This is for entering the middle initial of the patient
Last Name	This is for entering the last name of the patient
Age	This is for entering the age of the patient if this does not appear automatically upon entering the date of birth
Sex	This is for entering the sex of the patient
Patient ID	This is for entering a patient ID. If this field is compulsory it will appear red, and must be completed before you can exit the window.
Date of Birth	If this is a mandatory field the date of birth must be entered exactly as it has been set up to be registered. i.e. in the example above the window has been set up to receive day/month/year in that order. If your setting shows month/date/year then the date of birth must be entered in that order. For settings see Data Management Setup, General.
Height	This is for entering the height of the patient. A drop down box to the right of this field allows selection from inches and centimeters
Weight	This is for entering the weight of the patient. A drop down box to the right of this field allows selection from oz ; lbs; gms; kg
Ethnic origin	This is for entering the ethnic origin of the patient.
Room/Bed	This is for entering the location of patient.

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Manual Processing of Samples - New Sample Window, *Continued*

Sample Demographic Field Details

Sample demographic fields always occupy the left portion of the window. These fields are updated with each sample. Any fields appearing in **red** are mandatory and must be filled in before you can exit the window.

Part	Function
Sample type	This field has a drop-down box attached to it. Opening this drop-down field allows for choosing the type of sample that was run.
Sample site	This field has a drop-down box attached to it. Opening this drop-down field allows for choosing the sample site of the sample that was run.
Oxygen Device	Click on this field to open the Oxygen Devices window. See *How to Use the Oxygen Device Field* below.
Time drawn	This is for entering the time the sample was drawn.
Date Drawn	This is for entering the date the sample was drawn.
Drawn by	This is for entering the name or initials of the person who drew the sample
Time analyzed	This is for entering the time the sample was analyzed
Date analyzed	This is for entering the date the sample was analyzed
Analyzed by	This is for entering the name or initials of the person who analyzed the sample.
Time reported	This is for entering the time the sample was reported.
Date reported	This is for entering the date the sample was reported.
Reported by	This is for entering the name or initials of the person who reported.
Patient temperature	This is for entering the patient temperature at the time the sample was run
Comments	This is for any comments to be made.
Notified whom	This is for entering who has been notified, for example when a sample result is outside critical limits.
By whom	This is for entering who has notified whom about the sample.

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Manual Processing of Samples - New Sample Window, *Continued*

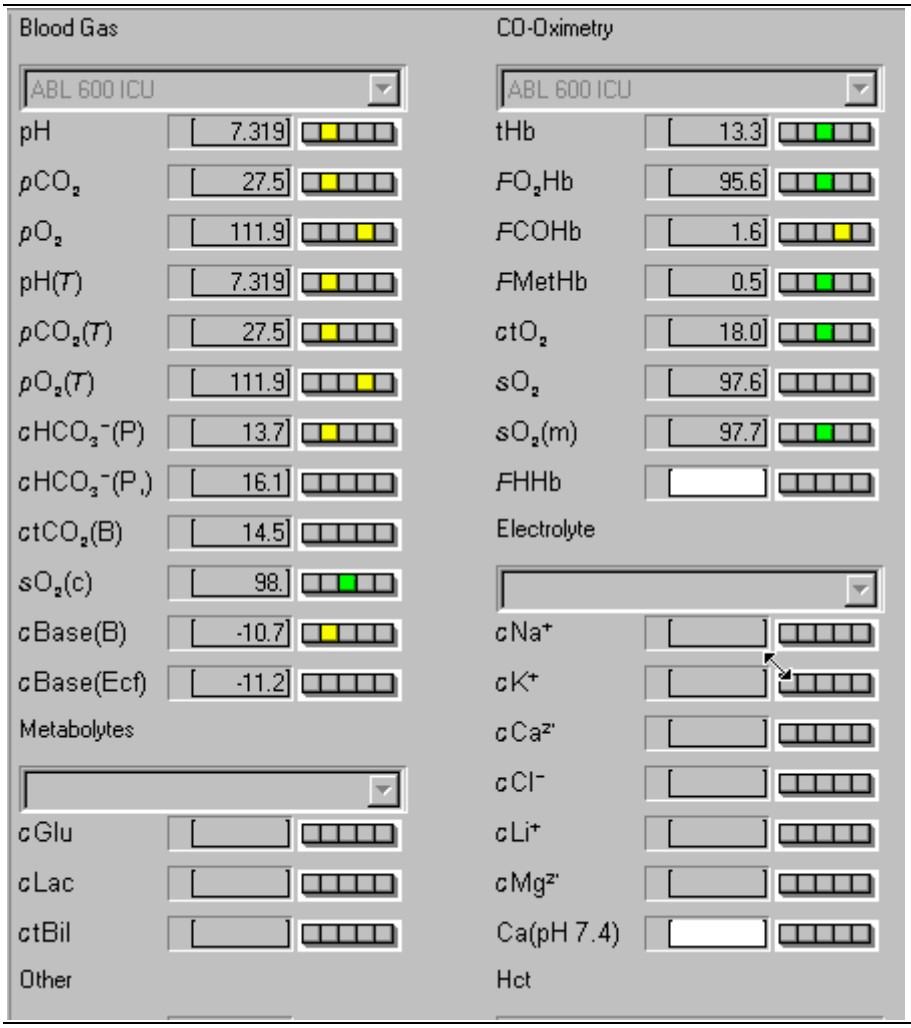
Results Field Details

Results fields always occupy the right portion of the window.

Part	Function
Blood Gasdrop-down boxes and parameters	The drop-down boxes will show the analyzer on which the sample was run. Results of the sample include any status markings showing on the analyzer.

Color Scale Explanation

The "Color Scale" to the right of each result field allows the user to assess the patient results in respect to the reference and critical range guidelines for that patient's age, sex, and the sample type run on the patient. The placement of the color on the scale indicates whether the result was low (left) or high (right).



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Manual Processing of Samples - New Sample Window, *Continued*

Color and Arrow Markings

Color	Indicates…..
Green	a normal result and its placement will always be in the center of the scale.
Yellow	a result that has exceeded the reference range. The placement on the scale may be to the right or left of the middle indicating whether the result is low (left) or high (right).
Red	a result that has exceeded critical limits. The placement on the scale may be to the extreme right or left of the middle indicating whether the result is low (left) or high (right).

Arrow markings are those to be found on the analyzer. For details see *Data Management Setup, Results, Reference Ranges and Critical Limits*.

To Open New Sample Window

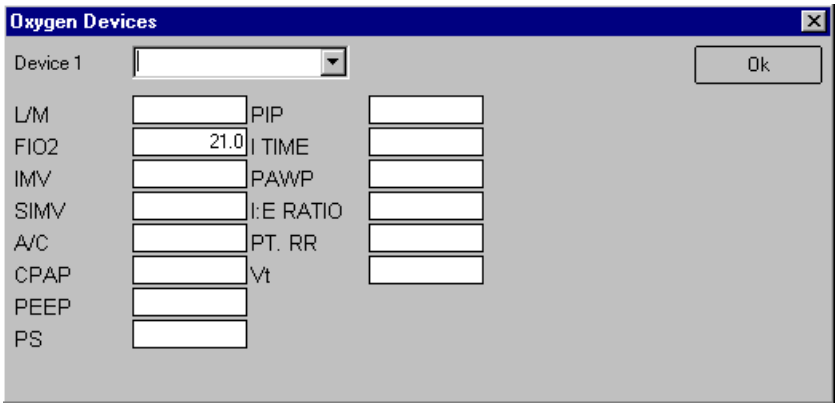
The following deals with how to open the New Sample window.

Step	Action
1.	Single click the blood drop in the overview window. This will open a New folder in the List window.
2.	Double-click blood drop in Lists window.
3.	The New Sample window will open. Complete details as above.
4.	Close window to save settings

How to Use the Oxygen Device Field

To use the Oxygen Device field do as follows:

Step	Action
1.	Click Oxygen Device field on New Sample window. The following appears:



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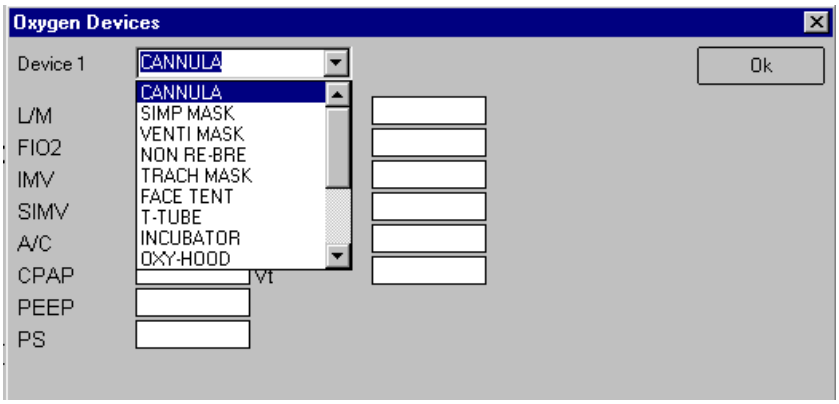
Manual Processing of Samples - New Sample Window, *Continued*

How to Use the Oxygen Device Field *(continued)*

Step	Action
2.	Open the Device 1 drop down box and select required oxygen device.



What is available from this drop-down box will have been set via the Data Management Setup program.

3.	Enter required ranges and click OK.
4.	The chosen oxygen device will now show on the New Sample window (where it was previously marked Oxygen Devices).

NOTE: *For your workstation to show receipt of a result, the analyzer must be logically (see Glossary) connected to your workstation.*

NOTE: *By right clicking the New Sample sign in the Lists window a context sensitive menu will appear offering a choice between approve and disapprove. The approve/ disapprove is for sending the result to the HIS/LIS from the List window of the main screen. After reviewing the sample in the Lists window of the main screen you may select to approve (save result and send to HIS/LIS) or disapprove (save result but NOT send to HIS/LIS)*

Processing Multiple Samples

Introduction Multiple samples buffered on the same patient can be easily processed.

To Run Multiple Samples The following deals with how to run multiple samples. Do as follows:

Step	Action
1.	Find your patient in the Samples to Process. The icon displayed next to the patient will be a "folder" indicating more than one sample is buffered for that patient.
2.	Click on the + sign next to the folder icon. The patient's results will now be displayed as page icons with one page for each sample results.
3.	Double-click on the page icon of the first sample you would like to process. A New Sample window will appear.
4.	Process the sample as usual filling in the patient and/or sample demographic information. When data entry has been complete you are ready for the next sample.
5.	Click on the X to save the first sample. You will be prompted as to whether you wish to process the additional samples.
6.	Click Yes to this prompt. The patient demographic data and the sample results of the next sample will be displayed. You may now update the sample demographic fields for this sample. Repeat the above steps until all samples have been processed.

NOTE: *If you answer NO to the prompt about additional samples the sample(s) will remain in the Samples to Process.*

Delta Check

Introduction The Delta Check function allows the user to compare current patient results against that patient's previous results, when processing a sample.

NOTE *The Delta Check is only active when the New Sample window is open.*

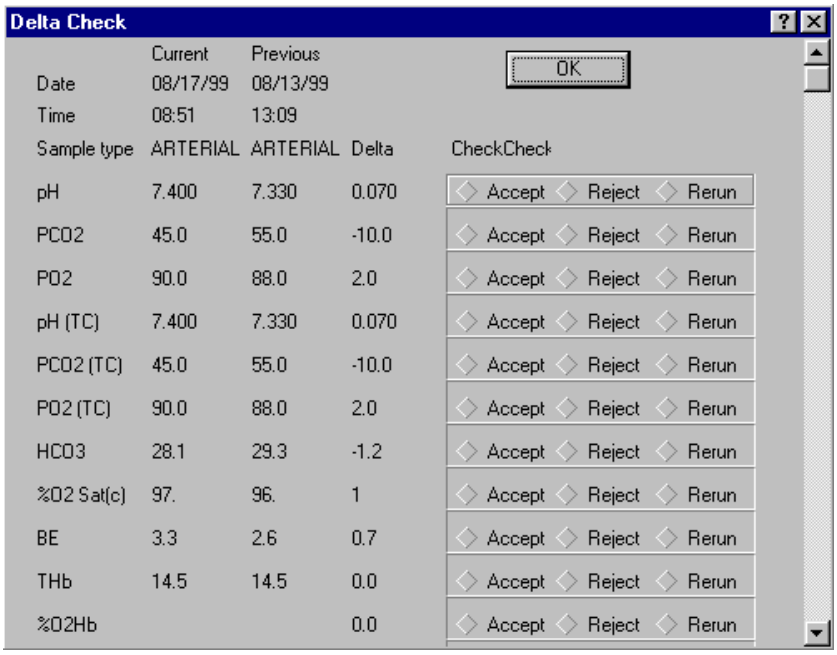
To Open Delta Check

Do as follows:

Step	Action
1.	In the List window open a patient sample that is pending.
2.	Click Delta Check icon.
3.	This window displays the patient's current and previous results with Delta column showing the difference between the samples.
4.	Click Close to exit without rejecting any parameters or click Reject/Accept for each parameter, then click OK.

NOTE: It is necessary to already have at least one previously processed result for the same patient before access to the Delta function is possible.

Delta Check Window Example The following is an example of the Delta Check window. This is the window in which you will work. Details of this window are given below.



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Delta Check, *Continued*

Delta Check Window Example Details

The following gives the details associated with the example above.

Part	Function
Current	Indicates column for current patient sample results.
Previous	Indicates column for previous patient sample results.
Date	Gives date of current sample and previous sample in their respective columns.
Time	Gives time of current sample and previous sample in their respective columns.
Sample type	Gives type of sample for current and previous sample in their respective columns.
Delta	Gives delta column where comparison between the two results parameters can be seen.
Parameters	Gives parameters that have been Delta checked. Selecting Accept, Reject or Rerun gives the following: Accept – the parameter is accepted and is stored and transmitted to the LIS when the window is closed and the result is filed. Reject – the parameter is not stored and will be deleted from the run. The run will be sent to the LIS minus the result for that parameter. Re-run – Close the Delta check window and remain in the New Sample window. Re-run the sample on the analyzer with a single digit I.D. number entered on the analyzer. When the transmission occurs the ticked off parameters will be replaced with the result of the re-run.
Option button checking field	Allows for choosing to Accept, Reject or Rerun individual parameters. Choose by clicking option button in option button field.
OK	Click this to close window and save settings.

Continued on next page

Delta Check, *Continued*

NOTE: *If you choose rerun on any parameter you must close the delta check window and rerun the patient sample.*

NOTE: *After viewing, you may close the window without checking any boxes.*

Re-Running a Sample

Introduction

Sometimes re-runs are necessary for patient samples. It is not necessary to re-enter the patient or sample demographic information when a sample with an error is discovered in the samples-to-process screen. The sample can be re-run before the New Sample window is closed.

To Re-run a Sample

The following deals with how to re-run a sample.

Step	Action
1.	Double-click sample showing sample error in the Lists window. This will open the New Sample window with sample details. Do not exit this window.
2.	Re-run the sample on analyzer and enter any 1digit number to the Patient ID field on the analyzer.
3.	Results will transmit directly to Data Management and to the open New Sample window. You will be prompted whether this patient sample has been rerun. Answer yes to the prompt.
4.	The analysis results of the re-run will be displayed. Click on the X to save results.

To Manually Approve and Send a Sample

Introduction

If the HIS/LIS was inoperable when the sample was processed or the result was not sent because of questionable results, it can be sent manually.

It is possible to manually approve and send a sample in the following ways:

From the All Samples To Process window (i.e. Lists window)

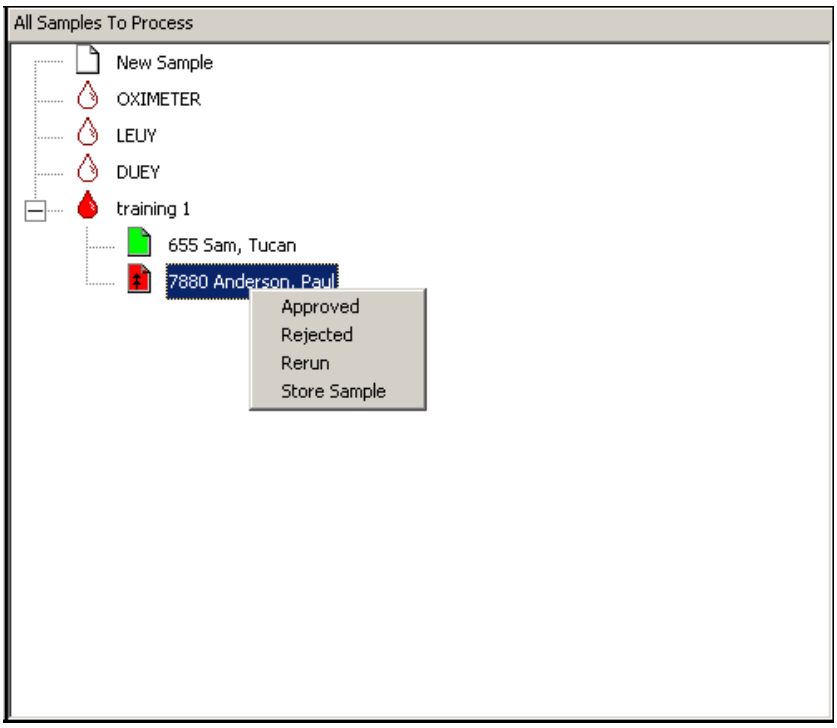
From the New Sample window

From Patients Results window using the Manual Send button

All the above are dependent on the HIS/LIS transmission profile which has been set in the Administrator

From the Samples to Process Window

To manually process a sample from the Samples to Process window do as follows:

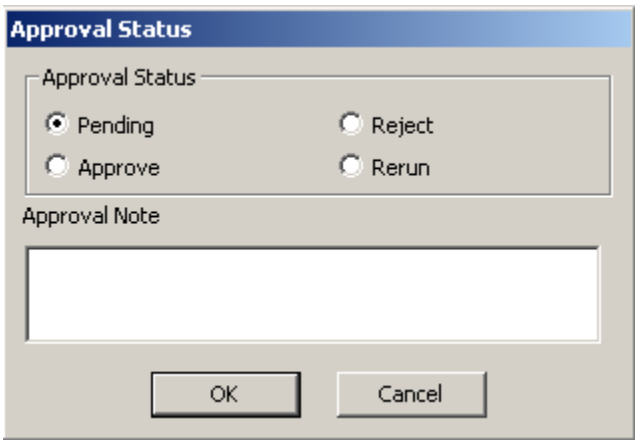
Step	Action
1.	*Right* click on sample in Lists window. A context sensitive menu appears: Example: 
2.	Select and click required command.
3.	Depending on the setup which has been chosen from Administrator, the sample will be sent to the HIS/LIS.

Continued on next page

To Manually Approve and Send a Sample, *Continued*

From the New Sample Window

To manually process a sample from the New Sample window do as follows:

Step	Action
1.	In the Lists window click Approved Status button *(Note: this button will only appear if the user has approval status rights)* and select from prompt box which appears. Example:  Selecting one of the status options changes the approval status, and processes the sample results as follows: **Pending** — No status has been selected for this sample. This sample will be saved in the database when exiting the New Sample window. This sample will not be sent to the HIS/LIS if the HIS/LIS is setup to send "On Approval". **Approve** — The sample has been approved. This sample will be saved in the database when exiting the New Sample window and sent to the HIS/LIS if applicable. **Reject** — The sample has been rejected. This sample will be saved in the database when exiting the New Sample window. The sample will not be sent to the HIS/LIS. **Rerun** — The sample needs to be rerun for verification. The sample is saved to the database with the rerun status attached. (See *Re-Running a Sample* in this chapter). After the rerun you may select an approval status for the rerun sample.
2.	Add comments in Approval Note area if required.
3.	Click OK. ***Note:*** *In the ABL700 Series close New Sample window in order to successfully send an "approval" to HIS/LIS.*

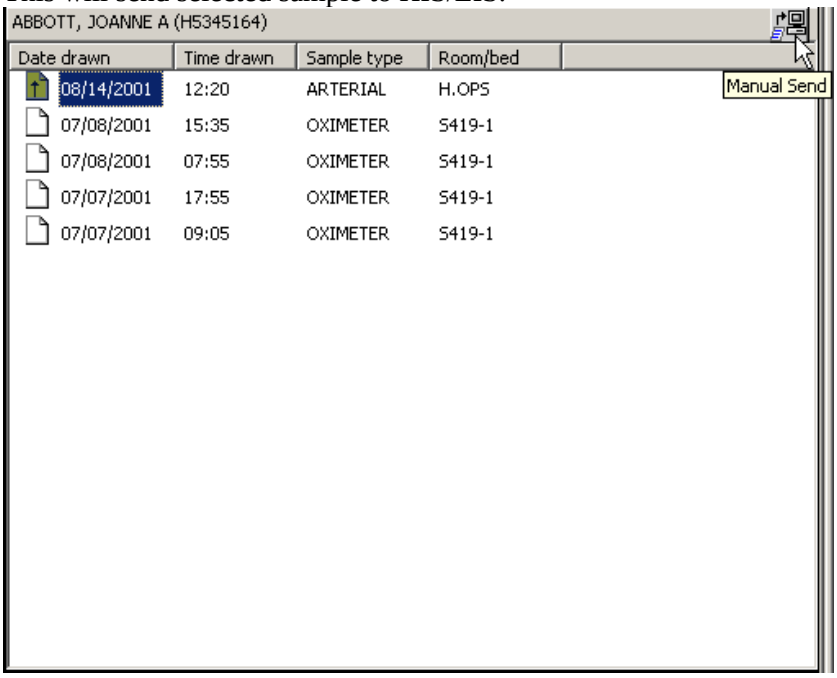
Continued on next page

To Manually Approve and Send a Sample, *Continued*

From Patient Results Window

To manually send a sample to the HIS/LIS from the Patient Results window do as follows:

Step	Action
1.	Open Patient Results window.
2.	Select Patient from Overview window.
3.	Select sample to be sent from Lists window.
4.	Click Manual Send icon from top right hand corner of Lists window. This will send selected sample to HIS/LIS.



Auto processing of Samples

Introduction

On an analyzer-by-analyzer basis you may select to auto process patient data and/or quality control data. Auto processing can be enabled via the Radiance Setup program System – Analyzers. (See RADIANCE *Installation and Setup Manual* for more details.)

The data will be saved to RADIANCE and sent to HIS/LIS (if required) with no user interaction. The patient data may be viewed in the RADIANCE Patient Data section of RADIANCE Data Management. The auto processed patient data is also available in report form from the RADIANCE Data Management reports. The quality control data will be available in report form or viewed on the Levey Jennings graphs in RADIANCE Data Management.

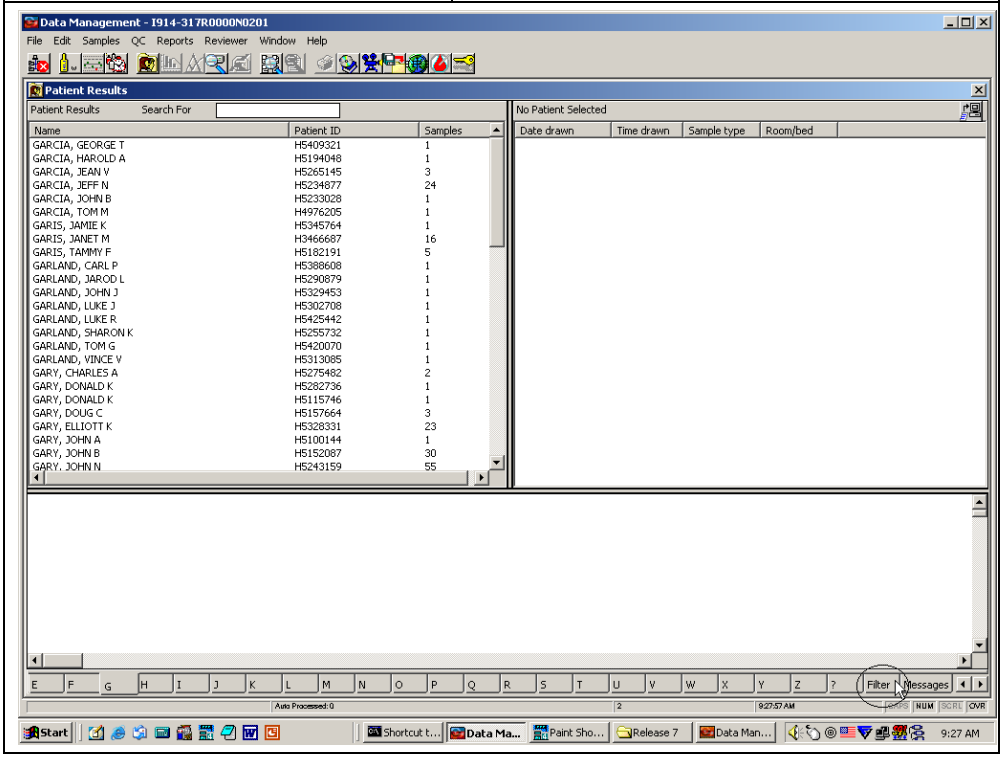
Searching for a Patient

Introduction

From the Patient results window it is possible to search for and/or filter patient results to find specific sample results. To review patient samples the Patient Results window must be open.

Active Icons, and Menu Commands

 Toggle View Archived Data	When clicked this button opens archived patient details and shows them in the Properties window.
Edit Menu	Cut Copy Paste Edit Patient Results
 Patient Trend Plot (Patient Graphs)	When clicked this button opens a patient trend plot. The icon is only active in conjunction with the Patient Results window.



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Searching for a Patient, *Continued*

To Review Previous Results

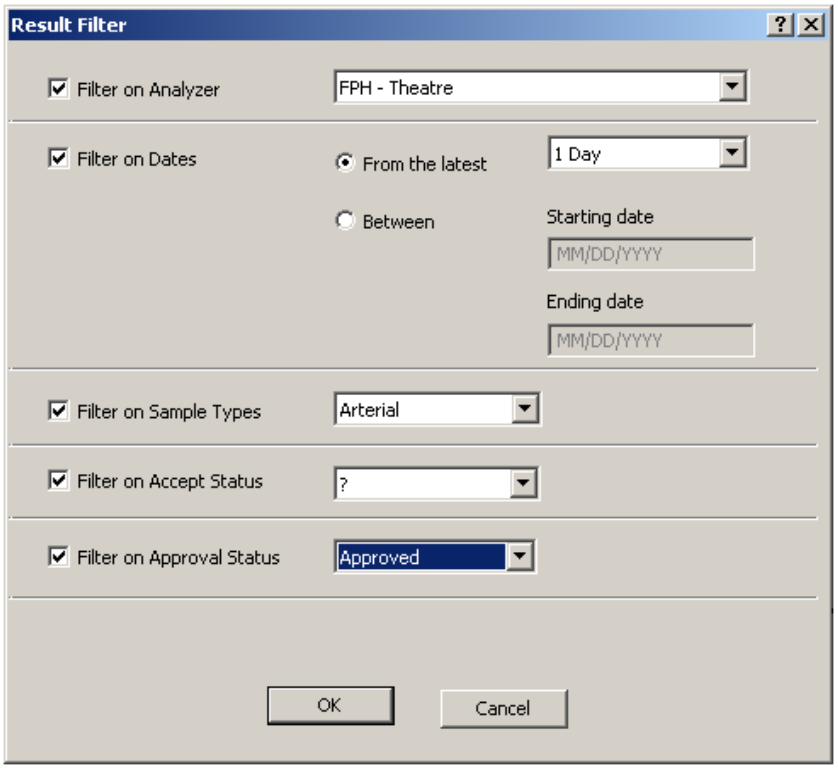
The following gives details of how to review a previous result for a patient. Do as follows:

Step	Action
1.	In Patient Results window highlight patient. If patient is not visible either click alphabetical tab at bottom of window or enter name or ID in the Search For box.
2.	Single click the name of patient in Patient Results window.
3.	Single click the page icon in the Lists window. An overview of the result for that sample will appear in the Properties window. Use scroll to the right of the Properties window to view all results.
4.	Double-click page icon in Lists window and the Edit/Sample window for this sample will appear.
5.	After reviewing, click on the close button to close the page. To edit this patient's sample see *Editing a Patient's File* in this chapter.
6.	To log that you have reviewed this sample, click Reviewer's icon at any time that the patient sample is selected or open for reviewing.
7.	Click Close button to close window and return to main screen.

Filtering Patient Data

Introduction Filters allow the end user to select a criteria point for data review. Patient Data can be filtered by analyzer, date, sample type, accept status and approval status.

To Open Do as follows:

Step	Action
1.	With Patient Data window open, Click Filter Tab at bottom of Properties window. ***Note***: *this is the only way to open the Filter prompt.* The Result Filter appears.
2.	Check filtering check boxes as required. Example 

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Filtering Patient Data, *Continued*

To Open
(continued)

Field	Function
Filter on Analyzer	Select analyzer from drop-down box
Filter on Dates	From the latest – this gives the number of days selection, and is done by using the corresponding drop-down list box. Between – type in required date range by entering starting (in the Starting date box) and ending (in the Ending date box) dates.
Filter on Sample Types	Select required sample type from drop-down box. Sample types available will be those set up via Data Management Setup.
Filter on Accept Status	Select required Accept Status from drop-down box.
Filter on Approval Status	Select required Approval Status from drop-down box.

3. Click OK to apply filter. Patient Results screen refreshes showing data as selected.

NOTE: *Any settings applied are only temporary and the Patient Results Window will revert to default when the window is closed.*

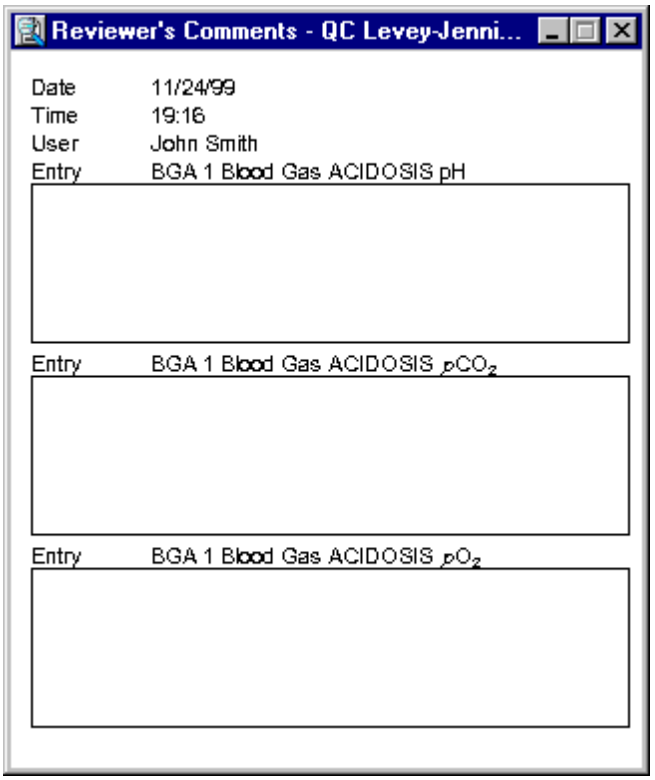
Using the Reviewer's Comments Function

Documenting a Review of Onscreen Data

The Reviewer's Comments function maybe used in conjunction with any item you are viewing on screen. This includes graphs, maintenance logs, calibration, patient records and reports that are printed to screen.

The following deals with how to record that a report has been reviewed. The report must be printed to screen (see above) before it may be reviewed. Do as follows:

Step	Action
1. 	With the report on screen click Reviewer's Comment icon from the toolbar. This action will record the item being reviewed, date, time and your initials. The following window appears:



2. To type any comments in the text box, place the cursor in the Entry text box and click.

3. Click the x button to record and close the comments.

Every time you review, and log that reviewing activity with the Reviewer's Comment icon, RADIANCE records that activity. The report of the Reviewer's log can be found under Reports menu, *Review Report*.

NOTE: *When review is saved a Red Pin will appear on the relevant Levey Jenning graph on the date line. This will indicate that the graph has been reviewed. See Levey Jennings Graphs, Pins in this chapter.*

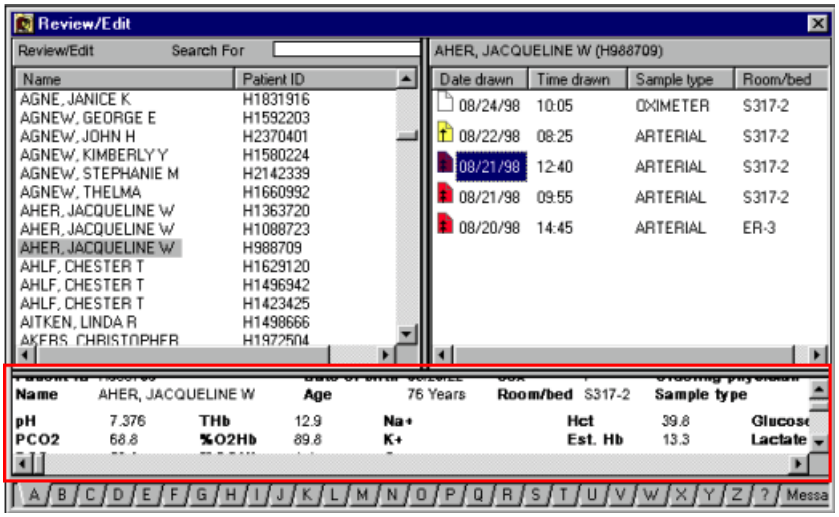
Reviewing Archived Samples

Introduction

Archived samples are reviewed using the Toggle Archive Data icon. Click on the sample you wish to review from the Lists window. (see *Example* below) This directs RDM to the archived data path where inactive patient records are stored. Details will appear in the Properties window (see *Example* below).

Example

The following gives an example. Use scroll bars to view details:



NOTE: *Archived patient samples may be reviewed or printed but may not be edited.*

NOTE: *Remember to toggle back to the active view.*

Cutting, Copying and Pasting Patient Results

Introduction

In order to move a result, cut and paste commands can be used. Deleting results is possible using the cut command.

Active Menu Items

The following commands are active from the Edit menu:

Cut

Copy

Paste

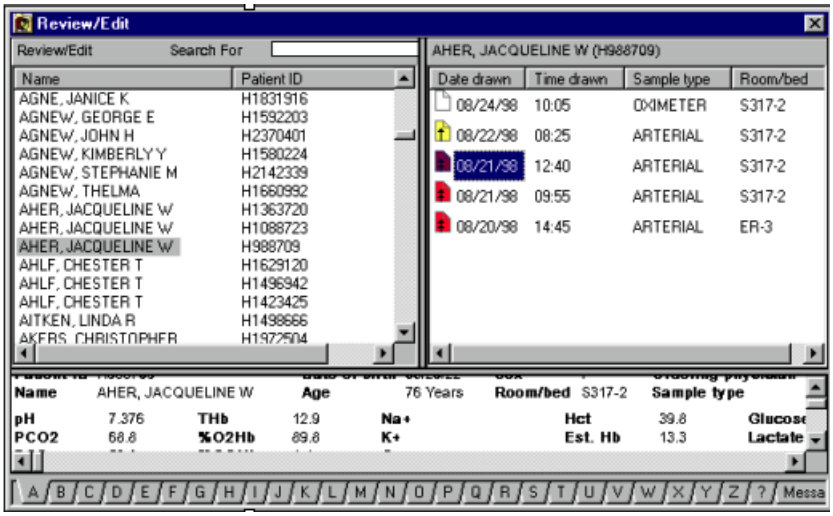
How To Cut,Copy,Paste

The following deals with how to cut, copy and paste a result.

Step	Action
1.	Click to highlight the sample to be cut or copied.
2.	On the menu go to Edit and click.
3.	Click either Cut or Copy. If you choose Cut a prompt will appear. Answer Yes to the cut prompt and the sample will be cut.

Example

The following is an example of Step 1 of the above procedure:



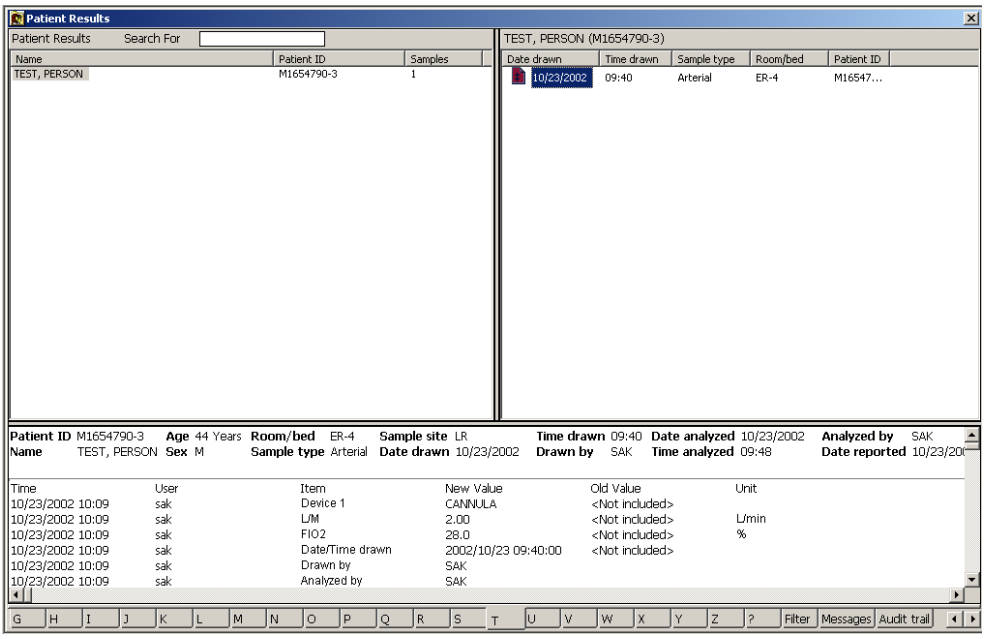
Audit Trail and Editing Patient Results

Introduction

When a result has been edited RADIANCE Analyzer or Patient Data Management shows an Audit Trail tab along the bottom of the Properties window. Clicking this tab refreshes the screen to give details of the changes that have been made.

Example

In the following example a patient file has been selected with a single click and the Audit Trail tab clicked. The date and time of the changes, the ID of the user who made the changes, the item that was changed; the old and new value will also be shown.



To Edit Patient Results

Whilst sample data can never be changed, editing sample or patient demographics is possible. Double click the Patient File folder from the Lists window. Open the Sample window and make changes as required in the Sample.

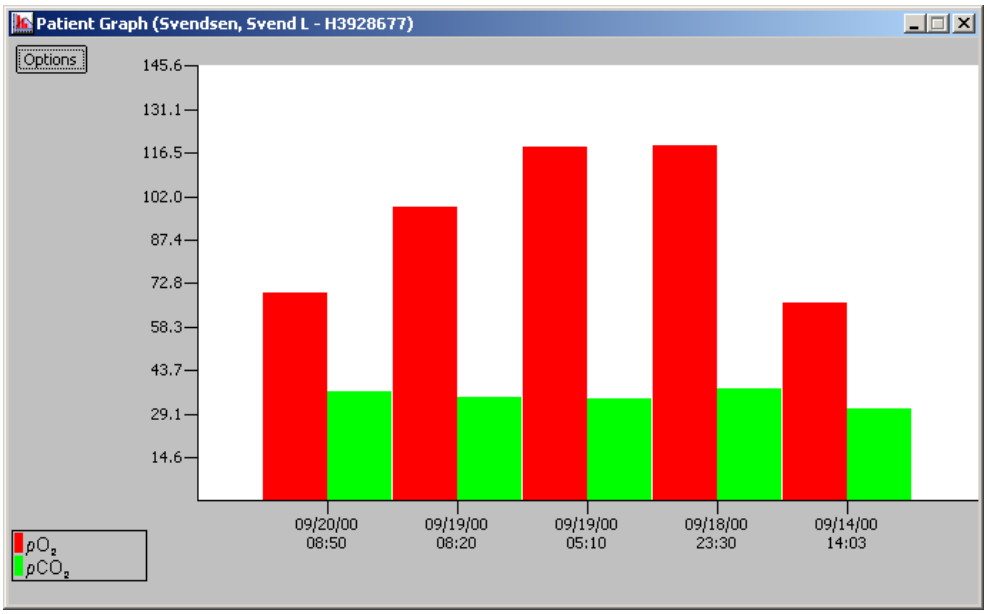
Patient Graphs

Introduction

It is possible to graph patient results in Patient Data Management. The graph displayed can be linear, bar or 3D. Details are given below. To change the display you must choose Options from the Patient graph window. See below for details.

Patient Graph Window Example

The following is an example of the Patient graph window in which you will work. Details of this example are given in the table following the picture below.
Note: *The Options button is for opening the Patient Graph Options window.*

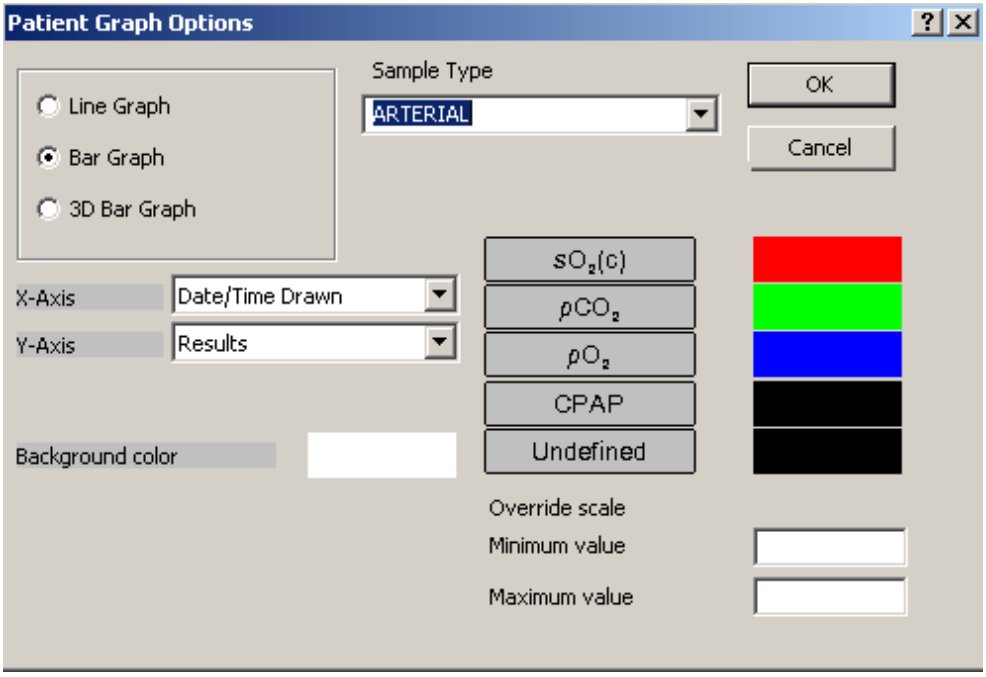


Part	Function
Options	Clicking this will open the Patient Graph Options window from which you can select to view your patient results as a line graph, bar graph or 3D graph. Select parameters to graph, etc. See *Patient Graph Options Window* below.
Parameters box	This indicates the parameters chosen from the Patient Graph Options window and their colors which have also been chosen from the Patient Graph Options window.

Continued on next page

Patient Graphs, *Continued*

Patient Graph Options Window Example



Part	Function
Graph Type	Click the option button next to the type of graph you wish to display the results in.
Sample type	This drop-down box allows the user to select results according to the sample types (set up via the Data Management Setup program).
X-Axis and Y-Axis	The drop-down box allows for a choice in display between date/time or results on either the X or Y axis.
Parameter Buttons	Whatever parameters have been selected will appear here. To select more parameters or change those currently showing see *Choose Parameters* below.
Minimum value	This is for entering the minimum value to be displayed on the graph.
Maximum value	This is for entering the maximum value to be displayed on the graph.

Continued on next page

Patient Graphs, *Continued*

Choose Parameters

Do as follows:

Step	Action
1.	Click on a parameter.
2.	The following window appears.

Choose Parameter

Remove	*c*Base(B,ox)	*c*K^+	Undefined	$AaDO_2$	a/Ap$O2,T$
pH	*c*Base(Ecf,ox)	*c*Ca^{2}	Undefined	a/A Ratio	px
pCO_2	tHb	*c*Cl^-	Undefined	a-vDO_2	px,*T*
pO_2	*F*O_2Hb	*c*Li^+	Undefined	Vd/Vt	cx
*c*H+	*F*COHb	*c*Mg^{2}	*p*(amp)	QS/Qt	DO2
pH(*T*)	*F*MetHb	Ca(pH 7.4)	*sp*O_2	a-etDCO_2	Shunt,*T*
pCO_2(*T*)	*ct*O_2	Anion Gap	PetCO_2	RI(temp)	RI
pO_2(*T*)	*s*O_2	Anion gap (K+)	tc*p*O_2	CaO_2	????
cHCO_3^-(B)	*F*HHb	*c*Glu	tc*p*CO_2	CvO_2	????
T40 HCO_3^-	HbF	*c*Lac	p50(st)	CcO_2	????
cHCO_3^-(P,)	SHb	*c*tBil	VO2	*p*50	????
ctCO_2(B)	*s*O_2(m)	Posm	RQ	*F*CO_2	????
sO_2(c)	*B*O_2	Undefined	Qt	*F*O_2	Liter Flow
*c*Base(B)	*F*HHb	Undefined	V(CO)	O_2 Index	FIO2
*c*Base(Ecf)	*F*HbF	Undefined	pO2(v)	pO2(A)	Vt
tCO2(P)	Hct	Undefined	sO2(v)	pO2(A),T	SIMV
cH+(T)	Est. Hb	Undefined	P	p50(act)	A/C
pH(st)	*c*Na^+	Undefined	S	AaDpO2,*T*	Press Sup

3.	Click on the required parameter button from this window. The screen will refresh to show the selected parameter on the Patient Graph Options window.

Continued on next page

Patient Graphs, *Continued*

To Graph Patient Results

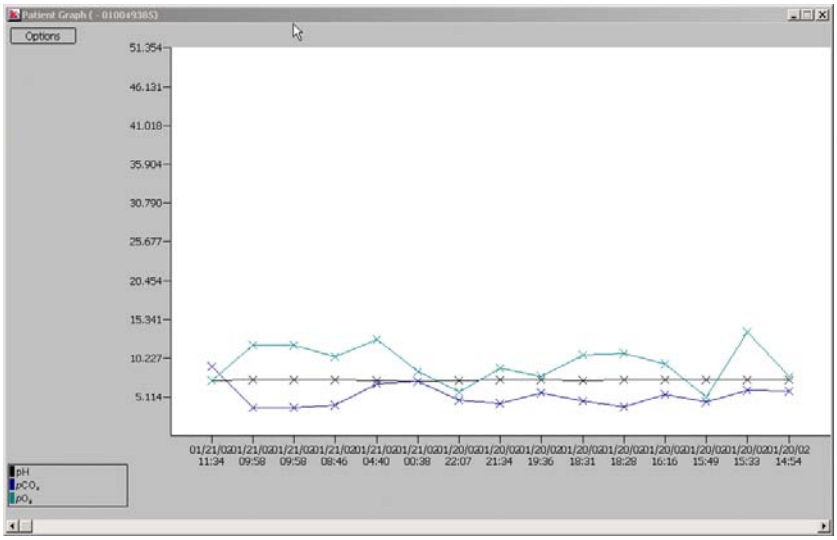
Follow the procedure below to graph patient results:

Step	Action
1.	Select one or more patients result from the Lists window.
2.	Click the patient's graph icon on the toolbar.
3.	You may choose the graph type, the parameters to be graphed and the colors in which the parameters will be displayed by clicking the Option's button. For details of this Patient Graph Option window see above.
4.	When customized click OK.
5.	Click on Print icon on Toolbar to print if required.
6.	Select another patient to graph or click the Close button. Repeat "Close button" procedure until main screen appears.

Continued on next page

Patient Graphs, *Continued*

Trend Plotting Do as follows:

Step	Action
1.	Go to the Patient results window.
2.	Either select a patient result or choose the Filter Tab. Sort by date required and analyzer on the Filter prompt. (See *Filtering Patient Data* overleaf for more information on how to complete the filter prompt). Click OK. The screen refreshes to show the Patient graph window.
3.	Select required parameter. See *Choose Parameter* above for more details on how this is done. The following is an example showing the latest pH results on the left: 

QC Data Manager

Introduction

The QC function has been designed to gather QC with as little user interaction as possible. QC data is received directly from the instrument and may not be altered by the end user. User interaction (Corrective Action) is mandatory if QC values break multiple Westgard rules. User interaction is indicated by a change in color of icon on the toolbar and requires the user to enter the Run Controls window by clicking on the QC Manager icon. The vial color on the toolbar will only change at the workstation logically connected to the analyzer that has the violation. At other workstations the violation will only be reflected in the analyzer status tree view. The QC Data Manager icon in the toolbar only reflects the status of the analyzer(s) enrolled at that workstations.

Active Icons

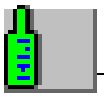
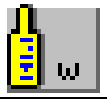
QC Data Manger on Toolbar

To Open QC Data Managers Window

To open QC Data Managers window click on the QC Data Manager icon on the toolbar.

Icon Colors and their Meanings

The following explains the QC Manager icon colors and their meanings. One or more of the following may appear on the toolbar.

Icon	Represents
	A green vial indicates that the last QC result transmitted-to-RADIANCE was showing an acceptable QC run.
	A yellow vial with a "**w"** indicates that the last QC result transmitted-to-RADIANCE was showing a QC run with a violation of the 1-2s Westguard rule.
	A red vial with "**ww**" indicates that the last QC result transmitted-to-RADIANCE was showing a QC run with multiple Westgard rule violations.

Continued on next page

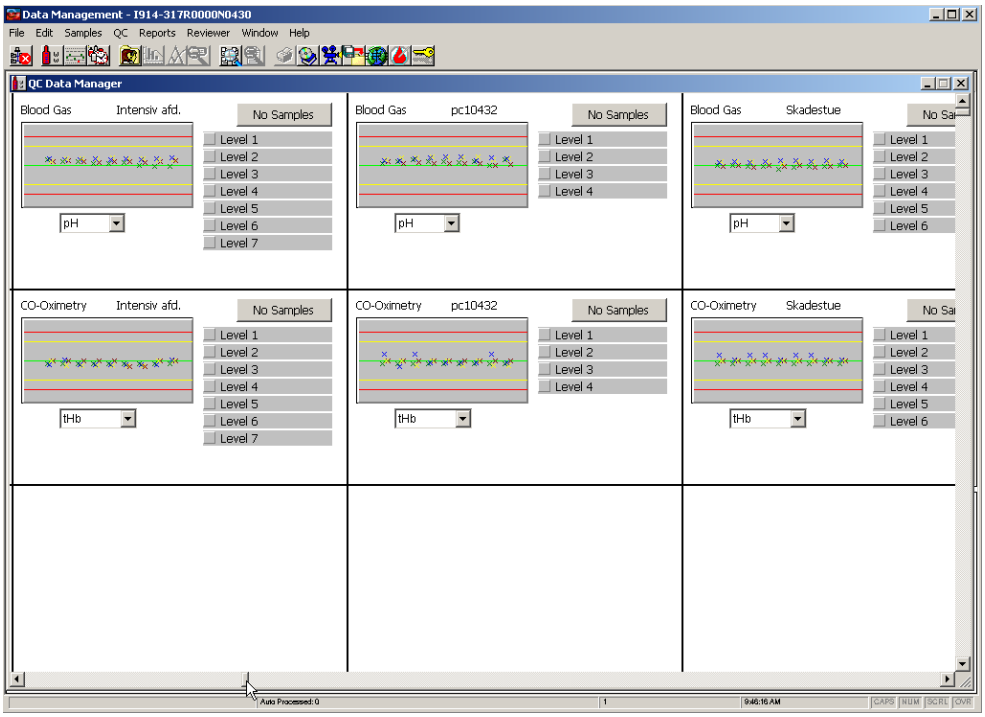
QC Data Manager, *Continued*

Data Manger Window Example

The following is an example of the QC Data Manager window in which you will work. Details of this example are given in the table following the picture below.

Note

Use the horizontal scroll bar to view QC details from more analysers. (See arrow in example below).



Part	Function
Mini Graph	Depicts the last 12 QC runs for each level and displays a single parameter.
Parameters e.g. Blood Gas; Co-Oximetry; Hct and analyzer details	This denotes what type of QC control is being displayed on the mini-graph and what analyzers QC is being graphed.
Drop-down boxes	This shows what parameter is being depicted on the graph. Click on the drop-down box to choose different parameters on the mini graph.
No sample	When samples arrive which are outside the limits set the wording will change here. "Acceptable", "Warning" or "Unacceptable" may appear here. Example shows there are no current QC samples.

Continued on next page

QC Data Manager, *Continued*

Note *(continued)*

Part	Function
Level	The level numbers displayed in this window depend upon what levels have been entered in the QC General window of the Data Management Setup program. A tick next to the level indicates that that level has been received from the analyzer.

NOTE: *It must be noted that the icon colors do not reflect the QC colors given to the different QC levels by RADIOMETER but reflect the status of the run. i.e. green for acceptable, yellow for a single Westgard violation and red for multiple Westgard violations*

Documenting Unacceptable QC

Introduction

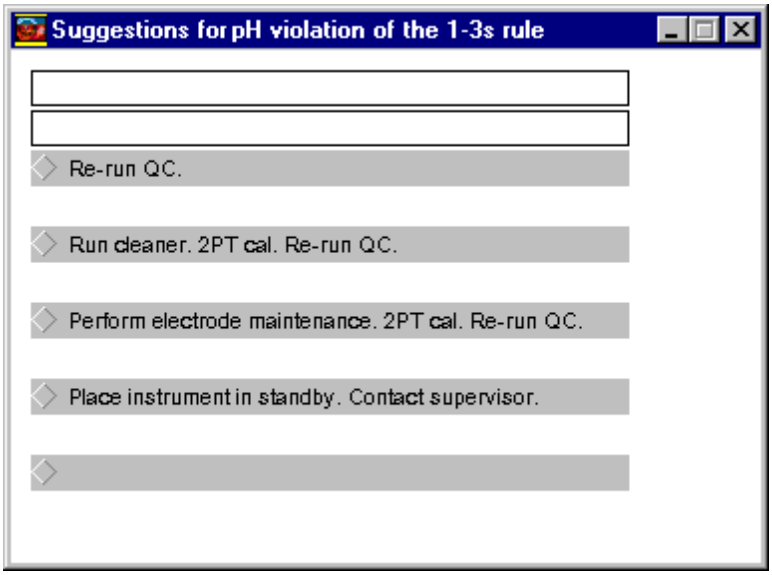
QC corrective action needs to be documented if QC runs do not meet the expected limits set. Documenting unacceptable QC runs is completed via the Suggestions for Violations window.

NOTE

What appears in the Suggestions for Violations window will depend upon what has been set in the Data Management Setup program. See Installation and Setup Mananual, Data Management Setup, QC Menu - Westgard Rules, Corrective Action.

Suggestions for Violation Window Example

The following is an example of the Suggestions for Violation Window for a Blood Gas violation. This is the window in which you will work. Details of this window are given below.



Part	Function
Blank Fields	These two lines are for entering comments which are preferred over the options given.
Gray fields with suggestions	Options which appear in the gray fields are set via the Data Management Setup program. If you wish to choose one of these, check the diamond shaped option button to its left This will enter the given text into the record of corrective actions for this QC violation.

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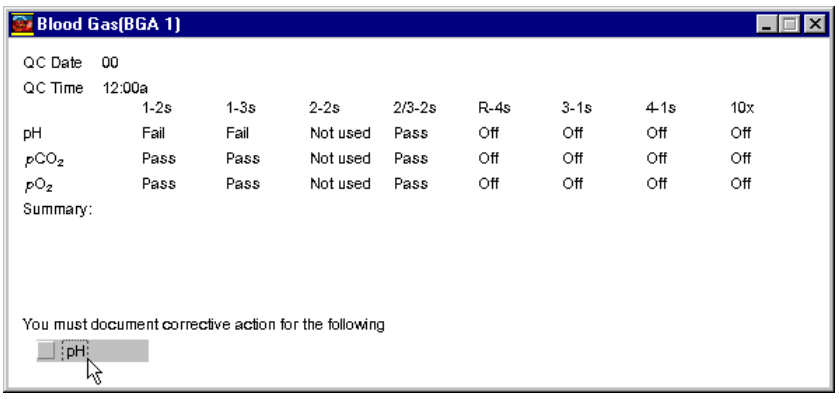
Documenting Unacceptable QC, *Continued*

To Open Suggestions for Violation Window

The following deals with how to open the Suggestions for Violation window, necessary to document an unacceptable QC. To open Run Controls window click the QC Data Manager icon on the toolbar.

Step	Action
1.	If the QC Data Management window is showing Warning or Unacceptable click on Level to view the QC Results.
2.	The following appears indicating that corrective action for pH must be documented. Click as shown by arrow in example below.

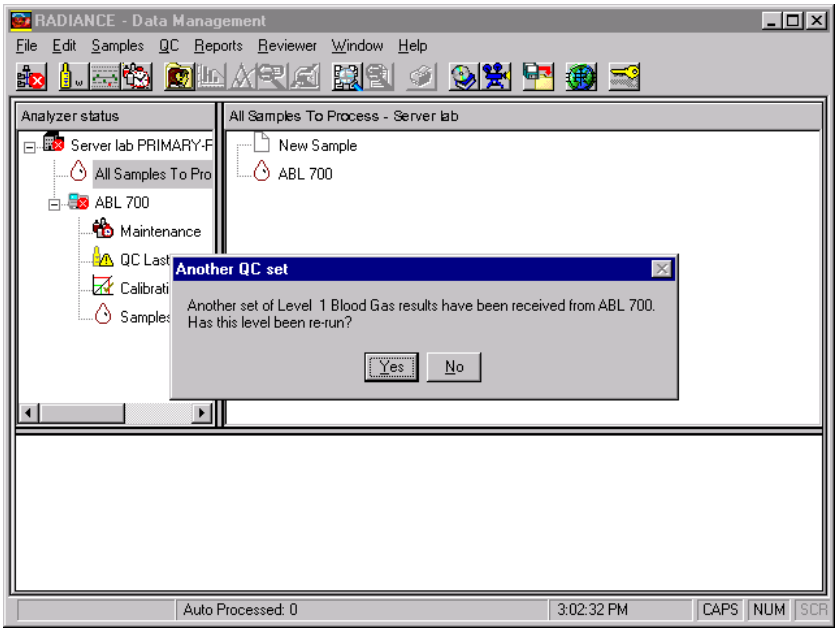


3.	The Suggestions for Violations window appears.
4.	Check option button next to your choice of a suggested corrective action. Alternatively, type in your own corrective action in the empty text boxes at the top of the Suggestions window. When the corrective action decided upon has been completed, and the QC has been re-run, the vial color on the toolbar will change color.

To Re-run QC Sample

Introduction If the QC run was unacceptable, and if it has been determined that this was because of an error in technique, the correction may be made by re-running the sample.

To Re-run a QC See below:

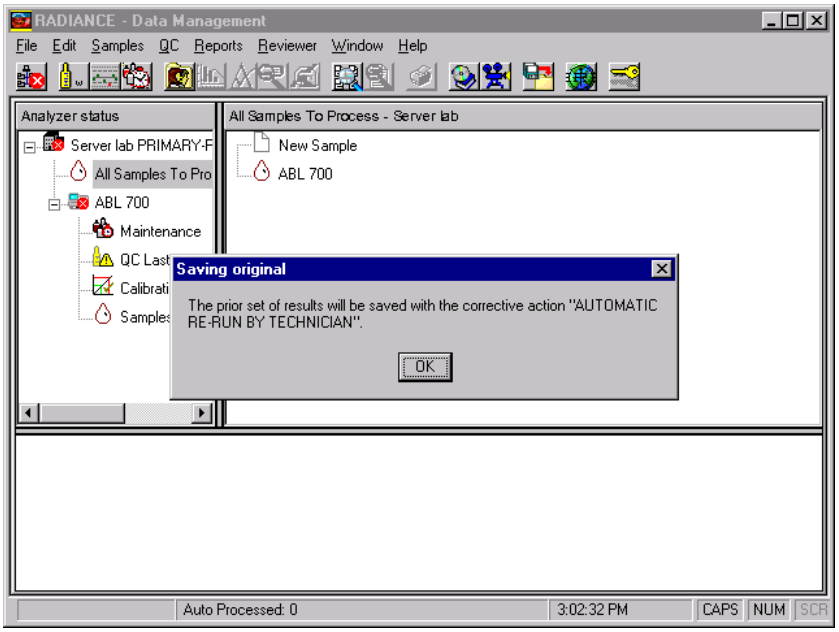
Step	Action
1.	Do not open the Run Controls window but re-run the QC level that was unacceptable. The following screen appears. 

Continued on next page

To Re-run QC Sample, *Continued*

To Re-run a QC *(continued)*

Step	Action
2.	Click the YES button. The results will be transmitted. RADIANCE will prompt the user as to automatically logging the corrective action as a re-run QC.



3.	Click OK. If the results of the re-run were acceptable the vial color will change to green.

To Run Concurrent QC Lots

Introduction

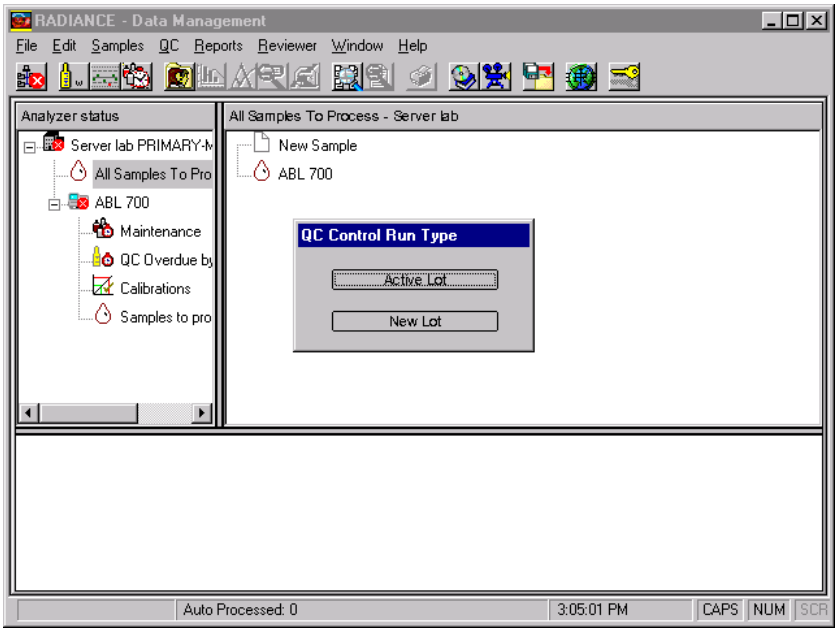
If you are establishing a new QC lot number and limits you may be gathering statistics on both the new and previous lot. RADIANCE will continue to do so until the new lot is activated.

To Run Concurrent QC Lots

The following deals with how to run concurrent QC lots. Do as follows:

Step	Action
1.	Run either lot of QC on the analyzer as usual.
2.	Log on to RADIANCE.
3.	On the RADIANCE main screen you will be prompted to identify if the QC run is from the Active or New Lot as soon as the QC transmission is received.

Example



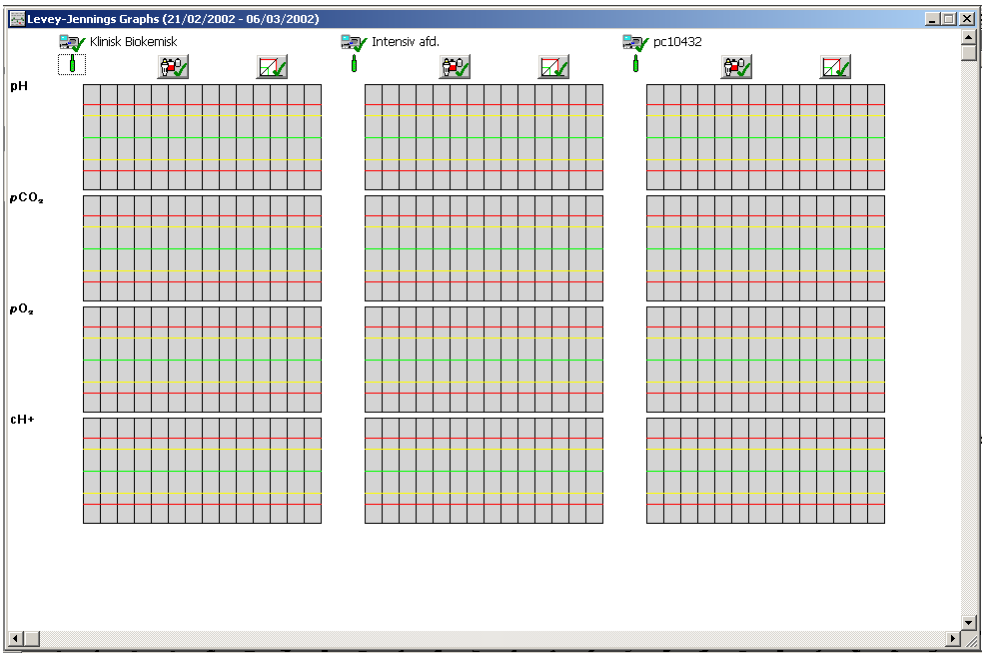
4.	Select Active or New Lot. RADIANCE will know which limits to use for this run.
5.	Check the QC icon vial color for acceptability.

NOTE: *When you have finished the correlation study, go to the Data Management Setup program and click on the QC Menu. Click on the Activate New Lot option. The user will no longer be prompted for Active or New Lot when running QC.*

Levey Jennings Graphs

Introduction

Levey-Jennings graphs are a means of plotting Quality Control measurements. By default the graph which opens will show an overview of all analyzers connected to RADIANCE.



Each analyzer column will show 3 buttons depicting current QC, analyzer maintenance and calibration status. Each parameter of each analyzer will have little QC vial icons to the left showing current status of QC's for that parameter.

To achieve a closer look at any graph: right click relevant graph and select from 14 or 31day menu which pops up. A full screen view of the graph appears.

Any tick mark displayed on the Levey-Jennings graphs notes an adjustment has been made in the ranges.

Active Icons

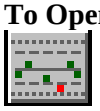
The following icons are actively related when using the Levey Jennings Graphs.

	Click to open graphs
	This will only appear if user rights have been given. Click this icon to open the Reviewer's Comment window.
	This will only appear if user rights have been given. Click this button to print the page on the screen.

Continued on next page

Levey Jennings Graphs, *Continued*

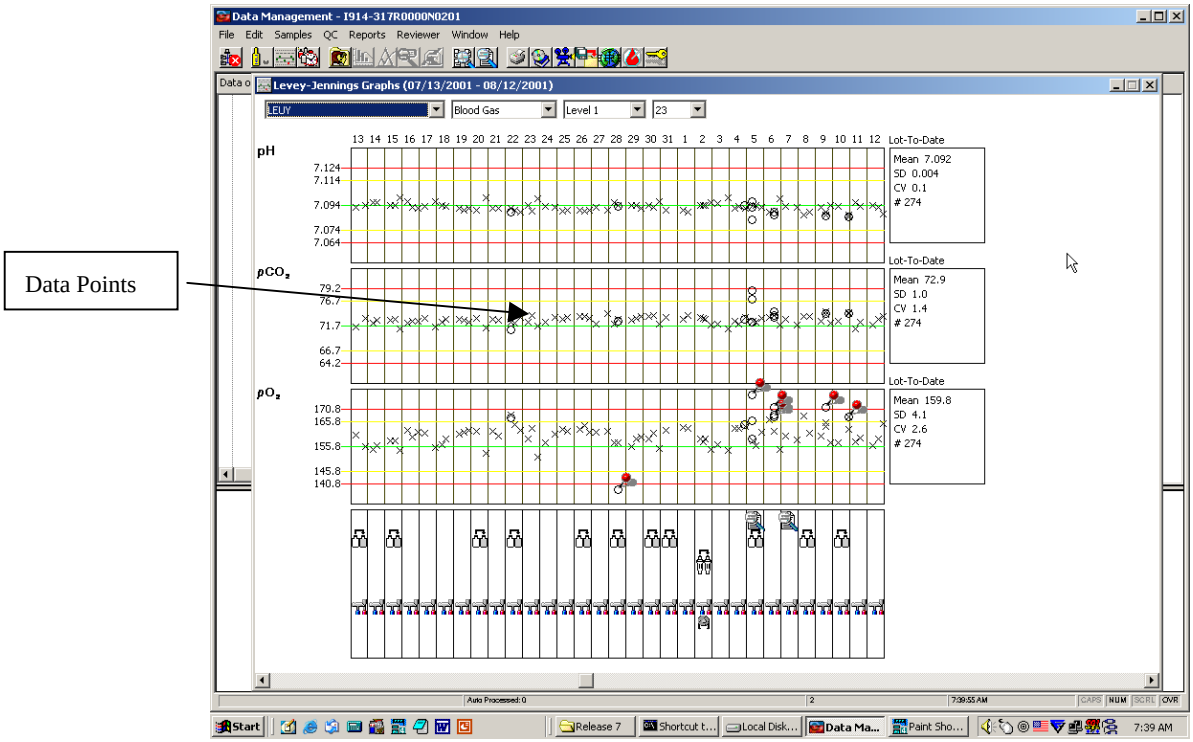
To Open



You may access the graphs with a double click on the QC icon in the analyzer tree view found in Data Overview window or by using the Levey-Jennings Graph icon on the toolbar.

Levey-Jennings Graph Example

The following is an example of Levey-Jennings Graph Window for a single analyzer. This is the window in which you will work. Details of this window are given below.



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Levey Jennings Graphs, *Continued*

Levey-Jennings Graph Example, *(continued)*

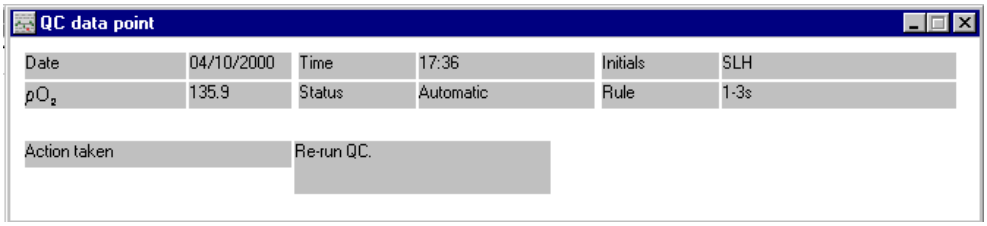
Part	Function
analyzer drop-down box	By default the Levey-Jennings graph will open to the graph from which you clicked to change analyzer. From the 31 or 14day view you may select any other analyzer from the analyzer drop-down box. The screen will refresh to the selected analyzer. Double-clicking the Cal or QC icon from within the System Data Overview window will automatically open the graph.
drop-down boxes	What is selected from here will show when the graph is opened Control Type Level Select Lot number (#)
Data Point	By clicking on the point it is possible to view more information about the point. Either **x** or **o** appears on the graph. X = data point in that run was out of range 0 = data point is valid. No parameter within that run was out. A Data Point box will appear giving details of the QC. See example below.
Lot-to-Date	Shows statistics on the current lot to date. Gives the mean for all the results in the lot, with a Standard Deviation and co-efficient. On all graphs the Mean is the green line, 2SD from the mean is the yellow line and 3SD from the mean is the red line. The number next to the line is the actual mean, 2SD, and 3SD value. The number of samples used to compute the statistics is also given. (Example above shows #274).
icons in lower part	See *Associated Icons* below for more details on the types of icons which may appear in this lower section of the graph.
Pins (Red)	When positioned on 0 = whole QC run is out of range. The actual parameter out of range is pinned. Click on pin to view corrective action window. This window will show any corrective action taken. See *Pin Example* overleaf.

Continued on next page

Levey Jennings Graphs, *Continued*

Data Point Box Example

A Data Point box will appear if a data point has been clicked. The box will give details of the QC and action taken. The information in the box will be different for each QC data point. It contains the date and time of the QC run as well as the initials of the person who ran the QC sample. The remaining information will change depending on the data point clicked on the Levey-Jennings graph, e.g. parameter, rule, etc.



Field	Example Shows	Function shows:
Date	04/10/2000	date of transmission.
Time	17.36	time of transmission.
Initials	SLH	initials of the user.
pO_2	135.9	parameter name and range.
Status	automatic	results were transmitted automatically from the analyzer to RADIANCE.
Rule	1-3 s	Westgard rule.
Action taken	Re-run QC	further action taken by the user.

Continued on next page

Levey Jennings Graphs, *Continued*

Associated Icons

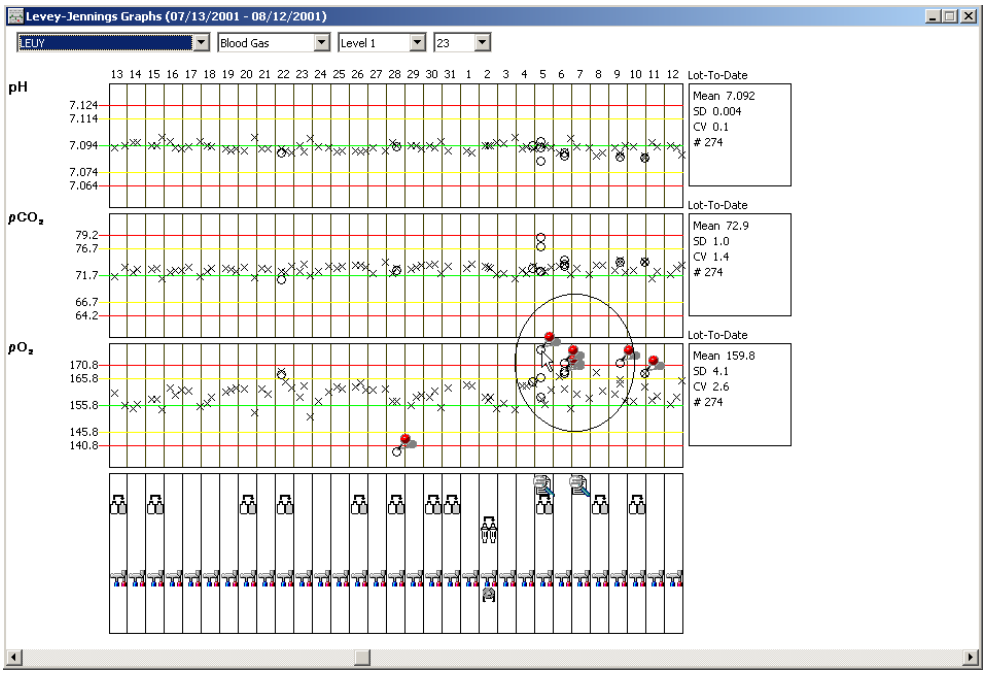
The following gives details of icons which may appear on the lower part of the graph and what they denote as set by the user via the Data Management Set Up program. Clicking on any one of these will bring up a maintenance box window giving details of the item, date when maintenance was carried out, the shift and initials of the person carrying out the maintenance and any comments that they may have added.

Icon	Denotes
	an electrode change
	an electrode re-membraning
	completion of general maintenance
	change in buffer solution
	pump tubing change
	change of gas tank
	a cassette change (ABL70 and ABL77)
	port cleaning (ABL70 and ABL77)
	change reagent pack (ABL70 and ABL77)
	clean inlet probe (ABL70, ABL77 and ABL5)

Continued on next page

Levey Jennings Graphs, *Continued*

Pin Example



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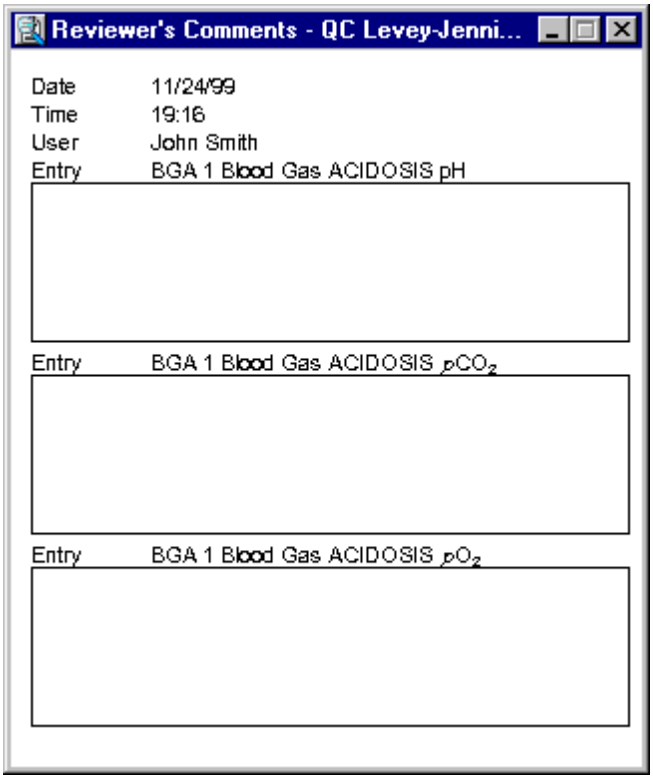
Levey Jennings Graphs, *Continued*

To Document Graph has been Reviewed

The following gives the details of how to document that the graph has been reviewed. Do as follows:

Step	Action
1.	With the QC result open click on the Reviewer's Comments icon found at the top of the graph. The following will appear. (Example)



Enter comments in the Entry field boxes and close to save.

Continued on next page

Levey Jennings Graphs, *Continued*

How to Print Graphs

The following describes how to print graphs. Do as follows:

Step	Action
1.	Click on the Graphs icon on the main icon bar. The Levey-Jennings graph appears.
2.	Click on the print icon on the main icon bar. The printing prompt appears.
3.	Enter the date range and select the instrument from which you wish to print results.
4.	Click on the OK button after reviewing the print prompt and printing will begin.

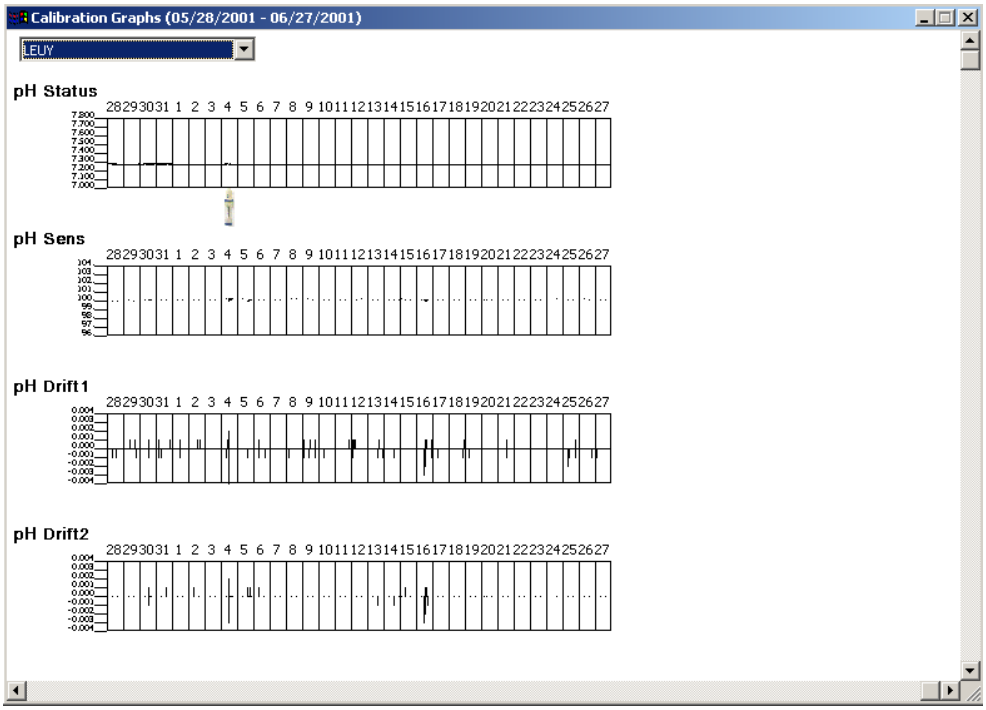
Calibrations Graphs

Introduction Access to Calibration graphs is obtained via the tree view in Data Overview Window.

Related Icons The following icons are active when using Calibration Graphs.

	Reviewer's comment
	Print

To Open Double-click on calibrations icon in the Analyzer Overview window. This opens the Calibration graph for the selected analyzer



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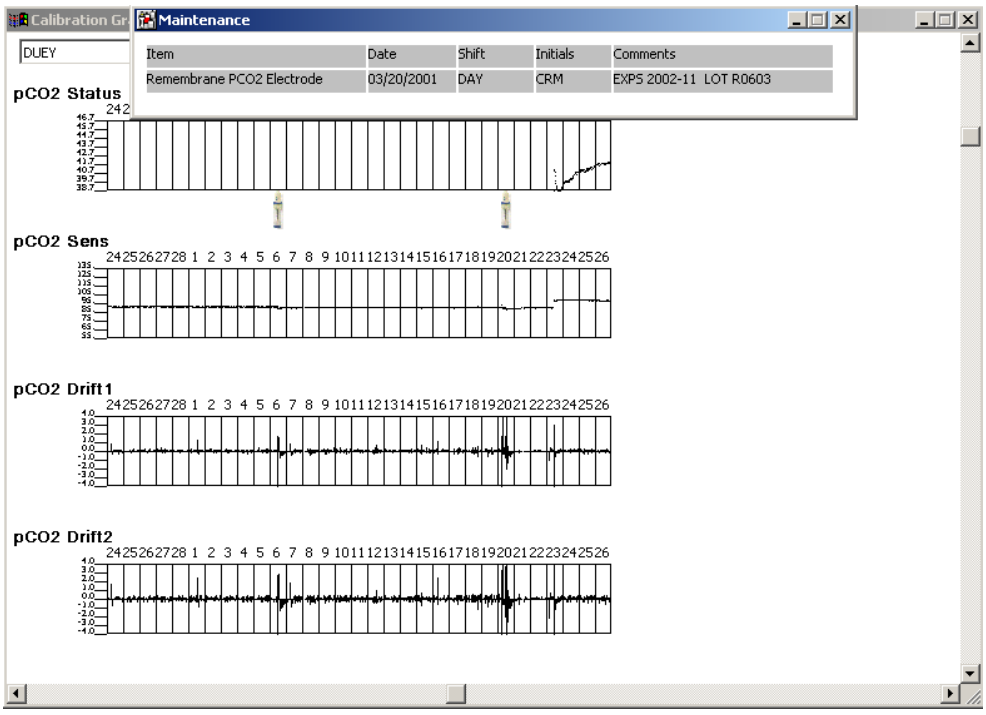
Calibrations Graphs, *Continued*

Item	Description
Drop-down box	Allows for analyser selection.
Horizontal axis	Current 31 days date line.
Vertical axis	Data display range for each parameter.
Scroll - bottom	To see graphical display of calibration data for other parameters.
Scroll - side	Scroll back to see earlier graph data, one month is displayed at a time.

Electrode icon

Whenever electrode maintenance has been performed this icon appears. Click on electrode icon to open Maintenance window. This will give details of electrode maintenance



To Record Analyzer Maintenance

Introduction

Recording and commenting on maintenance items which are to be done or have been done to a particular analyzer is achieved via the Analyzer Maintenance window. This window allows the user to access an analyzer Maintenance window for a chosen analyzer. From this window it is possible to comment on any maintenance items, log late maintenance and access movie maintenance help. By default the window which opens when the Analyzer Maintenance icon is clicked from the toolbar will be that of the first analyzer on the tree map, so it is necessary to choose the required analyzer from the drop-down box on the window. See Below for details.

Active Icons

The following icons are active when using Analyzer Maintenance.

	Opens Analyzer maintenance window
	This button opens the Reviewer's Comments window. This window is the means of noting the review of data currently displayed on the screen and allowing the user to comment on the review. This icon is active when any report is printed to screen and when reviewing patient files in the Patient Results area. There is also a Reviewer comment icon on the Levey Jennings graphs.
	When clicked this button will print the page open on the screen.

NOTE

All maintenance data entry from ABL700 Series analysers is automatic.

To Open Analyzer Maintenance Window

Do as follows:

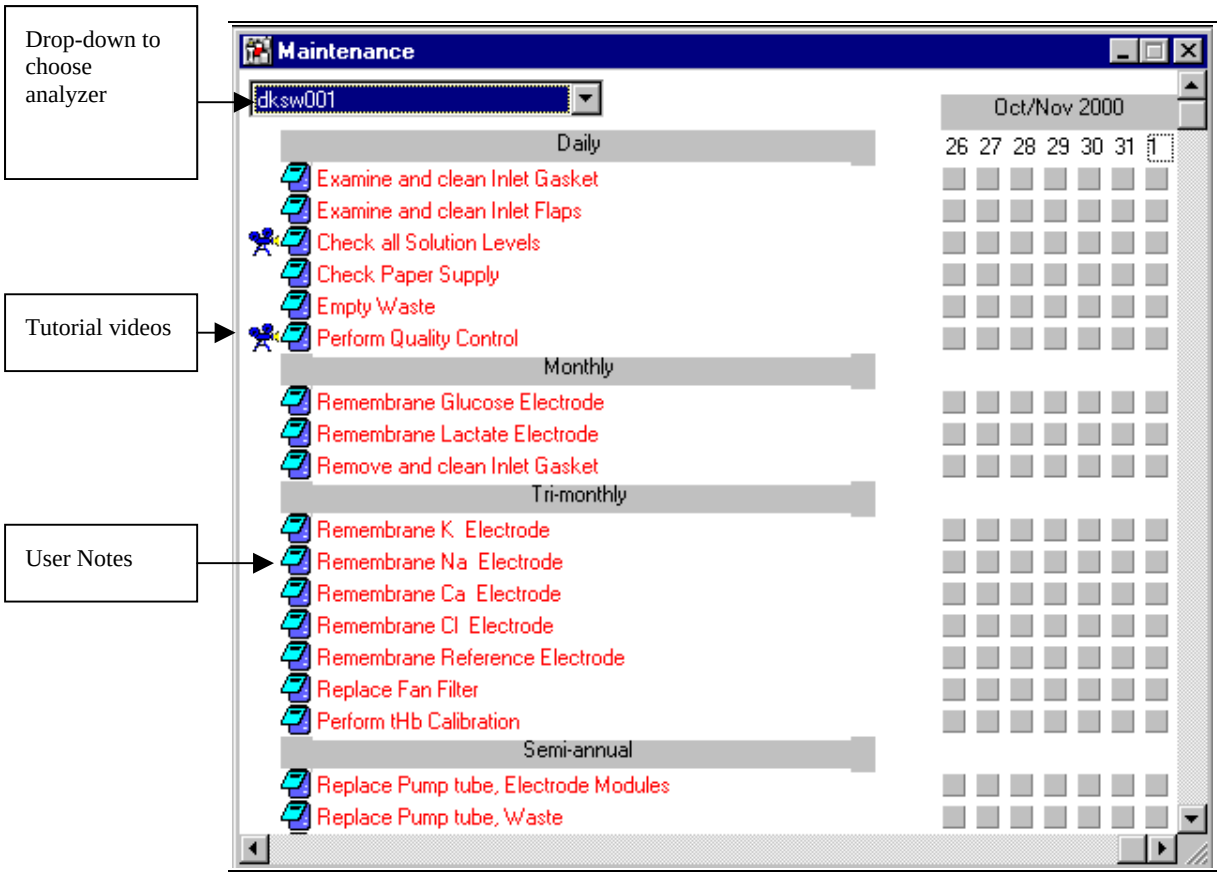
Step	Action
1.	Double-click on Maintenance from Analyzer Status window or click the Maintenance icon from the toolbar. The Maintenance window will appear. The window will be that of the first analyzer on the tree map.
2.	Open drop-down box and chose required analyzer. The screen will refresh to the Maintenance window for the analyzer chosen..
3.	To log or perform late maintenance see overleaf.

Continued on next page

To Record Analyzer Maintenance, *Continued*

Maintenance Window Example

The following is an example of a maintenance window from an ABL700. Maintenance items vary according to analyzer. To enter the correct window for the analyzer whose maintenance you wish to record you must open the drop-down box on the window. Details are given below. Use the scroll bar to scroll to all maintenance sections on the window.



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To Record Analyzer Maintenance, *Continued*

Part	Function
Drop-down box	Shows analyzer which is first on the tree map. It is necessary to open this drop-down box and chose the analyzer you are working on. This will refresh the window and give the maintenance window for the analyzer you wish. If no maintenance schedule has been set for the analyzer you have chosen you will be prompted.
Daily	Lists what needs to be maintained on a daily basis.
Monthly	Lists what needs to be maintained on a monthly basis.
Tri-monthly	Lists what needs to be maintained every three months
Semi-annually	Lists what needs to be maintained every ½ a year.
Date Box	Shows month and year for what is being reviewed. This display will change as you scroll back to view maintenance history. Only one week of maintenance is displayed at a time. A tick on any of the boxes will indicate that maintenance has been recorded for that item on that day. By using the scroll bars at the bottom of the window you can change the date.

To Log Maintenance

With the required Maintenance window open, place the cursor on the required date check box and click. A tick will appear on the box.

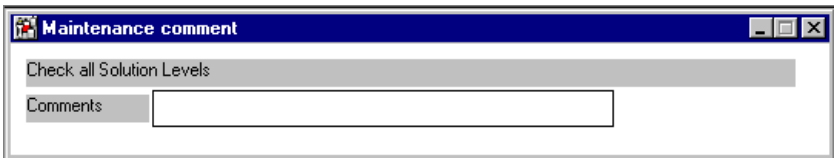
Continued on next page

To Record Analyzer Maintenance, *Continued*

To Comment on Maintenance Item

The following deals with how to comment on a maintenance item. Do as follows.

Step	Action
1.	With the required Maintenance window open, click on the Comment icon to the side of the maintenance item. The Maintenance comment box appears.

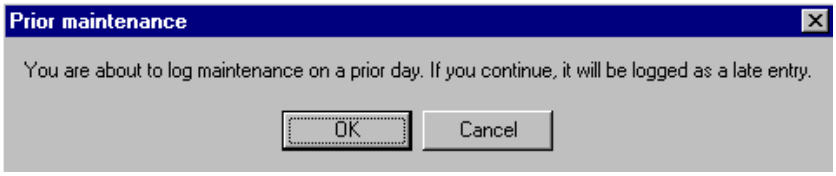


2.	Write comments in the Comments text box.
3.	Close box to save settings.

To Perform Late Maintenance

The following deals with how to perform late maintenance. Do as follows:

Step	Action
1.	With the required maintenance window open, click on the date required.
2.	The following prompt will appear:



3.	Click OK to log the maintenance as a late entry. Click Cancel to cancel settings.
4.	Close window to save settings.

How to View Maintenance Movies

Click on the movie icon next to the required item. The CD for the appropriate analyze must be inserted in your PC's CD-ROM drive.

Manually Transmitting Analyzer Data To HIS/LIS

Introduction This deals with how to manually transmit Calibration and Activity Log Messages to the HIS/LIS.

To Manually Transmit

Do as follows:

Step	Action
1.	Click Calibrations or Activity Log icon in Overview window.
2.	Select Calibration or Activity Log message from List Window that is to be sent.
3.	Click Manual Send button.

Introduction to Reports

Introduction

Reporting procedures in Data Management cover commenting on reports, reports necessary for regulatory requirements as well as documenting a report which has been reviewed. Reports can be often be customized by, for example, sorting by time and date analyzed in the daily log -. The Report Option window is the window which the user needs to complete for a report. It is possible to view, comment on and print any report available in Data Management. Special permission is needed for certain areas of reporting.

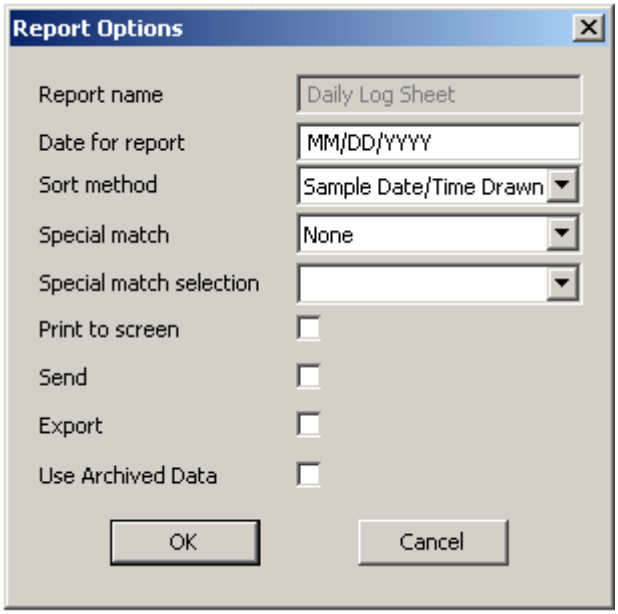
Active Icons

The following icons are active when working in reporting procedures.

	This button opens the Report Manager window. This icon is always active if the user has the Reports Menu option enabled
	This button opens the Reviewer's Comments window. This window is the means of noting the review of data currently displayed on the screen and allowing the user to comment on the review. This icon is active when any report is printed to screen and when reviewing patient files in the Patient Results area. There is also a Reviewer comment icon on the Levey Jennings graphs

Report Options Window Example

The following is an example of the Report Options window. Details of this example are given in the table following the picture below. Not all of these fields will appear on all of the Report Options windows. While some Report Options will have more fields. See Types of Reports for more details.



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Introduction to Reports, *Continued*

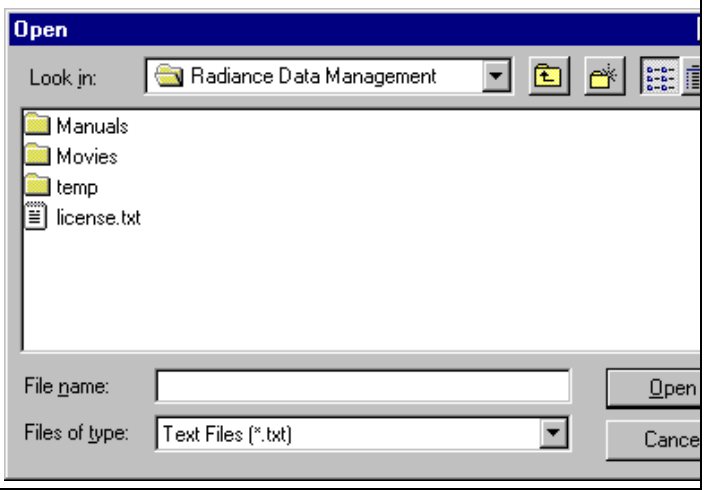
Report Options Window Example (*continued*)

Part	Function
Report name	this indicates the name of the report that has been selected from the Report menu. It is a greyed field so cannot be entered or changed.
Date for Report	this is for entering the date from when you would like the report.
Ending date	this is for entering the date until when you would like the report to end.
Patient ID	this for entering a patient ID.
Sort Methods	The default sort method is by sample date and time. This puts the selected report in chronological order. If you wish the report to be sorted differently click the Sort method field and select a sort method from the drop-down menu.
Special Match	Open drop-down box and choose a Special Match Report Option by selecting one of the following: Patient classification Admitting physician Ordering physician Order item Number Technician Area Shift Critical Values Analyzer

Continued on next page

Introduction to Reports, *Continued*

Report Options Window Example (*continued*)

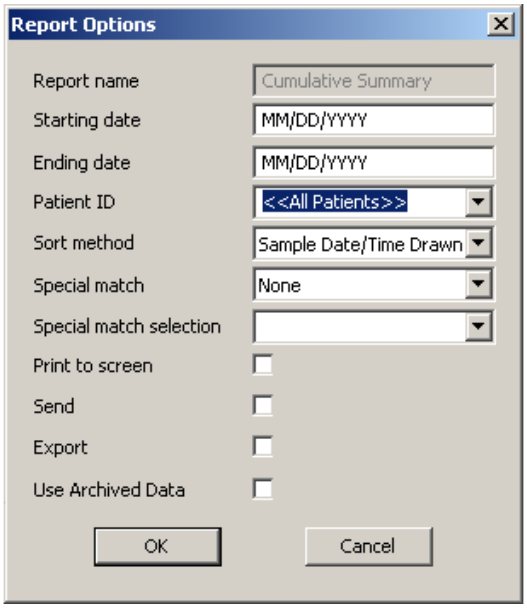
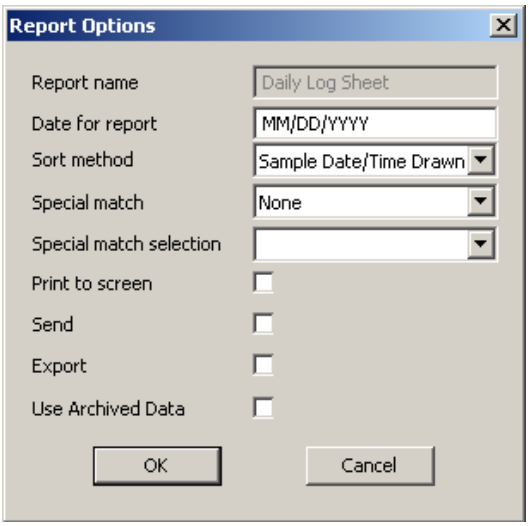
Part	Function
Print to Screen	Check thisbox if you wish to see the report on the PC screen.
Send	When send is chosen, the report is compiled, then a dialogue box opens so you can choose your email client and then a new mail opens with the report attached. Address the email to the desired recipient and send.
Export	Check this if you wish to have the report saved as a file. The following is an example of the prompt that will appear. Save the reports in the usual manner, including the file types possible, to then export this file. 
Use Archive Data	When this option is selected the report will be generated from data in the location defined by the archive path.

WARNING/ CAUTION: *If the report format selected includes an interpretation of the analysis the end user is responsible for the criteria of that interpretation. If the calculated results selected on the system do not come directly from the analyzer the end user is responsible for the criteria of that calculated parameter.*

Types of Reports

Report Types

The following gives details of the reports found in the Report menu. For more details of Report Print Options see *Reports, Report Options Window Example* above.

Name	This report……..	Report Print Options
Cumulative Summary	is a history of one patient or all patient results within the entered date range.	
Daily Log Sheet	is a log of all patients results on a single day.	

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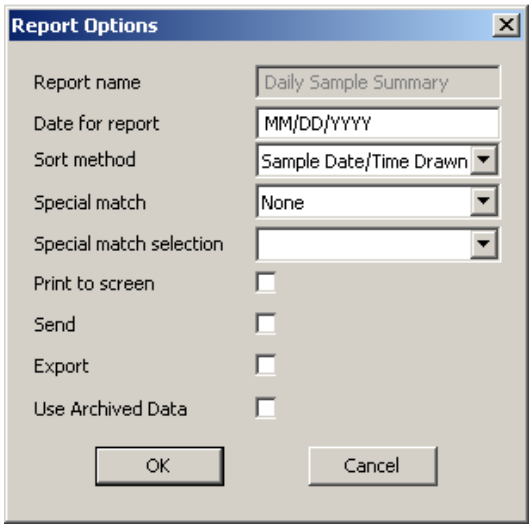
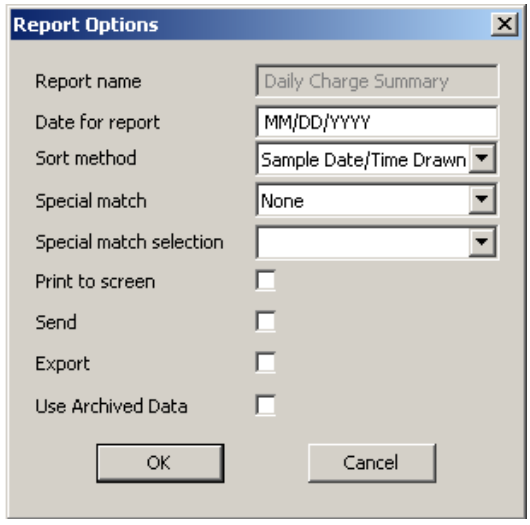
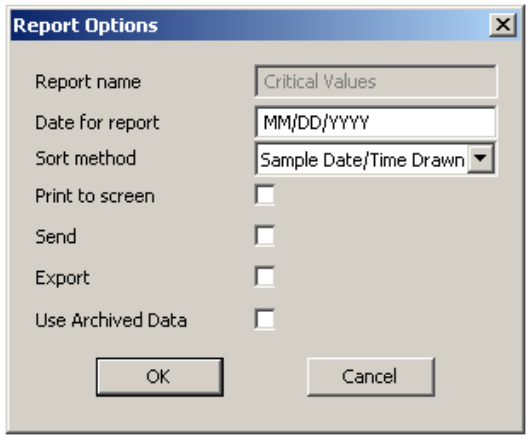
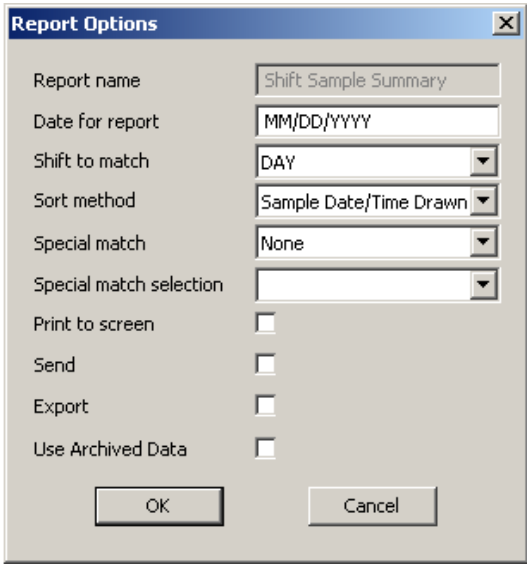
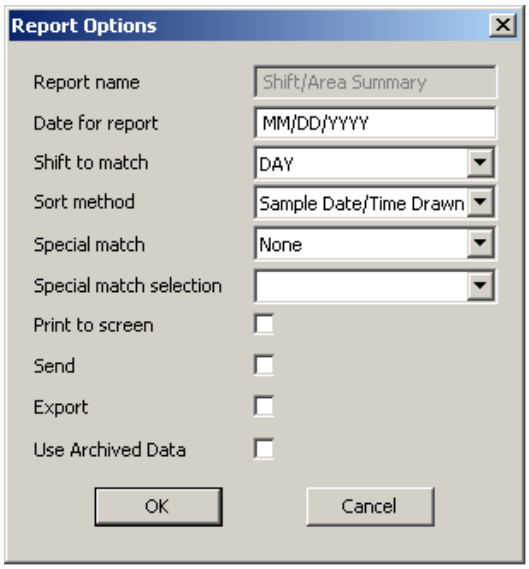
Types of Reports, *Continued*

Name	This report……..	Report Print Options
Daily Sample Summary	is a tally of all the sample types run on a single day	
Daily Charge Summary	includes the patient name and ID number and the total number of samples to be charged for a single day. Special match and sort method are possible.	
Critical Values	contains all patients that had critical values reported on a single day. This report includes the results and the person notified of the results.	

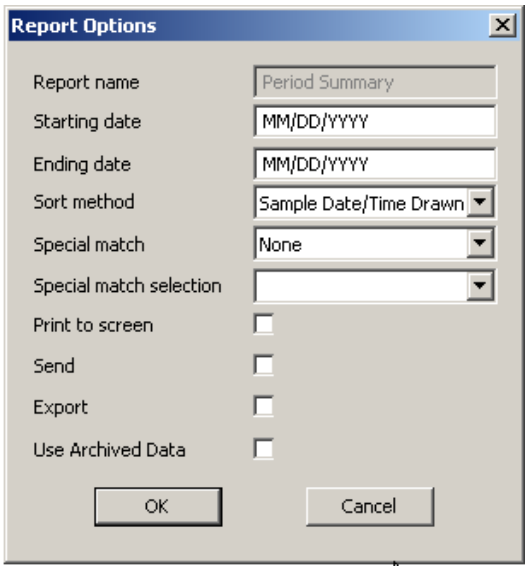
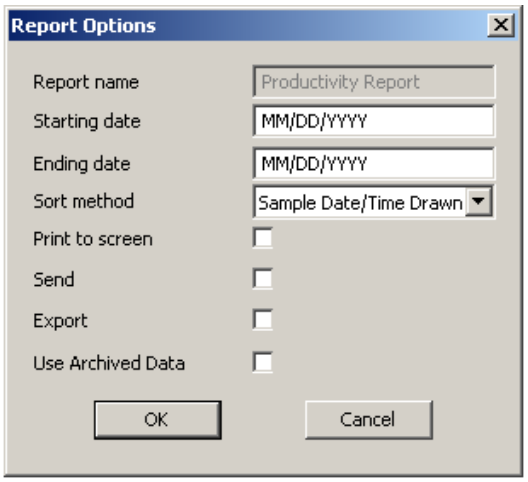
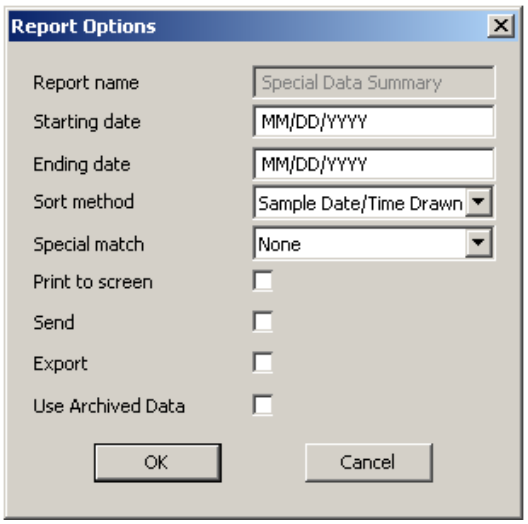
Continued on next page

Types of Reports, *Continued*

Name	This report……..	Report Print Options
Shift Sample Summary	is a tally of the samples processed on a selected shift.	
Shift/Area Summary	is a tally of all results processed in each area defined in RADIANCE.	

Continued on next page

Types of Reports, *Continued*

Name	This report……..	Report Print Options
Period Summary	is a log of all patients resulted within a selected date range.	
Productivity Report	is a tally of all the results processed by each user of RADIANCE.	
Special Data Summary	requires the selection of a special match from the dropdown box and is a tally of data sorted by the special match selected.	

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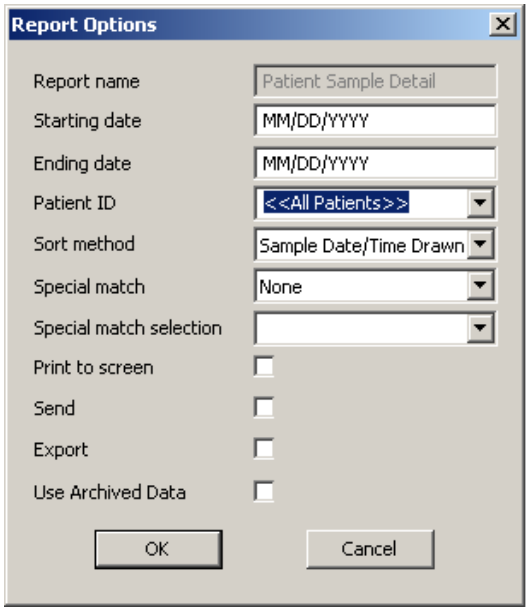
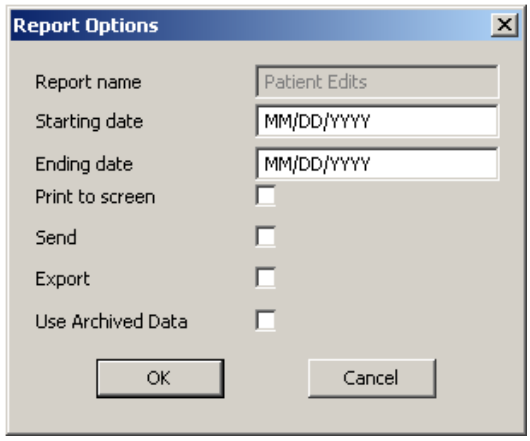
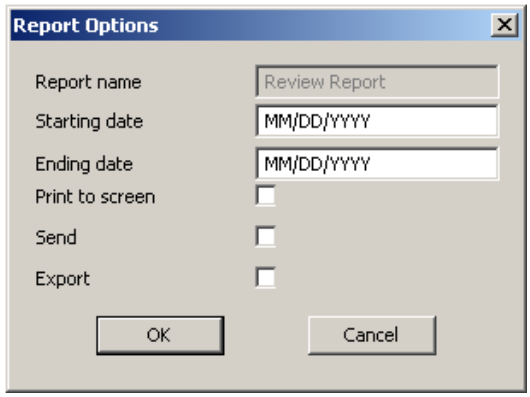
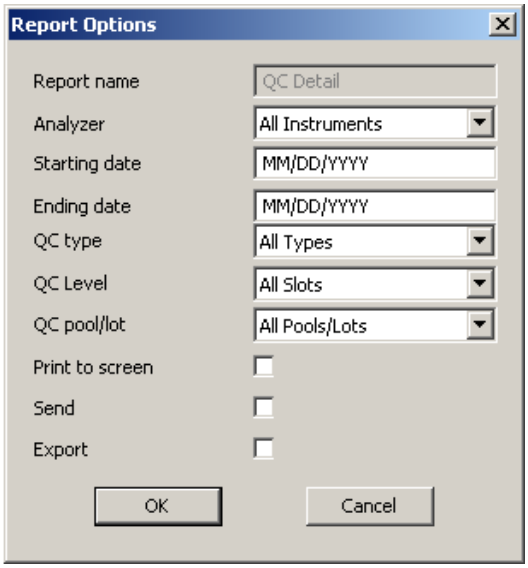
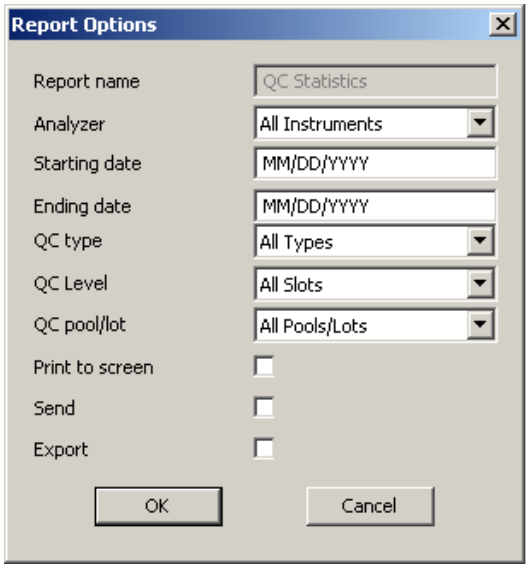
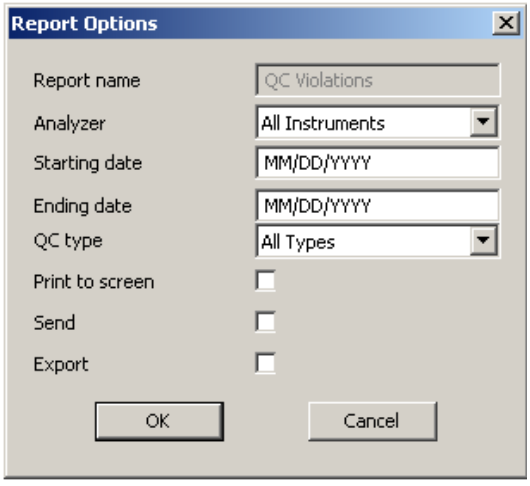
Types of Reports, *Continued*

Name	This report……..	Report Print Options
Patient Sample Detail	is a history of one patient or all patients' results within the entered date range.	
Patient Edits report	is a record of all the editing done in the patient review section of RADIANCE. This report includes all information surrounding the edit.	
Review Report	is a report for each of the items that were reviewed using the reviewer icon.	

Continued on next page

Types of Reports, *Continued*

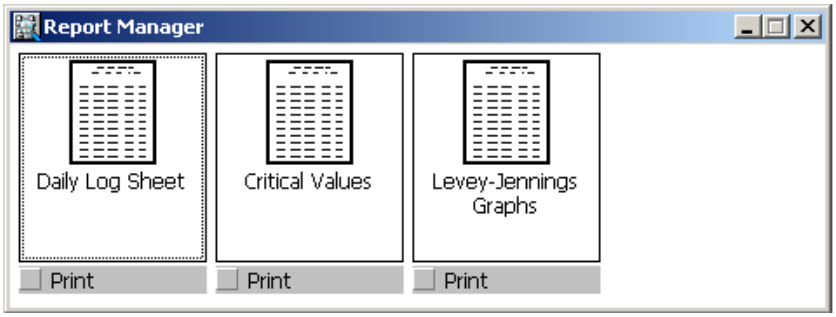
Name	This report……..	Report Print Options
QC Detail	details every acceptable run of QC processed in the selected date range.	
QC Statistics	shows statistics gathered from all QC runs.	
QC Violation	shows every unacceptable QC run and the corrective action taken at the time of the violation.	

Regulatory Compliance Reports

Regulatory Compliance

Click the Report Manager icon. This will display reports that the end user has selected to assist in regulatory compliance.

Follow the step-action below.

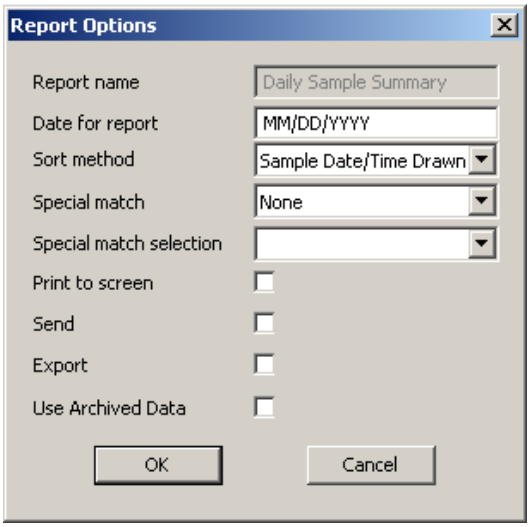
Step	Action
1.	Click on the Report Manager icon on the toolbar.
2.	A prompt appears showing the Page icons of compliance reports that are currently outstanding. The frequency of reports due is defined in Data Management Setup. (*see Data Management Setup Institution, Report Names*) Example: 
3.	Click on the Page icon of the required report.
4.	The Report Options window of that report opens,select the desired options and click OK.
5.	Repeat step 3 and 4 until you have printed and logged the review of all the reports required.
6.	Click Close button to close.

How to Review a Report

To Review

The Reviewer's Comments function maybe used in conjunction with any item you are viewing on screen. This includes graphs, maintenance logs, calibration, patient records and reports that are printed to screen. Here we are using it to review a report.

Step	Action
1.	Choose report to review from Report menu. On the Report Options prompt which appears check the Print to Screen box and customize the date so that it matches the date of the report. Example:

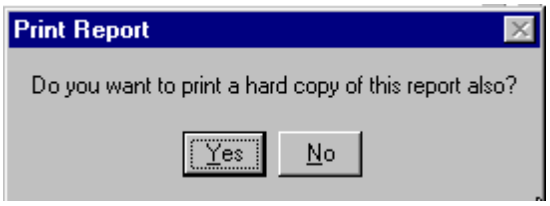


2.	Click OK.
3.	The report will show on your PC screen.

(Click in the middle of the report to enlarge its size).

Click on Reviewer's Comments icon to log that you have reviewed this report.

4.	Close window: You will be prompted:



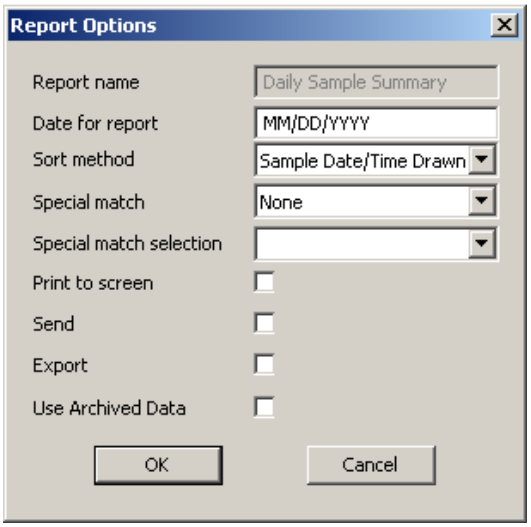
5.	If you would like a hard copy Click Yes. If you do not want a hard copy Click No. You have reviewed the report even though you do not print out a hard copy.

How to Record Reviews of a Report

Introduction

The Reviewer's Comments function maybe used in conjunction with any item you are viewing on screen to also record that you have reviewed an item. This includes graphs, maintenance logs, calibration, patient records and reports that are printed to screen. Here we are using it to record a report.

Step	Action
1.	Choose report to record from Report menu. On the Report Options prompt which appears check the Print to Screen box and customize the date so that it matches the date of the report. Example:

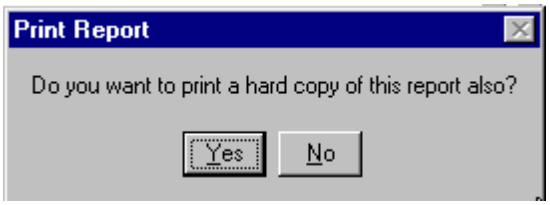


2.	Click OK.
3.	The report will show on your PC screen.

(Click in the middle of the report to enlarge its size).

Click on Reviewer's Comments icon to log that you have reviewed this report.

4.	Close window: You will be prompted:



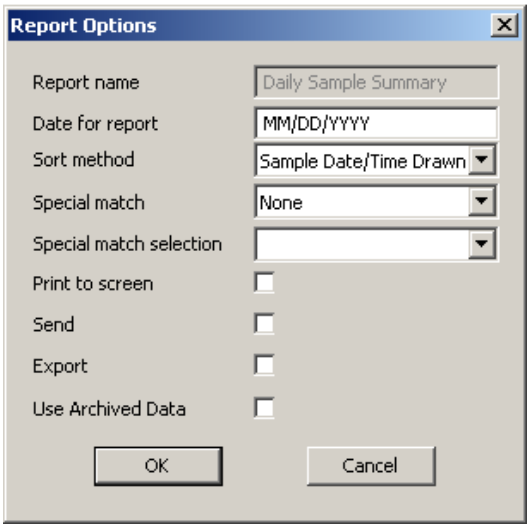
5.	If you would like a hard copy Click Yes. If you do not want a hard copy Click No. You have logged that you have reviewed the report even though you do not print out a hard copy.

How To Print Reports

Introduction When being printed, reports can take several different formats. *See Step 2 below.

How to Print a Report Follow the procedure below to print a report:

Step	Action
1.	Click on Reports menu on Menu bar. This opens a menu list of the reports available.
2.	Select the report to be printed by pointing and clicking the report name. The print prompt (Report Options) appears. Example:



*For more details of the Report Options window see *Reports, Report Options Window Example* and its details above.

3.	Complete data in the printing prompt fields for the report to compile. Take special care when using the drop-down boxes that you do select what you want. To review the report to screen select print to screen.
4.	Click OK to review the report. (Optional)
5.	Click Print button on toolbar to print a hard copy.

Import Analyzer Disk

Introduction

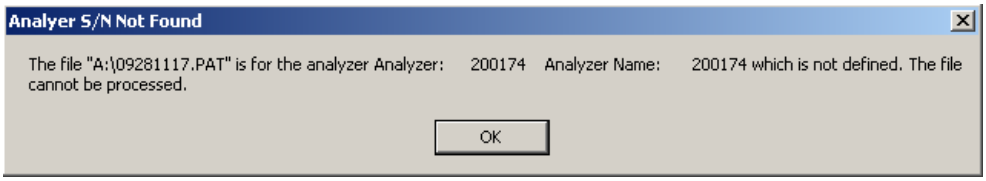
After successful data download to diskette from analyzer, data from the ABL70 and ABL77 analyzers may be imported to Data Management by entering the disk containing the data into the A drive on the computer running RADIANCE. Click the Import Analyzer Disk icon on the toolbar. The following files may be imported:

Patient Files (*.pat)

QC Files (*.qc)

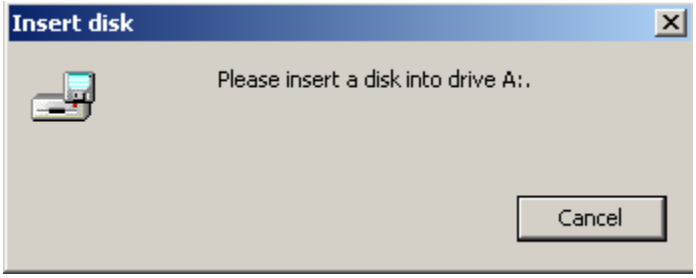
Calibration Files (*.2pt)

NOTE: *The analyzer serial numbers must be entered into the Data Management Setup program and these numbers must be exactly correct. If this is not done the following prompt will appear:*



To Import Files Do as follows:

Step	Action
1.	Click Icon on Toolbar.
2.	Prompt will ask that diskette is inserted.



3.	Insert disk.
4.	Import window appears.

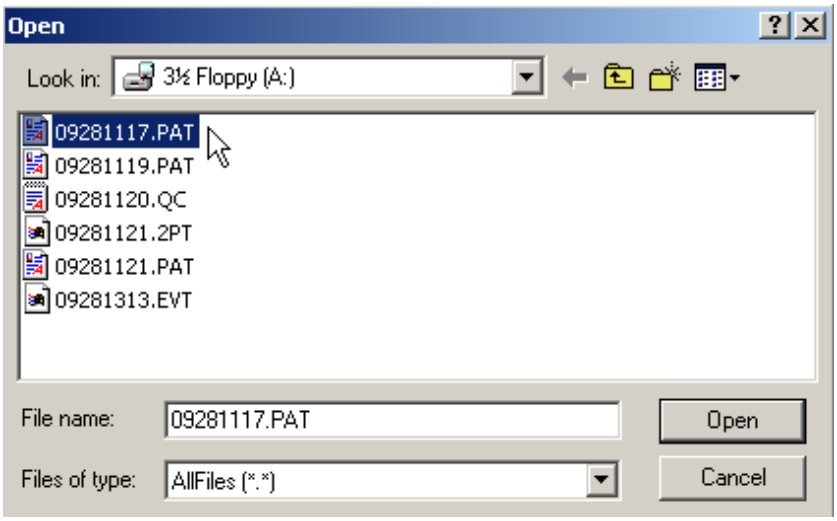
Continued on next page

Import Analyzer Disk, *Continued*

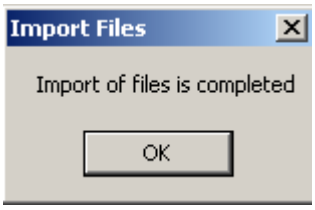
To Import Files ***(continued)***

Step	Action

5. Select files to be imported.



6. Click open. This imports the data from the disk to Radiance. When files have been imported the following prompt will appear.



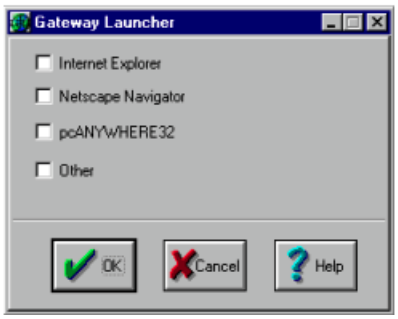
7. Click OK.

Gateway Launcher

Introduction

The Gateway Launcher icon opens the Gateway Window. From here you may access other programs without switching to Windows depending on configuration. This function is useful for users that do not have permission to Exit to Windows (*See Data Management Setup, System, Users*).

Example



5. The RADIANCE Portal

Overview

Introduction

The RADIANCE Portal contains several functions, which are displayed on the Portal front page after log-on. Depending on what modules have been installed, some or all of the functions below will be available to the user.

The following functions are available in the Portal:

Analyzer Control

Exceptions Processing

RiliBÄK (only available in Germany)

POC Device Locator

Reporting

Report Manager

WDC Export

Remote Support

Patients search

Patient Results search

Calibration Results search

QC Results search

Activity Logs

Archives

FLEXLINK

HIS/LIS Monitor

Setup

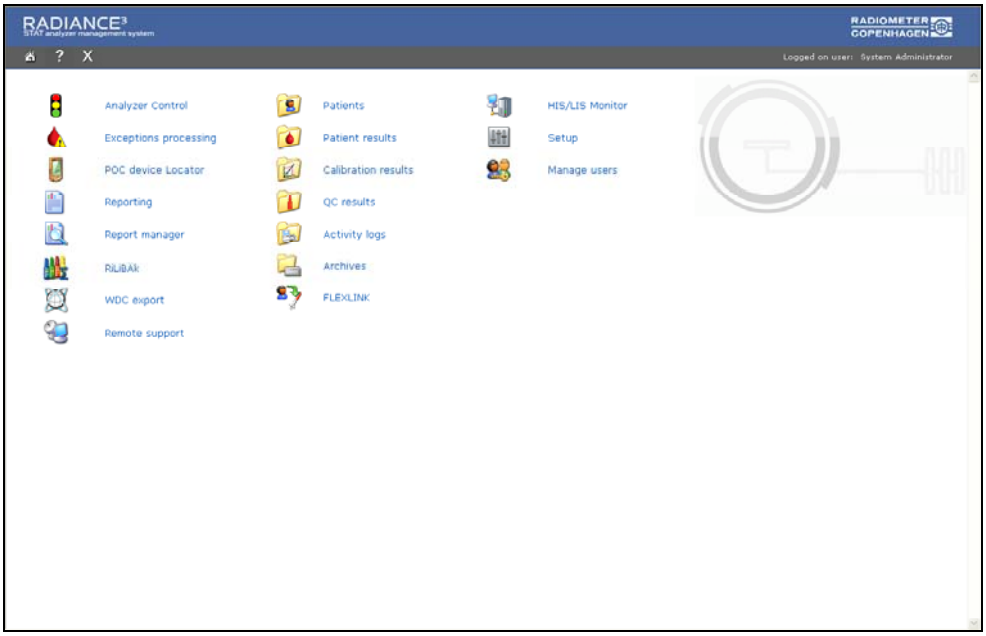
Manage Users

In this section each of these functions will be described. Functionality for RiliBÄK and FLEXLINK are described in separate sections in the manual (see Table of Contents)

Continued on next page

Overview, *Continued*

When all the functions are installed, the RADIANCE Portal will look like this when the user logs on:



Every icon is a link to the associated function.

Basic Navigation

Navigating in the Portal application is very simple. Each of the icons displayed in the picture above represent a function, which can be accessed depending on the user's access rights. Each of these functions is described in this manual.

On the top of the window there is a blue bar and a grey bar. The grey bar contains information about which user is logged on (on the right-hand side of the bar) and three icons:

Icon	Description
	Clicking this icon will take the user to the Portal front page displayed above.
	Clicking this icon will open the context-sensitive online help. Context-sensitive online help explains the functionality in the window the user is currently in when pressing the online help icon.
	Clicking the X will log the user off RADIANCE and display the logon page.

As the grey bar is visible in every function the icons can be accessed at all times.

User Rights

In RADIANCE users can have different rights to access the various functions. Hence, not all functions will be visible to the user unless the user has access rights to them.

Continued on next page

Overview, *Continued*

Contents

Analyzer Control

Introduction

Analyzer Control provides the user with the ability to manage Radiometer analyzers connected to RADIANCE.

With Analyzer Control the user can:

- Monitor status of all Radiometer analyzers in the RADIANCE system
- Control analyzer activities remotely for most RADIOMETER analyzers
- Monitor and review the latest Patient, QC and Calibration Results, Status and System Messages
- Monitor Replacements Status
- Monitor Reagents, AutoCheck, Electrodes and Other
- Lock and unlock Parameters

The number of functions available varies according to which Radiometer analyzer model is controlled. Please refer to the Analyzer Control specification sheet (code no. 928-198) or your local Radiometer distributor for more information on which functions are available on which Radiometer analyzer models.

While Analyzer Control focuses on the current state and control of the analyzer, Analyzer Data Management covers the long-term records (e.g. maintenance tasks).

Traffic Lights

The status of the analyzers is depicted on screen with the use of traffic lights.

Analyzer Control continuously monitors the status of the ABL800 FLEX, ABL80 FLEX, ABL700 Series and the ABL77 analyzers. This information is transmitted by the analyzer to RADIANCE and indicated by traffic light icons.

The traffic light signal icons are similar to those on the analyzer itself. Traffic light icons indicate the status of the analyzers as follows:

	Green	That the analyzer is in full, operating condition. A green traffic light at the top of the analyzer list tree indicates that the entire STAT analyzer system is in fully functional operating condition.
	Yellow	An error (or overdue scheduled calibration/QC/maintenance event) exists on an analyzer that could affect the ability of the analyzer to report one or more parameters.
	Red	That an analyzer is not able to carry out a measurement.
	All lights are dull	Analyzer not connected

A change in the status of any analyzer will be reflected visibly by a change in the Overall traffic light icon, and by a default sound alert.

Continued on next page

Analyzer Control, *Continued*

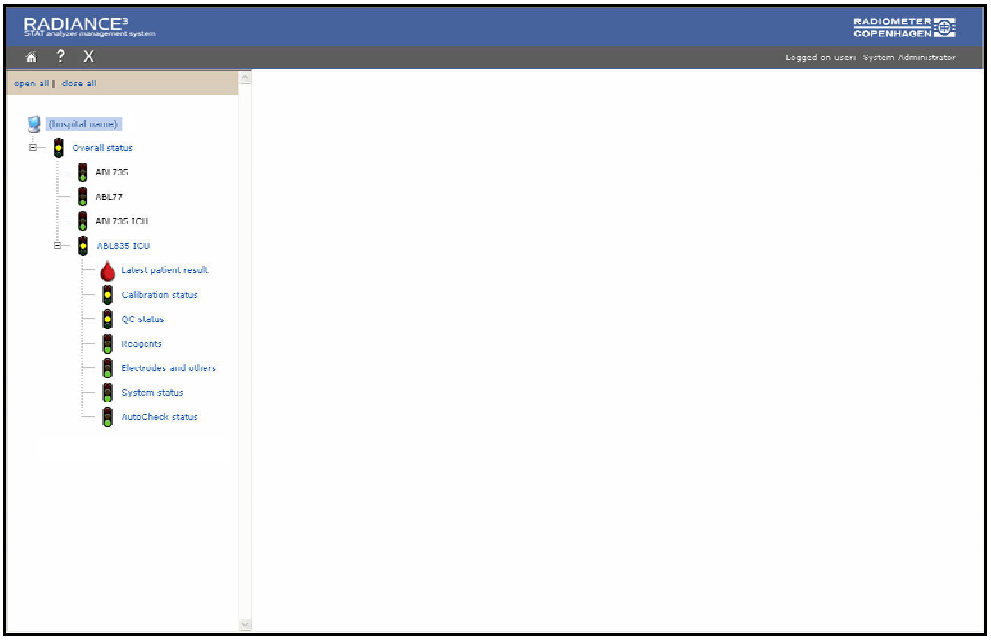
Left-hand Pane

In the left-hand pane all the Radiometer analyzers connected to RADIANCE are shown in a tree-view. To provide an "at a glance" view, the analyzer is depicted with a traffic light icon next to it reflecting the analyzers overall status[1]. If an analyzer is not connected, there will be no light in the traffic light.

Unfold Analyzer tree

Each connected analyzer has a plus icon to the left of the traffic light icon. Clicking on this icon will unfold the analyzer tree menu and give access to status for:

- Individual analyzer parameters
- Latest calibration result
- Latest QC result
- Reagent levels
- Electrodes and other
- The system
- AutoCheck



Clicking any of the status icons or headlines in the unfolded analyzer tree-view will show specific information for that menu in the right-hand pane (for more information on the information displayed in the right-hand pane, see below).

Continued on next page

[1] From the ABL700 Series onwards, Radiometer analyzers have a traffic light to the left of their name and reflect the current "live" state of the analyzer. Radiometer ABL5xx, ABL6xx, and 3rd-party analyzers will have an analyzer icon to the left of their name and no traffic lights. These icons do not reflect a "live" status.

Analyzer Control, *Continued*

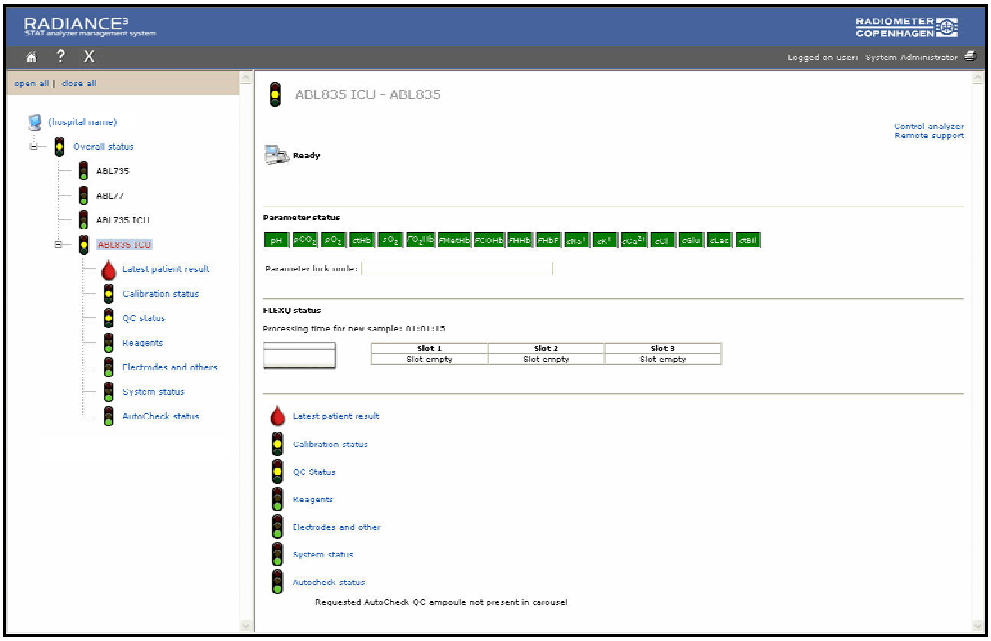
Unfold Analyzer tree *(continued)*

The traffic lights in the left-hand pane are propagated up the tree. For example the picture above shows that a calibration has failed on the ABL835 ICU and therefore the traffic light for calibrations is yellow. This status is reflected on the analyzer level and on the overall status level.

This way it is always possible to evaluate overall system status for the entire system of RADIANCE analyzers connected to RADIANCE at a glance.

Right-hand Pane

The right-hand pane shows details for the menu, which has been selected in the left-hand pane.



By clicking the links in the right-hand pane, the user can access specific sub-menus for each connected analyzer, e.g. *Latest patient result*, *Calibration status*, *QC status*, *Reagents* etc.

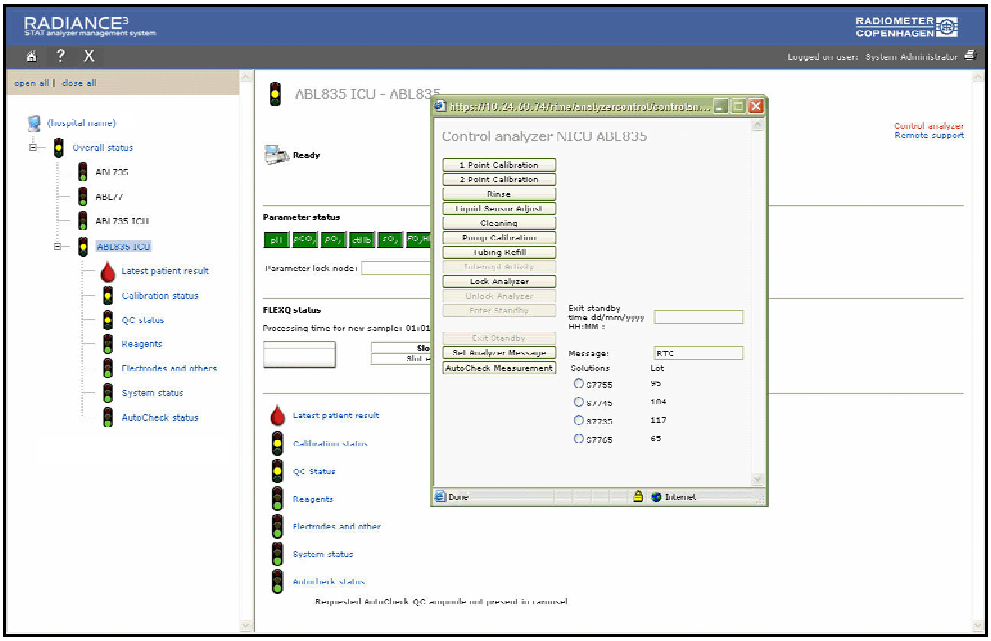
Control Analyzer Function

The *Control analyzer* link allows the user to remotely initiate activities on connected analyzers. The commands available will vary, depending on which ABL model is connected and the status of the analyzer.

Continued on next page

Analyzer Control, *Continued*

Control Analyzer Function *(continued)*



Having clicked the *Control analyzer* link, a *Control analyzer* box appears, including the name of the analyzer. All or some of the following functions are available, depending on which analyzer is selected and the status of the selected analyzer.

Click on the required button to initiate an action on the selected analyzer.

Analyzer Control Functions

If the analyzer is locked, in standby or busy, then available commands are restricted.

Remote Control Function	Action on ABL analyzer
1-point Calibration	Initiates a 1-point calibration
2-point Calibration	Initiates a 2-point calibration for all parameters
1-point Gas Calibration	Initiates a 1-point calibration for pCO_2 and pO_2 only
2-point Gas Calibration	Initiates a 2-point calibration for pCO_2 and a 1-point calibration of pO_2 only
Total Calibration	Initiates a Total calibration (a 2-point calibration for all parameters)
Rinse	Initiates a complete rinse of the analyzer
Refill/Tubing Refill	Refills the transport system with liquid from all consumable bottles

Continued on next page

Analyzer Control, *Continued*

Analyzer Control Functions *(continued)*

Remote Control Function	Action on ABL analyzer
LS Adjust/Liquid Sensor Adjust	Fills and empties the liquid transport system
Cleaning	Initiate a complete cleaning program
Pump(s) Calibration	Pumps can be rotated and calibrated
AutoCheck QC/AutoCheck Measurement	Initiate AutoCheck Quality Control measurement. Specific level required can be selected. Multiple QC levels can be selected to run in sequence
Interrupt	Interrupt any initiated function currently running on the analyzer (regardless of whether remotely or locally initiated)
Enter standby	Enter analyzer into standby. Calibration and QC schedule is suspended
Exit standby	Exit standby. The highest rated pending calibration is initiated within 3 minutes of exit standby (except ABL5)
Unlock	Unlock the analyzer
Lock	Lock the analyzer. Calibrations and QC schedules are not suspended
Set analyzer message	A message can be displayed on the screen of the analyzer. Messages can be added, edited or deleted

Status Markings

Analyzer Control features a range of analyzer status markings, which indicate the status of the latest patient result, calibrations, QCs, reagents, electrodes and other, system status and AutoCheck status.

The status for these elements is marked with a traffic light icon except for latest patient result, which is indicated by a drop of blood. The traffic light has different meaning depending on which element's status it depicts. These meanings are described for each element below.

Latest Patient Result

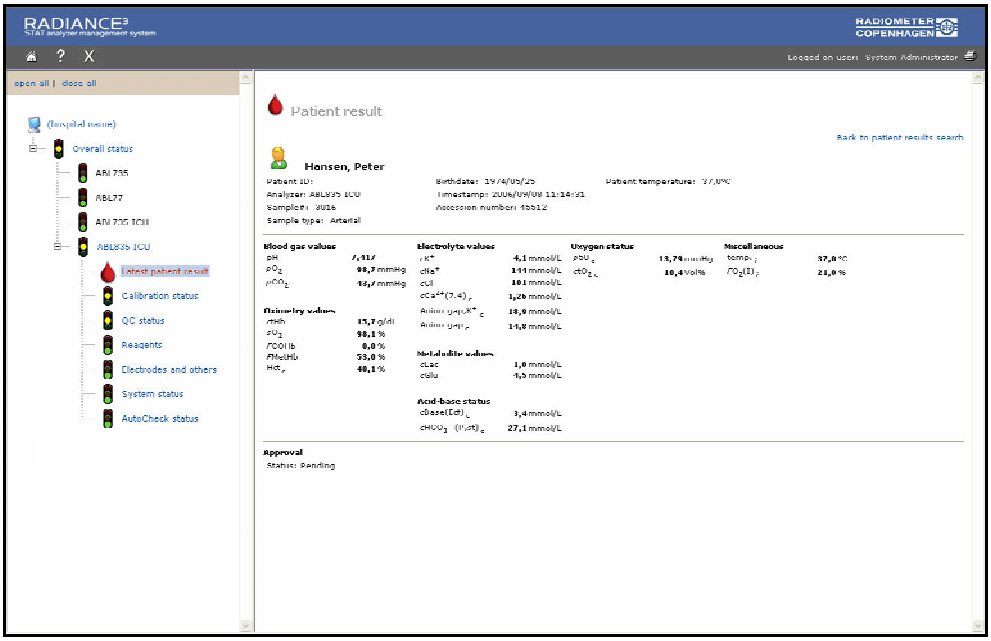
 Latest Patient Result always shows a red blood drop. This icon does not change status.

Continued on next page

Analyzer Control, *Continued*

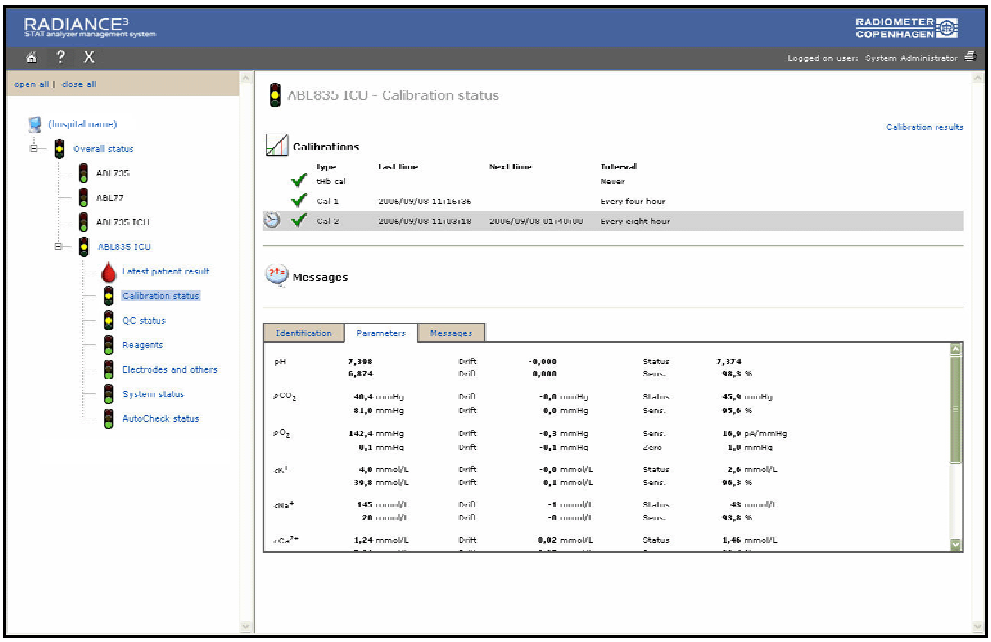
Latest Patient Result *(continued)*

Clicking Latest Patient Result will show the user demographic data for the latest blood sample analyzed. Clicking Patient ID in the latest patient result screen will give access to a list of all results for that specific patient.



Calibration Status

The Calibration status gives an overview of the status of the most recently performed calibration of each type.



Continued on next page

Analyzer Control, *Continued*

Calibration Status *(continued)*

Radiometer analyzers will show a Calibration status traffic light icon to the left of the analyzer name. The traffic light icon will show one of the following:

Traffic light color	Indication
Green	Latest calibrations are OK
Yellow	Error(s) in the last calibration and/or cal schedule reminders
Red	Parameters with errors are repressed.

Calibration status window details

The list below shows the icons you can encounter in the calibration status window in Analyzer Control, and what each icon indicates.

Symbol	Indication	
	Calibration was accepted.	
	Error(s) detected during calibration.	
	Pending or overdue calibration. The last calibration was accepted.	
	Pending or overdue calibration. The last calibration was not accepted.	
Last time	This gives the time and date the last calibration of the type specified was performed	
Next time	This gives the time and date the next calibration of the same type is due to be run according to the defined schedule.	
Interval	The time interval between calibrations as defined in the Calibration Schedule.	
Tabs - these appear in the bottom half of the window	Identification	Identification information including temperature, operator ID, etc., for the calibration result selected.
	Parameters	Parameter results for the calibration selected.
	Messages	Any messages related to the calibration selected.

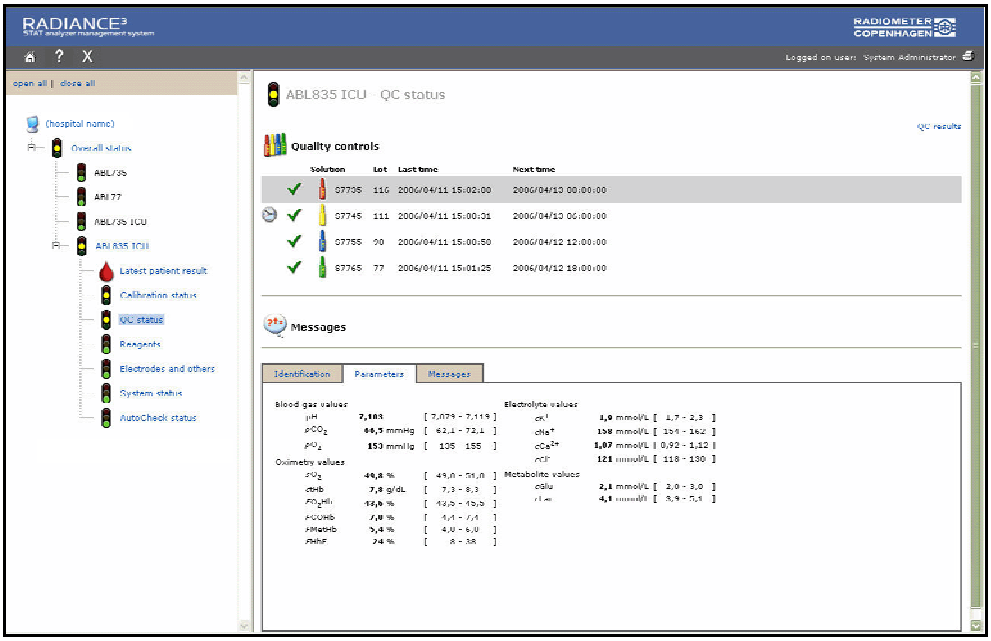
Continued on next page

Analyzer Control, *Continued*

QC Status

The Quality Control status provides

- Status of the last measurement for each Quality Control solution type
- Messages referring to Quality Control measurements



Radiometer analyzer nodes will, when opened, show a traffic light icon next to the QC status node. The traffic light icon will show one of the following:

Traffic light color	Indicates
Green	OK
Yellow	Error(s) in the last QC measurement and/or QC schedule reminders
Red	Parameters with errors are repressed

QC Status Window Details

The following list describes each status icon, which can appear left of the QC ampoule icon, and what each status icon indicates.

Element	Function
OK	The last measurement was accepted.

Continued on next page

Analyzer Control, *Continued*

QC Status Window Details *(continued)*

Element	Function	
	One or more of the following occurred: • Error in the last calibration • Analyzer error during last QC measurement • A parameter measurement is outside the defined ranges or a Westgard Rule has been violated.	
	The next measurement is overdue, and the previous measurement, if any, was accepted.	
	The last Quality Control measurement had errors present, and the next measurement is overdue.	
W	A Westgard Rule has been violated.	
	Parameter value outside the control range, but inside the statistics range	
	Parameter value outside the statistics range and is not included into statistics	
	Parameter value outside the reportable range. Measurement is not included into statistics.	
Lot #	This gives the solution Lot number of the Quality Control solution being used.	
Last time	This gives the time and date of the last QC run on the selected analyzer	
Next time	This gives the time and date that the next QC is due to be run according to the schedule defined on the given analyzer	
Tabs - these appear in the bottom half of the window	Identification	Identification information including temperature, operator ID, etc., for the QC measurement selected.
	Parameters	Parameter results for the QC measurement selected.
	Messages	Any messages related to the QC measurement selected.

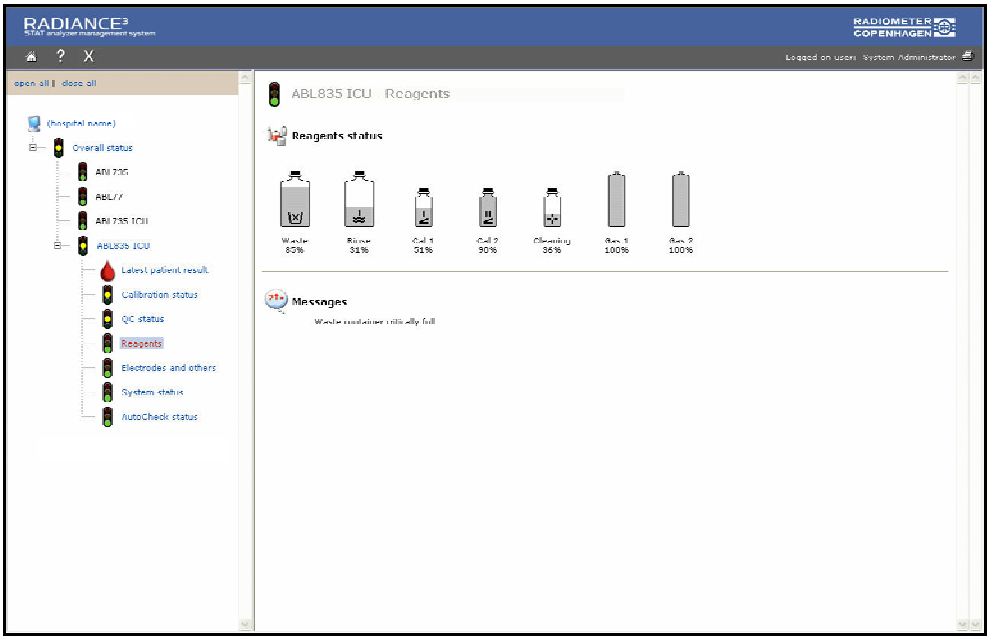
Continued on next page

Analyzer Control, *Continued*

Reagents

The Reagents pane shows the following:

- Status of the solutions and gas cylinders
- Messages referring to solutions and gas cylinders



Radiometer analyzers will show a traffic light icon to the left of the analyzer name. The traffic light icon will show one of the following:

Traffic light color	Indication
Green	No replacements are due at the present time
Yellow	A replacement is due, Calibration/Cleaning solutions expire soon or Calibration/Cleaning solutions have expired

Continued on next page

Analyzer Control, *Continued*

Reagents *(continued)*

Analyzer model	Reagent/Replacement details	Message information
ABL700 Series, ABL800 FLEX	The replacement status shown in the right-hand pane shows the current status of the fluid containers and gas cylinders. Below each is the percentage remaining before replacement is due.	This section found in the bottom half of the screen beneath the reagents information, shows messages sent from the analyzer.
ABL77	*CalPack*: the number of remaining cycles that can be run. 1 cycle is used per cal, sample or QC measurement. E.g. running 1 cal would use 1 cycle. *Sensor Cassette*: gives the number of tests that have been taken and how many remain available. E.g. 48/50 indicates that two tests have been made out of a possible 50, and that 48 remain to be taken.	
ABL80 FLEX	*The Solution pack* *Fluid remaining*: gives the percentage of fluid remaining. *C 8001-4* are identifiers for the QC solutions levels 1 to 4 which are included in the Solution pack. The cycles refer to the number of QCs that are remaining for each particular solution level. *Sensor Cassette*: gives the number of tests that have been taken and how many remain available. E.g. 298/300 indicates that two tests have been made out of a possible 300, and that 298 remain to be taken.	

Electrodes and other

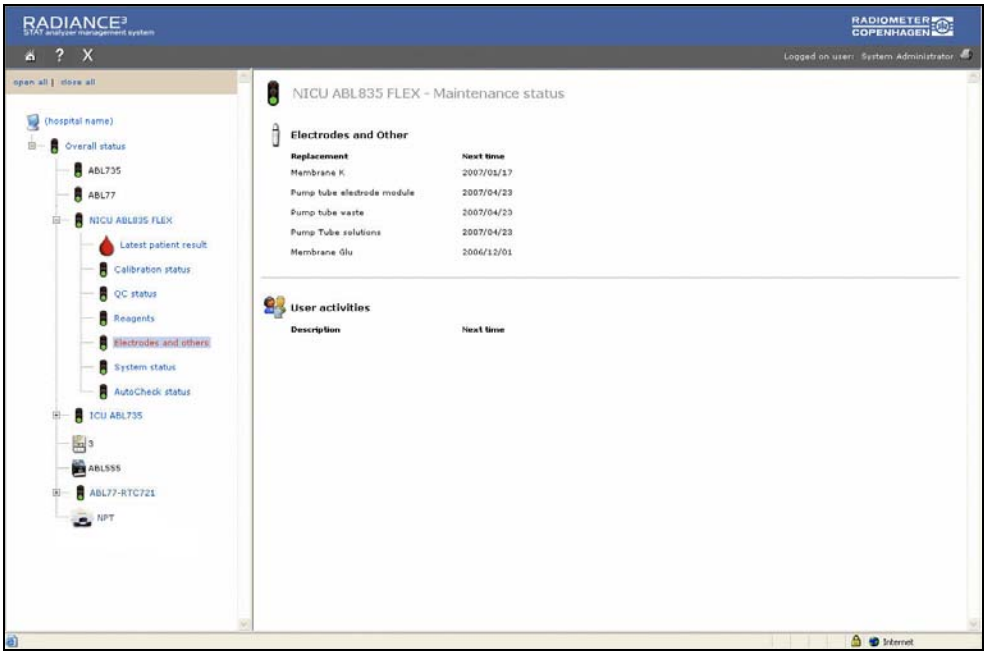
The *Electrodes and Other status* indicates when components are scheduled for replacement. Radiometer analyzers will show a traffic light icon to the left of the analyzer name. The traffic light icon will show one of the following:

Traffic light color	Indication
Green	No replacements are overdue
Yellow	A replacement is overdue

Continued on next page

Analyzer Control, *Continued*

Electrodes and other *(continued)*



Headline	Indication
Electrodes and Other status	This will show any analyzer replacement activities that are scheduled.
User activities	This will show any user-defined activities that are scheduled.
Replacement/Description	Lists activities to be performed
Next time	Gives the next date the activity is due to be performed, based on the schedule defined on the ABL700 Series or ABL800 FLEX analyzer.

Continued on next page

Analyzer Control, *Continued*

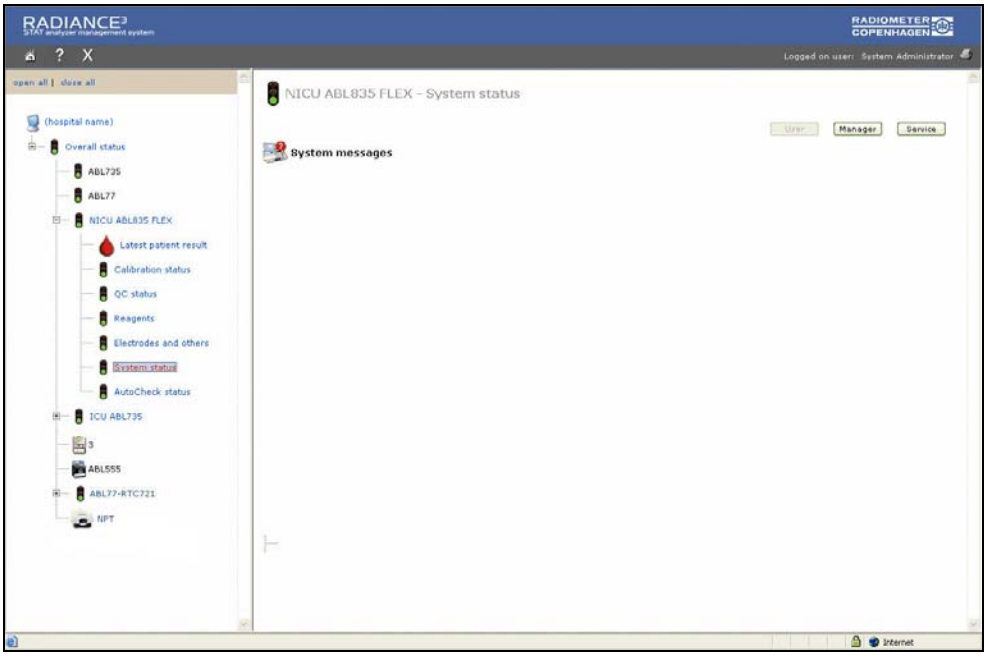
System Status

System messages

Lists any messages present, in chronological order. System messages can be displayed at three levels:

- User
- Manager
- Service

(See Button/Explanation on the next page).



Radiometer analyzers will show a system status traffic light icon to the left of the analyzer name. The traffic light icon will show one of the following:

Traffic light color	Indication
Green	OK (no critical messages)
Yellow	Non-critical message(s) present
Red	Critical message(s). The analyzer cannot calibrate or measure

Continued on next page

Analyzer Control, *Continued*

Different Levels of System Status

Button	Explanation
User (level)	These messages are directed to the normal user who is: • Familiar with daily operation of the analyzer • Primarily responsible for performing measurements
Manager (level)	These messages are directed to the more technically-oriented user who: • Has a deeper understanding of how the analyzer functions • Is responsible for ensuring proper operation of the analyzer
Service (level)	These messages are directed to the service technician who has thorough knowledge of the construction and operation of the analyzer.

AutoCheck Status

AutoCheck status shows the following:

- Status of the carousel and the measurements scheduled in the analyzer's QC schedule program.
- Messages referring to AutoCheck

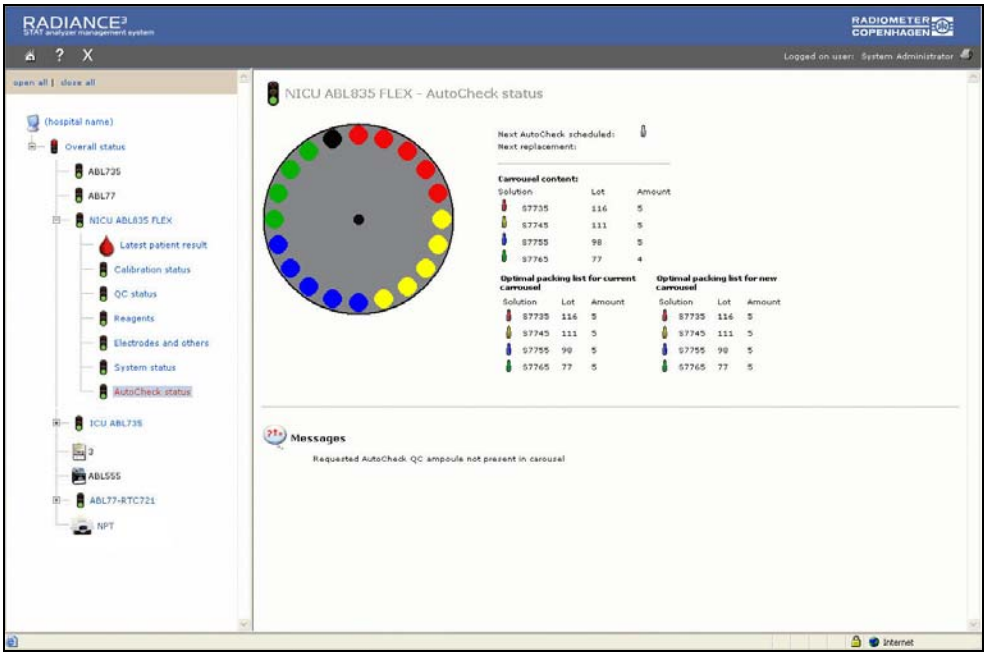
The right-hand pane will show the selected analyzer's name and current AutoCheck status using a traffic light. The traffic light icon will show one of the following:

Traffic light color	Indication
Green	OK
Yellow	Some QC levels scheduled in the QC schedule are missing ampoules in the carousel.

Continued on next page

Analyzer Control, *Continued*

AutoCheck Status *(continued)*



Next AutoCheck scheduled: will show details of when the next AutoCheck solution/lot combination is due to be run according to the schedule defined on the analyzer.

Next replacement: will show the date and time for refilling the carousel according to the schedule defined on the analyzer.

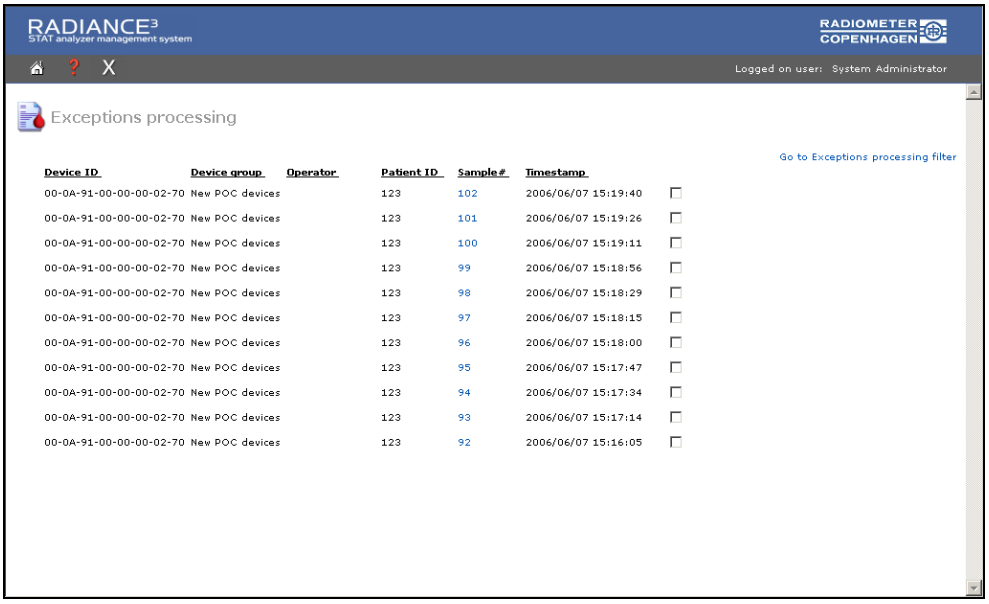
AutoCheck status	This shows...
Carrousel content:	The solution number, lot and quantity of ampoules in the carrousel.
Optimal packing list for current carrousel:	What should be restocked in the AutoCheck carrousel, according to your QC schedule, given the remaining ampoules?
Optimal packing list for new carrousel:	Which ampoules should be placed in an empty AutoCheck carrousel according to the QC schedule?

The information about the carousel also shows the number of ampoules available in it. Red, green, yellow and blue colors indicate the different level of QC ampoules remaining in the carousel. The black spots indicate used ampoules.

Exceptions Processing

Introduction

The Exceptions Processing function filters patient results according to a set of rules as they are received from POCT 1-A devices. Results that are not exceptions that are not exceptions to these rules are transmitted directly to the result database, which can subsequently be accessed via Patient search or Patient Result search. The user can manually process the filtered results that are exceptions. RADIANCE allows the user to manually set up the exceptions processing rules.



All the columns can be sorted by clicking on the respective column title:

- Device ID
- Device group
- Operator
- Patient ID
- Sample#
- Timestamp

To the right of each result there is a check box. Checking this box indicates that the corresponding result has been selected for processing.

Continued on next page

Exceptions Processing, *Continued*

Introduction *(continued)*

Processing multiple patient results is possible by checking several of the check boxes next to the filtered results. When each of the results have been checked, click the Batch Process button at the bottom of the check box column to manually process multiple results in a single step.

***NOTE*:**

The user can only check multiple results when they all adhere to the same exception rule. The user will be prompted if this is violated.

WARNING/ CAUTION:

When selecting multiple results, any editing or change will affect all the selected results in a single process step.

Single Result Processing

Click on the sample # of the result you want to process. The Patient Result screen opens. In the Patient Result screen data can be entered and the results can be processed.

Exceptions Processing Filter

This menu is for entering filter details, for a search within the results that have been filtered by the exceptions processing module.

Enter criteria into one or more of the following fields:

- *Patient ID*
- *Operator*: open drop-down box and choose operator
- *Search from*: to narrow search boundaries, check one of the option buttons
- *Device*: open drop-down box and choose device
- *Exception rule*: open drop-down box and choose rule
- *Date from Date to:* to narrow search boundaries enter a date from, and a date to
- *Device group:* open drop-down box and choose device group

Click Submit button. The Exceptions processing screen will show a list of results that match the entered search criteria.

Continued on next page

Exceptions Processing, *Continued*

Manual Processing of Results

Open a patient result for manual processing. Any field appearing in red relates directly to the violated rule(s) and will need to be filled in before the result can be accepted.

When manually processing a result the user can request demographics, accept, reject or cancel the patient result.

When the user accepts or rejects a result it disappears from the screen and the next result from the list appears.

Request demographics	Depending on how the input fields are completed, this button will query demographics for: Patient (patient ID) Test order (accession number) Operator (operator ID)
Accept	***NOTE:*** *when a result is accepted it is processed in RADIANCE according to the HIS/LIS settings in Administrator. For example: if the HIS/LIS transmission profile is set to transmit patient results always, then the result will be transmitted to HIS/LIS after it has been accepted by the Accept button. If the HIS/LIS transmission profile is set to Never then the result will not be transmitted to the HIS/LIS.* *If there are more results waiting, the next result will be displayed.*
Reject	Clicking this button will reset the patient result and it will disappear from the screen. It is saved in RADIANCE but is not processed according to the HIS/LIS settings. When the result disappears from the screen the next result appears. When a result is rejected, you will be prompted to enter a text in the POC Coordinator field below. The result is saved in RADIANCE Data Base and can be retrieved from the *Patient Results menu*.
Cancel	Clicking cancel returns the user to the previous screen. The result will still be in the list.

Violated Rules: This section lists the violated rules for the specific result.

Values: Shows patient result value(s). If critical ranges are transmitted with the result these are shown between [ ].

Messages: Shows any errors associated with the result.

Audit Trail: This shows changes made to a patient result. It shows old and new values along with the operator that made the change. Audit trail also shows the time stamp when the changes were made.

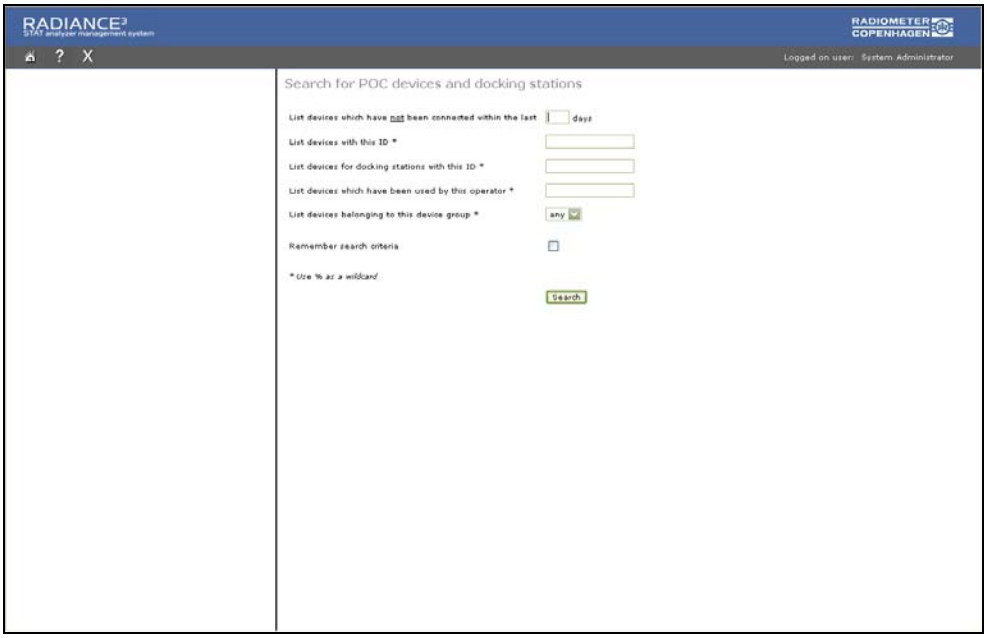
POCT coordinator notes: The user can enter a note when processing a result.

POC device locator

Introduction

The POC device locator function allows the user, by entering various search criteria, to locate at which docking station a POC device was last connected to RADIANCE.

When entering the POC device locator function a screen with two panes appear (see screenshot below), a left-hand pane (initially empty), and a right hand pane containing search criteria. When the search criteria from the right hand pane have been entered, the left hand pane will show the POC devices, which match the search criteria and that have been connected to RADIANCE.



Searching for Devices

The user can search for POC devices based on:

- List devices, which have not been connected within the last xx days: The retrospective time begins from the time the user has requested the information e.g. a request at 15.00 hours on May 5 for "within the last 3 days" will result in a criteria search up to and including all devices not connected since 15.00 hours on May 2
- List devices with this ID: Enter ID in text box to give a list of devices with the ID entered in the text box
- List devices for docking stations with this ID: Will give a list of devices, which have connected to the docking station with the ID entered in the text box
- List devices, which have been used by this operator: Will give a list of devices, which have been used by the operator entered in the text box
- List devices belonging to this device group: Will give a list of devices associated with the device group chosen from the drop-down box. Choices in the drop-down box have been configured in Administrator > POC devices > Device groups and cannot be changed by the logged on user unless they have hospital Administrator rights

Continued on next page

POC device locator, *Continued*

NOTE: *If "Remember search criteria" box is checked, search criteria fields remain completed from the last time the user used the search function*

Searched for Devices

This screen will show a list of the searched-for devices.

A list appears which will give details about

- Station: gives the Station ID. Click on column title to sort.
- Device: this gives the device ID. Click on column title to sort by Device ID.
- Last connected time: the last time a (selected) device was connected to RADIANCE via the (selected) docking station. Click on column title to sort by last connected time.

To view detailed information about a device from in the left pane, select a line. The screen will refresh. Device Information and Docking station information will show in the right hand pane.

Device Info

Information	**Description**
ID	Shows unique ID of selected device.
Name	Name of the device. Usually configured by the user via the vendor's device configuration application
Last user	Identifies the last operator to use the device, by the operator ID.
Last connected	Shows the last time the device connected to RADIANCE.
Patient results received	Gives the number of patient results that have been received from this device.
QC results received	Gives the number of QC results that have been received from this device.
Calibrations received	Gives the number of Calibrations results that have been received from this device.
Activity logs received	Gives the number of activity logs that have been received from this device.

"Was connected at *date time* to" gives details of when the device was connected to RADIANCE from the Docking station, details given below on the screen.

Continued on next page

POC device locator, *Continued*

Docking Station Info

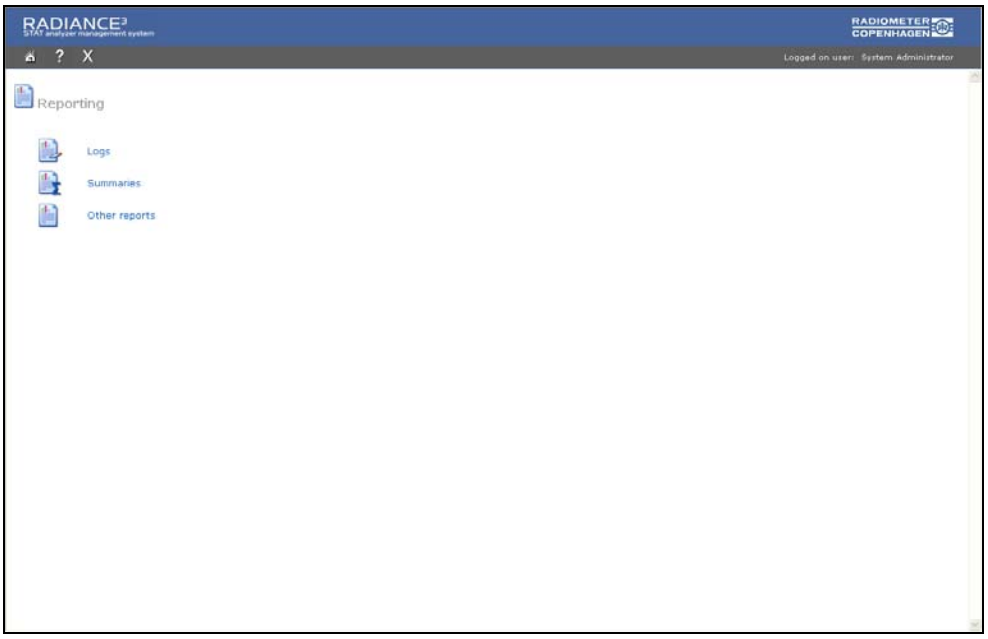
Information	Description
Docking station ID	Gives a unique ID of the docking station.
IP address	Shows the TCP/IP address of the docking station.
Port number	Shows the port number the docking station was using.
Last connected operator	Shows operator ID of the last operator of the last connected device, on this docking station.

Reporting

Introduction

The Reporting function allows the user to generate reports, based on user-defined selection criteria. Reports can be reviewed online, printed, attached to e-mail in text or PDF format, or exported as a file in text or PDF format.

Reports are grouped into the categories Logs, Summaries or Other reports.



The Logs menu

The Logs menu gives access to the following reports:

- Allen test
- Critical values
- Patient detail
- QC detail
- QC violations
- Reviewer activity
- Turn around time

The Summaries menu

Summaries give access to the following reports:

- HIS/LIS detail
- Productivity
- QC statistics
- Sample detail graphs

As with the reports in Logs, these summaries can also be generated and printed for manual review, or reviewed electronically.

Continued on next page

Reporting, *Continued*

The Other Reports menu

The Other Reports function allows the user to access custom-made reports. Accessing these customized reports follows the same procedure as that found under Logs or Summaries.

RADIANCE comes with a range of default reports (see table below for list of default reports) but the reports in RADIANCE can also be customized to match specific user needs. Refer to your local Radiometer distributor for further details on customized reports.

Report Details	
Allen Test	Displays the results of Allen Tests performed on patient (s).
Critical Values	Displays patient (s) results which meet Critical Value criteria
Patient Log (Daily Log in RDM)	Displays patient (s) results, as well as the calibration and QC status.
Turn Around Time	Displays a formulated difference between a patient's sample Data/time Drawn and the sample's Date/Time reported.
HIS/LIS Summary	Displays a HIS/LIS Summary indicating whether a sample has been sent to a HIS/LIS system, or if a sample is pending.
Productivity Report	Displays a tally of results by sample type per individual technician.
Review Report	Displays date/time of the review activity, the name or initials of the reviewer, a description of the area under review, and comments made by the reviewer.
Sample Detail Graph	Displays samples per area and samples per hour graphically
QC Detail	Displays all QC that has been processed. The date, time, and a graphic display of the analyzer status will be displayed with each QC sample result.
QC Violations	Displays failed QC that has been processed. The date, time, technician, failed parameter(s), and corrective action will be displayed.
QC Statistics	Displays the QC statistics in a period-to-date, or year-to-date format. The analyzer selection, level, lot, and statistics will be displayed

Continued on next page

Reporting, *Continued*

The Other Reports menu *(continued)*

Reviewing and previewing of reports are done in the PDF format, regardless of the export settings, therefore a PDF reader needs to be installed on the computer. The choice of export format only has an influence on what happens when you click the Export or the Email button.

All the reviewing activity, including comments made, can be recalled by choosing the Review report from the ***Logs*** screen.

Refine Search

Selection, sorting, and match criteria are used to specify the data to report. The criteria are different for the different report types:

- Selection criteria - date selection. Enter the date required in the text boxes or chose from search results within. Other criteria can be entered depending on the selected Report.
- Sorting criteria - various criteria is available within the drop-down box(es). Click Ascending or Descending to select the sorting method for the data. Ascending starts with the most current data, Descending starts with the oldest data.
- Match criteria - various criteria is available within the drop-down box(es). These match criteria selections will filter the data, which appears in the report.

Match selections

When a selection is made from the match data selection list an additional menu will be populated with match selections. The following table includes all of the match data selections and what should populate the match selection menus.

Match	Selections
Patient classification	The classification descriptions entered by the user in RADIANCE.
Admitting physician	The physician names entered in Administrator module.
Ordering physician	The physician names entered in Administrator module.
Order item number	The order item descriptions as entered in Administrator module.
Technician	The users initials as entered in RADIANCE.
Area	The Area names as entered in Administrator module.
Time period	A start and end time entered by the user.
Critical values	N/A
Analyzer	Analyzer names.
Measured Parameters	A list of all measured parameters.
CV >	A number entered by the user.

Continued on next page

Reporting, *Continued*

Match selections *(continued)*

Match	Selections
Data Type (reviewer)	A list of all the items allowed to be reviewed in Radiance Portal.
Westgard rule	A list of the eight Westgard rules available.
Patient Name	A list of patient last names in the database.
Order Status	Orders Pending or Complete.

To add a Review Comment to a Report

Once the report is defined, click Print to see the report on screen. At the top of the screen there is a reviewer's note field, and a Review button. Clicking the Reviewed button will log the date, time, and the user currently logged on to RADIANCE, as having electronically reviewed the report.

A report of all electronically-reviewed reports is available in RADIANCE, called the Reviewer Activity report (a log report), removing the need to print reports on paper.

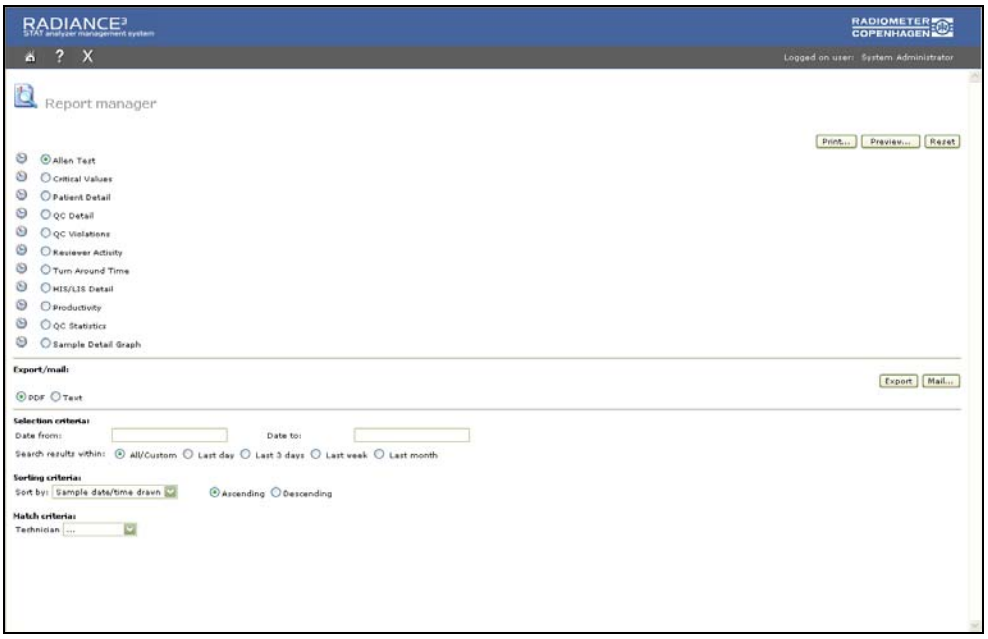
Report Manager

Introduction

In the Report Manager, the user is alerted to when reports should be printed or reviewed.

This function helps the user to deal with regulatory compliance by reminding the user when a report is due to be reviewed, according to user-defined frequency.

Reports that are to be managed will be displayed. A clock symbol will be displayed next to a report that is due to be printed or reviewed.



The setting up of the frequency of reports is defined via the Reports setup.

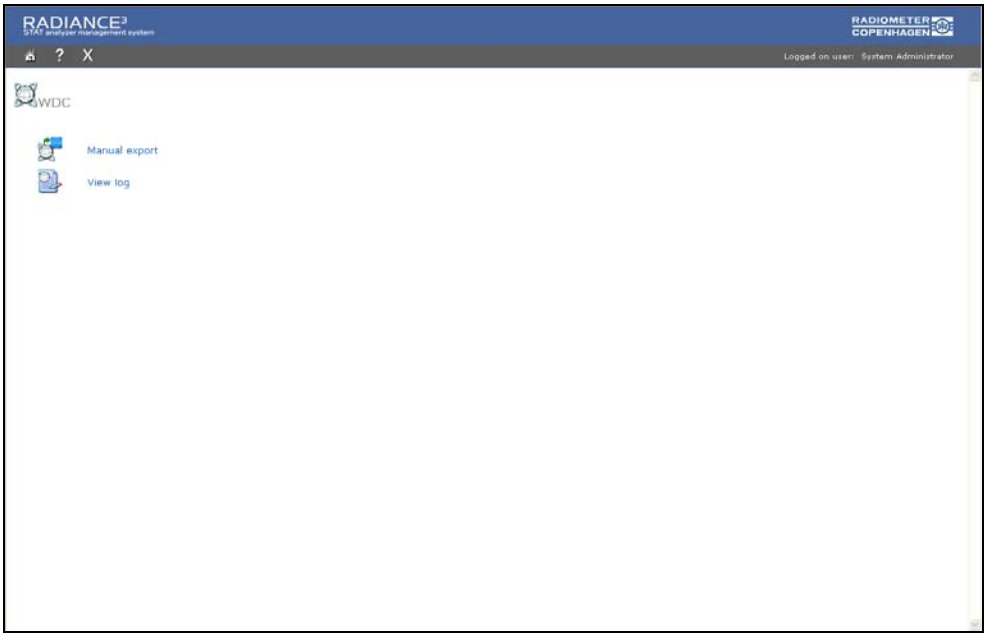
After selecting the report to be printed and reviewed, the selection criteria and match selections will change to items appropriate for the selected report.

WDC Export

Introduction

WDC-online is a program that enables statistical comparison of analyzer performance based on QC measurements? This comparison enables documentation of analyzer performance. WDC-online is an Internet program and RADIANCE provides the user the ability to manually or automatically upload QC data, gathered from connected analyzers, to WDC online.

In the WDC export menu the user can review activity concerning WDC Export. Status and messages from the export and the upload of data is saved in a log file. The log file can be viewed in the WDC export function.



This screen shows:

Manual Export: this allows the user to

- Manually start an export and upload of QC data.
- Manually export QC data to a file.

View Log: this allows the user to view log of

- The automatic export and upload of QC data.
- Manual export of QC data.

Continued on next page

WDC Export, *Continued*

To Automatically Export and Upload Data to WDC-Online

In Setup > WDC Upload setup, the date and time of automatic upload can be defined. See Setup in this manual for further details

Manual Export of Data

This screen will show either an Export button or an Upload button.

Upload	If, in WDC Upload Setup, the *automatic upload* check box has been checked, the Upload button will appear on screen. Click this button to manually start the export and upload of QC data to WDC online.
Export	If the *automatic upload* check box in WDC Upload Setup has **not** been checked an Export button will appear and data will need to be manually uploaded.

To Manually Export Data for Upload to WDC Online

Select the month for which you want to export data from the drop down box.

Click "Export".

This will export the selected month's data to a file stored on the RADIANCE server. The export may take some time. The export progress can be viewed on the Progress bar.

When the export is finished an entry will be created under the '**Exported data files**'.

Click "Download" for this new entry. Save this file on your local PC. If necessary, browse to the folder where the data is normally saved.

The file is now ready to be uploaded to WDC online.

To Manually upload Data Already Exported

Select file you want to upload to WDC Online.

Click "Download".

Save the file on your computer.

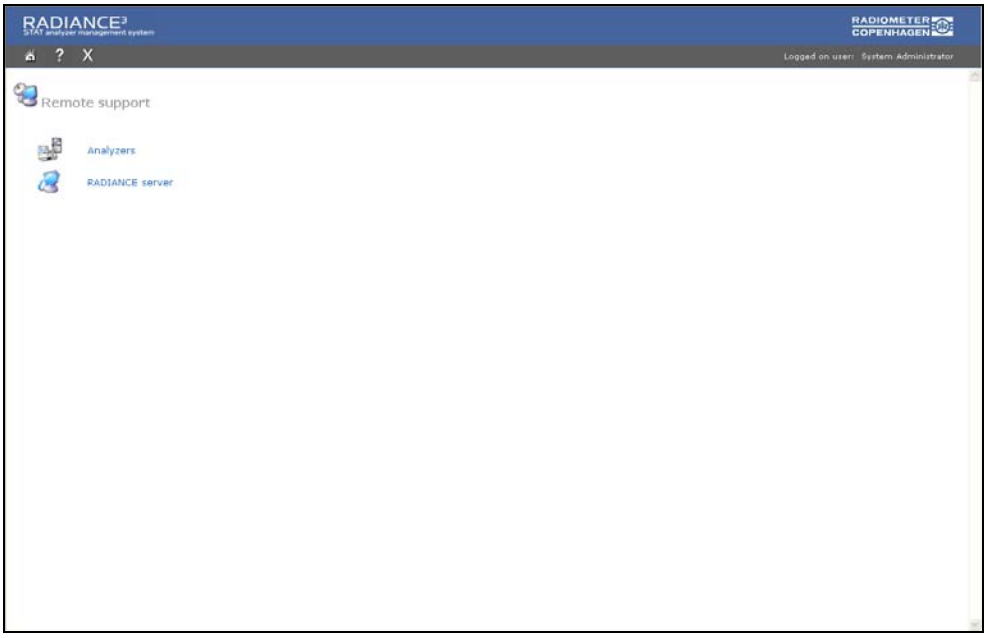
Log on to WDC online and send the file. (See *WDC Online Operator's manual* for more details on how to do this)

Remote support

Introduction

The Remote Support menu allows the user to take control of an analyzer or of the RADIANCE server from any PC.

Remote support is different from Analyzer Control in that Analyzer Control allows for a certain number of pre-defined actions to be initiated by pressing a button in RADIANCE (see the chapter on Analyzer Control). Remote support allows RADIANCE to access the analyzer directly and show the analyzer screen on the workstation screen as if the user was standing by the analyzer. The analyzer can then be remotely controlled.



Clicking Analyzers will generate a list of analyzers connected to RADIANCE, which can be controlled via Remote support.

Clicking the name of an analyzer will make the main screen of the specific analyzer appear in RADIANCE and allow the user to remotely control all analyzer functions from RADIANCE.

The remote support function in RADIANCE only supports Radiometer analyzers.

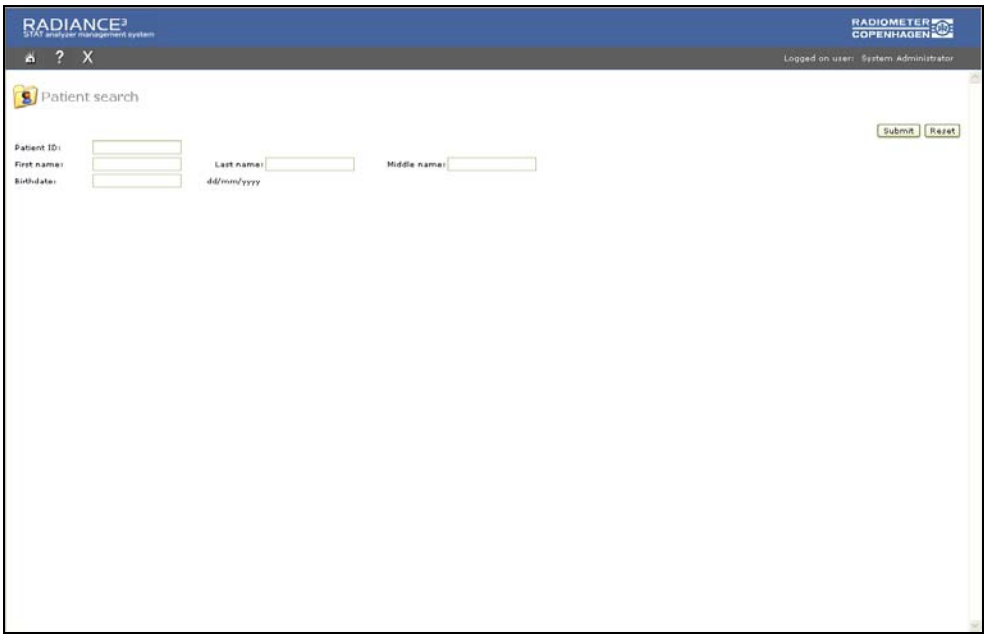
Patients search

Introduction

RADIANCE stores the results of all patient samples including samples analyzed both on Radiometer and non-Radiometer analyzers.

The Patients search function in RADIANCE allows the user to search for a specific patient based on various search criteria:

- Patient ID
- First name
- Middle name
- Last name
- Birth date



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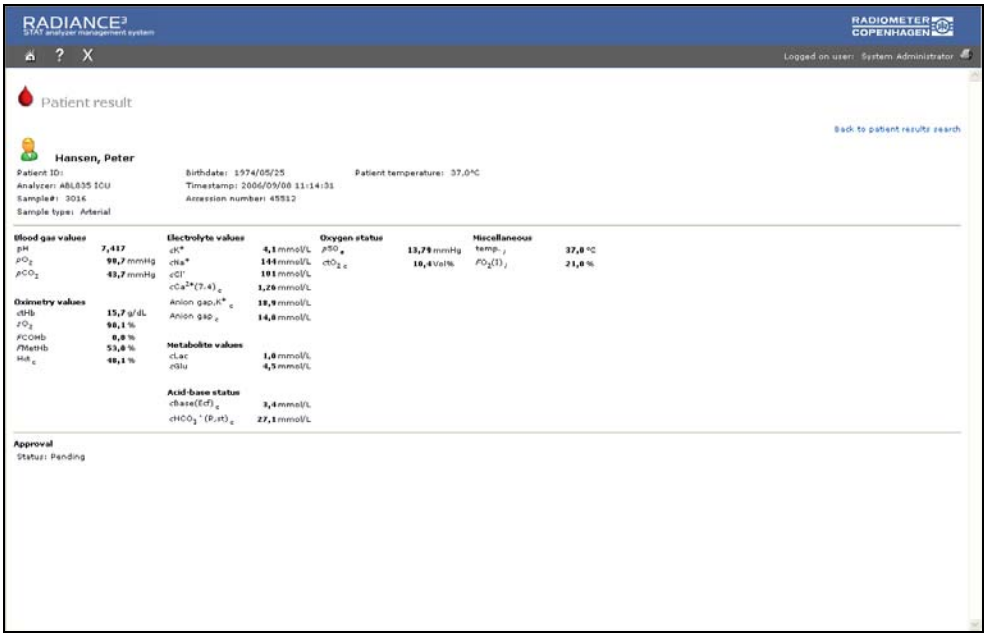
Patients search, *Continued*

Introduction *(continued)*

The search will give a list of patients, which match the search criteria. When the correct patient has been found, clicking the links *patient name* or *patient ID* will allow the user to view *all* the results for that specific patient.

Below is an example of how a patient result is displayed. If the result for any of the measured parameters is outside specified ranges, it will have an icon next to it. See below for further explanation of the different icons.



In the top of the window, patient demographics are displayed, including patient temperature. The middle of the window displays the results for each parameter. The bottom of the window displays the status of the sample (pending, approved, rejected or rerun).

If any of the parameters measured are outside specified ranges or have an error, there will be an icon next to it. The list below shows the icons that can appear next to a patient result, and a description of what each icon indicates.

Status icon	Indication
↑↓	Value outside (above or below) reference range
↟↡	Value outside (above or below) critical range
⇞⇟	Value outside (above or below) measurement range
?	Oximetry measuring error or QC error present

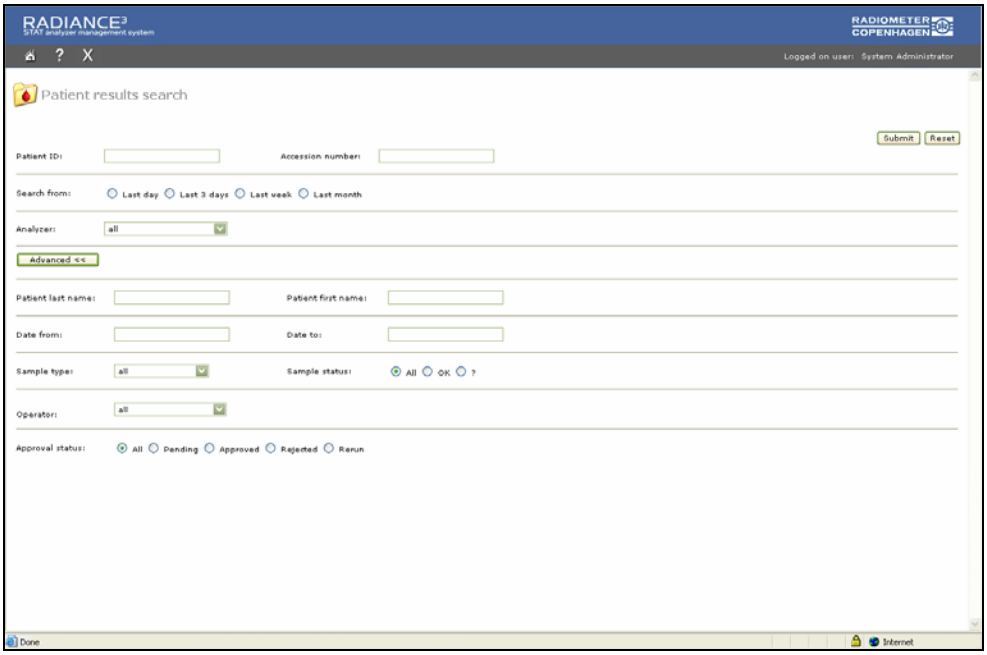
Patient Results search

Introduction

RADIANCE stores the results of all patient samples including samples analyzed both on Radiometer and non-Radiometer analyzers.

The Patients Results search function in RADIANCE allows the user to search for a specific patient result based on various search criteria:

- Patient ID
- Accession number
- First name
- Last name
- Sample type
- Sample status
- Operator
- Approval status



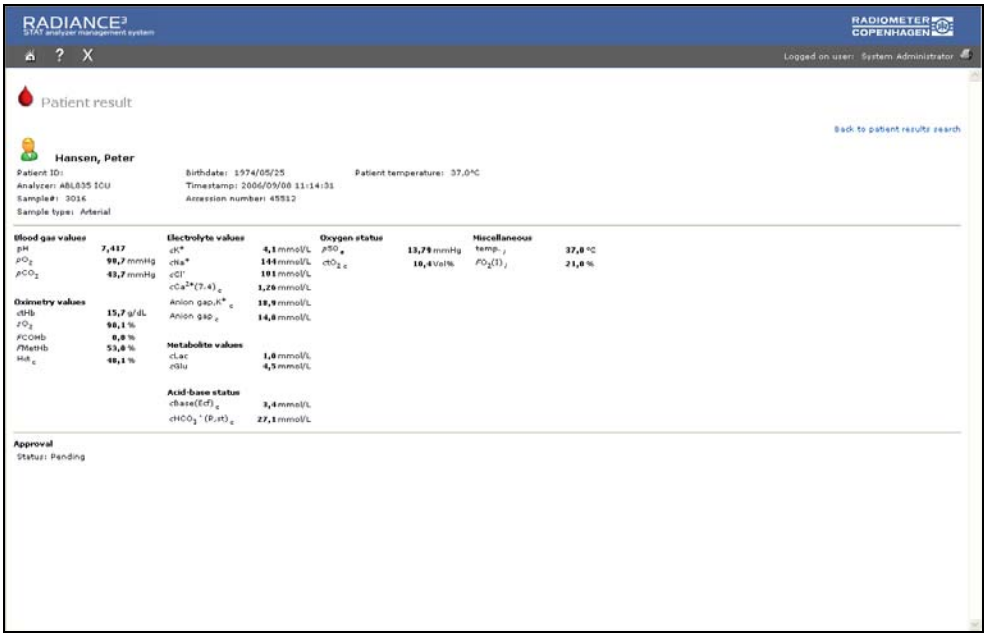
The search will give a list of patient results, which match the search criteria. Clicking *Sample#* or *Timestamp* for any specific sample will allow the user to see the associated patient result.

Continued on next page

Patient Results search, *Continued*

Introduction *(continued)*

Below is an example of how the patient result is displayed. If the result for any of the measured parameters is outside specified ranges, it will have an icon next to it. See below for further explanation of the different icons.



In the top of the window, patient demographics are displayed, including patient temperature. The middle of the window displays the results for each parameter. The bottom of the window displays the status of the sample (pending, approved, rejected or rerun).

If any of the parameters measured are outside specified ranges or have an error, there will be an icon next to it. The list below shows the icons that can appear next to a patient result, and a description of what each icon indicates.

Status icon	Indication
↑↓	Value outside (above or below) reference range
↟↡	Value outside (above or below) critical range
⇞⇟	Value outside (above or below) measurement range
?	Oximetry measuring error or QC error present

Calibration Results search

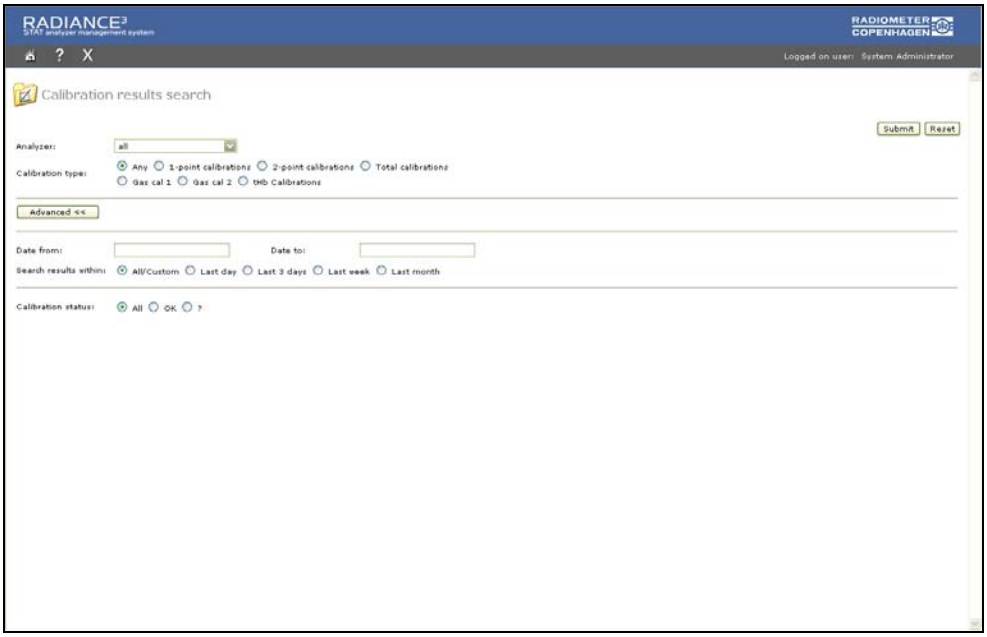
Introduction

RADIANCE stores the results of all calibrations analyzed both on Radiometer and non-Radiometer analyzers.

In the Calibration Results menu the user can search for

- 1-point calibrations
- 2-point calibration results
- Total calibrations
- Gas cal 1
- Gas cal 2
- tHb Calibrations

The advanced search option allows the user to specify a time period for the search.



The calibration results matching the search criteria will appear in a list with a status icon to its left. This allows the user to get a quick overview of the calibration results.

Status icon	Indication
✓	Calibration was accepted.
?	Error(s) detected during calibration.

Clicking a calibration result from the list will display drift, status and sensitivity for each parameter.

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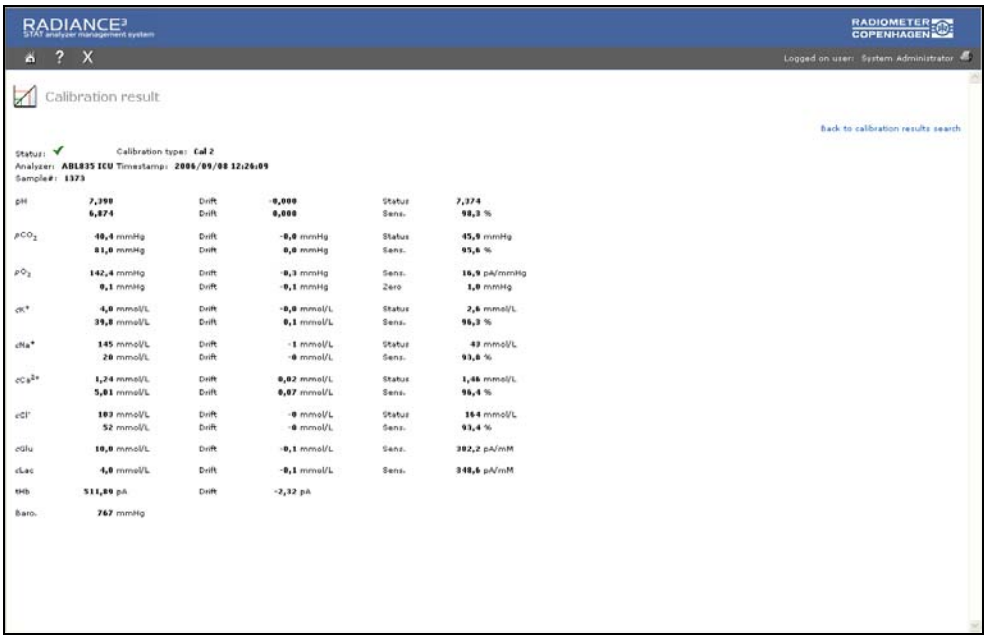
Calibration Results search, *Continued*

Introduction *(continued)*



Sensitivity describes the slope of the calibration line. It is an evaluation of the slope of a 2-point calibration line in relation to the slope of the theoretical calibration line.

Status/Zero point describes the deviation of a 1-point calibration point from the theoretical calibration line. The status is evaluated using one calibration point; i.e. assuming the sensitivity (slope) is unchanged

Drift describes the variation in the calibration line between consecutive calibrations.

QC Results search

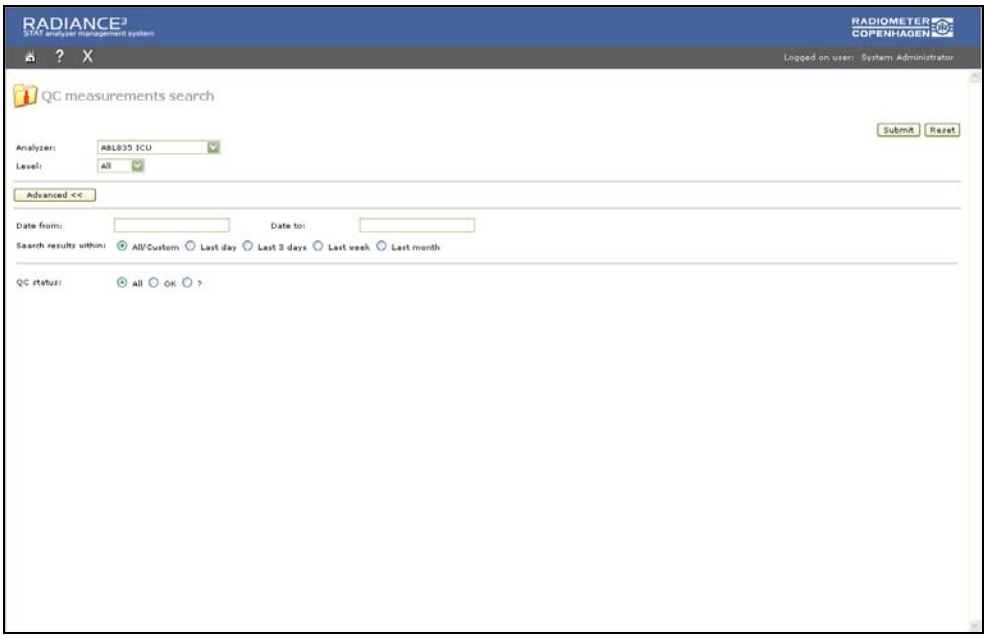
Introduction

RADIANCE stores the results of all QCs analyzed both on Radiometer and non-Radiometer analyzers.

In QC results the user can search for QC results based on:

- Analyzer
- QC lot

The advanced search option allows the user to specify a time period for the search.



The search will generate a list of QC results that match the search criteria. Next to each QC result there will be a status icon indicating if the QC passed or if there was an error on any of the measured parameters:

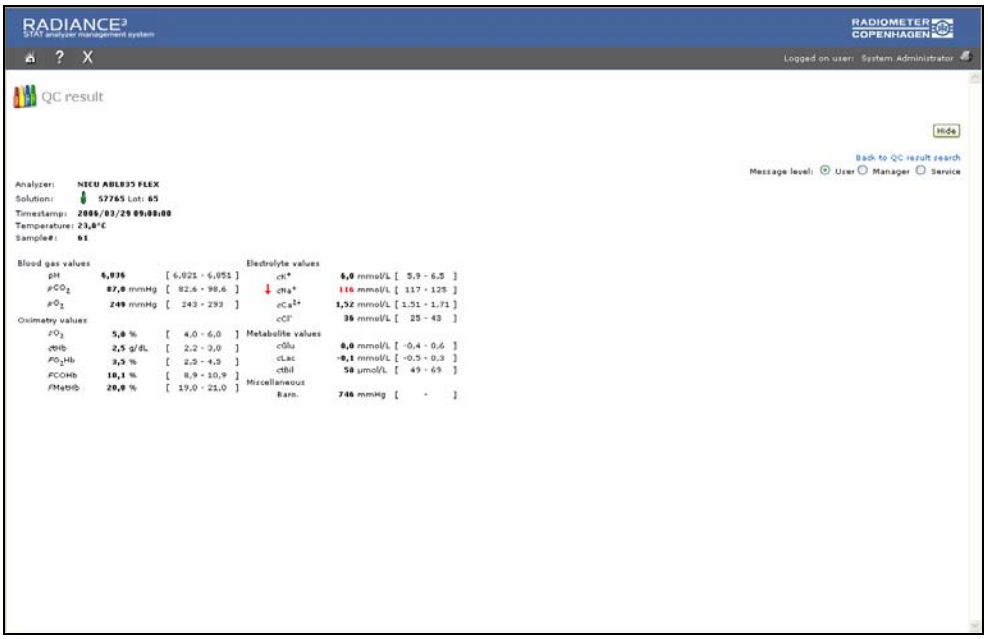
Status Icon	Indication
✓	All measured parameters passed
?	One or more measured parameters has an error

Clicking any of the results will allow the user to see the results for each parameter measured. A parameter will have a status icon if the result for the specific parameter is outside reference ranges.

Continued on next page

QC Results search, *Continued*

Introduction ***(continued)***



If any of the parameters measured are outside specified ranges or have an error, there will be an icon next to it. The list below shows the icons that can appear next to a QC result, and a description of what each icon indicates.

Status icon	Indication
↑↓	Value outside (above or below) reference range
↑↓	Value outside (above or below) statistical range
↑↓	Value outside (above or below) measurement range
?	QC error present.

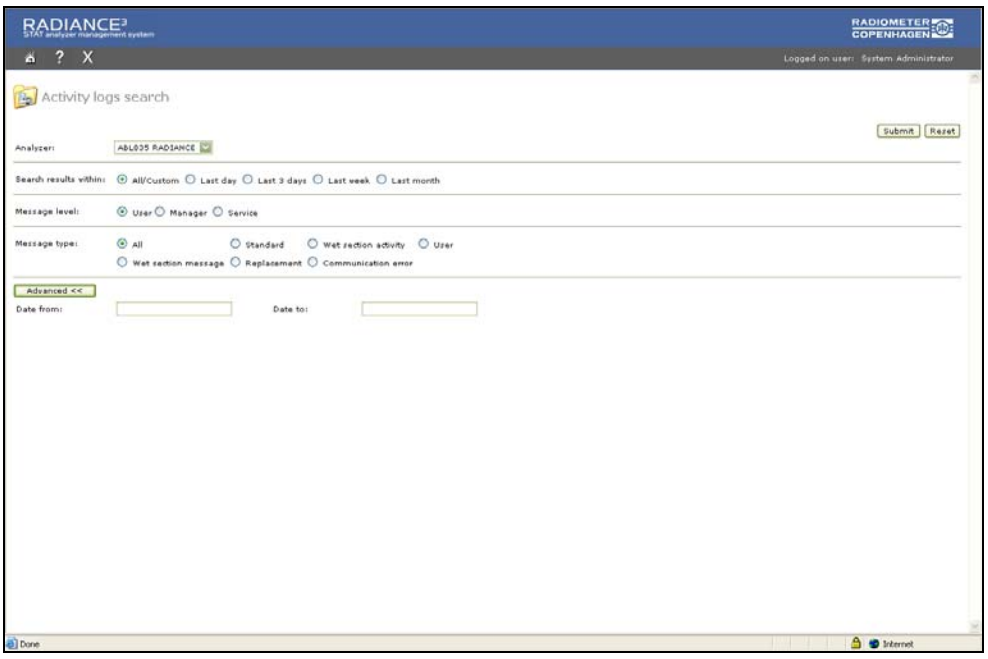
For Radiometer analyzers communicating with RADIANCE via the Statlink protocol, QC reference ranges are automatically downloaded from the analyzer. For QCs measured on non-Radiometer analyzers and Radiometer analyzers. Which do not communicate with RADIANCE via the Statlink protocol, QC reference ranges must be entered manually in RADIANCE and on the analyzer? Please refer to your local Radiometer distributor for further information on which of the Radiometer analyzers communicate via Statlink.

Activity logs

Introduction

Activity Logs search allows the user to search messages associated with activity on analyzers. The search can be defined based on

- Analyzer
- Time period
  - Last day
  - Last 3 days
  - Last week
  - Last month
  - A specific time period can be specified in the advanced search section
- Message level
  - User
  - Manager
  - Service
- Message type
  - All
  - Standard
  - Wet section activity
  - User
  - Wet section messages
  - Replacement
  - Communication error



The Activity Logs allows the user to closely monitor usage of consumables, maintenance activity, communication performance between analyzers and RADIANCE or other error messages and the corrective actions associated to them.

Besides a list over messages, the search will provide the user with information about Lot number and Expiration date on relevant messages. The list also provides information about which operator performed the activity.

Archives

Introduction

As patient results data are transmitted to RADIANCE, the database will grow larger. The larger the database is, the longer time it takes to retrieve data from it. To reduce the time it takes to retrieve data from the database, e.g. when searching for a result, old data can be stored in a long-term storage facility – an archive.

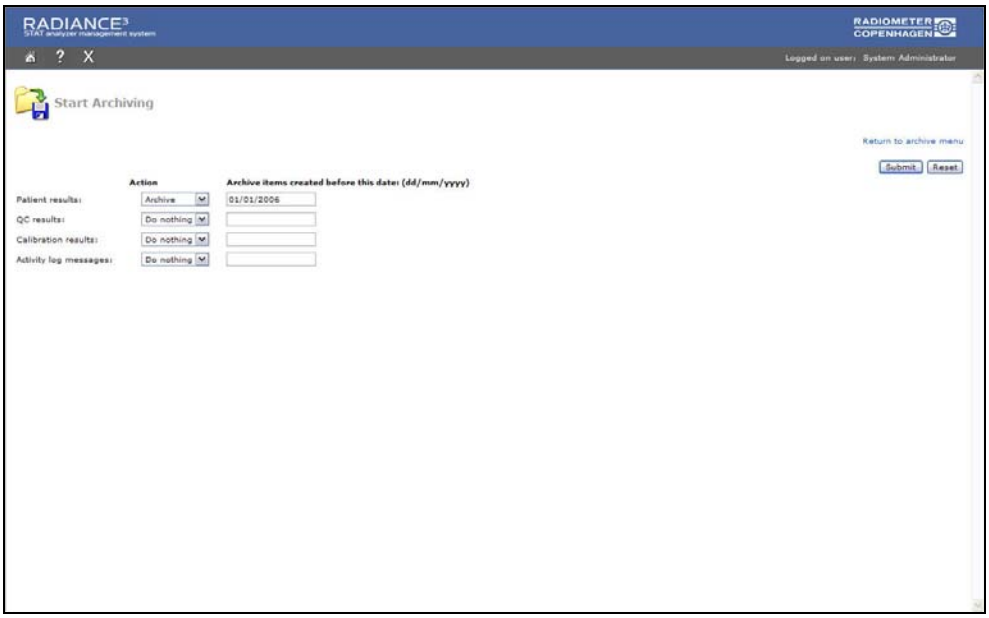
RADIANCE has the ability to automatically or manually transfer data from the database to an archive. It is possible to view the data stored in the archives.

Automatic archiving of data can be configured by the RADIANCE system administrator program.

It is recommended to configure your RADIANCE system to archive data frequently in order to maintain an optimal database size; your Radiometer representative can help you to determine the optimal archiving settings.

Start Archiving

Enter an archiving action for one or more data types; Patient, QC, Calibration results and /or Activity log messages.



To enter action, open drop-down box and select from

- *Do nothing*
- *Archive*
- *Delete*

Enter a date into the next field. The archive will include all data up to (but not including) the date entered.

Please note that selecting "Delete" means that data is deleted from the RADIANCE database and not archived.

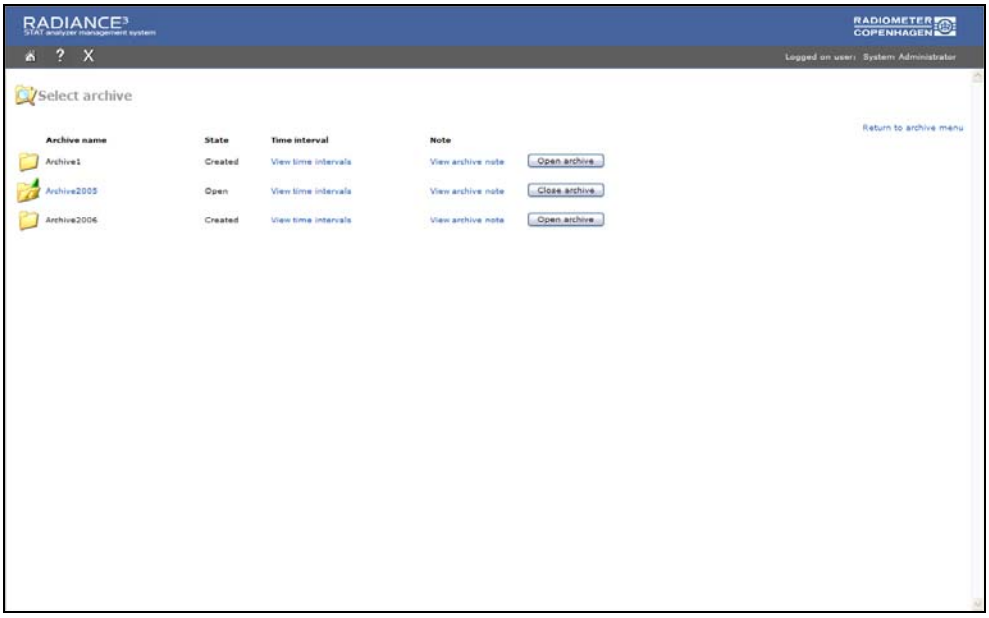
Click the Submit button to begin archiving action.

Continued on next page

Archives, *Continued*

View Archives

The View archives function allows the user to open and view past archives. How these past archives are structured is dependent on their setup.

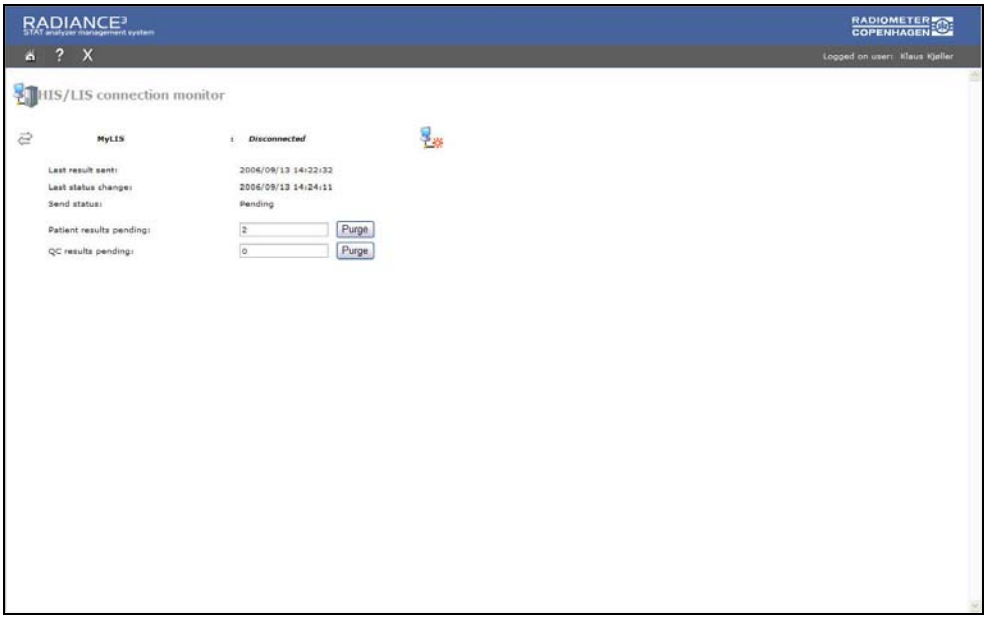


Step	Action
1.	Click View Archive on Archives Topic page. The View Archive page opens.
2.	Click the relevant archive.
3.	Click on View Archive Notes to view the archive criteria used. The quantity of each result type will be displayed.
4.	Click on View Time Intervals to see the date range for the data in this archive.
5.	Click Open Archive button to open archive or archive file.
6.	The Portal screen refreshes to show the selected archive and its results folders and activity logs. Click one or more of these folders to browse and search contents.

To browse and search for results within an archive please refer to the appropriate sections earlier in this document

HIS/LIS monitor

Introduction The HIS/LIS monitor function allows the user to monitor data transfer activity for connections to central information systems such as HIS or LIS.



The HIS/LIS monitor shows the state of the HIS/LIS communication. In the example above, the connection to MyLIS has been disabled and 2 patient results are waiting to be transmitted. As soon as the connection becomes live again the results are transmitted automatically to the HIS/LIS.

The Purge function will empty the transmission queue and no results are transmitted on reconnect. After purge the results are still available in RADIANCE and manual retransmission can be initiated from the RADIANCE Patient Data Management module.

If the HIS/LIS connection remains disconnected please contact the local system administrator for further assistance to troubleshoot the problem. A disconnected HIS/LIS connection will typically appear if: 1) The remote system has been turned off for service, upgrade etc.; 2) A network problem has occurred 3) The RADIANCE Server has encountered a problem.

If the HIS/LIS was inoperable when the sample was processed or the result was not sent because of questionable results, it can be sent manually.

It is possible to manually approve and send a sample in the following ways:

- From the All Samples To Process window (i.e. Lists window)
- From the New Sample window

From patient Results window using the manual Send button

Setup

Introduction

In Setup menu a range of functions can be configured according to the user's needs

The following modules are set up in the setup menu:

Module	Access for setting up
Report	The Report Manager. This function allows the user to meet regulatory compliance by reminding the user when a report is due to be reviewed, according to user-defined frequency.
WDC Upload	Scheduling the WDC module to automatically export QC data to a file and to then automatically upload the file to WDC online
Exceptions Processing Rules	Setup of exception rule(s) that RADIANCE uses when processing each sample.

Setup Report Manager Frequency

The Reports setup allows the user to define which reports the user is to be reminded of the reports' reminder frequency.

The following *Logs* Setup are available	The following *Summaries* Setup are available
Allen Test	*HIS/LIS Summary*
Critical Values	*Productivity*
Patient Log Sheet	*QC Statistics*
QC Detail Report	*Sample detail graphs*
QC Violations Report	
Review Report	
Turn Around Time	

For each report, open the drop-down box and select the frequency required.

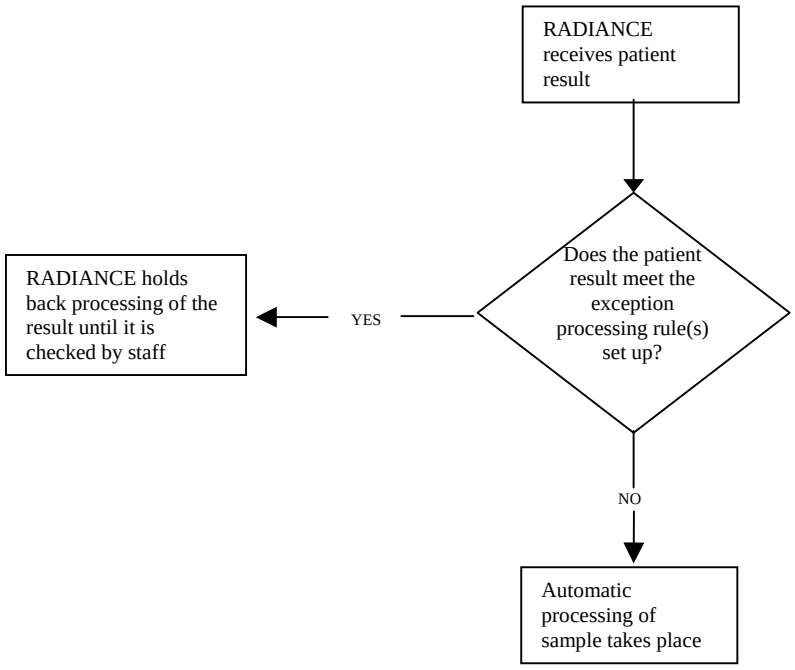
Click Submit. (Click Reset if you wish to change details).

Continued on next page

Setup, *Continued*

Setup Exceptions Processing Rules

This function allows the user to define exceptions rules for POCT 1-A sample processing. RADIANCE, when processing each sample, will hold back any result(s) that meet any exception rule that has been set. Any patient result that passes - i.e. does not meet with any of the exception rules set here - will be automatically processed.



Four steps are mandatory to configure an Exception processing rule. The Rule wizard will guide you through each step in the order required:

1. Choose a rule event.
2. Choose one or more criteria.
3. Choose the action to perform if the rule is met.
4. Choose a name for the rule.

These steps are shown at the top of the screen. As you complete each step, a tick appears on the respective icon.

Continued on next page

Setup, *Continued*

Setup Exceptions Processing Rules *(continued)*

The Exceptions processing rules definition screen contains two windows.

The top window has the defined rules with a check box beside each rule. The Default rule box is checked by default and cannot be unchecked. Check boxes to the side of any given rule may be checked to activate them or unchecked to disable them. During processing, results are matched to every checked exception rule in the order of priority given to the exception rule. The top rule has highest priority. If the result passes all of the rules, the Default rule is implemented i.e. automatic processing.

The lower window gives details of any rule selected from the top window.

Button	Action
New	To make a new Exceptions Processing Rule.
Copy	Copies a selected rule. Select the rule you wish to copy and then click Copy button. The selected rule is copied with the prefix "Copy of".
Rename	Renames the selected rule. Select the rule you wish to rename and then click Rename button.
Delete	Deletes a selected rule. Select the rule you wish to delete and then click Delete button. You will be prompted. Click "OK" to delete rule. The rule will disappear from the Exceptions Processing Rules screen. (To disable a rule temporarily, without deleting it, uncheck the check box for the rule)

Choose a rule event

Each of the following is a "rule event".

- When a patient result is received from any device.
- When a patient result is received from a device group.
- When a patient result is received from a list of devices.

Device	Refers to
Any device	All devices connected to RADIANCE
A device group	All devices belonging to a specified group. For how to specify a group see the RADIANCE *Installation and Setup Manual, Administrator>POC Devices>Device groups.*
A list of devices	Allows selecting one or more devices, from devices currently configured and active in RADIANCE.

Continued on next page

Setup, *Continued*

Setup of Rules for When a Patient Result is Received From any Device

Setting up New Rules for a Patient Result received from any POC device configured and active in RADIANCE

You have selected a processing rule that will cover all managed POCT1-A devices connected to RADIANCE

Click Next >> to choose Criteria.

Setup of Rules for When a Patient Result is Received From a Device in a Device group

Setting up New Rules for a Patient Result received from any device in a predefined POC Device group. Groups are predefined via Administrator.

You have selected a processing rule based on one or more device groups. This rule will be applied to all the devices participating in the selected device group(s).

Step	Action
1.	Click Device Group from the lower window. A pop-up window appears which allows the user to select device groups to apply the rule to.
2.	Select from the left hand pane the device group you wish to apply the new rule to. Click >>. The selected device group appears in the right hand pane. (To remove a device group from the right hand pane select it and then click <<)
3.	Click OK to save settings. You will be returned to the Rule page and the device group(s) to which the rule is to apply will appear in the Device group window in red. (Click on the red device group name to reopen pop-up box if you wish to change settings).
4.	Click Ok to save settings. You will be returned to the Rule page and the device(s) to which the rule is to apply will appear in the Device window in red. Click on the red device name to reopen pop-up box if you wish to change settings.
5.	Click Next >> to choose Criteria.

Setup of Rules for When a Patient Result is Received From any one of a List of Devices

New Rules for a Patient Result received from any one of a List of POC Devices currently configured and active in RADIANCE.

You have selected a processing rule that will apply to a list of devices specified by you.

Step	Action
1.	Click List of Devices from the lower window. A pop-up window appears which allows the user to select one or more devices to apply the rule to.

Continued on next page

Setup, *Continued*

Setup of Rules for When a Patient Result is Received From any one of a List of Devices *(continued)*

Step	Action
2.	Select from the left hand pane the device you wish to apply the new rule to. Click >>. The selected device appears in the right hand pane. (To remove a device from the right hand pane select it and then click <<)
3.	Click Ok to save settings. You will be returned to the Rule page and the device(s) to which the rule is to apply will appear in the Device window in red. Click on the red device name to reopen pop-up box if you wish to change settings.
4.	Click Next >> to choose Criteria.

Choose criteria One or more of the following criteria can be chosen.

NOTE: *Conditions for all selected criteria must be set before you can proceed to the next step.*

Criteria	Description
The value of patient ID is...	Use this to match incoming Patient results whose Patient ID is either "empty" or the contents match what has been configured in the "special match". (See Choose criteria below).
The value of operator ID is...	Use this to match incoming Patient results whose Operator ID is either "empty" or the contents match what has been configured in the "special match". (See Choose criteria below).
The value of Accession # is...	Use this to match incoming Patient results whose Accession # is either "empty" or the contents match what has been configured in the "special match". (See choose criteria).
The result has errors because...	Use this to match incoming Patient results which have errors either because: • The result has been flagged with a measurement error. • The result contains one or more parameter values which fall outside the critical ranges transmitted with the result.

Continued on next page

Setup, *Continued*

Choose criteria *(continued)*

Criteria	Description
The result differs from last received result more than…	Use these criteria to match an incoming Patient result for a given patient where the parameter values differ by more than a configured percentage from the last received result. This criteria can be configured (See choose condition below) with: • Max. time in seconds (1-999) to search back in time for a previous result from the same patient • Percentage difference (1-99). Any results greater than this percentage will be held in the exception bin. • Parameter. Choose a specific parameter that the rule should apply to or choose "any parameter".

Check one or more boxes to select the criteria. The criteria will be displayed in the Rule description window.

Click on each *choose condition* from the *Rule description* window to set up conditions.

Conditions are configured in their respective pop-up windows.

All pop-up windows have instructions on them, except the *Error condition* window, which has a choice of two conditions; "measurement error" or "values falling outside of critical ranges". These are chosen from a drop-down box.

Click Ok to save the settings and return to the *Choose rule* criteria window.

The *Rule description* window now shows the configured event as well as the criteria with the chosen condition.

Click Next >> to choose Action.

Choose Action

Currently only one action is available to choose.

Check the box *the result is held in RADIANCE for manual processing.*

The *Rule Description* window will now show the chosen action.

Click Next >> to choose the new rule name.

Continued on next page

Setup, *Continued*

New Rule Name

Type in the name of the rule in the text box provided on the screen.

The *Rule description window* will give a description of the rule as you have configured it.

Click Finish.

The rule name appears in the list box on the Exception Processing Rules screen.

Rename rule procedure

Highlight Rule to be renamed from the Exceptions Processing Rules screen.

Click Rename.

In the pop-up box, which appears delete the old name and write the new name in text box.

Click Ok to save settings and return to Exceptions processing rules window. This window will now show the new name of the rule.

WDC Upload Setup

This function allows the user to schedule the WDC module to automatically export QC data to a file and to then automatically upload the file to WDC online.

Server setup	Scheduled export
• WDC *Server:* The WDC server field will be automatically filled out with the default value • *WDC logon name:* Enter the logon name given at the time of purchasing the key for the module • *WDC logon password:* Enter the password given at the time of purchasing the key for the module	• *Scheduled export:* gives how often RADIANCE will automatically export QC data. By default this is set to 1st of Month • *at:hh:mm:* this gives the time automatic export of QC data will be sent. By default this is sent to 01:00. Open the respective drop-down box and select other dates and times if required. • *Automatic upload:* check this box to automatically upload the exported QC data file, the RADIANCE server to WDC online. ***NOTE:*** *If you uncheck this box, you will need to manually upload the exported QC data file.*

Continued on next page

Setup, *Continued*

Test Connection Status

Click Test Connection to check connection.

One of the following is returned when the Test Connection Button is clicked

Status	Indication
Connection passed	Connection is valid
Connection Failed	Connection could not be established. Check server settings and try again.
Trusted certificate not found	The certificate file located on the server is not found or is invalid.
Invalid user/password	The WDC logon name or password have not been entered correctly

Click Submit to save settings in the WDC module.

Click Reset to delete entries and enter other details

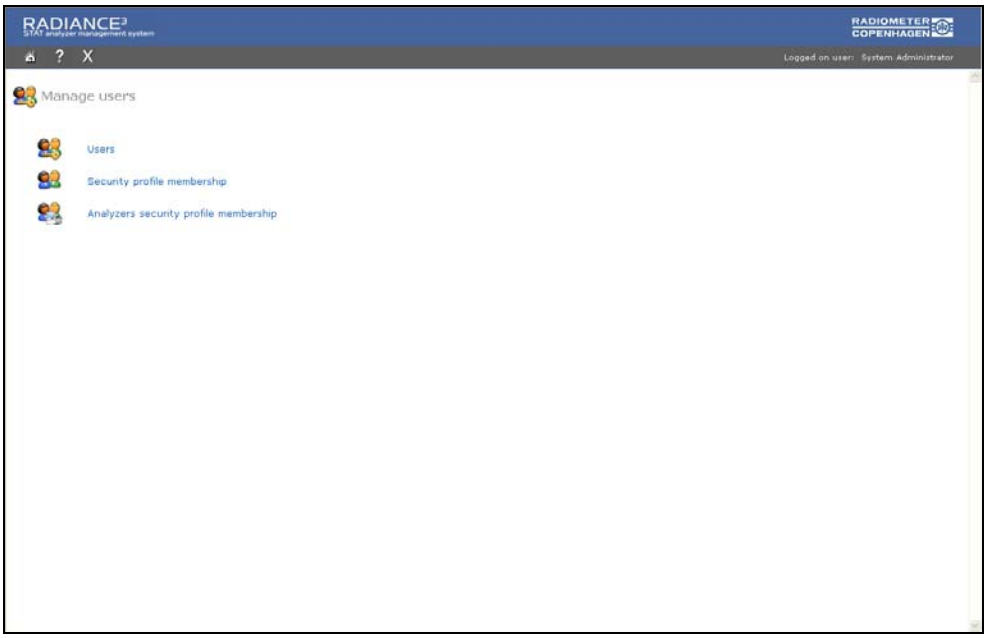
Manage Users

Introduction

The Manage Users function allows the user to:

- Add a user and assign a security profile membership to them or editing existing users' security profiles.
- Delete or Deactivate a User.

Manage users allows centralized control of access to analyzers and access to perform specific functions on the analyzers. For ease of use it can be helpful to restrict access to functions and menus, which are not relevant for a particular user.



Clicking Users will generate a list of the user profiles in RADIANCE.

Clicking a user profile from the list will allow editing of the user profile information and security profile membership.

Deleting or Deactivating a User

Having selected a user profile from the list the user can be deleted or deactivated.

Delete button:

Click this to delete the user profile. The user profile will disappear from the list of user profiles and the user will not be able to log on to RADIANCE after deletion. There will be a prompt before the deletion is completed.

Note that once a user profile is associated with one or more patient samples, it is not possible to delete the user. Clicking the delete button will only deactivate the user to ensure that all samples associated with the user profile will still have the responsible user associated to them. See below for user rights after deactivation.

Continued on next page

Manage Users, *Continued*

Deleting or Deactivating a User *(continued)*

Any changes that the deleted (deactivated) user may have made to a patient result will still show in Audit Trail found in Patient Results.

Deactivate button:

Click this to deactivate a user profile. Deactivation means that the user profile's security profile membership will be deactivated. The user can still log on to RADIANCE and any changes made by the user profile will still appear in the activity logs, but the user will only have access to Calibrations Results and Activity Logs. Any changes that this deactivated user profile may have made to a patient result will still show in Audit Trail in Patient Results. When the Deactivate button has been clicked the user window will show this deactivated user profile as present within the system but as having no rights assigned.

To Reactivate a Deactivated User

To reactivate a deactivated user, simply select the appropriate security profile membership by checking the check boxes and click Submit. The user will now have access to RADIANCE.

To Add a User

In the User window, click Add user, fill in the fields, and check which security profile membership the user will be assigned. When all fields have been filled out click Submit to save changes.

6. FLEXLINK

Overview

Introduction

The following chapter gives instructions as to how to use FLEXLINK PDA. An introduction to the concept of FLEXLINK is also given. For FLEXLINK Web module see RADIANCE Portal Online Help.

For FLEXLINK Setup see *RADIANCE Setup and Installation manual*.

Contents

This chapter contains the following topics.

Overview of FLEXLINK

Introduction

The following topic introduces the FLEXLINK concept.

What is FLEXLINK

FLEXLINK is part of the "Process and Safety Package" system, which consists of the following products:

- *Safe*PICO : a syringe sampler with a unique bar code on every sampler
- ABL800 FLEX blood gas analyzer range (with or without FLEXQ inlet)
- FLEXLINK software

The FLEXLINK software allows sample registration and data entry at the patient bedside. The software system registers patient, user and sampler ID data by using either a PDA or a PC with a bar code reader, before sending the information further to the RADIANCE STAT analyzer management system.

FLEXLINK consists of 3 parts:

1. FLEXLINK server that is part of the RADIANCE system.
2. FLEXLINK application running on a PDA platform (such as Pocket PC).
3. An Intranet module allowing data entry and data retrieval from a standard PC running the Internet Explorer browser.

FLEXLINK offers decreased risk of pre-analytical error in the data entry process associated with STAT blood gas analysis, in three ways:

1. Eliminates the possibility of patient/sample mix-up.
2. Allows the user to enter patient- and sample-specific information at the time of sampling.
3. Monitors the age of samples, from when the sample is drawn to the time of analysis. This helps document sample quality.

Example of FLEXLINK workflow

Using FLEXLINK, an example of the workflow could be:

When a sample is drawn at the bedside the unique sampler barcode is scanned together with the operator ID and the Patient ID. Scanning the barcodes is done either from the FLEXLINK PDA application or via the FLEXLINK intranet application. Additional to the patient, sample and operator ID's, the draw time of the sample is automatically recorded and, any important input data, such as ventilator settings, patient temperature and test profile, can be entered. This "data package" is automatically transferred to the FLEXLINK server and stored in the RADIANCE database. When the sampler ID is recognised on an ABL800 FLEX analyzer, all associated data is automatically downloaded to the analyzer from the FLEXLIK server application and merged with the result data by the analyzer.

Besides sample registration FLEXLINK offers functions to manage and monitor sample logistics.

Continued on next page

Overview of FLEXLINK, *Continued*

FLEXLINK on the RADIANCE Portal

The FLEXLINK intranet or "web" module is entered via the RADIANCE Portal. The procedure for registering new samples is by a sample registration wizard. The sample registration wizard may vary depending on how it has been configured in the Administrator module. Possible steps in the registration wizard are:

- Identify operator. It can be entered by scanning of a barcode or by a manual entry. This function is optional and configured centrally.
- Enter sampler ID (or Accession #). It can be entered by scanning of a barcode of by a manual entry. The sampler ID function is mandatory, the accession # is optional. Both are configured centrally.
- Enter patient ID. It can be entered by scanning of a barcode of by a manual entry. This function is mandatory.
- Enter Accession number. It can be entered by scanning of a barcode or by a manual entry. This function is optional and configured centrally.
- Select parameter profile. This function is optional and configured centrally.
- Enter input values. This function is optional.
- Additional Items

In connection with the registration of a blood sample FLEXLINK registers a sample time that can be used by an ABL to evaluate whether or not the sample is still within the maximum age that a sample can be measured.

FLEXLINK on the PDA

The FLEXLINK PDA application also uses a sample wizard offering similar steps as those given above for the RADIANCE Portal. The following functionalities are also offered:

- The user can link sample related information to a specific blood sample. This information is made available to other systems through the RADIANCE server.
- The application monitors the age of collected blood sample and evaluates these against hospital specific quality criteria for maximum sample ages.
- The application implements a uniform workflow for registration of sample information.
- The application guards against sample mix up – i.e. associating the wrong patient with a blood sample.

Users of the PDA can, when registering a sample choose to have the sample results sent back to the PDA which first registered the sample.

FLEXLINK on a PDA

Overview

Introduction

The FLEXLINK PDA application implements the following:

- Registration of samples(s)
- Enables the FLEXLINK PDA application to obtain input data through a barcode scanner
- Monitors sample age and warns user in case of over-aged samples
- Uploads sample registrations to the RADIANCE server – for onward transmission to the ABL800 blood gas analyzer
- Downloads configuration information from the RADIANCE server
- Protects the information stored on the PDA from unauthorized access

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Contents

This section contains the following topics.

Logon to FLEXLINK on the PDA

To Logon

Do as follows:

Step	Action
1.	Open drop-down box by tapping on down arrow, select name.
2.	Enter password. Either scan your operator barcode or enter password using the keyboard.
3.	Tap Logon button.

NOTE:

- *The first time that FLEXLINK is started on a PDA a special activation process is needed. If this is the first time that the PDA is being used with FLEXLINK see RADIANCE Installation and Setup Manual, FLEXLINK for more details.*
- *A user can only see her own sample registrations on the PDA*

WARNING/ CAUTION:

- *Sample registrations are deleted when another user logs on to the FLEXLINK application.*
- *If sample registrations are not synchronised when another user logs on to the PDA, those sample registrations are deleted.*

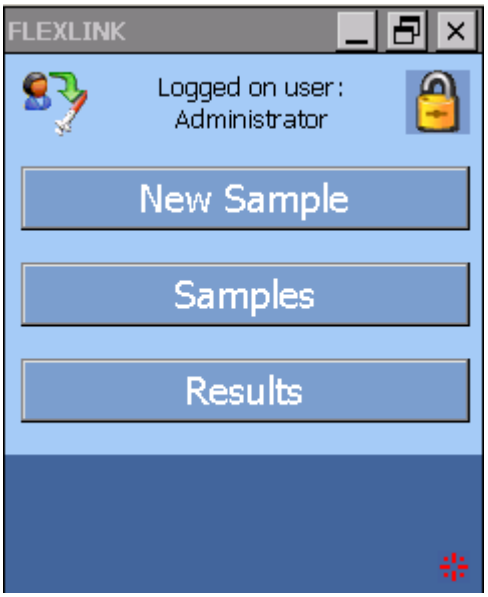
Main Screen

Introduction

After Logon, the FLEXLINK PDA Main screen is the entry point for

- Sample registration
- Viewing Sample Status (and changing Input values)
- Viewing Results

Example



Main Screen Buttons

New Sample	Tap the The New Sample button to start the sample registration wizard. (See New Sample Registration)
Samples	Tap to enter the "Samples" window. The numbered of expired samples will appear in parenthesis on this button, next to "Samples". In the Samples window you can view Sample Age, Sampler ID; Patient ID, Search for a Sampler ID and View Sample details. From the View button you can change a sample's input values, view the associated parameters, and delete the sample. ***NOTE***: *"Samples" will show a question mark if any sample showing in the Samples window gives cause for concern.*

Continued on next page

Main Screen, *Continued*

Main Screen Buttons *(continued)*

Results	Tap to enter "Results" window. This will give an overview of the time the sampler was registered, last and first name of patient. Selecting a result activates the View button from which it is possible to view details that have been entered by the Analyzer operator when the sample was analyzed. The number of outstanding results not yet opened will appear in parenthesis on the Results button.

Icons or Details on Main Screen

Red or Green symbol – shows in lower right hand corner	This icon will show a Red star when the PDA is disconnected from the network. This icon will show a Green dot when the PDA is connected to the network.
Dark Blue field at bottom of screen	This will show the current status messages of the device. For example • Regarding synchronization • Sample expiry • System updates Example: 

Logged On user Details of the logged on user appears at the top of the screen.

To Logoff Tap the Lock icon to logoff.

New Sample Registration

Introduction

The New Sample window allows for the registration of a new sample. The sample registration wizard can be customised to fit your hospital workflow and identification methods, therefore, depending on how it has been configured in the Administrator module, some steps in the following example may not be available and the order may differ.

- Tap New Sample button to start the registration wizard
- Tap Cancel button at any time to abort sampler registration

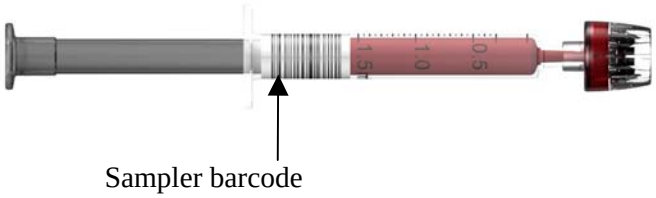
The following description is an example of a registration of a new sample, including accession number, and assumes that the user wants to register a sample for a blood gas measurement, with patient temperature as a mandatory input item.

NOTE: *If the criteria for a valid Sampler ID, Patient ID and /or accession numbers have been configured the wizard automatically moves to the next step.*

Step 1 of 6

This step registers the sampler ID.

Step	Action
1.	Logon to FLEXLINK and then scan barcode of sampler with PDA. The barcode is unique for each sampler.



Or enter Sampler ID manually by clicking the keyboard symbol. A keyboard opens.

2.	Tap *Next>>* button to enter next step - which may be automatic if defined criteria are met.

Step 2 of 6

This step registers the Patient ID.

Step	Action
1.	Scan barcode of Patient or type in Patient ID.
2.	Tap *Next>>* button to enter next step - which may be automatic if defined criteria are met.

Continued on next page

New Sample Registration, *Continued*

Step 3 of 6 This step registers an Accession #. (This maybe an optional step)

Step	Action
1.	Scan Accession # barcode of sampler with PDA.
2.	Tap *Next>>* button to enter next step - which may be automatic if defined criteria are met.

Step 4 of 6 This step registers the parameter profile. (This may be an optional step). Multiple parameter profiles can be configured in Administrator, including a Default profile.

Step	Action
1.	Open the Parameter profile drop-down box and click required profile, e.g. Blood gases. The parameters associated with the selected profile will appear in the window below. The profile appearing in this drop-down box are configured in the Administrator module under Order items. ***Note***: *Changing an Order item*. If you choose to change an order item a prompt appears warning that previously entered input values will be lost. Click OK.
2.	Tap *Next>>* button to enter next step.

Continued on next page

New Sample Registration, *Continued*

Step 5 of 6

This step enters any additional input parameters for the sample. Here you are presented with a button for each input item, according to which parameter profile was selected in the previous step.

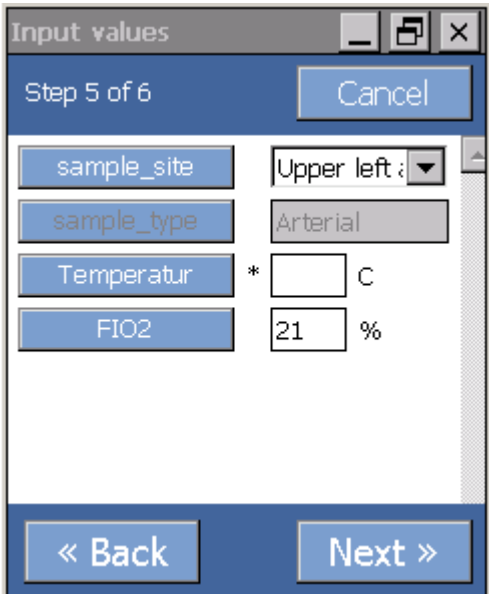
Click on each input parameter profile button to open the screen for entering changes to the chosen input parameter profile.

Alternatively enter changes in the respective boxes to the right of each parameter profile button.

The list of input parameters which appear has been defined in the Administrator module.

In the following example showing parameter profile buttons, temperature was chosen to be mandatory. This mandatory item is indicated by a star. * (A star symbol is default but can be customized in Administrator).

NOTE: *This is also the window to be used when changing Input values.*



How to Input Mandatory Item - Patient Temperature

Do as follows:

Step	Action
1.	Tap Temperature* button to enter screen for entering temperature of patient.
2.	Enter temperature. (Check "Not available" if temperature is not available). ***NOTE***: *if you have more than one value to enter or wish to enter more tap on the Next value>> button to continue.*
3.	Tap Done button to close window. The Input values screen reappears. Tap Next>>

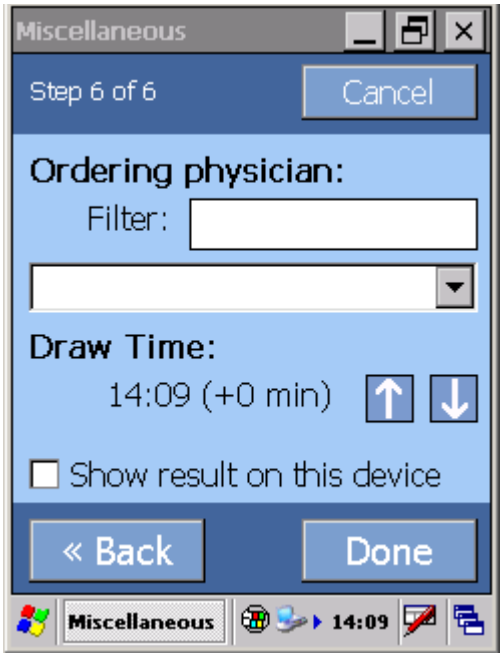
Continued on next page

New Sample Registration, *Continued*

Step 6 of 6 This step covers

- Ordering physician (including possibility to filter the search)
- Changing the draw time of sample
- Sending results back to this PDA

Screen Example



Step	Action
1.	The ordering box shows a list of physicians. Enter a part of the physician's name into the filter box. This will reduce the list in the drop-down box, and make your selection. Example: if you type "fa" only physicians with the letter combination "fa" will be shown in the list. Select the physician.
2.	Click up or down arrows to change the time that the sample was drawn. You may need to do this if you are registering the sampler before the sample has been drawn or if you are registering the sampler some time after the sample has been drawn. The draw time is changed by units of one minute.
3.	Check the "Show result on this device" box if you want this PDA (i.e the PDA that has registered the sample) to show the result when the sample has been measured on the blood gas analyzer.
4.	Tap Done. The sample is now ready to be analyzed.

Continued on next page

New Sample Registration, *Continued*

NOTE: *The PDA must be connected (wireless connected or docked in a cradle) for the sample registration to be transmitted to the RADIANCE server and available for download to an ABL. Results are returned to the PDA either by wireless connection or when the PDA is docked.*

Samples

Introduction

Tapping Samples from the main screen opens the "Samples" window. The "Samples" screen shows a list of registered samples, their age and their draw time.

The tabs can be used to view details for each sample:

- Sample age
- Sample ID
- Patient ID

Symbols	Represent
	Everything is OK with this sample registration.
	Warning (e.g. the sample is about to expire).
	Critical (e.g. sample registration has not been synchronised and is about to expire).
	The sample has expired.
?	A question mark denotes a sample which is giving cause for concern

For details of Search and View buttons see over.

Continued on next page

Samples, *Continued*

Button	Description	Procedure
Search	This button is for finding a sample already registered on the PDA.	Tap Search and then scan (or type in) the syringes' barcodes with the PDA. Click OK. The PDA highlights the sample registration corresponding to the syringe scanned in.
View	This button becomes active when a sample has been selected by tapping on it. Tapping View opens the Sample window, from which you can: • Modify input values by clicking Input tab • View Parameters by clicking Parameters tab • See an Overview of the selected sample by clicking Overview tab • Delete a sample	**To modify input values**: • Tap Input tab • Select Input value to modify on the screen which appears • Tap Modify button on the screen which appears ***NOTE:*** *Input items may be modified only until Sample has been forwarded to the ABL.* To delete a sample click Delete button. • Click Close button to return to "Samples" window.
Close	This button saves settings and closes the window	Tap to save settings and return to Select sample window.

How to find and manage a timeout sample

Do as follows:

Step	Action
1.	Use the FLEXLINK PDA to scan the samplers one-by-one.
2.	The sample registration matching the syringe just scanned is highlighted on the PDA.
3.	Repeat procedure until timed out sample is found and is highlighted on the PDA screen. An audio sound will warn of a timed-out sample.

NOTE: To set period of time for sample expiration see *Administrator, FLEXLINK, General Settings, Warning Period – sample expiration.*

The maximum lifetime of a sample is configured in *Administrator, My Hospital, Order Items.*

Results

Introduction

The Results window shows the Patient result(s) received on the PDA including:

- time Sampler was registered
- patient name
- view a selected result in more detail
- delete a result from the PDA

To View a Selected result

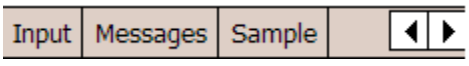
Do as follows:

Step	Action
1.	Tap Results button on Main screen.
2.	Tap Result to select.
3.	Tap View. The screen will refresh to show selected result

Buttons	Tap this button to see
Values	Select parameter group (i.e blood gas, electrolytes) from drop-down box to filter result type.
Patient	Patient ID, first and last name
Input	Input values that have been entered from FLEXLINK or in the analyzer. Tap this button to view information entered by the analyzer operator.
Message	Any messages associated with sample or at the analyzer.
Sample	Details of Analyzer that analyzed result, sample number, time sample was drawn, time the sample was analyzed and the ordered parameter profile.
Close	Tap to return to View screen.

Use arrow keys to access all buttons.

Example



To Delete a Result

Highlight the sample on the PDA results window and tap Remove from List button. The sample result(s) will be deleted from the PDA but not from RADIANCE.

Typical Scenarios of Usage

Overview

Introduction This section gives detailed step-action sequences for example scenarios of usage. The PDA should be setup in *Administrator, FLEXLINK, General Settings,* unless otherwise stated in the scenarios. The topic "General Settings for PDA" overleaf is an excerpt from what is given in Administrator section of the RADIANCE Setup and Installation Manual.

Contents This chapter contains the following topics.

General settings for PDA

Introduction The following topic details how to setup the PDA for general use. The scenarios, which follow overleaf, refer to which of these General settings need to be changed.

- Full General settings, including Browser and System setup, are to be found in *Administrator, FLEXLINK, General settings*

Setting Name	• **Procedure** (performed in *Administrator, FLEXLINK, General Settings*)	**Description**
Max. offline period	Use up and down arrow keys to select a number.	The maximum amount of time the PDA is allowed to be disconnected from the server before FLEXLINK is deactivated.
Warning period - automatic deactivation	Use up and down arrow keys to select a number.	The period of time prior to the automatic deactivation of FLEXLINK during which time the user is warning of the pending deactivation.
Warning period - sample expiration	Use up and down arrow keys to select a number.	The period of time prior to the expiration (time between "sample drawn" and synchronisation) of a sample during which the user is warned about the pending expiration
Warning period - automatic log off	Use up and down arrow keys to select a number	The period of time prior to the automatic log off of the PDA FLEXLINK application during which the user is warned about the pending automatic log off.
Timeout - Synchronization	Use up and down arrow keys to select a number	A sample registration on a PDA should be uploaded to the RADIANCE server within the number of minutes set here. Otherwise the PDA user is notified.
Idle time before auto logoff	Use up and down arrow keys to select a number	The period of time the PDA can be left idle before automatic log off will take place (if enabled)
Scope of sample registrations	Open drop-down box and select event. Click OK to save settings.	A sample registration is deleted from the PDA when the selected event takes place. Possible events are: "registered in server" "sent to analyzer" "result received" "rejected" "deleted"

Continued on next page

General settings for PDA, *Continued*

Setting Name	**Procedure** (performed in Administrator, FLEXLINK, General Settings)	**Description**
Type of ID used to identify samples	Open drop-down box and select required item. Click OK to save settings.	Defines the primary identification of the sampler. Choose between Radiometer SafePICO sampler ID or accession number provided by an additional barcode.
Barcode substitutes	Open drop-down box and select required item. Click OK to save settings.	Defines whether the operator ID barcode contains the user ID or the password.
Max no of invalid logon attempts	Open drop-down box and select required item. Click OK to save settings.	When the number of invalid login attempts has reached the number entered her the PDA is deactivated.
Logon protection	Open drop-down box and select required item. Click OK to save settings.	When logon protection is disabled only the user name is required to access FLEXLINK. When enabled both username and password are required.
Idle time before a sample registration is aborted	Use up and down arrow keys to select a number	If the PDA is left idle in the middle of a sample registration this setting defines the number of minutes until the sample registration is aborted and the user logged out. The unfinished sample registration is not saved in the RADIANCE/FLEXLINK database.
Form of a patient ID	Write in the required Patient ID format.	Identify the number of characters a patient ID contains. When the appropriate number of characters has been entered in the patient ID field during sample registration, the wizard automatically jumps to the next item.
PDA activation password	Write in the PDA activation word	Default activation password used by hospital administrator to activate PDAs A word and not numbers should be used.
Indication of mandatory items	Write in the character	Defines the character used to identify mandatory input fields in the sample registration wizard. Default is *
Show patient results	Open drop-down box and select required item. Click OK to save settings.	Defines when a patient result should be available in FLEXLINK. Choose between "when available" or "when approved"
Default order item	Open drop-down box and select required item. Click OK to save settings.	Defines the default order item shown in the sample registration wizard.

Continued on next page

General settings for PDA, *Continued*

Setting Name	**Procedure** (performed in Administrator, FLEXLINK, General Settings)	**Description**
Use "Enter accession#"	Open drop-down box and select required item. Click OK to save settings.	When activated, a step for entering the accession number for a sample is available in the sample registration wizard
Use "Select parameter profile"	Open drop-down box and select required item. Click OK to save settings.	When activated, a step for selecting the parameter profile (order item) is displayed
Allow request to see patient result	Open drop-down box and select required item. Click OK to save settings.	Defines if patient results should be available through the FLEXLINK applications.
Allow specification of ordering physician	Open drop-down box and select required item. Click OK to save settings.	When activated the user can specify the ordering physician

Scenario 1 - Lab technician collects sample and analyses back in the Laboratory

Introduction

In this scenario, one or more samples is taken in a ward, collected by the lab technician and taken back to the lab for testing. The test has been assigned an accession number; a blood gas has been requested with special input items, of which temperature is mandatory.

The lab technician is interested in recording on the PDA:

- the accession #
- the ordering physician
- the order item (test profile)

The age of the registered samples is monitored while the lab technician makes his rounds.

NOTE:

The PDA must be connected (wireless connected or docked in a cradle) to the RADIANCE server for the sample registration to be available.

Background Information

When the sample is analyzed in the lab, the ABL will query FLEXLINK sample demographics based on the Sampler ID. The blood gas measurement result is reported back to the ward. It is necessary that the PDA is set up in the following way in order to be able to work through this scenario successfully.

Setting Up the PDA for this scenario

NOTE: The following "special" settings must be in place on the PDA for this scenario; you need all other settings to remain as the General settings. See *General Settings for PDA,* ***above.***

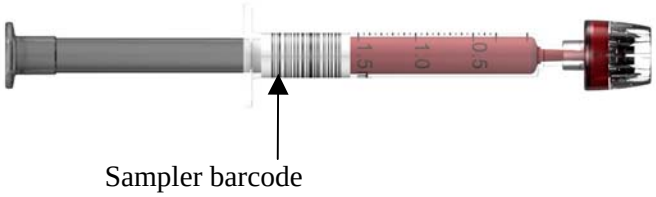
PDA special settings for this scenario	**Where to set up**
have accession number enabled	See *Administrator, FLEXLINK, General Settings, Use "Enter accession #"*
show available physicians so that ordering physician can be selected	See *Administrator, FLEXLINK, General Settings, Allow specification of ordering physician*
have input items associated with order item	See *Administrator, FLEXLINK, General Settings*
Have a maximum sample age associated with order item.	See *Administrator, FLEXLINK; General Settings, Warning period – sample expiration*
Have a defined patient ID format	See *Administrator, FLEXLINK; General Setting, Form of a patient ID*
Have a defined accession # format	See *Administrator, FLEXLINK; General Settings, Use "Enter accession#"*

Continued on next page

Scenario 1 - Lab technician collects sample and analyses back in the Laboratory, *Continued*

Step 1 This step registers the sampler ID.

Step	Action
1.	Scan barcode of sampler with PDA. The barcode is unique for each sampler.



Or enter Sampler ID manually or through the numerical keyboard.

2.	Tap *Continue*>> button to enter next step.

Step 2 This step registers the Patient ID.

Step	Action
1.	Scan barcode of Patient ID or type in Patient ID.
2.	Tap *Next*>> button to enter next step.

Step 3 This step registers the Accession #.

Step	Action
1.	Scan Accession # barcode of sampler with PDA. Or type in Accession # manually by clicking the keyboard symbol.
2.	Tap *Next*>> button to enter next step.

Step 4 This step registers the parameter profile.

Step	Action
1.	Open the Parameter profile drop-down box and select the parameter profile (in this scenario:Blood gases). The parameters associated with the selected profile will appear in the window below. The items appearing in this drop-down box are configured in Administrator under Order items.
2.	Tap *Next*>> button to enter next step.

Continued on next page

Scenario 1 - Lab technician collects sample and analyses back in the Laboratory, *Continued*

Step 5

This step enters the input parameters for the sample. Here you are presented with a button for each input item associated with the parameter profile selected in the previous step. In the following example temperature was chosen to be mandatory therefore this mandatory item will be indicated by a *.

Tapping on a button allows for the entering of a value for the selected item.

The following will explain how to input patient temperature which is a mandatory item for this example.

Step	Action
1.	Tap Temperature* button to enter temperature of patient. Use keyboard which appears to enter temperature in the temperature field. Check "Not available" if temperature is not available. ***NOTE***: *if you have more than one value to enter or wish to enter more tap on the Next value>> button to continue.*
2.	Tap Done button to close window. The Input value screen reappears.

Step 6

This step covers the request to send the results back to the doctor logged on the PDA which registered the sample.

Step	Action
1.	The ordering physician box shows a list of all physicians entered into RADIANCE. To limit your choice, enter a part of the physician's name. This will reduce the list in the box and make your selection easier. (Example: if you type "fa" only physicians with the letter combination "fa" will be shown in the list).
2.	Tap Finish button. The sample is now ready to be analyzed.

NOTE: *The PDA must be connected (wireless connected or docked in a cradle) to the RADIANCE server for the sample registration to be completed.*

Scenario 2 - Doctor takes sample and sends to laboratory

Background

In this scenario the sample is taken by the doctor, details are registered on the PDA and then the sample is sent to the lab for analysis. The patient has not been assigned an accession number, a "default" order item with a mandatory temperature item is configured as data type "decimal". It is requested that the result is sent back to the doctor's PDA. The doctor, who has registered the sample on his PDA wishes to see this result as soon as it is processed. There is a security rule that if the PDA is not used for longer than 5 minutes then it automatically logs off from FLEXLINK

The lab technician is interested in

- Analyzing the sample

The doctor wants

- to be notified of the result as soon as possible
- to register himself as the ordering physician

NOTE: *The PDA must be connected (wireless connected or docked in a cradle) to the RADIANCE server for the sample registration to be available.*

Background Information

When the sample is analyzed in the lab, the ABL will query RADIANCE/FLEXLINK for sample demographics based on the Sampler ID. The PDA must be set up in the following way in order to be able to work through this scenario successfully. If ordering physician is configured as part of the report layout this information will appear on the analyzer screen.

Setting Up the PDA for this scenario

NOTE: The following "special" settings must be in place on the PDA for this scenario; you need all other settings to remain as the default settings given above.

PDA "special" settings for this scenario	Where to set up
Logon	See See *Administrator, FLEXLINK, General Settings, Logon Protection*
Automatic log off	See *Administrator, FLEXLINK, General Settings, Time out – automatic log off*
show available physicians so that ordering physician can be selected	See *Administrator, FLEXLINK, General Settings, Allow specification of ordering physician*

Continued on next page

Scenario 2 - Doctor takes sample and sends to laboratory, *Continued*

Setting Up the PDA for this scenario *(continued)*

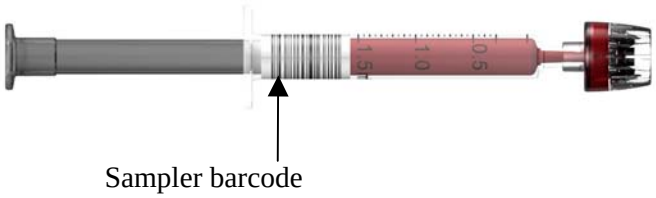
PDA "special" settings for this scenario	Where to set up
have input items entered according to the order request	See *Administrator, FLEXLINK, General Setting, Default Order Item*
To see results as soon as possible	See *Administrator, FLEXLINK, General Settings, Allow request to see patient result.* See *Administrator, FLEXLINK, General Settings, Setting of Sounds.*
Default Order item	See *Administrator, FLEXLINK, General Settings, Default Order Item*
Have a defined Patient ID format.	See *Administrator, FLEXLINK, General Settings, Form of a Patient ID.*

Scenario 2

This step registers the sampler ID.

Step 1

Step	Action
1.	Scan barcode of sampler with PDA. The barcode is unique for each sampler.



Or enter Sampler ID manually or through numerical keypad.

2.	Tap *Next*>> button to enter next step.

Step 2

This step registers the Patient ID.

Step	Action
1.	Scan barcode of Patient ID or type in Patient ID.
2.	Tap Next>> button to enter next step.

Continued on next page

Scenario 2 - Doctor takes sample and sends to laboratory, *Continued*

Step 3 Use the default parameter profile that is pre-selected, tab *Next>>*.

Step 4 This step enters the input parameters for the sample. Here you are presented with a button for each input item associated with the parameter profile selected in the previous step. In the following example temperature was chosen to be mandatory therefore this mandatory item will be indicated by a star.

Tapping on a button allows for the entering of a value for the selected item.

The following will explain how to input patient temperature which is a mandatory item for this example.

Step	Action
1.	Tap Temperature*: button to enter temperature of patient. Check "Not available" if temperature is not available. ***NOTE***: *if you have more than one value to enter or wish to enter more tap on the Next value>> button to continue.*
2.	Tap Done button to close window. The Input value screen reappears. Tap Next>>

Continued on next page

Scenario 2 - Doctor takes sample and sends to laboratory, *Continued*

Step 5 This step covers selection of ordering physician and requesting of sending results back to this PDA.

Step	Action
1.	Check the Show results here box if you want this PDA (i.e. the PDA that has registered the sample) to show the results.
2.	The ordering box shows a list of all physicians entered into RADIANCE. To limit your choice, enter a part of the physician's name. This will reduce the list in the box and make your selection easier. (Example: if you type "fa" only physicians with the letter combination "fa" will be shown in the list).
3.	Tap Finish button. The sample is now ready to be analyzed.

NOTE: *The PDA must be connected (wireless connected or docked in a cradle) to the RADIANCE server for the sample registration to be completed.*

NOTE: *When a new patient result is available a sound is heard and the number in parenthesis on the main screen is increased by one. In this scenario this will bring the doctor's attention to the PDA receiving a result.*

How to View Results Do as follows:

Step	Action
1.	Tap Results on PDA main screen.
2.	Select sample from list.
3.	Tap View

Scenario 3 - Analyses in Ward by Doctor

Introduction

In this scenario, the sample is taken, for example in ICU, and analyzed by the doctor near the patient. The default order item is selected but the doctor does need to associate the blood sample with the Patient ID

The doctor's interest is:

- Associating the blood sample with the Patient ID
- Having Default order item available

NOTE:

The PDA must be connected (wireless connected or docked in a cradle) to the RADIANCE server for the sample registration to be completed.

Background Information

When the sample is analyzed in the lab, FLEXLINK will query the ABL for sample demographics based on the Sample ID.

Continued on next page

Scenario 3 - Analyses in Ward by Doctor, *Continued*

Setting Up the PDA

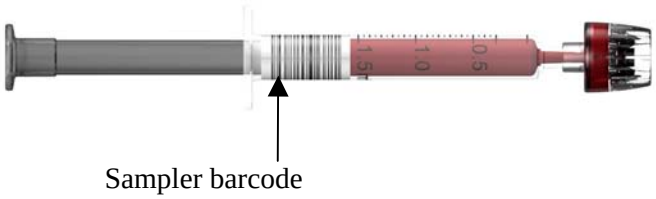
NOTE: The following "special" settings must be in place on the PDA for this scenario; you need all other settings to remain as the default settings given above.

PDA "special" settings for this scenario	Where to set up
have input items entered according to the default order request	See *Administrator, FLEXLINK, General Settings*
Default order item is configured	See *Administrator, FLEXLINK, General Settings, Default order item*
"Allow specification of ordering physician" is deactivated	See *Administrator, FLEXLINK, General Settings, Allow specification of ordering physician*
"Use Enter Accession #" is deactivated	See *Administrator, FLEXLINK, General Settings*
"Use "select parameter profile" is deactivated	See *Administrator, FLEXLINK, General Settings, Use "Select parameter profile"*
"Allow request to see patient result" deactivated on PDA	See *Administrator, FLEXLINK, General Settings, Show patient results*
Logon is deactivated	See *Administrator, FLEXLINK, General Settings," Logon protection"*
Have a defined Patient ID format	See *Administrator, FLEXLINK, General Settings, Form of a patient ID*

PDA Procedure Step 1

This step registers the sampler ID.

Step	Action
1.	Scan barcode of sampler with PDA. The barcode is unique for each sampler.



Or enter Sampler ID manually or through numerical keyboard.

2.	Tap *Next>>* button to enter next step.

Continued on next page

Scenario 3 - Analyses in Ward by Doctor, *Continued*

Step 2 This step registers the Patient ID.

Step	Action
1.	Scan barcode of Patient ID or type in Patient ID.
2.	Tap *Continue*>> button to enter next step.

Step 3 In this scenario Parameter profile selection has been disabled and the default profile has been configured, therefore you need only enter the input parameters for the sample. Here you are presented with a button for each input item associated with the default parameter profile.

Tapping on a button allows for the entering of a value for the selected item.

Step 4 Finish. When the doctor analyzes the sample on the analyzer, a print out is generated and the doctor then has the result.

NOTE: *The PDA must be connected (wireless connected or docked in a cradle) to the RADIANCE server for the sample registration to be completed, before the measurement is made on the analyzer.*

8. Ordering Information

Introduction The following can be ordered by quoting the code number given below.

Item	Code Number
RADIANCE User's Manual	989-510
RADIANCE Installation and Setup Manual	989-756
Communication Protocol Specifications for RADIOMETER Products Manual. CD-ROM	989-791

For further information contact your local RADIOMETER representative.

9. Glossary

Introduction

The following has an explanation for abbreviations, difficult, or unusual words used throughout this manual.

Term	Definition
ADM	Analyzer Data Management- This is part of Data Management application and is active only if the relevant keys for this part of the software have been bought.
ABL	Acid-Base Laboratory.
Active window	The window currently open and accessible within a program.
Application	A client module to the basic platform including the Analyzer Control, Analyzer Data Management and Patient Data Management Modules.
ASTM	American Society for Testing Materials. The standards covering low-level language, or protocol, and high-level language, or protocol, communication. For more information see *Communication Protocol Specifications Manual*, code no: 989-329.
Check box	A small area in a box which when clicked displays a cross or a tick indicating that a function has been activated.
Client	Part of the client/server network, this program requests information from a server.
Client/Server	This runs applications on a network. A server does most of the processing not directly involving the user e.g. searching a database. See server. The front-end processing, which involves direct communication with the user is handled by smaller programs called clients. These are distributed to workstations.
CPT	Common Procedural Terminology codes used in USA billing methods.
Customize	To adapt preset settings to those required by the user.
Choosing	To highlight i.e. select, using either the mouse or the keyboard an item and thereafter clicking on the mouse button.
DB	Data Base
Data Cache	This is a directory of data files which communicates directly with RDMC. See *Installing and Running Data Management.*

Continued on next page

Glossary, *Continued*

Term	Definition
Demographics	This term refers to a collection in a database of data specific to each patient e.g. patient ID, patient names, date of birth, sex, physician, address, height, weight, etc.
Desktop	A Windows term referring to the background of the screen on which applications, icons and dialogue boxes appear.
DHCP	Dynamic Host Configuration Protocol which offers dynamic configuration of IP addresses and related information.
Export	To save data in a format that another program can read.
Field	The space in a box given for specified information. e.g where you write your password in a login prompt box. Often referred to in this manual as a textbox.
Firewall	A security procedure that places a specially programmed computer system between an organization's Local Area Network (LAN) and the Internet. The firewall computer system prevents unauthorized crackers, or hackers, from accessing the internal network.
Fortnight	Two weeks or bi-weekly
Functional, or working, Level	This is the level where you can access and work with analyzers or patient results. It is often thought of as the third or deepest "level" of RADIANCE, the first being the opening stage, the second being that of selecting.
HIS	Hospital Information System, a mostly administrative system, booking patients in/out of hospital, tracking patient records, billing, etc.
HIS/LIS	The name refers to the information system within a hospital and is responsible for the computers, networking and data management. Sometimes the HIS/LIS is a hospital data system, sometimes it is only a laboratory data system. The HIS/LIS term used throughout this manual refers to either or both systems that may be operational within the hospital.
High-level Protocol	See Protocol.
IEEE	Institute of Electrical and Electronic Engineers Computer Society, responsible for the overall standard for physical and data-link levels of local area networks.

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Glossary, *Continued*

Term	Definition
IP	Internet Protocol. This is an identifier for a computer running on a TCP/IP network. Networking using the TCP/IP protocol routes messages based on the IP address of the destination.
IS	Information Systems: a broader term for computer systems which carry information to end users. See LIS and HIS.
Inter operability	The ability of one computer system to control another, even though the systems are made by different manufacturers.
LAN	Local Area Network.
LIS	Laboratory Information System; a test result orientated system, tracking patient samples and recording tests performed on them.
Logically	In this manual this word refers to something which has the appearance of a real thing (e.g. an analyzer being connected to a workstation implying that the analyzer is in the vicinity of the workstation) but may not actually be so. e.g. although the analyzer is linked up to, or connected to, the workstation via the network, the analyzer does not necessarily have to be near the workstation.
Low-level Protocol	See Protocol.
Mainframe ref #	This is another, somewhat archaic, name for the sample order number.
Mandatory	Compulsory i.e. must be done.
Mapping	In a LAN, mapping refers to assigning drive letters to specific volumes and directories.
Menu bar	A bar across the top of the window containing names of available pull-down menus.
Operator	User of an analyzer.
Parameter	The name of the substance being measured, for which values are given on patient, QC results or calibration results. Can be measured, input, calculated, estimated or default.
PDM	Patient Data Management. This is part of the Data Management application and is only active if the relevant keys for this part of the software have been bought.
PMI	The Patient Master Index Look-Up. See *Chapter One, General Information* of this manual for more details.
Protocol	A protocol specifies how a program should prepare data so that it can be sent on to the next stage in the communication process.

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Glossary, *Continued*

Term	Definition
QC	Quality Control.
Radio Button	This interacts with the user by allowing the user to use an icon, which represents program features. These buttons are mutually exclusive.
RDMC	Radiance Data Management Communicator (RDMCommunicator or RDMC). Found on a Server RDMCommunicator acts as a link between the Data Cache and Data Management. It also communicates with LIS. Non-RADIOMETER analyzers and older RADIOMETER analyzers connect here.
Reboot	To restart the computer.
Records on file (RDM)	is the same as: patient results, or QC results, or Calibration results, or Activity Log message (AC)
Rime	Radiometer Instrument Management Engine, (R.I.M.E). This allows for analyzers to connect, stores data in the Database, sends and receives messages and data to and from Clients.
Selecting	Pointing to an item using the mouse.
Server	This can be a program or a computer dedicated to providing information in response to a request from a user or client program.
STAT	Short Turn Around Time
System Logs	Gives information about errors and events at an analyzer.
System tray	The system tray is located in the Windows taskbar (usually at the bottom next to the clock) and contains miniature icons for easy access to system functions such as printer, volume, and more. Double click or right click on an icon to view and access the details and controls.
(Windows) Task Bar	The bar that appears by default at the bottom of Windows desktop. Used to switch between programs. It is on this bar that, amongst other things, AC traffic lights appear indicating the overall status of the ABL700 analyzers on the RADIANCE STAT program.
TCP/IP	Transport Control Protocol/Internet Protocol. The default network protocol that provides communication across diverse interconnected networks.
Toggle	To switch back and forth between two modes or states.
Toolbar	A bar across the top of a window containing buttons. Each button will have a distinctive icon and a tooltip.
Tooltip	The oblong box which appears at the bottom of an icon/button if the cursor is placed over the icon for a short time. The box contains the name of the icon.

Glossary, *Continued*

Term	Definition
Tree	A conceptual or graphic representation of data which is organized into a tree structure. This tree structure makes possible a hierarchical structure view of details. The tree structure is expanded by the use of the plus box symbol or contracted by the use of the minus box symbol on the tree stem.
User	User of the RADIANCE System.
WAN	Wide Area Network, a network of computers, printers, etc connected over a large geographical area.

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